A CAMPUS FOR NEW COLLEGE ON MOUNT WARNER

Submitted as partial fulfillment of
requirements for the
Master in Architecture degree
Massachusetts Institute of Technology
May 23, 1960

James D. Morgan A.B. Kenyon College 1957

Lawrence B. Anderson, Head
Department of Architecture

One Melrose Street
Boston 16, Massachusetts

Dear Dean Belluschi,

In partial fulfillment of the requirements for the degree Master in Architecture, I submit the following thesis entitled, "A Campus for New College on Mount Warner."

Sincerely,

James D. Morgan

Pietro Belluschi
Dean, School of Architecture
and Planning, M.I.T.
Cambridge 39, Massachusetts

ABSTRACT

A CAMPUS FOR NEW COLLEGE ON MOUNT WARNER

In order to meet the increasing demand for college facilities and to put into practice as a total curriculum the experiments they have carried out, four colleges of the Connecticut River Valley (Amherst, Mount Holyoke, Smith, and the University of Massachusetts) have formed the New College Committee whose report of November , 1958, has been the basis for this project

The site selected is a lovely hill in North Hadley with magnificent vistas of the Valley. It is three miles west of Amherst.

The purpose of New College is to develop the individual student by asking far more initiative of him than is generally required in American colleges. The purpose of this project is to present an architectural framework for that development which not only respects the individual but gives him opportunity to learn to fulfill his obligations to society.

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ACKNOWLEDGEMENTS

My thanks to the faculty for their concern and patience. Thanks to Professor C.L.Barber of the New College Committee, Professor W. M. Peterson of Lake Erie College, Byron Stookey, Jr., of Harvard College, Maurice F. Childs, Jr., and most of all to Carla who makes it all worth doing.

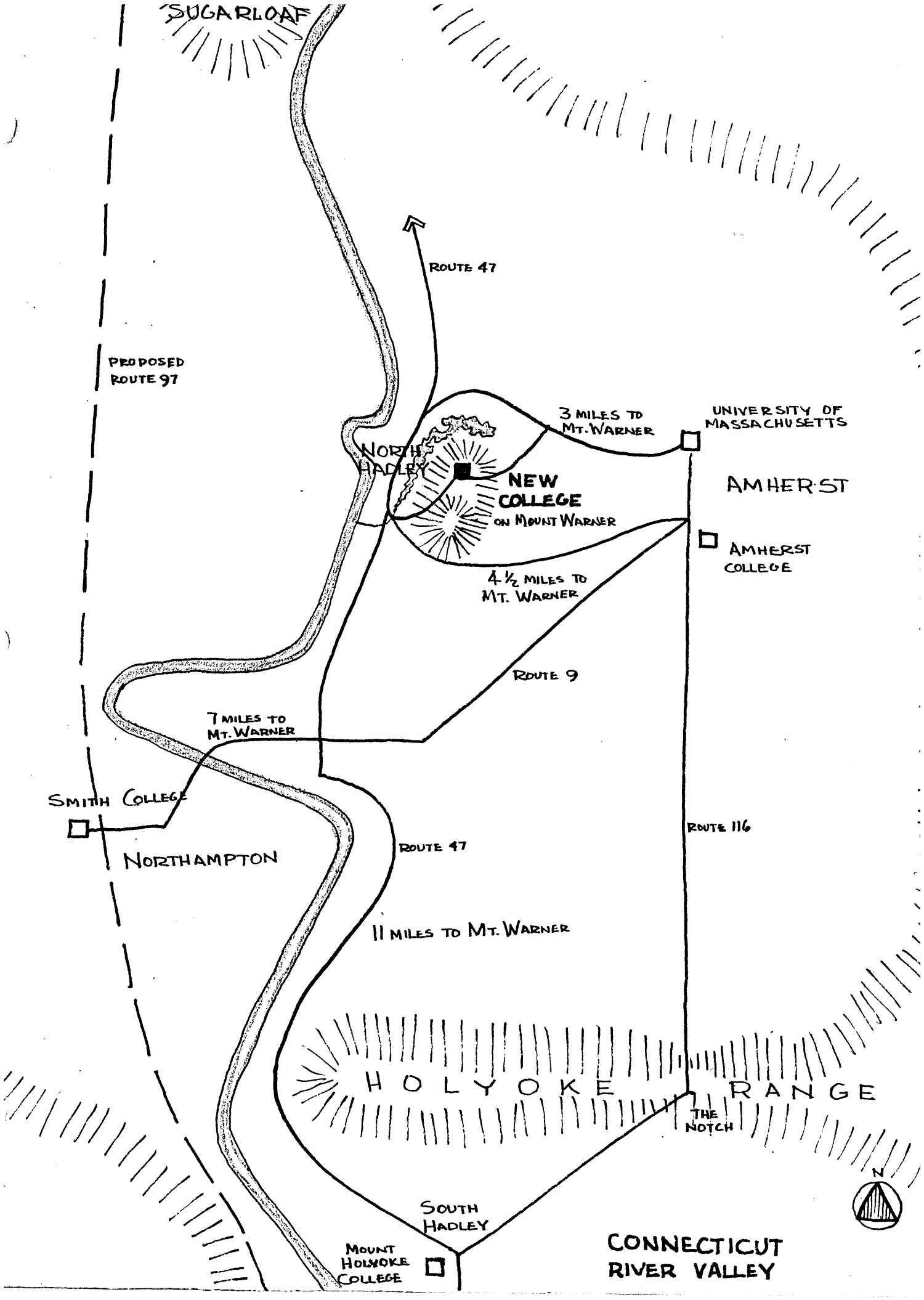
SITE

Mount Warner and the Valley

For centuries after the last glacier had receded, the basin of the Connecticut River Valley north of the Holyoke Range was a great lake Except for the hills which retained it, Mount Warner was the only dry land visible. Today, with its form softened by the storms of the ensuing years, Mount Warner still dominates the central basin.

The river, after passing Sugarloaf at the northern edge of the basin, moves in a straight line directly toward Mount Warner for three or four miles before it makes a loop to the west and passes the hill. Between the river and Mount Warner the small village of North Hadley lies along Lake Warner which separates the village from the hill in a very picturesque way

Much of the valley land, including portions adjacent to the hill on the east, toward Amherst town, is used for tobacco. The valley is very prosperous and many handsome buildings of the eighteenth and nineteenth century, including the church in North Hadley, have been preserved. Taken as a whole, this basin of the Connecticut River Valley possesses the richness that typifies New England.


SUGARLOAF
ROUTE 47
PROPOSED ROUTE 97
3 MILES TO MT. WARNER
UNIVERSITY OF MASSACHUSETTS
NORTH HADLEY
NEW COLLEGE ON MOUNT WARNER
AMHERST
AMHERST COLLEGE
4½ MILES TO MT. WARNER
ROUTE 9
7 MILES TO MT. WARNER
SMITH COLLEGE
NORTHAMPTON
ROUTE 47
ROUTE 116
11 MILES TO MT. WARNER
HOLYOKE RANGE
THE NOTCH
N
SOUTH HADLEY
MOUNT HOLYOKE COLLEGE
CONNECTICUT RIVER VALLEY

Mount Warner

Mount Warner itself is a jewel in these rich surroundings. When seen from the west in North Hadley, the rich carpet of trees apparent from Amherst and Northampton becomes an apples orchard and a large meadow coming down a gentle slope to the water. They are situated on the northern portion of the hill which is a plateau 2500 feet long, 180 feet above the lake and 200 feet below the crest of Mount Warner which is the southern portion of the hill.

From the central part of the village, and south to the place where the lake is dammed, the most important mass besides the peak itself is a promontory above the lake which is part of the plateau. It obscures the orchard from the eye, and, in a sense, dominates the lake and the village.

The plateau on Mount Warner has treasures of its own. Besides the orchard and meadow, there are dense groves of pine and white birch. The birches face a small depression which has filled with water to form a pond which could easily be enlarged.

Vistas of Mount Warner

But the greatest treasure of Mount Warner is the vistas which confront one when he reaches the plateau. From the

promontory above the village there is an incomparable sight. To one's left and near at hand lies the village across the lake; leading the eye to the right are the hills of the western horizon and then, to the north, the broad river forming an axis between Mount Warner and Mount Sugarloaf, more magnificent than any avenue of Hausmann !

And if one could stand seventy or eighty feet above that point, he could sweep the horizon from Northampton to the southwest past Sugarloaf on the north, past Amherst town with its two schools to the east, to the notch in the Holyoke range on the south east.

Considering the location of the existing schools in the Valley, Mount Warner is closer to the "center of gravity" than sites in or closer to the Holyoke range. The University of Massachusetts and Amherst College three miles away represent 65% of the present student body resident at the sponsoring institutions as well as the bulk of the specialized facilities New College people would use.

University of Massachusetts	5612	≻ 6630
Amherst	1018	≻
Smith	2342	
Mt. Holyoke	1360	
	10,332	

Mount Warner as it exists today presents an exciting visual experience. As the site of New College it would

1. VIEW FROM PROMONTORY TOWARD VILLAGE

2. VIEW LOOKING UPRIVER

3. VIEW OF MT. WARNER

SEE "LAND USE" MAP FOR VIEWPOINTS

transform the no-nonsense curriculum described in The New College Plan into a life-experience enriched by the ever-changing beauty of nature.

There is no more lovely place in the valley.

Whoever builds New College must build it on Mount Warner.

THESIS

Statement of Thesis

Insofar as the New College Plan endeavors to encourage the development of the young person as an individual intellectually and socially, its architectural form must encourage and augment that development through imaginative use of the means available to the designer. By imaginative use I mean not so much inventiveness or slickness, but thoughtfulness given to enriching the daily experience of those who make up the College.

Explanation of Statement

The development of the above thesis and the use of it to design New College on Mount Warner is the completion and culmination of my fruitful eight years of collegiate education. Kenyon College, the richest experience of those eight years, has been the basis for understanding the "style

of life" which would exist at New College and thus the test of the life-giving qualities of the architecture proposed. Bus it has been work done and ideas formulated at MIT that have provided most of my preparation for this work.

The project for a university done as a student of Professor Catalano in the fall of 1958 has been the most important influence on this project. Not only was it the basis of my very first thoughts on New College (cf. First Thesis Report, November 1959) but it has been the anvil on which I have finally formed the stated thesis. By coming to a real understanding of the difference between the college and the university in America I have been able to shake off the preconceived ideas with which I began the thesis project.

The very basic difference is this: the purpose of the college is to develop the sense of values of each individual, either by imposing of some pre-determined formula as in many church-dominated institutions, or by presenting the individual with questions he must answer for himself as the best New England college always have done. The content of the education is secondary, be it medieval Church history or biology; finally the development of the sense of values

is the justification and indeed the national importance of the college. The university, on the other hand, either assumes the individual already possesses of values or ignores the need to develop one, and instead trains the individual for his occupation. The inculcation of facts or development of latent technical abilities is the business of the university. This generalization will bring to the minds of readers of this report countless examples of colleges which apparently are universities and vice-versa. The reader might also feel that I am a snob to make the distinction. I do not feel universities are necessarily bad as a consequence, but the difference remains. Our democracy exists and is vital thanks more to a few colleges than to the many universities (no matter what they are called) of America.

Since I have understood this distinction, I have not needed to think of another "citadel," within which the individual is nurtured and given his identity, but of a free community, where each person is free to be with the others or alone as he will, where his identity is one he builds for himself. Nonetheless, I am aware that it is in society that the true individual realizes himself and

I have therefore attempted to strike a balance between society and individual which will enrich both.

SOLUTION

Use of the Site

The richness of Mount Warner has made development of a site plan both more difficult and more exciting than in any previous project. The promontory which affords the exquisite panorama has been the crux, both because it is the most important and the most perplexing part of the site. When my first efforts to develop a site plan using the promontory without moving earth failed, I decided to develop a scheme which left the promontory untouched. There was merit in such an intention I believe, but the discarding of the vista as part of the experience within the architectural complex, as well as the denial of the symbolic importance that buildings on the promontory would have, made me finally decide the central buildings must be on the promontory.

The present site plan is an attempt to link the village to the college by picking up the road along which North Hadley lies and continuing it up Mount Warner, forming a parabolic curve which culminates in the building group upon the promontory. Since the faculty and married students are


DORMITORIES
SERVICE CENTER
DORMITORIES
ACADEMIC COMPLEX
PLAYING FIELDS
PARKING
FIELDHOUSE
INFIRMARY
DORMITORIES
RESIDENTIAL
Faculty
Staff
Married Students
ENTRANCE ROAD
COMMERCIAL
N
LAND USE
0
500
1000
2000
FEET

more likely to desire to be part of an extra-collegiate community (schools and churches, shopping facilities, political participation) than are unmarried undergraduates, they are near the village. Although the use of a road to tie the site plan together may seem superficial, the fact that it will be cut into the hill and that clearing will have to be done will give it a real definition. As time passes, buildings will be built along it, strengthening its form and tying the whole composition more closely together.

Academic Buildings

The balance between the individual and the society is most difficulty to strike in the central group of buildings, the academic complex. Since this is the place where all groups of people meet each day, it is the place where groups, rather than individuals, appear most important. Nonetheless, in ofder that the individual not feel overpowered by the total at any time, I have endeavored to provide several paths from one place to any other, to avoid situations of masses of people moving simultaneously along the same path, and, by composing small buildings and earth masses, to enhance the dynamic experience of the walking human being. There is no "major space" but rather spaces which flow from

one to another. The earth masses are utilized in some places to screen the panorama from view in order to provide a sense of enclosure without having a solid wall of buildings surrounding the space.

Humanities and Social Science Teaching Facilities

The New College Plan emphasizes the lecture-seminar combination as a means for reducing the ratio of professors to students, thus developing student independence without lowering the quality of teaching or education. A large number of seminar rooms and a few lecture rooms comprise the basic teaching space for the humanities and social sciences.

Some of the seminar rooms may be combined with professors' offices, both to strengthen the effectiveness of the professor when he is present and to give more meaning to the seminar when he is not (the majority of the time). Not only is an individual spirit breathed into each seminar room, but considerable ecomomies of space are achieved. Both the professor's office and seminar room can be made smaller than when the two are separate, and yet when joined together into a suite the office will be more luxurious quarters than would be otherwise possible. The teaching schedule is such that the seminar room portion of the suite

would be in use no more than three house a day and yet would accommodate all of any one professor's students. In the evenings and at other times when the professor would not be using the seminar room, facilities would be provided to allow his student assistants to study there.

In order to satisfy those professors who would not care for such an arrangement, 17% of the offices have no seminar rooms attached and 25% of the seminar rooms are the conference-table type for general use; the latter are located in the library where they serve as general study space as well.

Science Teaching Facilities

The science building contains small laboratories for the normal class work of the sophomores and juniors, but on the top floor has large laboratories in which faculty, freshmen, and seniors work more or less together. The science program, as well as the one for humanities and social science, has freshmen involved in serious research with the faculty from the start A similar program begun at Harvard College last fall has shown promising results.

Library

"The library is the powerhouse of the campus." said my Professor Salomon once. At New College that will be

more true than it was even at Kenyon. From the beginning freshmen will be expected to use the library for their researches. Except for the few rare books which the New College will have, the entire collection will be on open shelves. Within the stacks there will be 300 study spaces.

For several reasons, I am proposing a multi-story library building. The obvious architectural reasons are no more important than the fact that vast ranges of library stacks are forbidding things; by placing books on several (8) floors one above the other, each floor with study space for 25 to 30 persons becomes comprehensible as an entity (similar to Rotch Library) and much more comfortable than a small cranny on the edge of a huge stack. The portion of the lower floors of the library adjacent to the science building will contain scientific reference material.

Social Facilities

While the New College Plan is very definite concerning academic matters, it suggests rather than states the nature of the social life at New College. In my search for a balance between the individual and the society at New College, I have taken considerable liberties with the suggestions of the New College Committee in the sphere of non-academic matters.

In our conversations, Maurice Childs and I have considered a theory of expanding rings of social association for each student. That is, for each student there is a room-mate or neighbor who is closest to him; then there are the others on his dormitory floor (12-18 persons); then his whole dormitory (40-100 persons), until finally the entire college is comprehended. Ideally for each ring of association there would be a physical entity

The application of my thesis to the sphere of social acitivity at New College can best be examined in terms of the "expanding ring theory". (Something must be done to make this sound like an MIT thesis!)

Social Facilities--Housing

I have decided to use Professor Anderson's proposal for an equal number of persons in double and single rooms (that is, two-thirds of the rooms are single rooms). If as many as 400 desireable study spaces are available within the academic buildings in the evening, then a large proportion of the 250 double rooms will be in effect single rooms for study privacy.

I have used a suggestion of the New College Committee to provide a simple lounge on each floor by leaving one room out.

I have used their suggestion also for small dormitories -- the entry system. I feel that for the three smallest rings of social association, the above ideas are expressive of my thesis.

Social Facilities--Dining

I do not, however, agree with the Committee beyond this point. They suggest that the next ring beyond the 40-person dormitory (not counting academic associations) is the large cnetral cafeteria in which the one thousand students eat. I am aware that Amherst has such a system and charges students only $11.00 a week for 21 meals -- a fantastically low price But I am also aware that Amherst has fraternities with long histories of fellowship and identities far stronger and encumbering than the Committee wants its living groups to have! Those associations no doubt turn the rather bland dining experience at Amherst into a meaningful and rich social occasion. I fear that without fraternities and sororities -- living groups with a social identity -- dining at New College would be like eating at Walton's 21 times a week for four years.

I believe the occasion of dining can be the richest of all social experiences. I would rather charge the student more for board and utilize this opportunity than to

practice such a false economy as the central dining hall.

I propose that each dormitory group of 40 men be combined with similar one of women and that these 80 persons share a dining room -- the fourth ring of association. I am assured that while it cannot operate as economically as the central dining hall, a kitchen serving no more than 80 persons is more economical than any serving less than 400. Utilizing a cook and helper with student assistance, and purchasing through a central commisary, I believe the decentralized co-ed dining room placed the individual in a society small enough to comprehend yet too large to inhibit his freedom. Memories of Kenyon convince me here that sitting down to every meal with 40 women would not only be a delight but would curb many of the barbarian tendencies of a totally-masculine living group. It is true that the women would attned the cnetral dining hall as well, but I have visions of a junior high school dance -- all the girls on one side, the boys on the other. Provisions for regular invitation of guests from other houses would insure a social "acculturation" not possible in the central dining hall.

Social Facilities--Student Center

As a result, I propose that the student activity center,

which represents the ring of association that comprehends the entire college, be modified from the proposal of the Committee. That is, many of the facilities of the activity center, such as card rooms, are best associated with the dining room of each house. What remains is those things which affect all students or which they would use every day. The offices of student organizations, the snack bar (doubling as party room), the post office, store, lounges, and student bank, constitute the bulk of the student center. The snack bar is the most important part of the student center in an American college, I believe, and I have made it the most obvious feature. The most attractive lounge imaginable can be virtually empty while a cramped, make-shift place to drink some coffee is overflowing. Capitalizing upon the importance of "refreshments" to the American college student, I have thus made the snack bar pleasant from the beginning.

Social Facilities--Other

Since I started work on this problem I have felt that no matter how small the emphasis placed on sports, the combination of athletic facilities with other social facilities is a false economy. As the College grows, an alternate would have to be found. The original combination auditorium-party

room-gymnasium would ever after force on its users the inherent physical limitations of not odors of a gymnasium. but?
I propose that a large by inexpensive fieldhouse be built either at the beginning or before this student body reaches 1000.

The theatre, which can be an important teaching device rather than just a playground for the bohemians, I have placed in the auditorium with the hobby shop adjacent. Music listening facilities will be part of a lounge atop the library. For use as a chapel for meditation, I would provide a special room in the academic complex, or perhaps a special small building apart from the rest of the campus.

Expansion

Although the New College Committee is uncertain about the future of their enterprise, Childs and I have made the expansion of New College to 2000 students an important criterion for our design.

I have tried to balance the deisre for a strong architectural form over-all with the need for straight-forward means of expansion. Here again, the thesis has been worth its long and halting development. My pre-conception of a "one-building" solution was dissolved when I considered the individual more important than the whole.

The small simple buildings of the academic complex I

have placed in a geometric pattern which is free enough to allow placement of other buildings as needed. The buildings for 1000 students suggest more spaces than they actually define; with expansion the composition will be enriched by the addition of courts resulting from the addition of one building. The experience of the pedestrian will be heightened by new paths and by old ones nade more meaningful.

The dormitory scheme also comprehends easy expansion. No matter how fast or slowly expansion takes place nor how large or small the increments of expansion, there will be no problem. The dining system is keyed to expansion from the beginning. There will never be over-crowded dining rooms since each time as few as 80 students are added, a new dining room will be built. There will never be the awkwardness or one large dining hall too small or for a time after the addition of a new one, two too large.

From the very first year expansion will sefve only to make New College a more rich experience. Finally the College and the village will be tied more closely together until the whole composition is a strong but vital form.

PROGRAM

The basis for this program is the "Capital Expenditure Study prepared by Professor L. B. Anderson in August 1959 (copy included). I have made some changes in floor area allowance with Professor Anderson*s consent, in addition to grouping some areas differently. A few changes in floor area allowance were requested by the New College Committee.

1. LIBRARY

a. Books 200,000 @ 10 per sq. ft.	20,000	
b. Study space 300 @ 33 sq. ft.	10,000	
c Seminar rooms 10 @ 360 Aq. ft.	3,600	
d. Catalog	1,000	
e, Staff work areas	3,000	
f. Recording, film, photo	1,000	
g. Bookstore	2,500	
h. Lobby and toilets	1,500	
i. Air conditioning	6,000	
	48,600	sq.ft.

2. HUMANITIES AND SOCIAL SCIENCE

A. Humanities--

a. Classroom for 100 @ 10 sq. ft. per	1000	
b. Classroom for 60 " " " " "	600	
c. Classroom for 40 " " " " "	400	
d. Office (division chairman, etc.)	1000	
e. 15 seminar room-offices @ 350 sq.ft.	5250	
f. 3 offices @ 300 sq. ft.	900	
g. Language laboratory	1250	
	10400	
halls, maint, plus 50%	5200	
johns, pantries,	15,600	sq.ft.
storage, walls.		

B. Social Science

a. Classroom for 60 @ 10 sq. ft. per	600	
b. Classroom for 40 " " " " "	400	
c. Office (division chairman, etc.)	1000	
d. 15 seminar room-offices @ 350 sq.ft.	5250	
e. 3 offices @ 300 sq. ft.	900	
	8150	
plus 50%	4075	
	12225	sq.ft.

C. Psychology (combined with social science)

a. Labs for 70 @ 30 sq. ft. per	2100	
b. Honors labs for 18 @ 40 sq.ft.per	720	
c. 2 private offices @ 168 sq.ft.	336	
d. 2 office-laboratories @ 288 sq.ft	576	
e. Auxiliary facilities	775	
	4507	
plus 50%	2253	
	6760	sq.ft.

Total of Humanities and Social Science: 34,735 sq.ft.

3. SCIENCE

a. Lecture room for 350 @ 9 sq.ft.per	3150	
b. Preparation space	900	
c. Student laboratories for 210 @ 30	6300	
d. Honors labs for 52 @ 40 sq.ft.	2080	
e. Auxiliary facilities (shops, etc)	3600	
f. 4 classrooms @ 450 sq.ft. per	1800	
g. 7 private offices @ 168 sq.ft.	1180	
h. 7 office-laboratories @ 288 sq.ft.	2010	
i. Office (division chairman, etc.)	900	
	21920	
plus 50%	10960	
	32880	sq.ft.

4. DORMITORIES

Twelve groups of two 40-person dormitories, not necessarily co-ed, with quarters for a married faculty or staff member in the dormitory occupied by women. There is an attached dining room and kitchen for each group. No elevators.

DORMITORIES (continued)

a.	single		double
a. Bed-study	128	208/2 =	104
b. Lounge	20		20
c. Lobby	7		7
d. Baths	7		7
e. Laundry	3.5		3.5
f. Storage	5		5
g. Resident faculty	6		6
	176.5		152.5
plus 25%	44.0		38.0
	220.5		190.5

Equal number of persons in double and single rooms.

500 x 220.5 = 110,000
500 x 190.5 = 95,400
Total 205,400 sq.ft.

Dining rooms -- Needs not supplied by the central commisary:

a. Lobby and coats	320
b. Dining	1140
c. Food preparation	425
d. Storage	40
e. Refrigeration	60
f. Dishwashing	104
g. Serving	224
h. Staff facilities	58
	2371 sq.ft.

There will be a small lounge and one or two game rooms with each dining room.

5. AUDITORIUM - THEATRE

A. Auditorium

a. Seating 1200 @ 8 sq.ft.	9600
b. Platform	1600
c. Backstage	1600
d. Coat room, toilets	800
e. Foyer	2400
	16000

B. Theatre

a. Seating 300 @ 8 sq.ft.	2400
b. Work shops (including hobby shop)	1500
c. Dressing rooms	200
d. Lobby	400
	4500

6. STUDENT CENTER

a. Snack bar for 266	5200
b. Student organization offices	2000
c. Lounge	2000
d. Student Activities director	800
e. Post office	800
f. Store	1200
g. 3 general purpose rooms with kitchens (faculty dining)	1800
	13800
plus 50%	6900
	20700 sq.ft.

7. ADMINISTRATION

a. President's office and council room	1800
b. Dean's office	900
c. Bursar (includes student bank)	1000
d. Admissions office	500
e. Mid-term course office	400
f. Registrar	800
g. Alumni secretary (placement)	500
h. Records	500
	6200
plus 50%	3100
	9300 sq.ft.

8. FIELDHOUSE

a. Gymnasium (3 basketball courts, 4 volley ball courts)	27500
b. Rooms for other sports	8000
c. Dressing rooms	5000
	40500
plus 10%	4050
	44550 sq.ft.

9. SERVICE CENTER

a. Maintenance facilities	15000
b. Heating plant	15000
c. Commisary	10000
	40,000 sq.ft.

Below are indicated selected paragraphs from The New College Plan which will be of particular interest to readers of this report.

THE NEW COLLEGE PLAN

A Proposal for a Major Departure in Higher Education

Prepared at the request of the Presidents of Amherst College, Mount Holyoke College, Smith College and the University of Massachusetts with the assistance of a grant from the Fund for the Advancement of Education

C. L. BARBER, AMHERST COLLEGE
DONALD SHEEHAN, SMITH COLLEGE
STUART M. STOKE, MOUNT HOLYOKE COLLEGE
SHANNON MCCUNE, *Chairman*, UNIVERSITY OF MASSACHUSETTS

THE NEW COLLEGE PLAN

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SHANNON MCCUNE, *Chairman*, UNIVERSITY OF MASSACHUSETTS

AMHERST • MASSACHUSETTS • 1958

Foreword

Letter of transmittal to the presidents of the sponsoring institutions

CHARLES W. COLE, Amherst College
RICHARD G. GETTELL, Mount Holyoke College
JEAN PAUL MATHER, The University of Massachusetts
BENJAMIN F. WRIGHT, Smith College

DEAR SIRS:

The attached report recommends the establishment of a new college in our area, to be sponsored by our four institutions—a coeducational, residential college, initially of about a thousand students, at which major new departures in liberal education can be initiated.

We were asked to re-think the assumptions underlying education in the liberal arts and to re-evaluate accepted practices and techniques, in order to draw up plans for a college which would provide "education of the highest quality at a minimum cost per student and with as small a faculty relative to the student body as new methods of instruction and new administrative procedures can make possible." A grant from the Fund for the Advancement of Education enabled us to work intensively for five months and to enlist suggestions and criticisms from a variety of consultants (See Appendix C).

The most important contribution a college can make to its students is to develop in them a capacity to continue their education throughout their lives. We have become convinced that there are several new departures which could make an important contribution to the evolution of the

American liberal arts college in response to the demands and opportunities of our period. The changes we propose reflect widespread opinion in the academic world, but it is not now possible to introduce most of them, on a decisive scale, in existing institutions. They can best be tested and demonstrated by making a fresh start: a new style of college, located among our established institutions, could both profit from their sponsorship and contribute, in its turn, to their development.

It is a widely-held conviction among liberal arts faculties that our system of courses and credits has got out of hand, and that our students are capable of far more independence than they exercise in present college programs. We propose a college which frees both students and faculty from the system which makes education a matter of giving and taking courses to cover subjects.

At New College, subjects will be covered, not by providing complete programs of courses, but by training the student to master recognized fields of knowledge. A systematic and sustained effort will be made to train students to educate themselves. As freshmen, they will start with seminars especially designed as the first step, not the last, in independence. Other devices, such as student-led seminars associated with all lecture courses, will follow to reinforce this initial experience. Throughout, the program will provide for a type of social interaction which will create a climate favorable to intellectual activities.

Students will study only three courses at a time, an arrangement making possible concentration of effort and high levels of achievement. The faculty, on their side, will give only one lecture course at any given time; the rest of their energies will be devoted to the several kinds of seminars which characterize the curriculum. The student's program will be built upon a large freedom of choice among areas of learning, and will be tested impersonally, by field examinations set according to recognized professional standards, frequently with the participation of outside examiners.

The College's total offering of lecture courses will be small. But it will be supplemented by other kinds of study and testing. It will also be supplemented to some degree by the collateral use of the course offerings of the sponsoring institutions. And there will be, each year, a month-long midwinter term after the Christmas vacation, during which the whole College will join in studying two courses which will provide a common intellectual experience. One will deal with a subject of central importance in Western culture, the other with a subject in a non-Western culture, the subjects changing each year over a four-year span. Visiting teachers from other institutions and from outside the teaching profession will play a large part in these midwinter courses.

The changes proposed will lead to significant economies in dollars and, more important, in the number of teachers required: we calculate that the New College plan, by giving up the attempt at a complete course offering (impossible for a college in any case), will make it possible for a faculty of fifty to give a first-rate education to a thousand undergraduates. This

ratio of one to twenty will go with efficient sizes of classes: relatively large groups in lectures and small groups in seminars. But the proposal has not been arrived at by cutting up the curriculum to fit economic considerations; on the contrary, educational motives have been paramount throughout our planning. Because the economies are motivated in this positive way, it seems to us that they can actually be carried out.

We should add that the several innovations we propose for New College, including in the extracurricular area the elimination of fraternities and intercollegiate athletics in favor of more spontaneous forms of student recreation, are changes that would reinforce each other, so that a style of life should emerge at the College which would have its own momentum. This does not mean that we look to the establishment of a place which would appeal only to special "experimental" people, either as students or faculty. On the contrary, we are convinced that the time is ripe for a general shift in emphasis in first-rate liberal arts colleges, and that New College, working with a representative student body and faculty, could provide an example which would have wide influence.

This is a proposal for changes not in ends but in means. It affirms a belief in liberal arts education—that appropriate for a free man. Although New College aims at producing useful citizens, it rejects vocationalism and a narrow concentration on science divorced from humanism. The challenge of authoritarianism must not be met by a surrender of the principle that the supreme goal of an educational system is the free growth of the individual student and of the intellectual community.

If this report seems at times to be expressed with a confidence and a conviction warranted by a proven experiment, rather than an untried one, the authors may offer the compulsions of brevity as one reason for their forthright statements; but even more, they must confess the growth of their enthusiasm for the plan as they wrestled with its philosophy and translated convictions into proposals. We earnestly hope that the project will be found a wise one, and that the necessary support can be enlisted to make "New College" a reality.

Respectfully submitted,

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November 14, 1958

I The New College Proposal

An Introductory and Summary View

It is acknowledged on all sides that American higher education is facing a crisis and that if we are to continue "the pursuit of excellence" on which our society's growth, health, and safety depend, we shall have to bring to bear both great resources and great imagination. Many things will need to be done to meet the rapidly mounting demand which is the result not only of a drastic increase in the college age population, but also of the steadily rising proportion of our young people who are seeking a college education. Amherst, Mount Holyoke, Smith, and the University of Massachusetts are already engaged in exploring and carrying out measures which each can take individually to meet the coming challenge. This report proposes that the four institutions also make a contribution cooperatively by sponsoring a new departure in liberal education of the highest quality.

The college which we propose would embody marked economies—in staff and in other resources—but it is designed to provide an education comparable to that of the "prestige" colleges. There will be a pressing need for more room at the top in an epoch when there will not be room enough in our exceptional colleges for many of our exceptional students. But still more important will be the need to demonstrate more efficient use of teaching resources, inevitably limited in the coming period. The proposed curriculum will make it possible, we believe, for education of the highest quality to be provided with a faculty half as large, in proportion to the student body, as is now customary in institutions of the first rank.

To sponsor such a pilot plant should be a particularly appropriate

role for privately endowed colleges, since as they are presently constituted they cannot, for economic reasons, expand rapidly and still maintain the high standards which are their distinctive contribution. Added significance and range will be given to the project by the happy circumstance that three rather diverse private institutions are associated with a publicly supported university. Unless a drastic increase in efficiency can be achieved, it may be that privately endowed institutions will not be able to sustain their role as leaders in the educational world. A restructuring of liberal education to meet this challenge is what is proposed in the plan for a cooperatively sponsored institution which we are calling "New College."

1. A NEW ROLE FOR THE COURSE

Unless a student "takes" a course, that subject remains closed to him—this is the assumption fostered by the course system in American higher education. The difficulties of operating colleges on this assumption have become increasingly acute with the constant expansion of knowledge. That everything should be taught was the high ideal of Eliot and the other leaders who, in creating our great universities, gave up the required curriculum in classical and religious subjects in favor of an open, unlimited course offering. Inclusiveness remains a vitally important ideal for universities. But for undergraduate colleges it is extremely wasteful of teaching resources. The typical college strives to be a university in miniature, with the fullest possible complement of departments and of courses within each department. Such course offerings, wasteful now, will become impossible for most colleges in the approaching period of large enrollments and relatively few teachers.

One solution would be a return to some new version of the old system of required courses for all, so as to eliminate courses elected by only handfuls of students. But the difficulty is that we cannot, and should not, settle what should be required for all. Vital education requires an open market: if for the sake of economical operation we give a monopoly to any one program, however imaginatively conceived, we lose some of the liberty in liberal education.

The New College plan offers a very different solution. It preserves the vital freedom of choice among courses and teachers and includes a requirement of distribution and concentration. But it dethrones the course as *the* unit of knowledge, and by doing so, drastically reduces the number of courses that need be offered. It will be able to do this because it will devote a great deal of faculty time to teaching the student to teach himself. The plan also dethrones the idea that a college must be an intellectual autarchy: the course offering is to be developed so as to take advantage for collateral purposes of resources available at neighboring institutions. Thus the College will be designed to demonstrate what can be gained by taking advantage of opportunities for cooperation which exist wherever institutions are located near together.

Instead of organizing the curriculum by departments, each of which

attempts to provide a course offering which it regards as adequate to cover its subject, New College will aim to fit its students to master subjects, chiefly on their own initiative, by providing them with the necessary skills, resources, and intellectual stimulation. Each member of the faculty will give just one lecture course at any one time; students will have a three-course program. The time saved from course work by faculty and students will be used for seminars and independent projects, so that the College, even with a faculty-student ratio of one to twenty, can emphasize educational situations where it is the student rather than the teacher who is performing.

2. TRAINING IN INDEPENDENCE

It has long been the goal of liberal arts colleges to prepare students for a lifetime of self-education. The means of education, however, frequently come to obstruct its goals. What we want to create is independent initiative and intellectual enterprise. Yet too often, faculty complaints about "spoon feeding" go with a course program which minutely prescribes what the students shall do and gives them so much to do that they have little time left for independent work.

At New College, students will begin their work with seminars: a large proportion of faculty time will be invested in showing groups of ten to fifteen freshmen what it is to work as a scholar by directing them in the exploration of a limited subject matter. All upperclass lecture courses—where enrollments will be larger, averaging about 42—will be accompanied by collateral seminar work, directed by the lecturer, but for the most part conducted by the students themselves.

The New College plan is based on the conviction that the average student entering one of the better colleges is capable of far more independence than he now demonstrates, but that he must be given proper training and proper opportunities. It will be a major goal of the College to develop and sustain a style of life which will make it habitual for students to work together in groups, and individually, without constant recourse to the faculty. In the last two years, the use the student makes of lecture courses, advanced seminars, and his independent work will be given direction by a program of concentration which will include rigorous examinations on recognized fields of knowledge, one in his junior year and two (or one and a thesis) in his senior year.

3. COMMON INTELLECTUAL EXPERIENCE

The variety of courses and programs in the regular curriculum will be complemented by the common experience all students will share in taking two college-wide courses during a month-long midwinter term, to be held each year after the Christmas vacation, between the fall and spring terms. This will be an occasion for projects integrating different disciplines. In working out the two midwinter courses, members of the college faculty and guest scholars will seek to use their varied knowledge to

illuminate subjects or problems of general importance. One course will deal with some aspect of the Western cultural heritage; the other with one or another of the great non-Western cultures. The subjects will change each year over a four-year cycle, so that all graduates will have studied four significant aspects of their own culture and a central feature of four other great cultures.

It is possible that a summer session can be developed at which the midwinter courses will be repeated, so the plant can be put to year-round use and other groups can be reached besides the regular undergraduate body.

4. TEACHING DISCIPLINES WITHOUT DEPARTMENTS

It is the pressure generated by departmental organization, in combination with the course system, which is chiefly responsible for the proliferation of courses. The department as a whole seeks to produce thoroughly trained majors by offering many courses; individual teachers add courses to make a place for themselves and their interests in the department. The New College plan eliminates departments while preserving the three customary academic divisions. But at the same time it recognizes that the intellectual life of a college must be structured to a large extent by the specialized disciplines. The training of faculty members should be exploited rather than ignored. Individually, most of them approach learning from the viewpoint of a single discipline. It is the tool which they know best and can most effectively share. Further, students who are just beginning to learn the difference between facts and the analysis of facts can progress more rapidly if several approaches to understanding are not presented simultaneously in the same course. This is not to deny that the various disciplines have much in common; but what is common should emerge as the liberal arts student moves forward in his education.

The curriculum provides that freshmen be initiated into scholarship by encountering the disciplines employed by two particular teachers, one in the humanities and one in the social sciences. The instructors will work with students in areas with which they are concerned as specialists. Except in the case of the physical sciences, where a cooperative course has special advantages, the curriculum avoids the arrangement by which departments, or groups of departments, develop special introductory courses for their whole subject or area, whether of the survey or the problem type. Even in a college where there will be no official departmental units, such courses would probably promote the equivalent of departmental empire building. This does not mean that two or more individual instructors of freshman seminars will not, whenever they choose, combine their student groups at intervals for special purposes. But we want to avoid a programmatic curriculum which involves teachers in courses not of their own department or choosing, where they do not always work at their best.

The same goal of avoiding departmental structure, while recognizing that most work must be by disciplines, appears in the upperclass offering.

Each of the fifty members of the faculty will be free to decide what he will teach, in consultation with his colleagues and in response to his own interests and those of the students. The total offering of upperclass lecture courses will be far below accepted norms: only fifty courses in one semester, one hundred (plus the two midwinter courses) in a year. But the limited number will be compensated for by several factors. The most important factor by all odds is the active role given the students. A three-course program, instead of five- or four-, will make it possible for each course to be substantial. Subjects will wherever possible be taught only in alternate years, so that a total of perhaps one hundred and fifty subjects will be available to students over and above the subjects dealt with in the freshman program and in advanced seminars.

The range of subjects offered should be wide; and the practice of assigning only one lecture course to a man should go far toward eliminating the courses of limited interest to teacher and students which normally encrust the curriculum. The course offering will be free to develop dynamically in response to changing intellectual interests. If free development can be assured, we believe there will be little or no need for programmatic, *a priori* integration. A wise president and responsible faculty leaders, building and rebuilding a faculty so as to represent roughly the balance of interests current in the several disciplines and choosing men first for their minds rather than their subjects, can create an intellectual community where the rigorous practice of the principal disciplines will be complemented by the pursuit of understanding of the problems which emerge as common concerns. The tendency to unify is as fundamental in the life of the mind as the tendency to specialize. The midwinter term, moreover, will promote intercommunication by furnishing an annual occasion set apart for projects in integration. In short, the New College course offering will not be "complete," but it will be thoroughly alive.

5. COOPERATION WITH THE SPONSORING INSTITUTIONS

It will be a great advantage that New College can use some of the teaching resources of the four sponsoring institutions. When a subject which is missing from the New College course offering engages a student's serious interest, and cannot well be studied as an independent project, it will usually be available to him at one of the cooperating colleges. Students will be required to take at least one semester course away during their college career. The College can pay the costs to its neighbors of this enrichment of its program without incurring anything like the expense required to maintain separately the teachers and facilities involved. And it can afford to pay its full share of a cooperative transportation system. It will be unnecessary to support disciplines which are included when a college is conceived as a single, isolated entity.

New College must have autonomy, but it will be designed to operate as part of a larger intellectual community. Where a discipline is not rep-

resented on its faculty at all—as may be the case with astronomy, for example, or geology, or Italian, or the history of music—it will not be possible for students at the College to concentrate in the field, but they will be able to study it away as a supplement to their main interests. In certain other disciplines—for example, the ancient and some modern languages and some of the sciences—it will be possible for a student to organize a program of concentration by combining work under one or two members of the New College faculty with a number of courses taken elsewhere, since many advanced courses in such fields are not heavily elected at the sponsoring colleges. Because New College will be starting fresh, with a curriculum that provides for just one lecture course at a time for each teacher, its faculty will not feel the reluctance about courses being offered elsewhere which tends to limit the efforts of established institutions to supplement each other.

The College will also be hospitable to the resources increasingly available in educational films, television, and language laboratory facilities. It is proposed that as soon as it is technically possible to relay educational television programs originating in Boston and elsewhere, New College make itself the center for rebroadcasting selected outside programs in addition to programs originated in the Valley. The Western Massachusetts Broadcasting Council, Inc., through which the four colleges now cooperate in conjunction with the Springfield School Committee in FM broadcasting, has strongly recommended that the provision of central TV facilities be incorporated in plans for the new institution.

6. PROGRAMS OF CONCENTRATION

"Completeness" will not depend on the course offering, but on the student, since he is made responsible, as he matures, for organizing his study so as to master subjects covered by the field examinations. His teachers will have time to help him in this enterprise, since their energies will not be largely tied up in giving a number of courses. The field examinations will not be departmental "comprehensives," but will cover limited subjects, of a scope larger, however, than any one course deals with. Programs of concentration will be developed by the student frequently on an *ad hoc* basis; he will be free to make any combination of courses, individual projects and field examinations which he can justify to a faculty committee drawn from the three divisions. So there will be no temptation for faculty to say "We must have such and such a course to prepare our majors for their comprehensives," nor will students be encouraged to relax into following a program of courses, from one test to the next, in preparation for a general examination which is made up of questions about each course. The field examinations will periodically be set by outside examiners, so as to assure the maintenance of standards recognized by the professional group concerned.

7. PLANS FOR THE COLLEGE AS A COMMUNITY

In the planning of working and living arrangements, and of student activities, the goal is to carry over into the rest of the life of the college

the attitudes promoted by the curriculum. Working life will be centered in the library, in facilities for study and seminar work associated with the library, and in laboratories nearby. An unusually large provision of study space for students will be made in this area, as opposed to the living areas, to provide a locale for the active, shared intellectual life of the student seminars and independent projects, a life in which it is to be hoped that intellectual and social interests will be combined. To complement the emphasis on group life elsewhere, it is recommended that sufficient single rooms be provided so that any student who wishes can have one: it is important that there be a place where each can be alone and work alone if he or she chooses.

The plans for recreation aim to avoid the domination of compulsive organization while encouraging the free development of individual and group activities. There will be no fraternities or sororities; there will be no highly organized intercollegiate athletics. These aspects of college life cannot simply be eliminated, leaving a void; worthwhile equivalents must be provided. Group social life will be encouraged by small living units, and a Student Activities Center will be created with good facilities for sports, games, recreational shop work and studio work, theater, student publications, student parties. This part of the life of the college will be supervised by a well-paid, highly-respected Director of Student Activities. He will have a very small regular staff but many paid student assistants, the students doing much of the teaching of the skills of sports. Sports will be given back to the students and treated as one of several forms of recreation. There will be no varsity teams and no coaches, but the athletic and social program will include many games between intramural teams of New College and comparable teams from neighboring institutions.

8. ECONOMIES

In drawing up the New College plan, the Committee has been interested first and foremost in providing for liberal education of the highest quality, and our other goal, low cost, has not been allowed to compromise educational requirements at any point. But we have been excited to find how often educational and economic advantages can be made to go hand in hand. It has not been possible at this stage of planning to arrive at firm dollar figures for capital and operating costs, because too many factors necessarily remain unsettled. But the main features of the plan itself make it clear that major economies will be possible.

The most important savings will be in operating costs rather than capital outlay: once established, the College can be virtually supported by student fees. The chief factor in making it possible to do without endowment income will be the twenty-to-one ratio of students to faculty. The saving in instructional costs by comparison with other first-rate colleges will not be quite in proportion to the smaller size of the faculty, for there will be charges to pay to the neighboring colleges for the collateral instruction and facilities they will provide. But student charges comparable to those of good existing col-

leges should suffice, at present price levels, to meet all operating costs. The one limitation anticipated in the College's ability to pay its own way will be the need to provide scholarship funds to assure a representative student body. It is to be noted that if the price of teachers rises as is expected in the coming period in relation to other prices, the shift will increase the economic importance of the New College student-teacher ratio.

Cooperation among the colleges will make possible considerable savings in the cost of the library, since faculty research needs will be largely met without special acquisitions, through interlibrary loans and the Hampshire Inter-Library Center. Similar savings in specialized scientific facilities will also sometimes be possible.

Other important economies will result from New College's informal athletic program and from the unforced arrangements for recreation. What we are proposing, inside the curriculum and outside it, is to eliminate so far as possible rigidities and vested interests which tie up resources in wasteful ways, whether it be rigid course offerings, rigid social organizations, rigid programming of athletics—and rigidity costs money, more and more money as the years go by.

The high costs of acquiring and developing a site and of building everything new cannot be avoided for New College, since its general location is dictated by the need to take advantage of cooperation with the existing institutions in the Connecticut Valley, and so it is impossible to hope to buy up and adapt some estate or similar property where considerable capital costs have already been written off. It will, moreover, be necessary to create an environment which will meet, without foolishness, the expectations of the kind of students and parents who are the clientele of first-rate colleges. It will also be necessary to provide, in one way or another, a subsidy for faculty housing. On the other hand, the very fact of starting afresh will make it possible to use recently developed materials and building techniques of great efficiency, and to develop an architectural plan imaginatively adapted to fulfill in an economical way the human and educational goals of the College. And the proposed curriculum offers special opportunities for savings in capital outlay. Thus multiple use of space will be possible both in the academic program, with its relatively small numbers of classes, and in the recreational arrangements. Another factor, difficult to assess in advance, is that when students take courses at neighboring colleges, it may frequently be possible for them to use laboratory facilities at the other college. In some subjects, where surplus facilities can in effect be rented from neighbors, substantial savings may be effected in this way in capital costs. The most important capital savings of all will come from the fact that New College will simply not teach certain specialized disciplines, so that it will have no need to create many expensive facilities.

II The Curriculum and Its Rationale

1. THE ACADEMIC PROGRAM

The skeleton of the four-year program can be stated briefly. During fall and spring terms of fourteen weeks each, students take three courses; all students take the two college-wide courses during the month of the midwinter term, which comes immediately after Christmas vacation. The entering freshmen are introduced to the methods of the three divisions by two fall-term "Freshman Seminars" on limited subjects in the humanities and the social sciences, and by a required science course in mathematics, physics, and chemistry, designed to put the student in the position of working as a scientist. In the midwinter term, the freshmen join upperclassmen in the two courses all students take together. In the second semester, the freshman science course continues, but the work in the other two divisions is in courses which combine lectures with seminars and train the student groups to work more and more independently. Where the Freshman Seminars will average 12 students, these spring Freshman Lecture-Student Seminars will average 24. The upperclass Lecture-Student Seminar courses which make up the staple of the curriculum after freshman year, combining presentations by the professor with group discussions and projects where the students take the initiative, will average about 42 students.

The distribution requirement provides that every student take four semesters in two different humanities, four in two different social sciences, and three in science. After the freshman year, where the work is equally divided among the three divisions, the requirement in science can be met, either by a semester course dealing with the impact of science on society, or by an introductory course in biology or psychology, or by work in either physics, chemistry, or mathematics which carries on beyond the freshman

course. The courses required for distribution in the other two divisions are to be completed at the latest by the end of junior year. The eight courses taken in the midwinter term over a student's four years—four studies in Western culture and four in four other cultures—provide a common "core" program equivalent, on a calendar basis, to somewhat more than a term's work.

Programs of concentration occupy at least half and not more than two-thirds of the regular term-time course work in the last two years and include one field examination during junior year, two field examinations or one examination and a thesis during senior year. All students will take part in one faculty-supervised Advanced Seminar (averaging 10) during the spring of junior year or during senior year; some students may participate in more than one such seminar.

There will be no language requirement; but every effort will be made to encourage the mastery of languages by those who are interested in philology and literature or who need language skills; courses in foreign literatures will be offered. Elementary languages will be taught, but not for credit; prospective students will be urged to acquire a language before entrance; students will be encouraged to attend summer language schools.

Only three grades will be given in courses and on field examinations: fail, satisfactory, distinction. Examinations will be given in courses where the instructor finds them useful. But the student's work on projects and in seminars will be an important element in evaluating his performance. And advanced students may be excused from examinations in courses falling within fields on which they are taking field examinations, wherever the instructor judges exemption to be sound policy. Degrees will be awarded *rite, cum laude, magna cum laude,* and *summa cum laude.*

A calculation has been made in detail of the faculty needed to conduct this program for 1,000 students; it is presented, with the assumptions on which it is based, in Appendix B. A faculty member will normally be responsible for one upperclass lecture-seminar course and two seminars; if his lecture-seminar course is exceptionally large, he will handle only one seminar. On this basis a faculty of fifty is found ample for the curriculum planned, with spare faculty time to compensate for shifts in student elections, administrative tasks, and sabbatical leaves.

2. ESTABLISHING AND SUSTAINING THE PATTERN OF STUDENT INITIATIVE

The independence which all good teachers want in their students cannot be created by an act of will on the part of the faculty. Too often, faculty members themselves discourage initiative by elaborating packaged tasks in an effort to be sure that the student learns all they think he should. This is particularly apt to be true in freshman programs. Where survey courses are the rule, concern for "coverage" can lead to presenting students with huge blocks of departmental subject matter, especially where several

departments are each trying to do justice to their subjects within the confines of a single course. Where inter-departmental courses center on selected problems, some of the difficulties of the survey method are avoided; but at the freshman level a rare combination of skill and fortune in cooperation is necessary to avoid vaudeville shows where students see the tricks of each trade but do not really learn how they are done.

The New College curriculum is designed to establish a pattern of independent behavior by intensive training in it at the outset and to reinforce the habit of initiative thereafter by continuing to provide situations which call for it. Hence the very large investment of faculty time in the freshman seminars of the first term and the combination, thereafter, of student seminars with lecture courses: once established, a way of doing things can be kept going with diminishing reinforcement. So the curriculum gives up the customary pyramid which provides a broad base of factual knowledge in survey courses during the early years and an apex of specialized study in the later departmental seminar and thesis, where the student learns the tools of a scholarly discipline. Breadth of knowledge is certainly essential; but really to know goes with knowing how to know. Broad knowledge will not be pre-digested for New College students; it will come as a natural consequence of exploration, of "getting around" in their subjects.

3. THE FIRST-TERM FRESHMAN SEMINARS IN HUMANITIES AND THE SOCIAL SCIENCES

Methods are best introduced, not in the abstract, but in action. The fall freshman seminars will teach methodology by exploring limited subjects, each teacher deciding on a subject and its limits with a view to best showing a group of about thirteen students how he works, and how they can work, in using his discipline. There need be no effort to be novel, either in the disciplines presented or the topics used, except as novelty happens because of the way the main line of a man's intellectual development is going. (To call for novel *content* in a whole curriculum is to invite the superficial and the faddist.) Nor need there be any effort to show all the students, in all the seminars, some "common principles of scholarship." Most methodologies and intellectual processes are encountered many times in a liberal arts education. In the course of educational experiences there is more probability of developing good intellectual practices if some attention is paid to method as well as to content. But the experience must be specific and clear, rather than broad and diffuse—so the subjects treated in the freshman seminars will be limited in scope. It will be valuable for the teachers of the various different seminars to cooperate, as they see opportunities, in arranging that their students hear lectures together on subjects of common interest, or encounter approaches whose differences and likenesses will illuminate the methods each group is learning to use.

Seminars in History would neither be in "Western Europe from the Fall or Rome to the Atomb Bomb," nor yet in "Historiography," but in

subjects like "The Civil War," "The Age of Absolutism, 1648-1789," or "The Age of Pericles." Similarly, neither "Beowulf to Thomas Wolfe," nor "Principles of Criticism and Methods of Literary History" would be offered; instead, literary history and criticism would be presented as activities by working intensively with limited materials. The curriculum proposed at New College will make the students' first college experience sharply different from what most of them will have had in school—as is too often not the case with present freshman programs. They will encounter a scholar working with materials which are alive for him with excitement, perplexities, alternatives, problems, unexplored possibilities. Instructors will have the advantage of working in areas they have chosen because of strong interests (new teachers may frequently choose the exoteric sides of subjects they have explored in working for their doctorates). Students will quickly be assigned work to be performed independently, the instructor designing projects for which the freshman will have or can acquire the necessary frame of reference, and in which he will encouunter, as he works, fundamental problems of the topic and the discipline. A problem which all will encounter will be "How to Write." Teachers will have to spend a great deal of time teaching composition, as it relates to their field, by working through student papers, sometimes with the writer alone and sometimes with the group. (Remedial work in composition may be necessary, but it is hoped that in such cases the need will be recognized before the student enrolls and he can be required to take remedial work in the summer before he enters the College.) Oral reports to the group of the findings in a paper can provide occasions for teaching students how to defend positions taken, enlarge or redefine problems, contribute comments and questions on the work of others, express "assent and dissent in graduated terms." The art of behavior in a scholarly group will be taught along with the art of the conduct of the mind. Each student will have two Freshman Seminars, so that during his first fall at the College he will be able to compare an experience of a discipline in the humanities with an experience in the area of the social sciences.

4. SCIENCE COURSES

The way work may best be conducted in the physical sciences, notably in laboratory projects, makes it desirable to provide a single Freshman Science Course; but the goals of this course will be substantially the same as those of the freshman seminars in the other divisions. It will not be a survey; nor will it consist simply of talk "about" science. It will be designed to permit all students to participate in an active sense in some of the operations of science and so acquire experience which can form the basis for general understanding of scientific method and history. To this end, students will be introduced to mathematical concepts, along with physical and chemical ideas, and put in situations where they can use them. Topics and laboratory problems will be selected for their usefulness to students in encountering science as a liberal art. (With mathema-

tical skills, as with English composition, remedial work will be required in advance of entrance wherever the need is detected, or after entrance if necessary.)

The course on science and society which is proposed as an elective for sophomores in fulfilling the science requirement is an experiment which seems highly desirable to the committee and several of its science consultants. As yet, however, it has only been possible to take preliminary steps in planning it. It is envisaged as the study of selected topics. Some topics would be the analysis of society's efforts to utilize, control, and adjust to major scientific discoveries. Obvious examples are the theory of evolution and the development of atomic energy. Perhaps a single phase of the impact of atomic development, such as radioactive fallout, might be used. A second category of topics would deal with problems of society which science might help to define and solve, such as over-population.

The staffing of such a course and the methods employed would reflect the social-scientific subject matter and the nature of the particular problems chosen for study in any given year. Natural and biological scientists would join with social scientists. If the scientific portion of the problem were one requiring background not covered in the freshman science course, the proper foundation would be laid through lectures, demonstrations, readings, and laboratory work. For example, a study of genetics, *per se,* would be a part of the problem on evolution. Study of statistical method would usually be needed.

It is obvious that not many problems could be attempted in a single semester, but the student would have had the illuminating experience of working in the difficult and complicated area of the impact of science upon human beings—something which he cannot escape during his entire life. We believe that this would be an important intellectual experience, not only because of the processes the student would confront, but also because he would learn to think in terms of probabilities rather than absolutes, to accept margins of error as an inevitable accompaniment of even the most honest attempts to provide solutions to such problems.

5. THE FRESHMAN'S TRANSITION TO GREATER INDEPENDENCE

The freshmen's first experience in the midwinter term should help to consolidate the attitudes inculcated by the fall term. For they will be taking part in discussion groups along with upperclassmen, who are more experienced than they are as students, but who are also encountering subjects new to them. Some of the discussions will be led by advanced students fitted by their concentration to do so; others may be led by faculty who are almost as unfamiliar with the topic as the students. The lectures, meanwhile, will frequently be the presentation of fresh, novel, or controversial conclusions, by authorities who are working at the growing edge of the subject. "The life of the mind" should not be an abstraction after participation in college-wide courses conducted in this way.

The second semester of freshman year can be a guided transition to more independent work. Sections in the science course can be larger; more of the experiments can be open-ended, confronting the student with equipment related to the concepts being discussed and asking him to devise something meaningful to do with it. The two "Freshman Lecture-Student Seminars," one in humanities and one in a social science, would meet in groups of 24 for lectures and divide into two or more parts for seminar purposes, the smaller groups doing things suggested by the lectures under a tutelage explicitly aimed at developing their independence and competence. These spring term courses will deal with larger subject-matters than was possible in the autumn, often serving to provide both information and techniques which are generally useful for pursuing a discipline at an advanced level. The instructor will sometimes lead the seminar sessions, sometimes listen silently, sometimes be notable by his absence. He will make it his business to give advice and point out object lessons in what can be done successfully in group work and what modes of operation lead to failure, the necessity of preparation and participation, the importance of courteous listening, how to ask questions without arousing antagonism, how to offer each other encouragement and criticize inadequate work without creating antagonisms or destructive discouragement.

Many good students will have to be weaned gradually but firmly from the habit of shaping all their remarks for the benefit of the teacher; other students, who have resisted this tendency, will find an unfamiliar pleasure in expressing to their peers their own unforced responses to what they are studying. The fact that the student seminars will be composed of men and women working together should be very helpful: though one can generalize too far, experience suggests that, provided a style of life has been established which respects the process of sharing intellectual experience, the two sexes bring out the best in each other intellectually.

6. THE UPPERCLASS LECTURE-STUDENT SEMINAR COURSE

In providing for independently conducted student seminars and projects as an adjunct of all upperclass courses, the committee is relying on the establishment of a style of life at New College which will make such work something that everyone does and expects to do. It is also recognized that the independent work collateral to each lecture course will not happen automatically; to direct it will take a good deal of the lecturer's time and more still of his thought. Where a teacher's lecture-seminar is subsantially larger than average—above, say, 60—he will be expected to teach only one freshman or seminar group instead of two. The lecturer is thus given time for working out collateral projects, visiting at intervals the student groups who undertake them, checking through papers and reading at least a good part of them, advising students in his course who chose him as their adviser about the design of their programs of concentration and their preparation

for field examinations. He will, in addition, have the help of at least one paid student assistant, who on his side will be learning, in an apprentice relationship, what is involved in teaching.

Many curricula have provided for this kind of supervision by tutorial sessions apart from the course program, either on an individual or group basis. But to tie the direction of independent work to the lecture course should save faculty time and increase student initiative. The students and the lecturer will have a common frame of reference, instead of having to spend a wasteful amount of time establishing communication. There will be no fixed hour or half-hour conference period to be filled up whether or not the discussion runs out of gas. Individual students will not be saddled with one teacher as adviser or tutor, whether congenial or not, since they will normally be encountering three instructors in their three courses. Students will also be able to follow a line of their own through the collateral work of several different courses: they will not be merely "taking" courses.

The use throughout the course program of student seminars attached to courses is certainly a new departure, one which will require a great deal of experimentation and which may develop in a number of directions. But it should be noted that independent study groups and clubs, fundamentally similar to what we are proposing, are increasingly a feature of American student life at all levels, from elementary school through graduate school. And there is a variety of programs of adult education which are developing through the group discussion method. Such groups share intellectual interests, sometimes with a teacher or trained leader, sometimes without. This type of self-education should certainly gain in coherence and intensity in an institution where its ways are taught from the outset and then continuously reinforced.

The lectures in upperclass courses should gain rather than lose from the circumstances that classes will usually be fairly large, sometimes very large, that lectures will be given less frequently, often only once or twice a week, that both the students and the lecturer will have freely chosen to concern themselves with the subject. Because there will be other places for discussion, it can be hoped that the lecture will often be a thoroughly prepared, concentrated presentation. The combination of lecture with discussion, though it can be very valuable, can also be neither fish, flesh, nor good red herring—too many teachers come to rely on random student questions to carry things along in the absence of meditated organization. The style of life at New College should encourage widespread auditing. Giving relatively few lectures, teachers will often be on their mettle to make a decisive impact.

7. PROGRAMS OF CONCENTRATION

The differing needs and interests of students will be accommodated by a great variety of programs worked out, where need be, on an *ad hoc* basis. Some students will be headed towards comparatively well-defined and con-

ventional goals—to become economists, or chemists. Others will have interests which cut sharply across disciplines and customary divisions of subject matter. Some will wish only that degree of concentration which gives focus to the breadth of knowledge traditionally associated with the liberal arts degree, others will gain most by conducting investigations into relatively limited areas.

Part of the student's self-education will be the designing of his own program, under the guidance of a faculty member whom he picks out as adviser, and subject to the approval of a faculty panel. An essay outlining his proposal for concentration, and explaining so far as he can its rationale, will be submitted to his adviser at the end of sophomore year, and again at the end of junior year. To avoid the hardening of lines between subjects, the work of reviewing these programs will be done by one or two faculty panels, each consisting of three men whose specialties fall in the three divisions—e.g., a chemist, an historian, a philosopher, etc. In doubtful cases the panel will seek appropriate advice.

The open, non-departmental organization need not mean that faculty members who profess the same discipline or related disciplines will not work together with the Dean and the Divisional Chairmen to provide a course offering and a program of field examinations which satisfies, so far as possible, the main needs of students in their area. Sad experience shows that departmental organization does not necessarily produce cooperation among a department's members; one can see reasons to believe that the absence of departments, and so of the accumulation of rivalries within them and between them, would promote, rather than discourage, cooperation between teachers.

8. FIELD EXAMINATIONS AND THESES

The system of field examinations will make possible flexible programs and independent work while maintaining standards. The examinations will be larger in scope than any course the student may be taking in partial preparation, yet not so large as to make cogent testing impossible. Too frequently departmental "comprehensives" fall back on offering many choices on any question or permit answers which are merely adroit or ambiguous verbalizing. Breadth of factual knowledge will be required, some of it acquired independently; and the ability to apply analytical skills to large areas of subject matter will be tested. By the use of outside examiners and comparisons with the performance of students at other colleges, New College students will be held to recognized standards. The faculty, on their side, will be kept in touch with what is being done elsewhere in their profession and so pulled back, if need be, from idiosyncrasy or extravagance.

In selecting the field examinations he is going to undertake in junior and senior years, along with his senior thesis if he writes one, the student will establish the large outline of his concentration. The field examinations may all fall within one discipline, or they may be distributed across disci-

plines and divisions. A student oriented toward history might read for examinations in Renaissance, modern European, and American history; another interested in a particular period—the Renaissance, for example—might elect the appropriate examinations in history, literature, and art, or philosophy; a third might combine one examination on an area in mathematics and a second on an area in physics with a third on the philosophy of science or symbolic logic. Programs such as this last might be approved only rarely; but however special a combination might be, the work for it cannot be half-baked, for its components will be recognized fields which will be rigorously tested by examination.

A senior thesis will not be universally required—it is not a useful undertaking for all students or in all disciplines; and every student at New College will have a great deal of experience in the preparation of independent reports as part of the regular curriculum. But the thesis project will be encouraged by permitting it to be substituted for one of the two field examinations at the end of senior year. For many students the thesis will be the heart of the program of concentration, their choice of course work and field examinations being dictated by the background needed for it.

Where course examinations can be dropped for those students who are making the course part of their program of concentration, the instructor will be relieved from a large burden of blue-book work and so have more time to read essays and evaluate the performance of student seminars. The student will be encouraged not to look on his work for the course as a series of isolated tasks delimited by passing tests.

9. THE ADVANCED SEMINARS

The pattern of lecture-seminar courses will be varied, as the student matures, by seminars organized in the manner which is customary for advanced departmental majors. The Advanced Seminars may be taken in any one of the last three semesters and will probably group students by the discipline with which they are chiefly concerned. The work of these Seminars will include the detailed direction of individual projects and theses, so that each student, working on his own chosen ground, can have guidance in reaching the highest level of analytical sophistication and ingenuity in research of which he or she is capable.

10. COURSES AT NEIGHBORING COLLEGES

The requirement that all students take at least one course at a neighboring college will enrich their programs and give them an experience in a different educational setting, with different perspectives and methods. And visiting will facilitate comparisons between students. The fact that its students can do some of their work at established institutions will also increase the prestige of the new institution, assisting it at first in recruiting better students than it might otherwise attract.

It should not be difficult to solve the problems of adjusting credits

between New College courses, designed to take a third of a student's time, and courses at other institutions designed to take a fourth or a fifth. New College students will not have to accumulate a fixed number of credits, but to achieve an adequate preparation—if they take a three-hour course away, instead of a five-hour course at home—the time saved can be used in independent reading towards the field examination at issue. Scheduling difficulties will certainly be encountered, but solutions will usually be found because of the small number of lectures at New College and the flexible scheduling possible for the seminars.

11. THE MIDWINTER TERM

Several purposes will be served by providing a month in the middle of the year when everything will be different—all regular courses and projects giving way while the College, along with invited guests, turns itself into a conference. To bring the students of all four classes together in common intellectual enterprises should have an important effect on the general atmosphere which is crucial in an educational institution.

Subjects of vital importance to the whole community will be found by organizing one of the two courses around a Western topic and making the other a study in a non-Western culture. The particular subjects dealt with in each course will be chosen in response to faculty interest. The courses will not be efforts to survey whole periods in the West, or whole non-Western cultures; instead, they will focus on key subjects within the cultures. Thus in the Western course, one year's project might deal with polytheism in the ancient world; another with problems about the meaning and nature of a "Renaissance" moment in history; another with the relation of literature to philosophy and religion in Dante's work and times; a fourth with the historical role of science in a particular historical epoch. In the non-European course, one year's work might center on aspects of Buddhism, another year's on totemism and related social and artistic forms of Africa; so also for the Near East (perhaps the career of Mohamet and the rise of Islam), and for India (perhaps the social and cultural problems of economic underdevelopment).

Each course would be the occasion for a number of faculty members to work together, attacking the subject from their several angles: polytheism would thus be dealt with in terms of history, anthropology, history of religion, mythology, literary history and criticism, etc. Obviously, the non-Western courses would have to draw heavily on talent from outside the College. But members of New College faculty without special competence in the non-Western subjects could make a contribution by taking the course themselves and leading student discussion groups, reading student tests and papers. It may be that instead of starting from some aspect of a cultural heritage, the courses in non-Western areas might equally well take current political and social issues as their point of departure and work back in depth to explore how the present is conditioned.

Since only about half of the faculty will be involved in any one mid-

winter course, and since the contributions particular people can make will vary greatly, it is proposed that those teachers who participate be given extra compensation for doing so. The other half of the faculty, in a given year, will be free to pursue their own studies from the beginning of Christmas vacation to about the second week in February. The director of each course will be excused from part of his teaching. He will lead a faculty group, frequently including members of the neighboring faculties, in formulating questions with which the course will be concerned, preparing a list of required and recommended reading, ordering books and other course material, preparing examinations on the reading, working out a schedule of lectures and discussions.

It is hoped that the President and the Dean of the College will take an active part in this winter program. This will give them a close association with the students and faculty in an academic enterprise.

A number of outside lecturers will be engaged from neighboring institutions and beyond. (Teachers, incidentally, are more likely to be free to come to New College during January than at other times.) Most lecturers will be engaged for several days or longer on the understanding that they are being paid not only for their formal presentation, but also for an active participation in the community's developing understanding of the subject. They will be briefed in advance by the syllabus and readings, take part in discussions, go to other people's lectures, and in many cases read the papers of a group of New College students. Part of their compensation will be the chance to test their ideas with an informed and active audience.

Lectures and panel discussions by visitors are becoming more and more common in American colleges, facilitated as they are by modern transportation; visits of some duration by distinguished scholars and artists are also arranged frequently. All too often, such visitors are more of an embarrassment than a resource to both students and faculty, because they interrupt an already full program, or address themselves to an audience which does not need their contribution. Even if two or three days are set aside for a special conference, many students are chiefly occupied with the unfinished business of regular courses. The midwinter term is designed to create a situation where fuller, more cogent interchange with visitors can take place.

The visits of younger scholars could provide a way of seeing in action people who are being considered for regular teaching appointments at New College. People not in the teaching profession might be tested by participation in a midwinter course and sometimes found to be likely candidates for permanent teaching positions. The college-wide courses will also provide the senior faculty at the College with an opportunity to see and judge the College's younger faculty in action without "visiting" them.

The two month-long courses will be equivalent to one of the three courses carried during term. There will be required reading, papers, discussions, and examinations. There will be a considerable number of lectures, probably at least one a day, in each course. Many lectures in the first weeks will be directed toward helping the students to understand the

reading; in the later weeks the emphasis will be on problems, the definition of positions, the formulation of syntheses, with representatives of opposing viewpoints, often brought in from outside. Wherever practicable, the directing faculty group will formulate at the outset fundamental issues implicit in the subject; the meaning of these issues will then develop and change for students (and faculty) as the course progresses. Final lectures and student papers can assess the issues (or show that they had been misconceived!). The combination of seminars with lectures characteristic of courses at New College during regular term will be carried over into the midwinter courses. New student groups will be formed, with faculty or senior student leaders; in some cases the nucleus of such a group can be carried over from the fall term.

It seems possible that each winter's program could find a new audience if repeated in the following summer (or perhaps, in some cases, introduced in the previous summer). During a summer term, the two courses might be offered either successively or concurrently. The wide-ranging and dynamic character of the courses would make them appropriate not only for teachers but for a wide variety of other groups, including eventually alumni and alumnae.

12. FOREIGN AND ANCIENT LANGUAGES AND LITERATURE

The language requirement has been eliminated in the conviction that students who take a language on compulsion and without aptitude gain too little from the experience to justify what it costs them and the College. But the Committee is concerned to promote the study of philology and of foreign and ancient literatures by all who can be genuinely interested. So New College will encourage all applicants to acquire at least a reading competence in one language, and it will urge its undergraduates to fit themselves to work with languages by taking summer programs and non-credit courses during term.

Elementary non-credit language courses will be offered at New College where the demand justifies it; otherwise students will be sent to neighboring institutions. The College will pay for the instruction in either case. Students engaged in studying an elementary language may be excused from part of the work in a related regular course which they are taking for credit. The intention is to keep the door to the knowledge of languages wide open, but not to try to push unwilling people through it.

Members of the New College staff will not give the elementary courses themselves: instead, teachers from neighboring colleges and schools will be engaged on a part-time basis, or students may be sent away to them. Language laboratory facilities will be made readily available. By using part-time teachers of elementary languages, the College can free its own staff to work entirely with literary and philological subjects. With this freedom and with the advantage of the resources available at neighboring institu-

tions, a relatively small number of teachers will be able to offer effective programs of intermediate and advanced work. Part of their time will be spent in presenting ancient or foreign works in translation: several large regular term courses of this type will be developed; and there will be many occasions when translations from Western literatures will be central in the college-wide midwinter course. But no first-rate scholar in ancient or foreign literature would be willing to work entirely with translations; each member of the New College faculty will undoubtedly want to devote part of his time to working with relatively small student groups who know enough of the language to study the culture and art which is *in* the language. Presumably there will be three or four freshman seminars engaged in reading other literatures in the original.

There will also be upperclass courses in literatures read in the original. The number of them will be limited, but the relatively lightly elected course offerings of the neighboring colleges will be available to provide a considerable portion of a student's program. The combined resources of the Valley colleges in the fields of the ancient and the major modern languages are equal to those of almost any university. A student at New College whose program of studies at neighboring colleges is imaginatively directed by a New College professor of literature, in cordial cooperation with his colleagues in the Valley, will have a very rich experience indeed. His honors work and field examinations would, of course, be handled by the New College staff, who would thus be assured of interesting teaching programs at every undergraduate level.

It may be that, as is often claimed, the study of foreign and ancient literatures will dry up if it is not supported by the forced draft of a universal language requirement. If so, the New College experiment in this area will have failed, and the program proposed will have to be modified, since clearly we cannot afford to let a liberal arts college be without intimate knowledge of our culture in earlier stages and other branches. But the Committee is hopeful that, in point of fact, the study of other literatures in the original will *not* prove to be dependent on a language requirement, provided that opportunities to learn languages are freely available to all who wish them, and provided that the study is stimulated by the presence on the faculty of distinguished and devoted interpreters of the other literature. The trial proposed may show that it is not primarily required elementary language study that leads students to achieve effectual advanced work with languages, but rather their desire to follow advanced interests in art, culture, history, and philology.

13. THE TREATMENT OF INDIVIDUAL DIFFERENCES

Individual differences in the ability of students can be handled in two ways. One way is to hold what is to be learned constant and allow students to vary the time in which it is learned; the other is to hold time constant—four years for all—and let the amount that individuals learn vary with their abilities. Though exceptions may be made for very able students

when they wish to accelerate, New College students will normally stay the full four years. The College's program is one where courses and projects are "open ended." Minimum standards have an unhappy way of becoming maximum where scholarship is presented as a series of neat packages. The proposed curriculum will, by contrast, present scholarship from the outset as a continuing and never-ending process.

It will be possible for a student to be granted advanced standing, not by his skipping the freshman year—which will be essential training for all—but by his being allowed to begin his program of field examinations in sophomore rather than junior year. Students who succeed in taking all their required field examinations early, and who satisfy the faculty that they have achieved adequate intellectual maturity, will be allowed to graduate early—if they choose. But we believe that for the most part such students will prefer to take additional field examinations and carry out unusually ambitious individual projects.

If the pressure of post-graduate education eventually creates a widespread demand among the abler students for three-year college programs, New College will be peculiarly fitted to adapt itself to the new epoch. But the Committee feels that the growing complexity of knowledge makes it more than ever desirable that four years be devoted to the liberal arts.

III The Institution as A Community

The curriculum proposed could be adapted, we believe, to a variety of institutional settings. But its educational goals can be realized most fully if they are promoted all along the line: in the selection of students and faculty, in administrative arrangements, in working and living facilities, in plans for student activities and recreation. This does *not* mean recruiting a special "experimental" group of people and trying to create for them a unique, utopian community, so that an alchemy, impossible elsewhere, can take place. On the contrary, if what is new about New College is to have general significance, it should have a representative student body and faculty, comparable to other first-class institutions, working with representative resources. In many features the College will simply follow good current practice. The opportunity to build an entirely new plant will permit an unusually economical design, especially as regards operating costs. All arrangements do not need to be dealt with here. We shall discuss chiefly those features of the institution as a community which constitute deliberate departures made to support a style of life through which the educational and human goals of the College will best be realized.

1. ADMISSIONS AND THE CHARACTER OF THE STUDENT BODY

Several of the Committee's consultants have expressed the opinion that the curriculum proposed is most attractive, but that it is suitable only for very superior students. We believe that the ablest and best motivated students will find at New College an opportunity to mature quickly and to reach a high level of intellectual achievement before graduation. But the plan is not designed only for those who are most resourceful when they arrive: it is

aimed at making the average student more resourceful. We mean by "average" the typical student in our own colleges, whose lack of initiative is so often deplored. We believe that the failure may lie as much in the traditional curriculum as it does in the students, who are capable of far more independence than most present programs encourage.

The goal, therefore, will be to recruit a student body not markedly distinguishable at entrance from those of first-rate colleges. To insist on taking only students who have shown marked independence of mind and inner strength would increase the success of the new program but diminish its general significance. Inevitably, the fact that New College is a new kind of institution will tend to attract, during the first years, students to whom pioneering makes an appeal. That will be all to the good. But it would be distinctly unwise to recruit students chiefly on the basis of taking part in something "experimental." The "experimental" has, for many, the implications that discipline is unnecessary, that the arts offer a way of life which can elude normal obligations and limitations, that the educational community should be set up in opposition to the society as a whole, etc. Such utopian and Bohemian aims are not part of the New College proposal, which, as we have said, is concerned chiefly with modifying the *means* for achieving the generally accepted ends of rigorous liberal education.

There may be difficulty at first in securing a full quota of students of ability comparable to that of established institutions of the first rank. Since to accept incompetent applicants would hamstring the program before it ever got into motion, the wise policy will be to start, if necessary, with a group smaller than capacity but clearly competent. This policy may involve a financial deficit during the first few years: a subsidy to make up for operating under capacity may be one of the necessary expenses involved in achieving a new departure.

The difficulty of recruiting for an untried institution may be mitigated by the fact that recognized "prestige" institutions will be sponsoring New College, but it is difficult to estimate how far the preference of applicants and secondary school guidance officers for established brand names can be modified by endorsements, and by the fact that part of a New College student's education will be provided at the sponsoring colleges. The Committee is hopeful that some prestige will be transferable, and that the associated admissions directors will assist by spreading information about New College and recommending it as an alternative. The fact that it is coeducational should contribute, in view of the shortage of first-rate coeducational colleges in New England, to making it an attractive alternative, different rather than second-best.

We have been informed that it is difficult to choose between the prime "rejects" at the best schools and many who are accepted. The entrance requirements of the new institution will be substantially the same as those of the sponsoring colleges, which are flooded now with qualified applicants. So it seems reasonable to assume that by 1962, for example, when the pressures of numbers will be great, an imaginative, flexible admissions policy

will be able to secure a good beginning class for New College. Once the program is well under way, we are confident that the College will have no difficulty in securing a first-rate student body.

At some later date, after the curriculum is in full operation and its merits have been demonstrated for a student group with a high level of ability, the program may be tried with students who are less talented. We can envisage a stage when New College might decide to expand with this sort of trial in mind, for the farther down the scale of capability the new program reaches, the larger will be its implications.

A well-balanced student body must include young men and women of limited means, so scholarships will have to be provided. Substantial assistance is becoming available from outside sources; the College should help its students take advantage of such assistance. But some funds for scholarships granted by the College will probably be essential, especially in view of the established practice of bidding with scholarship offers for able students. This will be especially true in the first years. Students and their parents should have easy access to funds established for loans at low interest and for long terms, with provision for cancelling the indebtedness of students who enter teaching, the ministry, and other ill-paid service professions. Such funds are of prime importance. Their use should go with a policy directed toward charging those students who can afford it the full costs of their education.

7. THE FACULTY

Regardless of the merit of its design, the quality of New College, like all colleges, will depend on that of its faculty. It can economize dramatically on their number, but not on their quality. It must accordingly offer salaries on a scale at least equal to that of any of the sponsoring institutions, tenure in accordance with the joint recommendations of the American Association of University Professors and the Association of American Colleges, substantial help in the purchase of homes or rental of apartments, and regular research and study leaves. The prospect of taking part in a fresh start should certainly draw able people. And a committed, indeed, dedicated faculty will be essential to make the program work. But at the same time it will be necessary deliberately to avoid, here as with the student body, a group entirely composed of experiment-minded people. Variety and reliability will be as important as dedication.

An important factor in attracting substantial scholars can be a generous provision of opportunities for research. The New College curriculum requires people who are vitally interested in teaching, ready to devote time and imagination to attending to the *students'* thinking, not just to their own. But there need be no dichotomy between teaching and research. During the twenty-eight weeks of the fall and spring terms at New College, the teaching demands on the faculty will be very heavy. But during the midwinter term, fifty per cent of the faculty in any given year will not be involved and so will be free to pursue their own studies from before Christmas until

early in February. This should prove a substantial attraction to research-minded people.

Since the heaviest demands on faculty time come in the fall, when the freshman seminars are being given, most leaves of absence will probably extend over the whole period from before Christmas to the following September. Those who do take part in the midwinter term each year (probably about half of the faculty) will also have a stimulus to learning, for along with extra pay they will have occasion to explore subjects of fresh general interest, or to push further, in delivering lectures and preparing readings, etc., their understanding of what is general in their own specialty.

For the summers, it is strongly recommended that funds be made available to subsidize research work by those faculty members whose financial circumstances would otherwise require them to take summer teaching jobs. The scarcity of such subsidies at the ranking colleges is one reason why the zeal for teaching of their faculty members has not always been matched by scholarly achievement comparable to that at universities, where research grants are more common. Individual offices, properly equipped, should be provided for all faculty members.

We have observed that the midwinter term will be an occasion for interchange with visiting scholars. The Committee believes that for the fall and spring terms also a certain part of the faculty—not more than 10%—should consist of visiting teachers from other sections of the country, brought in to observe the New College program by taking part in it. This device would spread information about the successes and failures of New College while bringing criticism and fresh perspectives to its faculty. In addition to such full-time visitors from a distance, there should be a considerable amount of part-time visiting by members of neighboring faculties. A number of courses can be given simultaneously at New College and neighboring institutions, sometimes in the same form, sometimes in two different forms, so as to provide experimental parallels.

The emphasis in the curriculum on student initiative will provide a basis for a much wider use of students as teaching assistants than is usually possible. It is proposed that every member of the faculty and administration enlist, as his paid assistants or aides, one or more talented and congenial upperclass students to work with him in reading papers, gathering data for lectures or research, perhaps sometimes giving lectures and conducting seminars. Such student assistants would constitute an intellectual élite—and their experience might well lead a good proportion of them to enter the teaching profession. Their wages would in many cases function as a supplement to scholarship funds, though ability and willingness rather than need should be the basis of selection. In certain situations, for example in the case where an upperclass lecture-seminar course has a particularly large enrollment, it will be valuable to employ several student teaching assistants to assist one teacher.

New College's relation to the sponsoring institutions should be a great advantage in the hazardous business of recruiting the initial nucleus

of its faculty. A substantial proportion of the faculty needed for the first class should be appointed a year in advance and distributed among the four existing institutions. Part of each teacher's time could be spent in teaching and part in planning, building the library, recruiting students and other faculty, and in similar jobs connected with the final stages of preparation. These initial, advance appointments could, in the case of the younger persons, be made on a tentative basis on both sides, diminishing the risk of mistakes; some senior appointments will have to involve a permanent commitment by New College, because established people could not be enlisted on any other basis. In the first four years of the College, as class after class is added and staff procured, it should be possible for the decisions as to the representation on the faculty of the various disciplines to be governed in a measure by the pattern of student demand as it emerges.

It will also be possible to postpone appointments where suitable people are not immediately available, by arranging for courses taught by members of the sponsoring faculties. Wherever possible, the advice of the existing faculties should be enlisted in procuring the New College faculty, so that many cordial relations will exist between New College teachers and their Valley colleagues. During the formative period, and after, the chairmen of the three divisions will have a crucial role to play in maintaining fruitful relations with the sponsoring colleges. And they will need to devote time to introducing new teachers to the College's methods.

3. ADMINISTRATION

The Committee has been considering a major experiment in administration for New College. However, insufficient consideration has been given, particularly to some of the legal aspects, to justify a firm recommendation at this time. A brief description is offered to obtain comments from others concerning its feasibility.

The pattern of ownership and management of private colleges in this country is uniform. Ultimate authority is lodged in a board of trustees and a president whom they appoint and who runs the college subject to their approval. The faculty has a lesser or greater control over matters of educational policy and staff appointments, the power it exercises varying with local conditions. As a general proposition, it seems accurate to say that in older and reputable institutions the influence of the faculty tends to be greater rather than less.

As a matter of general policy, it is recommended unequivocally that the faculty have a dominant role at New College. Yet the means by which this policy can best be implemented are not so clear. The major experiment which the Committee now proposes for further study would institutionalize the principle by substituting for the usual board of trustees a Senate in which members of the faculty would have a major vote. The membership might include the President, the Dean of the College, the Treasurer, the three Division Chairmen, three members at large elected by the faculty from their own number, three persons chosen by the Senate to represent the public

interest and to provide a variety of viewpoints and knowledge, and ultimately, three alumni. In addition, four of the original Senate members should be the Presidents of the sponsoring institutions or their delegates. As a permanent arrangement, each of the institutions should be represented on the Senate by one person selected from its administration or faculty as the Senate decides. The President, Dean, and Treasurer of New College would be members for the term of their office; the others would have staggered terms of five years.

Obviously, the purpose of such a governing body would be to insure that educational considerations would be the crucial considerations, that policy would be unified, that no twilight zone could exist between the active participants in an educational enterprise and those who decide what should be done. The pattern is not original; it exists in many fine universities abroad. Its application here would be an innovation which would be watched with interest everywhere.

The many problems created by this change need careful consideration. One of the major ones is the independence of the President. Presumably he would be elected (although not initially) by the Senate, instead of holding office under a board of trustees. To give him some independence from his faculty, it is suggested that he be given tenure for a fixed term of office of five years. His prerogatives will not be less than under the typical trustee structure. Whenever feasible, he will be chosen from the faculty and return to it. If not a member of the faculty on his appointment, he will become one at the conclusion of his term. Here again, models exist in many countries.

A major objection may arise from the lack of experience of most faculty members in matter of finance. This problem has two aspects: budgetary and fund raising. To assist the Senate and the Treasurer in financial housekeeping, including the management of investments, a group of technical experts is proposed as members of a group called the Board of Counselors. The Counselors would be selected as specialists in a number of fields, among them finance, in which the College might need advice. They would be available as individuals to assist when needed, rather than as a collective body, and would be appointed for their special training and experience. Hopefully, the fund-raising needs would be taken care of ultimately by the alumni and persons friendly to the College. The alumni, represented on the Senate, would have a voice in the management in a formal sense no less than under a board of trustees.

As a consequence of participation, the faculty in general, as well as its representatives on the governing body, could logically be expected to have a larger sense of responsibility for proper financial policies. Their present tendency to divorce themselves from serious concern about money—their willingness to "let the Trustees worry about it"—would naturally lessen if there were no "trustees" in the ordinary sense to whom they could "pass the buck." The irresponsibility and resentment which go with dependence would be lessened. Financial and educational policy would be joined in a

way not easily possible now.

Even if such a plan were sufficiently attractive to implement originally, the charter should be written so as to make it possible to drop the experiment if it proved unsuccessful. Tentatively, it is suggested that at the conclusion of a specified period, not less than ten years after the College opened, an outside board of administrators and faculty members be called upon to evaluate its success, with authority to require institution of a board of trustees if necessary.

If instead of a Senate the usual arrangement is adopted which gives authority to a Board of Trustees and a President whom they appoint, the Committee recommends that the President act with the advice of a powerful standing committee representing the faculty, and that at least a third of the Trustees shall be people professionally concerned with education, so as to assure that the College develops in a way which reflects the thinking of its faculty and the larger intellectual community.

If a system of trustees should be adopted, the Committee proposes that the trustees delegate to a College Council many of their responsibilities for the operation of the College. When dealing with academic matters, the Council would consist of the President as Chairman, the Dean of the College, and six members of the faculty; when dealing with institutional and budgetary matters, this membership would be augmented by the Treasurer, the Director of Student Activities, and the Librarian; at regular intervals the full Council would be joined for consultation by three trustees appointed by the Board. Three of the faculty members on the Council would be elected for staggered three-year terms by the faculty as a whole; three would be the Chairmen of the three divisions, elected for staggered four-year terms by the members of each division; those elected would not be eligible to succeed themselves except after an interval. The intention would be to assure that this influential faculty group remained representative, while giving its members terms sufficiently long so that they could acquire skill and pursue sustained policies.

Whether the College is governed by a Senate or by a Board of Trustees, faculty committees should be kept to a minimum to avoid the proliferation of busy work; in most cases temporary *ad hoc* committees should be formed for specific jobs, leaving all continuing matters for the Council. Because of the absence of departmental organization at New College, the growth and change produced by successive appointments to the faculty will have to be shaped by a wider, more conscious, more responsible participation of the teaching staff than is usual; the College Council, or Senate, in evaluating the recommendations of the three divisions, will bring into focus the developing interests of the intellectual community. The Senate, or the Council augmented by the administrative officials, will provide a place where educational needs can be balanced against the demands of plant, library, student activities, public relations, and the like. The President's decisions in all these matters must be final, but they need not be solitary.

Much of the work usually done by department chairmen or heads will

be done at New College by the Divisional Chairmen. In finding and judging candidates for appointments to the faculty, they will work principally with their division and conduct divisional voting on recommendations to the President. (Since the membership of each division, while the College remans at a thousand students, will be somewhere between fifteen and twenty, the organizational problems involved should not cause trouble; even divisional groups of twice that size could probably work together coherently, to judge by the experience of large departments at universities.) Within the divisions, the Chairmen will act as leaders and resource persons. They will advise with individuals and groups about the courses which they offer, so as to develop a course offering consistent with the interests of the faculty and the needs of students; they will induct teachers who are new to the College into its ways of working, and also arrange for colleagues to advise and collaborate with newcomers. Chairmen will be relieved of one-third to one-half of their teaching duties to perform these functions.

The Dean of the College will work with the Chairmen in all these matters, and work with the President in his administrative duties, especially those which concern the academic life of faculty and students. For example, he will work with Divisional Chairmen and individual members of the faculty in making arrangements for students to take courses at the sponsoring colleges; he will engage members of neighboring faculties to give courses at New College; he will assist in the planning and execution of the two courses of the mid-winter term. He will have oversight of the Office of Admissions and its Director.

The Director of Student Activities will work under the Dean in organizing student affairs, athletics, and other recreation, the supervision of the dormitories, etc. Since it will fall to the Director to shape a great deal of the life of the College, he will have to be a person of exceptional range and energy—the sort of person who cannot be specified but must instead be found. Presumably he should have had experience both as an academic teacher and as a director of recreation. He will have wide authority and an exacting variety of roles to play—in supervising residence life, student discipline, mental and physical health, counseling, and recreation. He will work in collaboration with the college physicians and with faculty members, including those who lead recreational music, dramatics, and studio work in art. It will be necessary for him to have full time assistants, trained in physical education and the leadership of recreation. But this staff should be as small as can be made possible by intelligent planning of plant and the widest possible use of part-time student assistants.

The faculty as a whole will be the major body in formulating educational policy. It will determine the requirements for the degree, and academic degrees will be granted only on its recommendation. The Librarian will have the status of a voting member of the faculty, with such other members of the library staff as may be deemed appropriate by the faculty. The Treasurer, who is to work directly under the President, will also have status as a member of the faculty to permit him to participate in its delib-

erations.

Student government should develop in patterns which the students themselves work out. They should have the major part in developing an honor system. They should have a large measure of initiative and authority in organizing their social life and in enforcing discipline. With the emphasis on student responsibility for education at New College, student government should be concerned with the solution of academic problems as well as extra-curricular matters.

4. THE LIBRARY

Self-education, emphasis on depth rather than merely breadth, seminar work, individual projects—all these presuppose ample library resources and training in how to use them. Economy in this area is clearly precluded; the library at New College will be expensive to procure and will require a staff at least as large as is customary in good colleges, and adequate to keep the building open seven days a week and late into the night. The creation of the library will be a major undertaking; the appointment of a staff to begin assembling it should be one of the first steps taken. The objective will be a library capable of sustaining undergraduate honors work in each area where a field of concentration is offered. The Committee has been assured that this is possible given time and money—the less time the more money, and in any case a minimum of $500,000 for a basic collection.

There are, however, a number of factors which will facilitate solving the library problem. First is the fact that the curriculum will be limited. If, for example, astronomy and Spanish are not taught, the need for materials in these fields will be very limited. A second factor will be membership, along with the other Valley institutions, in the Hampshire Inter-Library Center. It cannot be expected that HILC will play a substantially larger role for New College than it does for the existing institutions, but it will make a great difference. The decision not to offer graduate work will also limit the demand on the New College library.

The libraries of the existing institutions can contribute in definite but limited ways. Most important will be the borrowing privileges which, it is hoped, they will be willing to give to the New College faculty who will thus have at hand, for the purposes of their own research, resources which otherwise they would press to have included in the new institution's library. Where a New College student is taking a course at a neighboring campus, it is assumed that he or she will be accorded the privilege of using books reserved for the course in the neighbor's library. The cost of these services to faculty and visiting students New College could undoubtedly afford to pay. On the other hand, it clearly will *not* be possible to look to the neighboring libraries to contribute in any substantial way to the regular undergraduate needs at New College.

Changes are taking place in book production and in other methods of making texts available which should help to solve some of the problems

involved in the New College program. Microfilm makes it possible for a new library to acquire many out-of-print works which otherwise would be very expensive or unobtainable. The constantly widening selection of scholarly paperback editions makes it frequently possible to require a class to buy paperbacks instead of providing duplicates at the reserve desk. (The book purchases of scholarship students might be subsidized with part of the money saved by avoiding library expenses.) So, too, a saving can frequently be effected by duplicating excerpts from uncopyrighted books for free distribution. The readings required for the college-wide courses of the midwinter term will frequently be assembled in anthologies created for the occasion, printed by offset or similar means, and distributed at cost to the student body, including the cost of necessary permissions from copyright holders.

The librarian and his staff will be called on for a great deal of bibliographical guidance, both by faculty and students, in the seminar-oriented New College program. So it is hoped that people with academic as well as technical interests can be recruited and given the status of members of the faculty. The library staff should be in charge of teaching aids of all kinds. The librarian should control the college bookstore so as to assure its being stocked with enterprise and imagination.

5. WORKING FACILITIES: THE LIBRARY, STUDY CENTERS, AND LABORATORIES

The working life of the College will be centered in the library, the study buildings, and the laboratories, which are to be located in close proximity to each other. The study buildings are intended to provide the principal locale for the seminars, student-seminars, and independent student projects which are central in the curriculum. The study space would probably best be arranged in wings abutting on the library reference room, reserve desk, and delivery desk. There would then be ready access to books while the library staff were on duty, but the library could be closed while leaving the study space open late into the night. There would be a large number of seminar rooms available for individuals studying whenever a group was not using them. Some should be equipped for viewing educational television and making use of other aids. In addition, a great many desks or tables for individual study should be provided in the library and the study buildings, arranged so as to discourage people from interrupting each other while at work.

Spaces would not be assigned to individual students; nor would individual rooms be dedicated to particular subjects. All such arrangements allow space to be "owned" by people who do not use it adequately. Instead, each student will be provided with a library locker in which he can store books and papers between sessions of study or discussion.

The provision of study space must be ample. For although every student should have a desk in his room, the majority will probably wish to work away from their living quarters. Americans are accustomed to doing

most of their work away from home, at school before college and in offices after college. The lavish provisions on many of our campuses of studies adjoining bedrooms fits English habits of work better than our own—our students often can be observed struggling to find themselves some sort of office away from their dormitory, where study space goes unused. It is also true that much of the most satisfactory social life in America is associated with work groups rather than purely social groups. New College, which is going to emphasize group work, will need to provide a locale for an "office life" (science majors often make such an office life for themselves in their laboratories). To permit easy development of intellectual and social interchange, the study buildings should be arranged with chairs in alcoves and on landings. And the basements should include a lounge with walls for exhibitions, associated with a college bookstore and a coffee shop with automatic vending machines.

Auditoriums for large classes and other large meetings will be located in a building near the library which can also house the administration; the flexible auditorium space will include arrangements for large groups to watch educational films and television programs and demonstrations.

The laboratories where most science concentrators carry out their projects will be located near enough to the library so that a covered passage can connect them with the delivery desk area. In this way, much of the scientific reference material can be handled by the regular library staff; and students primarily interested in science will share with others the library lounge, snack bar, and bookshop. The laboratories will include lockers sufficiently large for individual students to keep in them both their books and papers and in most cases their equipment. It may prove desirable to use space in a different building for the laboratory sessions of the required science courses, an arrangement which could be made possible by providing a suitable rudimentary stock room and shop.

When a student takes a science course at a neighboring college, it is our expectation that the laboratory work associated with it will normally be done there too. New College can well afford to pay the costs incurred by its neighbors for such services, avoiding by doing so much larger outlays for equipment and staff. New College must have adequate facilities to support its own courses. It must not be put in the position of a dependent poor relation. And it need not be a beggar if its campus and program are designed to make the best use of its own facilities.

6. LIVING FACILITIES

The dormitories and dining facilities are to be arranged to form subgroups. There will be two or more dining halls, served, for reasons of economy, from a single kitchen. Dormitory units will be small—under seventy-five—so as to encourage group responsibility and avoid the necessity for hotel-style supervision. Even large buildings can provide small groupings of residents by suitable partitions and entrances. Experience indicates that the smaller residence units in colleges tend to have the stronger group loyalty,

and as a consequence more student responsibility, regardless of the relative elegance of facilities. Hallways should include occasional open lounge spaces where those on the corridor can meet informally—such spaces provided simply by leaving out a room at intervals. The residential sub-groups might in turn be developed as coeducational units, communities within the community. No more need be made of these units than comes naturally: their importance probably will increase if the College grows to two thousand.

An effort should be made to anticipate student demand so that, so far as possible, everyone who wants a single room can have one; perhaps the provision of an equal number of single and double rooms would meet the usual preferences. Privacy is essential to complement the New College emphasis on group work and recreation: rooms can be small, with just enough space for each student to have bed, bureau, armchair, and desk; but it is essential that there be a door with a lock, and walls decently soundproof, so that those who want to can be alone and work alone. Living facilities for married students can be provided for by creating an attractive park for mobile homes.

The common lounges provided in the living centers need not be very extensive, in view of the facilities provided by the study buildings and student activities center. The staff for the residence areas should be limited almost entirely to residence supervisors for the women's dormitories: the living units must not be allowed to provide roosts for supernumeraries.

7. SOCIAL ACTIVITIES, RELIGIOUS LIFE, RECREATION AND ATHLETICS

Facilities and direction will be provided to encourage the free development of activities and grouping on the initiative of the students, and to discourage so far as possible organizations which keep alive by imposing themselves on half-willing participants. There will be no sororities or fraternities; there will be no highly organized intercollegiate athletics; no extracurricular organization of any kind will have automatic tenure. But wide and varied participation will be encouraged. Here, as with the curriculum, it seems to us that by promoting flexibility and independent initiative, important educational objectives can be achieved in an economical fashion. And here also, it will be possible, by planning for it, to make good use of the resources of cooperation among the colleges. New College students will be able to play intramural teams at neighboring campuses and invite teams to its own. They will also be able to enjoy the Valley's rich program of lectures, films, theater, art shows, concerts, while New College will contribute events in its turn, especially during its midwinter term.

As with the social activities of the College, which are to grow on the initiative of the students, so with religious life. Many students will wish to have opportunities for formal and personal religious worship. It is hoped that the campus can include a small meditation chapel. The congregations of the churches in the neighboring communities will certainly welcome

New College students, who can gain from participating in their parish religious life a kind of experience not possible on a campus. The College will assume an obligation, where necessary, to furnish transportation in this connection. It will also arrange for visits to its campus by religious leaders from the neighboring towns and colleges and will furnish facilities on the campus for religious activities.

Athletics at New College will be one kind of recreation among several: a Student Activities Center will provide flexible facilities for a variety of sports, arts, pastimes, and student organizations. There will be no required program of physical education—what is compulsory becomes perfunctory; really serious physical deficiencies are best dealt with as problems of individual health.

It is our belief that a voluntary recreation program can enlist almost college-wide participation if it gives sports back to the students, and if it treats as on a par with athletics, games of skill, work in crafts and in the arts, and such student activities as newspapers, settlement work, outing club programs. The Activities Center, consisting of one building or a cluster of associated structures, would accommodate as many of these things as possible, for both men and women. This would include a very large, high, central space of the field-house type to accommodate a variety of facilities: a floor or floors for basketball, volleyball, dancing; gym equipment; a stage at one end with facilities for drawing up curtain and flats into the overhead. Associated with this space would be a lobby with walls for exhibitions and an automatic snack bar, serviced commercially; a woodworking and metalworking shop (near the stage to permit the construction of scenery); small and medium sized multi-purpose rooms to function as art or music studios, as sewing rooms, as game rooms for chess or cards, or as conference rooms and offices for student organizations; rooms for special exercise, table tennis, and dancing; a swimming pool; locker rooms and showers for men and for women; one ample, supervised stock room for all activities; the student health office; and the offices of the Director of Student Activities and his assistants.

Simple kitchen facilities should be associated with two or three of the most attractively located general purpose rooms, so that students could reserve them, bring their own food, and cook dinners for student organizations, visiting groups, or simply collections of friends. The goal, here and elsewhere, is to provide opportunities for enjoying the substance of fraternity and sorority life at its best, without incurring the disadvantages that often go with it.

Playing fields and tennis courts would be adjacent to the activities center. And, if possible, there should be an outdoor amphitheater nearby, so that large meetings, including commencement, can be held outdoors or inside according to the weather.

It seems reasonable that facilities for bowling, billiards, and pool should be made possible by charging money for their use. No charge should be made, however, for admission to any athletic contests. All income from

recreational activity should go directly to the College to avoid the development of an independent budget.

As many activities should be under one roof in the Activities Center as is architecturally feasible, with due allowance for construction and maintenance costs and provision for expansion. An overall goal should be to permit many student activities to be supervised by a very small staff—otherwise student freedom is restricted by the necessity of arranging for special supervision. (This consideration rules out creating separate activities centers associated with the residential units.) Another aim is to avoid the hardening of differences between student groups: all kinds will come to the same center for recreation. Still a third objective is to avoid the building up of empires which results when particular activities have their own buildings; though some permanent room assignments will certainly develop, the Director can enforce the principle that nobody "owns" what he does not use.

Perhaps this principle might be extended to college publications, as one of our consultants has suggested: instead of one established weekly or semi-weekly, with fixed page space to be filled each week, a student fee might be used to provide free duplicating services for a variety of publications appearing only as often as individuals and groups wanted to write and could get a reasonable number of readers.

Those sports will be stressed which groups can play informally together, or which people go on playing after they leave college. As many intramural teams in each activity will be organized as student interest supports, with competition between the teams of the dormitories, and between teams of New College and comparable teams of the neighboring colleges. There will be no varsity teams, only intramural champions. This sort of program can assure that football, basketball, baseball, and the like are not played primarily as spectator sports. Sports with mixed teams of men and women will naturally be popular. Intramural competition will include chess, bridge, bowling, pool, and the like. Normally the skills involved in sports and games and dances will not be taught by the directing staff, but by proficient students paid for their services, under staff supervision. In this way, New College will be able to give recognition to athletic prowess and provide a substantial amount of student aid.

The "game weekend" is an established part of American college life, providing an occasion when the college realizes its social identity, and when alumni, parents, and friends come to it. Normally this turnout centers on an intercollegiate athletic spectacle. New College will need "game weekends"; but we believe that it can have them without having varsity sports. A program that will hold the interest of all concerned can be organized by combining a number of different kinds of events: several intramural championships can be scheduled for a given Saturday, or several games between New College intramural teams and equivalent teams from outside. Such "extramural" sports can frequently be associated with social entertainment for the visitors. And the athletic program—designed for the en-

joyment of those taking part as much as for that of the spectators—can be associated with other group activities: theater, music, a dance.

The programs in art, music, theater, and dance, and the changing exhibitions, will naturally be related, in a variety of ways, to the academic interests of those participating. The midwinter courses will provide occasions for particularly ambitious projects related either to the culture of the non-Western area under study, and to the moment of the Western heritage being explored in the other course. Thus, one January might bring exhibitions of Far Eastern art objects and of photographs, with the performance of films, and perhaps a play performed by students themselves. Such projects would supplement the visiting lectures and performances by experts. Students from the countries concerned who are studying at Valley colleges might be brought in as resource persons. And other student groups might be engaged in preparing an exhibition of paintings and photographs relating to, say, the Florence of Dante and the *Divine Comedy*, performing a related medieval play, playing medieval music.

8. THE CAMPUS AND ITS ARCHITECTURE

The requirements for the New College campus are obvious, in the large, from what has been said already. The dominant, central building, visible if possible from afar, will be the library, with its associated study center, probably arranged as wings and commanding attractive views. Near the library, and connected, if possible, by covered walks, will be the laboratories and the auditorium and administration building. In one direction from this working area—presumably further uphill if the College is on a long slope—will be the students' living areas; in the other direction—downhill—will be the recreation center, with the amphitheater, the tennis courts, and the level playing fields. The dormitories will be grouped around their common rooms and dining halls; the latter must be near enough to each other so that a common kitchen can serve them. The site planning should provide space, if possible, for additional residential units (with separate kitchens if need be) and for space around the library so that its stacks and its study wings can grow outward and another laboratory can be added. Automobile traffic should circle the central living and working areas, not go through them. Land should be acquired to provide for doubling the athletic fields in the future. If possible, adjoining woodland should be purchased, or privileges obtained, so that trails for nature study can be developed and an accessible outing club cabin built.

The Committee favors a forthright modern architecture rather than a period style. The energetic, open-minded intellectual life which we hope for at New College could be expressed by adapting the style of building which is often used now by business and industry for laboratories and offices. One feature of business buildings which we certainly should take over in study and recreation structures is the elimination, so far as may be, of interior bearing walls: it should always be possible to alter the arrange-

ment of partitions as space requirements change over the years. Novel (and expensive) materials need not be used—beauty, meaning, and drama can be achieved by fine proportions of the large masses involved, and by disposing the living, working and recreation centers effectively in relation to each other and the terrain.

Maintenance should be considered at every point. No landscaping or planting that involves expensive maintenance should be undertaken; wide lawns can be inexpensive if keeping them mowed is all that is called for. The committee believes that there are several sites in the Valley where the terrain is such that a campus of beauty and distinction could be created without great expense, the sort of campus that would become identified for the community with the distinctive life led on it.

9. COOPERATION BY THE SPONSORING COLLEGES

Cooperation among Amherst, Mount Holyoke, Smith, and the University of Massachusetts has existed for a number of years and is increasing. One of the most conspicuous examples of success in this development is the Hampshire Inter-Library Center. In 1955-56, a committee of faculty members representing the institutions studied the possibilities of further cooperation and a report of their findings was published. Among other things they recommend the exchange of our students for particular courses; joint appointments of specialists; joint FM broadcasting; coordination of lecture and exhibition programs, with a joint calendar; and cooperative graduate study programs. A Coordinator for Four College Affairs has been appointed to promote and facilitate the development of the proposals. Our own planning project has been one more venture in cooperation, which we hope will have an influence on other groups of neighbors.

The magnitude of the opportunities for cooperation is only beginning to be appreciated in educational circles. The possibilities for the planning of complementary curricula, in particular, have been relatively little explored. Perhaps the largest single opportunity, we believe, is the cooperative sponsorship of new institutions, such as we propose in New College.

Appendix A

Letter of Commission from the Four College Coordinator

OFFICE OF THE COORDINATOR
SEELYE HALL 3
SMITH COLLEGE, NORTHAMPTON, MASSACHUSETTS

C. L. BARBER, Amherst College
SHANNON MCCUNE, University of Massachusetts
DONALD SHEEHAN, Smith College
STUART M. STOKE, Mount Holyoke College

GENTLEMEN:

The presidents of the four colleges have asked me to inform you as to the new project you are undertaking. You are appointed to constitute a committee "to develop the plans for a new experimental college aimed at producing education of the highest quality at a minimum cost per student and with as small a faculty relative to the size of the student body as new methods of instruction and new administrative procedures can make possible." Your investigation will include a fresh appraisal of what is to be taught as well as the methods of instruction. In this task you will receive the support and encouragement of the four presidents, including the financial support of a grant furnished by the Fund for the Advancement of Education. Individually

and collectively, the four presidents will be glad to consult with you at any time. They expect from you a report on the subject of your study on November 15, 1958.

The general plan of the study is to be found in the request which I made on behalf of the four presidents to the Fund and the response which President Cole received from Clarence H. Faust. As noted in the latter letter an important corollary purpose is to provide stimilus to re-examine our present programs and procedures in the interest of improved education. Some of the phrases in the request may need clarification; the interpretation which the four presidents have made of some of these are as follows:

(1) by "experimental college" is meant a liberal arts-centered, residential college emphasizing a four-year undergraduate curriculum;

(2) by "large scale" is meant an institution which would have as a minimum 200 students in each class and which could be easily expanded.

(3) by "high quality education" is meant a type of education which is equivalent to that which each of our institutions offers;

(4) by "minimum cost" is meant a cost derived from student fees which would cover most of the cost of instructional budget.

Implicit in the general statement is that the new institution would be located in close proximity to the present four colleges. It would draw upon the resources of the four colleges for its program. In turn the four colleges could draw upon it for new ideas and techniques which they could adopt. It would be dependent at its origin upon the academic reputation of the four colleges, and it is expected that it would enhance that reputation by its subsequent pattern and action. This is to be no make-shift institution, but one in which we all will take great pride.

In carrying out your assignment, as few restrictions will be placed upon you as possible. This letter is meant to be indicative and clarifying rather than limiting in any sense. The colleges will expect to contribute, individually or collectively, services in the form of equipment, office space, and peak-load secretarial assistance as may be required and conveniently aranged. Dr. Gail Kennedy, chairman of the former Committee on Four College Cooperation, and I, as Coordinator of the Four Colleges, have been named Consultants to the committee. The four presidents expect that you will call upon many members of the faculties and staffs of the four colleges for special studies, for advice, and for suggestions. Though each of you is chosen from a separate institution, you will act as a committee of individuals interested in the general problem rather than as institutional representatives. Dr. McCune is named chairman of the committee. Because of the complexities of the problem it is not expected that your final report will contain specific agreed-upon recommendations on all phases of the problem but may well include alternatives of proposed action.

Finally, whether or not your study arrives at a conclusion that such a project is feasible, the four presidents feel strongly that great benefit will come to our respective institutions by the freshness and daring of your approach, by your challenging of long-held assumptions, and by your exploration of new techniques and practices in higher education. The four presidents look forward to hearing of your progress, to consulting with you from time to time, and to receiving your report.

Sincerely yours,

SIDNEY R. PACKARD
Coordinator of the Four Colleges

May 6, 1958

Appendix B

A Possible Distribution of Students and Faculty among Divisions and Courses

The distribution of students presented in the following tables is based upon certain premises:

1. Enrollment will consist of 265 freshmen, 250 sophomores, 245 juniors, and 240 seniors—a total of 1,000 students

2. Students will normally take three courses in the fall and spring semesters and two in the midwinter term.

3. Majors will be divided equally among the three divisions.

4. The distribution of freshmen among seminars in the humanities and social sciences can be fairly well controlled by assigning students to them in terms of their preferences, their educational needs, and the limits placed upon seminar enrollment.

5. The distribution of students beyond the freshman year is partially controlled by the requirements made for concentration and distribution.

6. All students are encouraged to take at least one course in one of the neighboring colleges. No doubt some will take more. The work load for students taking such courses can be partially controlled by correlating them with independent reading for field examinations. (Since courses at the other colleges require less time for each than those at New College, this will be a natural

arrangement.) To secure a fairly even distribution between the semesters, some field examinations will be given each semester and scheduled far enough ahead for efficient student planning.

The faculty assignments presented are based on the following asumptions:

1. Normal faculty assignments for the fall and spring semesters consist of one advanced lecture-student seminar and two freshman seminars, or advanced seminars, or freshman lecture-student seminars; or some combination of these to a total of three. In the case of very large lecture-student seminars, instructors would be released from a part of their other teaching.

2. A faculty of 50 is about evenly divided among the three divisions, and the following tables show faculty assignments as they might be if student elections were evenly divided among the divisions, viz., 1,000 each, 1/3 of the total elections.

3. Since an even and constant division of students among the divisions, or the disciplines within them, is unlikely, not all the teachers have been fully assigned, and two members of the faculty of 50 have not even been assigned to divisions. It seems likely that as the College grows to full size, new members can be assigned more strategically than is possible now. The present estimates do, however, indicate that there is room for flexibility with a modest surplus of time for further assignment.

4. Unassigned faculty time can be used to take care of shifts in student elections and for substitution for faculty members on leave.

5. In the tables representing the humanities and social sciences, no disciplines or fields of study are listed. Different lists are possible, but it was decided not to publish any in order to avoid compromising the freedom of choice of those ultimately responsible for the decision of what to include in each division. The Committee did, however, make a tentative list by which to check the validity of its plans.

6. There was substantial agreement among the consultants upon the composition of the science division. Hence these disciplines are listed.

POSSIBLE DISTRIBUTION OF STUDENTS AND FACULTY IN EITHER THE HUMANITIES OR SOCIAL SCIENCES DIVISION DURING THE FALL SEMESTER

Faculty	Freshman Seminars			Lecture-Student Seminars			Advanced Seminars			Courses Taken Elsewhere	Unassigned Faculty Time (in thirds)
	No.	*Enrol-ment*	*Aver-age*	*No.*	*Enrol-ment*	*Aver-age*	*No.*	*Enrol-ment*	*Aver-age*		
15	20	265	13	15	625	42	6	60	10	50	4

Total student elections: 1,000. Possible faculty assignments: 45; used, 41; unused, 4. If a lecture-student seminar has a very large election, the instructor will be relieved of one of his other teaching assignments. This can be done by using unassigned faculty time or decreasing the number of freshman seminars.

POSSIBLE DISTRIBUTION OF STUDENTS AND FACULTY IN EITHER THE HUMANITIES OR SOCIAL SCIENCE DIVISION DURING THE SPRING SEMESTER

Faculty	Freshman Lecture-Student Seminars			Lecture-Student Seminars			Advanced Seminars			Courses Taken Elsewhere	Unassigned Faculty Time (in thirds)
	No.	*Enrol-ment*	*Aver-age*	*No.*	*Enrol-ment*	*Aver-age*	*No.*	*Enrol-ment*	*Aver-age*		
15	12	265	22	15	615	41	7	70	10	50	11

Total student elections for one division: 1,000. Possible faculty assignments: 45; used, 34; unused, 11.

It is planned to provide two-thirds of a faculty teaching load each to the supervision of recreational dramatics, fine arts, and music. The remaining time of these individuals would be used in teaching in the humanities division.

POSSIBLE DISTRIBUTION OF STUDENTS AND FACULTY IN THE SCIENCE DIVISION (EITHER SEMESTER)

Faculty	Disciplines	No. Students	No. Courses	Faculty Assignments (in thirds)	Courses Taken Elsewhere	Unassigned Faculty Time (in thirds)
	Required Freshman Course	265	1	12*	—	—
3	Biology	200	4	8	10	1
3	Chemistry	90	4	6	10	1
3	Mathematics	100	4	4	10	1
4	Physics	70	4	5	10	1
3	Psychology	225	4	8	10	1
—		—	—	—	—	—
16		950	23	43	50	5

**Tentative assignments of faculty (in thirds) to the required freshman course are: physics, 6; mathematics, 4; chemistry, 2; total, 12.*

Total student elections: 1,000. Possible faculty assignments: 48; used, 43; unassigned, 5.

The staffing of the proposed one-semester course on social-scientific problems is dependent upon the nature of the problems selected for study.

Appendix C

Acknowledgements

The Committee has been generously assisted by many individuals and institutions. The Presidents of the four sponsoring colleges have been available for comment and suggestions as the study has progressed, but have given us full freedom to work independently and without inhibitions. The Coordinator of the Four Colleges, Professor Sidney Packard, and the Chairman of the former Committee on Four College Cooperation, Professor Gail Kennedy, have been most helpful.

Many members of the faculties and staffs of the four sponsoring institutions have taken a keen interest and provided valuable advice. Sometimes it has been ideas over a cup of coffee, in other cases consultation during several days. Though our colleagues are not to be held responsible for the results their comments have elicited, the Committee particularly wishes to acknowledge the assistance of:

ROBERT C. BIRNEY	Psychology	Amherst College
JOHN F. BUTLER	English	Amherst College
FRED V. CAHILL, JR.	Dean, College of Arts and Sciences	University of Massachusetts
HELEN CURTIS	Dean of Women	University of Massachusetts
RICHARD M. DOUGLAS	History	Amherst College
JOSEPH EPSTEIN	Philosophy	Amherst College
JOHN C. ESTY, JR.	Associate Dean	Amherst College
JAMES FERRIGNO	Romance Languages	University of Massachusetts
GEORGE B. FUNNELL	French	Amherst College
GEORGE GIBIAN	English	Smith College

PAUL G. GRAHAM	German	Smith College
ROBERT F. GROSE	Psychology & Registrar	Amherst College
ANNA J. HARRISON	Chemistry	Mount Holyoke College
MARIAN HAYES	Art	Mount Holyoke College
WILLIAM M. HEXTER	Biology	Amherst College
HORACE W. HEWLETT	Secretary of the College	Amherst College
ROGER HOLMES	Philosophy	Mount Holyoke College
ROBERT S. HOPKINS, JR.	Dean of Men	University of Massachusetts
MILDRED HOWARD	Physical Education	Mount Holyoke College
HARRY S. HUGILL	Construction Engineer	University of Massachusetts
KENNETH JOHNSON	Treasurer	University of Massachusetts
MARGARET L. JOHNSON	Librarian	Smith College
HIMY B. KIRSHEN	Dean, School of Business Administration	University of Massachusetts
THEODORE KOESTER	Psychology	Amherst College
ERIC E. LAMPARD	History	Smith College
OLIVER W. LARKIN	Art	Smith College
FLORA B. LUDINGTON	Librarian	Mount Holyoke College
ALBERT E. LUMLEY	Physical Education	Amherst College
NEWTON F. MCKEON	Director, Converse Memorial Library	Amherst College
HUGH MONTGOMERY	Librarian	University of Massachusetts
JOHN A. MOORE	Classics	Amherst College
MICHAEL S. OLMSTED	Sociology & Anthropology	Smith College
CHARLES H. PAGE	Sociology & Anthropology	Smith College
HELEN W. RANDALL	Dean of College	Smith College
HELEN RUSSELL	Dean of Students	Smith College
MAX SALVADORI	History	Smith College
STANLEY F. SALWAK	Provost's Office	University of Massachusetts
PETER SCHRAG	Office of the Secretary	Amherst College
VICTORIA SCHUCK	Political Science	Mount Holyoke College
JANE SEHMANN	Director of Admission	Smith College
KENNETH SHERK	Chemistry	Smith College
GEORGE R. TAYLOR	Economics	Amherst College
RUTH TOTMAN	Physical Education	University of Massachusetts
DUDLEY H. TOWNE	Physics	Amherst College
FRANK A. TRAPP	Art	Amherst College
JOHN D. TRIMMER	Physics	University of Massachusetts
JOHN VOLKMANN	Psychology	Mount Holyoke College
ROBERT W. WAGNER	Mathematics	University of Massachusetts
LEO WEINSTEIN	Government	Smith College
EUGENE S. WILSON	Dean of Admissions	Amherst College
RAYMOND WYMAN	Director, Audio-Visual Center	University of Massachusetts

A number of persons from outside our community, some of them associated with experimental programs in higher education, served as consultants for the Committee for varying lengths of time. Others were consulted by members of the Committee in visits to their institutions. Still others answered our written queries promptly and fully. We wish particularly to express our appreciation to:

JOHN S. ALLEN	President	University of South Florida
GLENN G. BARTLE	President	Harpur College
GEORGE J. BECKER	English	Swarthmore College
A. J. BRUMBAUGH	Division of Higher Education	U. S. Department of Health, Education, & Welfare
ABRAM CHAYES	Professor	Harvard Law School
SUSAN COBBS	Dean	Swarthmore College
EDWARD K. CRATSLEY	Vice President	Swarthmore College
THOMAS R. EDWARDS, JR.	English	University of California
COL. HERBERT FITZROY	Administrator	University Center in Virginia, Inc.
NATHANIEL FRANK	Physics	Massachusetts Institute of Technology
SIDNEY J. FRENCH	Dean	University of South Florida
HARRY GIDEONESE	President	Brooklyn College
RICHARD GUMMERE, JR.	Director of Admissions	Bard College
FREDERICK HARD	President	Scripps College
WINSLOW R. HATCH	Research Coordinator Higher Education	U. S. Department of Health, Education, & Welfare
HAROLD HOWE II	Principal	Newton High School
GEORGE I. MCKELVEY	Office of Development	Harvey Mudd College
THOMAS MENDENHALL	Master of Berkeley College	Yale University
WILLIAM C. H. PRENTICE	Dean	Swarthmore College
ESTHER RAUSCHENBUSH	English	Sarah Lawrence College
DAVID REISMAN	Sociology	Harvard University
BENJAMIN ROCKWELL	Principal	The Putney School
COURTNEY SMITH	President	Swarthmore College
WILLIAM TAEUSCH	Dean	College of Wooster
ROBERT TREAT	Admissions & History	The Putney School
ELMER D. WEST	Research	American Council on Education
MARSHALL S. WOODSON	President	Flora Macdonald College

The Committee consulted a variety of written sources of information. The presidents or other officers of a number of colleges which are experimental in nature or are creating interesting programs have sent us catalogs and reports and answered our queries. A bibliography of materials pertinent to the problem of planning a new college was prepared for the Committee by Stanley W. Salwak. This is available in mimeograph form. It must be noted that not all—or even a majority—of the references in the bibliography have been read by the Committee. Not included in the bibliography are some manuscript reports submitted to the Fund for the Advancement of Education which the members of the Committee have perused with interest. A few works have been especially helpful, among them the report, *The Pursuit of Excellence, Education and the Future of America*, issued during the summer by the Rockefeller Brothers Fund, Inc.

President Charles W. Cole of Amherst College kindly put at the disposal of the Committee for the summer a suite of offices in Chapin Hall. The building, still in construction, was an ideal setting for planning a new college. The antiphonal sound of saws and hammers was an inspiration. The Committee is indebted to the financial officers of Amherst College who handled expeditiously the funds made available to the Committee. A final word of appreciation goes to Mrs. William F. Merrill, who served as executive secretary to the Committee, and to Mrs. Henry F. Dunbar, Miss Alice Alley, Mrs. Merrill Aldrich, Mrs. Edward E. Cooley, and others who prepared the report in its various stages.

APPENDIX B

NEW COLLEGE

Capital Expenditure Study

August 1959

L. B. Anderson

In the study which is here presented the building requirements for New College have been analyzed in terms of the spaces needed for various uses. Personal judgement has been supplemented wherever possible by the study of pertinent examples or by reference to planning standards used by architects. Wherever there is agreement with the previous estimate by Johnson-Hugill the fact is noted. The items are arranged in the same order and with the same numbers as in this estimate to facilitate comparison.

The study does not provide in this first construction for student capacity beyond 1,000. It is believed that the design can be flexible enough to allow additive constructions at the time they are needed.

No range between top and bottom expanditure has been offered. The assumption throughout has been that New College should pay its own way with the most economical design possible consistent with safety, maintainability, and a high standard of academic activity at the undergraduate level. Regardless of how the elements are ultimately arranged, it is believed that the approximate space allocations will hold as here proposed. The Summary of Daytime Indoor Capacities is offered as proof that an adequate total supply of space has been provided.

I. Dormitories

Trial sketches suggest that single bed-study rooms be sized at 128 sq. ft., double ones with equivalent accommodations 208 sq. ft.

The following breakdown has been used to estimate gross building area per student:

	Single		Double
a. bed-study	128	208/2 =	104
b. lounge	20		20
c. kitchenette and lobby	10		10
d. baths	20		20
e. laundry	7		7
f. storage	5		5
g. resident faculty	5		5
h. corridors, stairs, elevators, and mechanical space	55		55
	250		226

Assuming the population equally divided between single and double rooms, the total building area therefore is:

CONT.

500 x 250 = 125,000
500 x 226 = 113,000
238,000

Proposed gross sq. ft. cost is $20, giving total cost of $4,760,000.

2,3,4, and 5. Kitchen and Dining Facilities

The maximum food service load will probably be for lunch and might be the following:

students	1,000
faculty	50
other staff	100
visitors	50
TOTAL	1,200

A turnover factor of less than 2 would be uneconomical, and it is therefore assumed that 600 dining places will be required as a total for the college. In the Activities Building (see item II) is an allowance of 4,000 sq. ft. for a snack bar and attendant services. This facility will accommodate about 130 places leaving a remainder of 470 to be provided for in a central eating establishment related to the dormitories, possibly consisting of several dining rooms grouped about centralized cooking and service provisions.

Allowances in sq. ft. per dining place are shown in the following listing, based in part on data in the Architectural Record for January 1955:

a.	lobby and coats	4 sq. ft.
b.	dining	14
c.	food preparation	6.3
d.	storage and refrigeration	3.5
e.	dishwashing	1.3
f.	bakery	2.0
g.	serving area	2.8
h.	office and staff facilities	2.1
	TOTAL	36.0 sq. ft.

No provision is made for lounges in this tabulation in view of the 20,000 sq. ft. in lounges in the dormitories plus 1,200 in the Activities Building.

No provision is made for study space here because the library has 300 study places, 570 seminar seats are often available, and there are 1,000 individual study desks in the dormitories.

470 x 36 = 16,920 sq. ft.
16,920 x $24 (unit cost) = $406,000

CONT.

6. Auditorium

It is proposed to limit the capacity to 1,200, and thus to discount the need to seat the entire college when enrollment grows beyond 1,000. Two compelling reasons are: (1) unsatisfactory results in any auditorium when most of the seats are empty, and (2) rapid fall-off in effectiveness of unamplified human voice or solo instrument as capacity exceeds 1,000.

It is proposed to treat the auditorium very simply as a place for speech and music (not drama) with very few dependencies. The following area breakdown is proposed:

a.	seating 1,200 @ 8 sq. ft.	9,600
b.	platform	1,600
c.	backstage space	1,600
d.	coatroom, toilets	800
e.	foyer space, etc.	2,400
	TOTAL	16,000 sq. ft.

High unit cost is not anticipated as space is not highly subdivided and there is not much special equipment

16,000 x $25 = $400,000

7. TV Studio

If this facility is desired, there appears no reason to question the Johnson-Hugill estimate of $72,000.

8. Library

Although the library will have only 100,000 books at the beginning, its growth to 200,000 is foreseen for the near future, and provision of space for this capacity is wise planning. The capacity of tightly placed stacks is about 15 books per sq. ft. but at New College a larger fraction of the books should be shelved so as to be more accessible. Ten books per sq. ft. will therefore be used for estimating purposes.

With regard to seating capacity, it is proposed to use the Metcalf optimum of 30% of the student body, a figure not often achieved in practice. This would seem more than adequate since New College's library will be buttressed by nearby seminar and study areas to which books may conveniently be taken. It is believed that an average of 33 sq. ft. per reader will permit a wide range of types of accommodation including a larger number of carrels.

Space budget for the library is as follows:

a.	books 200,000/10 =	20,000
b.	readers 300 x 33 =	10,000
c.	catalog	1,000
d.	staff work areas	3,000
e.	recording, film, and photo	1,000

CONT.

f.	bookstore	2,500
g.	lobby and toilets	1,500
h.	air conditioning	6,000
	TOTAL	45,000

This total is only one-half that arrived at by Johnson and Hugill. Lest it be thought too scanty, consider the following: the United States Office of Education reports that in 1947, 1,359 colleges and universities had only 9.7 sq. ft. of space per full-time student in libraries and study halls, and reported their needs as 50% expansion of this space to a total of 14.5 sq. ft. per student.

$25 is proposed as unit cost. 45,000 x $25 = $1,125,000

9. Humanities and Social Sciences

The statistically average student takes one course each in humanities, social science, and math-physical sciences. It may be assumed that the frequency of lectures is the same in the three divisions, and that the hours scheduled in seminar in an average course in humanities or social science are equivalent to laboratory hours in natural science. This may be expressed mathematically by saying that an average student schedule will include in every week:

2 hours lecture in humanities
6 hours seminar in humanities
2 hours lecture in social science
6 hours seminar in social science
2 hours lecture in mathematics or science
6 hours laboratory in science
24 hours scheduled classes

In 5 days of 7 hours there are 35 possible class hours. Lecture and seminar space for the first two divisions are pooled in one building. Lecture space for math-science will be provided in the laboratory building. It may be assumed that in the average hour 55% of lecture seats and 60% of seminar seats will be filled. For humanities-social science the following calculation may be made:

lecture seats needed:
4/35 x 1,000 x 100/55 = 208
This could mean five classrooms of
3 sizes: 52, 42, 42, 42, 30

seminar seats needed
12/35 x 1,000 x 100/60 = 570
This could mean 40 seminar rooms of
2 sizes: 30 at 15, 10 at 12

Summarizing for the building:

208	lecture seats at 15 sq. ft.	3,120
570	seminar seats at 30 sq. ft.	17,100

CONT.

36 private offices at 168 sq. ft.	6,048
general office	252
language laboratory	1,250
Net Area	27,770
GROSS AREA (net & 50%)	41,655
41,655 x $22 =	$916.000

10. Science Laboratories

Theoretically the lecture requirements for science should be 104, half the number for humanities-social science. However, it is likely that the staff will wish to have demonstration-lectures for the entire freshman class, and an amphitheater seating 300 would be a generally useful room for many purposes not requiring the large auditorium. In addition 3 classrooms seating 30 each should provide for mathematics and other small science lecture sessions.

The laboratory requirements may be met by providing student positions according to the following schedule:

freshman course 265/4 = 66	70 positions
biology 200/3 = 67	70 positions
chemistry 90/3 = 30	35 positions
physics 70/2 = 35	35 positions
psychology 225/3 = 75 (equivalent of)	70 positions
sceince thesis 80 seniors less 10 in math	70 positions
TOTAL	350 positions

Overall building area is estimated as follows:

lecture room 300 @ 9 sq. ft.	2,700
preparation space	900
student laboratories 350 at 50 sq. ft.	17,500
auxiliary facilities (shops, storage, balance rooms, greenhouse, mechanical and electrical equipment, lockers, stockroom,etc.)	4,375
classrooms 3 x 30 x 15	1,350
9 private offices 12 x 14 = 168 sq. ft.	1,512
9 office-laboratories 12 x 24 = 288 sq. ft.	2,592
general office	250
Net Area	31,180
GROSS AREA (net + 50%)	46,770
46,770 x $28 =	$1,310,000

11. Activities Building

As a matter of relative values, it is felt that this building cannot be allowed to greatly exceed either the library or the humanities-social science building in size, and its total area is therefore held down below 50,000 sq. ft. Even so, the building will at peak capacity accommodate over half the student body. No swimming pool is provided because this is an expensive facility in terms of numbers served. Bowling, pool, and billiards are omitted since these recreations are usually available commercially.

The following space budget is proposed:

		SQ. FT.	
a.	gymnasium	10,000	
b.	rooms for other sports (badminton, fencing, squash)	8,000	
c.	dressing rooms and showers (serving also playing fields)	5,000	
d.	snack bar and attendant services	4,000	
e.	party room with foyer and toilets	5,000	
f.	experimental theater for 200	3,000	
g.	music listening	1,000	
h.	hobby shops	1,000	
i.	student organizations	1,000	
j.	lounge	1,200	
k.	administration	800	
	Net Area	40,000	
	GROSS AREA (net + 25%)	50,000	sq. ft.
	50,000 x $21 =	$1,050,000	

12. Infirmary

The Johnson-Hugill estimate is here retained without change.

9,400 x $25 = $235,000

13. Maintenance Facilities and Central Heating

Until an actual layout is available it is impossible to tell what kind of heating facilities should be proposed for New College. Almost certainly electricity is not the answer, because the cost of electric power is about seven times that of no. 6 fuel oil for equal useful heat, and even taking into account the saving in plant and attendance that would accompany electric heating, the annual cost would seem to be in the neighborhood of $100,000 more.

The unit cost proposed for the various types of buildings are such as would ordinarily include whatever is necessary to make a complete building, and heating and ventilation is a part of this. It may therefore be assumed that these buildings could be built each with its own heating plant for

CONT.

these costs, and that the cost of centralized boilers with an underground distribution system would not be greater than individual systems. Of the total of approximately $11,000,000 in building cost, approximately $1,200,000 can be assumed to be earmarked for the heating and ventilating and control systems. However, the area tabulations for the buildings do not allow for the spaces that would be required for fuel-burning units. On the assumption that a centralized system will be preferred, it will be necessary to provide a shell of building to enclose this central plant.

The area needed for this is estimated at 3% of the total of approximately 500,000 sq. ft. or 15,000 sq. ft. Add to this the 15,000 sq. ft. programmed in the Johnson-Hugill report for maintenance facilities and the total is 30,000 sq. ft. Having regard for the fact that the cost of the equipment has already been allowed for, an average unit cost of $17 sq. ft. is proposed for this building.

30,000 x $17 = $510,000

14. General Storage

Johnson-Hugill estimate 6,000 x $15 = $90,000

15. Administration Offices

Johnson-Hugill estimate 8,960 x $21 = $188,000

Summary of Daytime Indoor Capacities

1. Dormitories - Study desks	1,000
2,3,4,5, Food Services - Dining seats	470
6. Auditorium - seats	1,200
8. Library - seats for readers	300
9. Humanities and Social Sciences	
lecture and classroom seats	208
seminar seats	570
10. Science Laboratories	
lecture and classroom seats	390
laboratory positions	350
11. Activities Building - approximate capacity	512
TOTAL	5,000

Summary of Areas and Costs

	Total Sq. Ft. per unit	Cost per Sq. Ft.	Total Cost per unit
1. Dormitories	238,000	$20	$4,760,000
2,3,4, 5. Food Services	16,920	24	406,000
6. Auditorium	16,000	25	400,000
7. TV Studio	1,600	45	72,000
8. Library	45,000	25	1,125,000
9. Humanities and Social Sciences	41,655	22	916,000
10. Science Laboratories	46,770	28	1,310,000
11. Activities Building	50,000	21	1,050,000
12. Infirmary	9,400	25	235,000
13. Maintenance and Central Heating	30,000	17	510,000
14. General Storage	6,000	15	90,000
15. Administration	8,960	21	188,000
TOTAL	510,305		$11,062,000

The area per student is: residential 238, non-residential 272. It is interesting to compare the areas arrived at for New College with the following: The approximate national average gross area per student in dormitories built since World War II = 235 sq. ft. Average non-residential space per student in 1947 in Massachusetts colleges = 211 sq. ft.

Site, Grounds Improvement, Utilities

16. Site Procurement

This item is necessarily a guess influenced by subjective value judgments. Getting an adequate site is so important in its effect on the future of the enterprise that it justifies earmarking a sum which is more than a token percentage of the whole investment.

If 400 acres is the minimum purchase area, considering land now in agricultural use, such an area is almost sure to have agricultural and residential buildings of value on it which will add to its cost. 400 acres will not be enough if one considers the desirability of extensive woodland or bottom land preserve as protection. Then the whole problem of being able to influence private development of adjacent holdings is so complex that it seems wise to provide the possibility of some excess acquistion as a partial solution. The assembly of a larger parcel ordinarily involves administrative and legal costs that are not negligible. For all these reasons and others less tangible, it is recommended that the budget for land procurement be set at: $500,000

The remaining items of the Johnson-Hugill estimate appear based on reasonable expectation and are repeated here:

17. Grounds Improvement	
a. grading and seeding	$150,000
b. drainage	30,000
c. athletic fields	120,000
d. tennis courts	50,000
e. roads and walks	225,000
f. parking	40,000
TOTAL	$615,000
18. Water Supply	$100,000
19. Sewerage	$130,000
Total Site Cost	$1,345,000
Design, Construction and Equipment Cost	$11,062,000
Total Site and Buildings	$12,407,000
Additional probable capital outlay as estimated	$700,000
TOTAL CAPITAL COSTS	$13,107,000