

# Tech Engineering News

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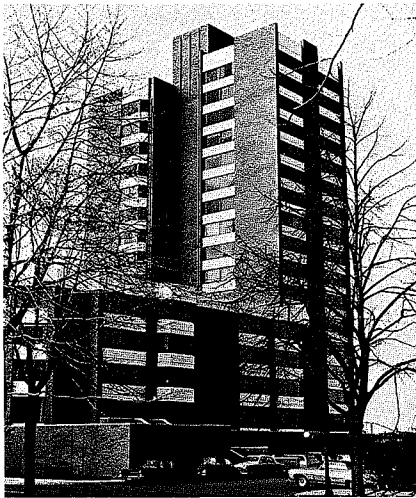
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# Tech Engineering News

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# Relationships Between Physical and Social Structure in Baker House

R. Philip Dowds, '69

## *The Correlates of Social and Spatial Status*

Baker House is a 360-man dormitory designed by the Finnish architect Alvar Aalto during the six-year period that he was a visiting professor at MIT. Completed in 1947, the unique functional and formal characteristics of Baker made it both one of MIT's most significant symbols, and the most desired dormitory on the campus. It was originally intended that Baker House would be a dormitory for seniors only, and Aalto designed the building under that premise. Changes in the MIT housing policy, however, soon opened the building to a roughly equal mix of students from all four classes.

The students of Baker House, like the students of nearly any collegiate dormitory, constitute a social organism unduplicated by any other community of any size or nature. Students are an abnormally homogeneous group compared to the crosssection of society at large. With minor exceptions, they share a common and limited range in age, equal educational and social backgrounds, equal intelligence, and similar expectations, motives, and objectives with re-

spect to their education and careers. The very process of choosing, and then being chosen by, MIT makes this homogeneity inevitable. But despite such a homogeneity in terms of age, sex, class and background, Baker residents also exhibit a pronounced range of individual characteristics. Students are amazingly diverse in their activities, interests, tastes, and personalities, and it is this diversity which subdivides the apparent uniformity of Baker House society into recognizable categories.

Class and social status, nebulous concepts though they may be, none-the-less provide the best available theoretical framework for understanding the structure of American society at large, and can be equally useful in explaining the social and political structure of Baker House. But the traditional parameters of class and status—education, occupation (and income), and ethnicity—are not relevant in a dormitory situation. College students, by definition, have roughly the same level of educational attainment, and all (for the time being) are "students" by occupation; ethnicity also plays a minor role in Baker House, since the ma-

ajority of the residents have been recruited from the anonymous "white middle class." Class structure in Baker House must be explained by other parameters.

There are many possible ways of linearly ranking the Baker House students along a class/status continuum. The quickest and easiest is academically—the student who has a term average of 4.2 is "superior" to the student who has a 4.1. Another way would be symbolically (if, indeed, grades are not to be counted as status symbols)—to have a car is better than to have a motorcycle, and to have a motorcycle is better than to use the MTA. But the two systems which most accurately describe stratification in Baker, and which also interact most directly with the environment, are behavioral, and simple seniority.

Baker House society breaks down into three reasonably discrete groups: (1) The house leaders; (2) the house isolates; and (3) the intermediates.

The house leaders share a range of characteristics in varying but consistent combinations. They are the students who are involved in house politics, and who occupy the house offices.

They usually participate in extra-curricula activities—clubs, sports, or both. They date regularly, and appear at most of the house or campus parties. They have interests and “connections” outside the immediate house activities. They often have unusual talents, such as playing the piano. And they have an extended network of friends and acquaintances. These are the people who are clearly “in”, and constitute about 20% of the dorm population.

The house isolates, for a variety of reasons, contribute little to the social life of Baker House. In some cases, they devote all of their time and energy to their academic work, perhaps combined with a term-time job. In other cases, they share few interests or activities with anyone except another isolate. A few isolates are “stigmatized” (e.g., they are homosexuals, cripples, or some other sort of deviant). Finally, a few, such as an Orthodox Jew, will have a social life almost entirely outside the realm of Baker House, even to eating meals at a kosher kitchen rather than in the Baker dining hall. In any event, these people are clearly “out,” and in the extreme cases may represent another 20% of Baker House.

The intermediates, of course, span the gap between the two worlds in every imaginable way, from being almost “in” except for inexcusably low grades, to being almost “out” except for a conspicuous girl friend. While good grades, a car, and other “symbols” are definitely assets, they are of secondary importance in the ranking system.

The second ranking system, paralleling and amplifying the first, is simple seniority. The closer to graduation, the better, but with an exceptionally mark-

ed boundary between the freshman and non-freshman—between the novice and the veteran.

This description, of course, might well apply to stratification in any college dormitory. Baker House deserves special attention, however, because it exhibits an environmental diversity nearly equal to the diversity of the students themselves—and Baker students rank their building, and especially their private rooms, very much as they rank each other.

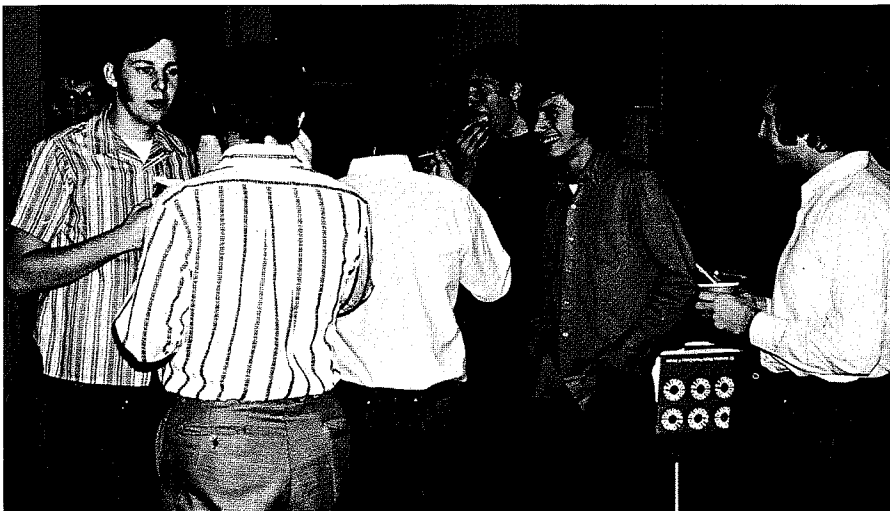
The student rooms of Baker are arranged on six identical floors. The undulating plan of the building, designed to maximize the view along and across the Charles River, generates a system of singles, doubles, and triples in which very few rooms on the same floor are similar. The students are quite conscious of even subtle differences in the rooms, and debate endlessly on the advantages and disadvantages of any particular space.

Certain rooms are definitely “in.” The “front doubles” and the “couch singles” are most preferred by everyone. These rooms have the largest square footage per man, the best view, and a useful and comfortable six-foot long couch. Of the “front doubles,” the three with the long triangular desks are preferred over the

rooms with short rectangular ones, partly because the larger triangular desks also make it easier to get to the window. Of all the “couch singles”, the unusual “pie singles” (those with non-parallel party walls on an interior radius of the plan) are most in demand.

Other rooms are “out.” All triples are “out”, and are usually given to freshmen. “Coffin singles”, the absolute minimum room with no couch, are “out.” The “back doubles” are “out” due to their smaller size, poor exposure, and lack of couch, but are certainly preferred over front triples by those freshmen lucky enough to be assigned one.

Other criteria help rank the rooms. Some plans of peculiar shape are impossible to arrange, while others of equal size are quite flexible; students, if they have the chance, take pride in redistributing their movable furniture. (In Baker, desks are fixed in place, but “closets”—large, upright, wardrobes which can be re-positioned to create sub-areas within the rooms—are gratifyingly movable.) In general, a room on a higher floor is preferred to the identical room on a lower floor, because it has more isolation from the noise of Memorial Drive and a better view of Boston and the River. A more detailed explana-



tion of the particular popularity of each room is not possible in this paper, but it is important to note that the highly personalized plans of the rooms evoke highly personalized responses from the students.

*Establishing "Fit" Between  
the Social and  
Spatial Structure*

How is the relationship between a student's social rank and the rank of his room established? Room assignments are controlled by the House Committee, which consists of the four standard officers (President, Vice-President, Treasurer, Secretary — all elected at large) and a representative from each of the six floors of Baker. (Notice that when Aalto determined the physical structure of the dorm, he also influenced the political structure). These students are naturally drawn from the set of house leaders. In the spring of each year, each student requests, in order of priority, the rooms in which he would like to live in during the subsequent year, and the House Committee tries to match each student to his first choice according to two simple guidelines:

- (1) Each student has absolute first priority to the room he has been living in; and
- (2) Each student has priority according to the number

of years he has lived in Baker. (Except for transfers, this means "seniors first.")

These rules are quite reasonable, and strictly adhered to by the House Committee. However, there are nearly 100 seniors in Baker, and only eight "pie singles" on the sixth floor; thus it is evident that additional forces determine who gets the "best" rooms. Naturally, the House Committee favors itself and its friends in assigning the best rooms. One tends to find, therefore, a concentration of House Officers on the sixth floor. As for the others, an "out" senior will always have priority over an "in" junior, but is not likely to compete successfully against an "in" senior for the most preferred space.

The system, therefore, is somewhat cyclical. First, the students rank each other and the available rooms. Then, their room assignments rank them. Further, as a student increases in seniority, there is a closer correspondence between his room and his social rank. A sophomore cannot expect to get a couch single; there are too many juniors and seniors ahead of him. But a senior without a couch single is clearly pretty far down on the informal priority list. (There are exceptions to this, which will be noted later.)

*The Ranking of Public Space*

Ranking of space is not confined merely to private rooms, but can be observed in public areas as well. The Baker House dining hall is a case in point. The dining hall breaks down into three distinct regions, each with its own status. The area most in demand is that by the main stairway coming down from the "game room" above. The stairway descends through an open well approximately 20' by 30', so that this area is a double-height space lit by skylights in the ceiling of the game room above. The students have responded positively to this exceptional three-dimensional volume, and it is here that most of the house leaders (including the Officers) sit at every meal, arranged around large circular tables in groups of 8 to 12. Surrounding them in the single height portion of the main hall, sit the intermediates in groups of six or so at smaller rectangular tables. Their lower ceiling makes their space "inferior," but they have the advantages of light and air from the windows in the exterior perimeter wall.

Aalto intended that the waiting line for the cafeteria service would come down the stair from the game room, which would put students on the main floor of the dining hall directly in front of the entry to the serving counter. The students, however, persistently enter the cafeteria from the opposite side, since this route takes them past their mail boxes and desk in the main lobby. This line cuts off an interior area of the hall, separated from the double height space and its periphery. This amputated region of the hall, having no outside exposure (but a reasonable view of the laundry room) is undeniably, architecturally "out," and here is where the isolates sit.



This is not intended to be an expose of grim and sinister discrimination in student society; quite naturally, each student tends to seek out dining companions of his own rank. The significant point is that environmental inequalities in Baker House have come to express the inevitable social inequalities; the physical characteristics of his room, the spatial location of his dining table, reveal quite a bit about a student's social rank.

*The Social Impact of Space*

These have been examples of how social stratification finds physical expression in Baker House. An equally important issue remains to be examined: How does the physical structure of Baker affect this stratification—if at all? In attempt to make a single specific point relevant to this problem, I focused upon the peculiar distribution of freshman rooms in Baker House—a gross inequality which I anticipated would affect a freshman's integration into the social structure.

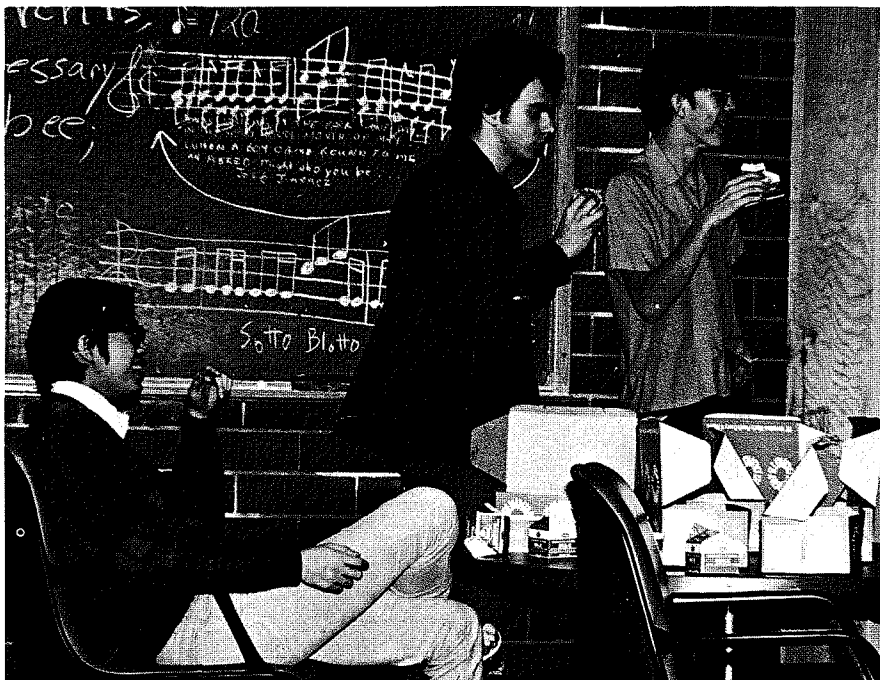
Other investigations, including ones made on the MIT campus, have demonstrated that physical proximity of the residence is a



major factor in friendship formation. In Baker House, nearly all of the doubles and triples on each floor are concentrated in the western-most wing of the building. Since freshmen never get singles (they are normally assigned the low-status triples and back doubles by the MIT on-campus housing office), most of the freshmen are in the west wing as well. The single exception to this is a lone triple in the extreme east wing of Baker, where three freshmen on each floor live at a maximum distance from their classmates. This seemed to be a case of built-in isolation which would significantly restrict the freshman's opportunities to meet and

make friends in their living unit.

The east wing freshman is handicapped by obstacles to social interaction other than distance. Aalto intended that the corridors of Baker House would be not merely ways of reaching the private rooms, but centers of activity as well. To this end, he periodically widened the corridor to make space for communal lounges. When it was discovered that these public areas failed because students insisted on moving all the furnishings into their private rooms, these lounges were converted, wherever possible, into enclosed rooms, either for more students, or for special functions such as a library or television room. Despite this, "corridor life" still survives in the west wing. There is still enough free space for minor athletics, hall parties, etc., and each special function room attracts users from all over the dorm. The upperclassmen who choose front doubles in this area tend to be more gregarious than their friends in singles, and often leave their doors open as an invitation to visitors. The east wing, in contrast, has a much smaller communal area, and it is seldom used for anything. The east wing is quiet, which means that by natural selection the quiet students move there, making it quieter. Most of the doors to the singles are always shut, and the east wing corridor is rather



lifeless compared to the west. Finally, the extremity of the east wing corridor is amputated by fire doors which isolate the three freshmen in the triple within a compartment containing nothing else more than five low-status coffin singles; these rooms are frequently occupied by upper-class isolates.

In order to determine the effect of these environmental inequalities on friendship formation among freshmen, I interviewed freshmen from both wings of the building, asking all of them two simple questions. To check out the probability of acquaintance, I asked each person to name, if he could, any students living immediately above and below him, and any students living at the opposite end of the hall. To determine real friendship formation, I asked for the names and room numbers of the three students each freshman considered to be his closest friends outside his own room. All together, I questioned 46 west wing freshmen and 11 east wing freshmen, which represented about two-thirds of the Baker House freshman population.

The results were (as usual) somewhat inconclusive. Nevertheless, certain phenomena had been correctly anticipated. Despite the fact that freshmen have

many opportunities to meet outside of the local environment, and should be drawn together by common courses, the freshman council, etc., only 14 of the 46 west wingers were able to name anyone on a floor other than their own. Vertical segregation was pronounced. Only 3 felt that they had close friends on another floor. The vast majority of "close friends" were west wing freshmen from the same floor, and only 15 freshmen named proximitous upper-classmen as "close."

To the west wingers, the east wingers were largely invisible. Again, only 8 could name a freshman living in the east wing on their floor, and half of those considered these people to be only acquaintances. A particularly conspicuous east wing freshman was named by six of the eight. Several west wingers expressed some surprise that there were freshmen at the other end of the building.

Unfortunately, such a crude sampling method could not work in reverse. I had defined "closest friends" as the persons with whom the interviewee spent the most time, and of the 11 east wingers, 10 named freshmen from the west wing. But where else would they find a selection of other freshmen? Nevertheless, two tendencies in

the responses of east wing freshmen seem worth mentioning. First, east wingers tended to name "close friends" living on floors other than their own, demonstrating that they are more dependent on social contacts made in the dining hall or elsewhere on campus than are the west wingers. Second, only two of the relationships described by east wingers were reciprocal; the east winger who named a west winger as a "close friend" was normally not on that west winger's list of "close friends." This indicates that a social contact (a visit to the west wing) which has high significance for the east winger goes relatively unnoticed in the saturated social life of the west wing.

For some reason, vertical communication was better in the east wing; six of the 11 freshmen could name several people above and below them. The immediately adjacent fire stair probably encouraged this communication. Most inconclusive of all, when east wingers were asked if they would prefer living in the west wing, their responses ranged from indifference to a preference for their unique and private location, and for their particular room, which is the largest of the four freshman triples.

Even had the results been consistent, a conclusion based on such a limited survey would be dangerous. But while most of the evidence points to the isolation of the east wingers, these students do not seem to know or care that they are out of the mainstream of the dormitory life, and describe friendship patterns that form independently of, and even in contradiction to, their physical environment. It seems undeniable that the east wing freshman must operate at a disadvantage in establishing his social position in



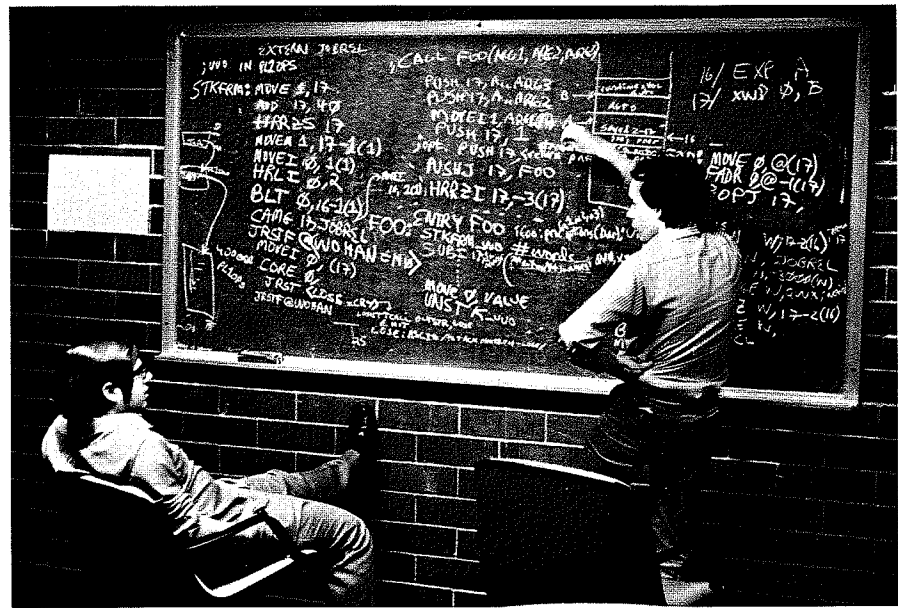
Baker House. It cannot be concluded, however, that this disadvantage will have a consistent long-range influence on the persons living there. It seems unlikely that the born leader will be permanently smothered by his artificial isolation in the east wing, nor is it probable that the born isolate will be transformed by a choice location in the west wing.

*Generalizations Drawn From  
The Baker House Experience*

Dormitories would appear to be a much over-studied social/spatial unit. Possibly this is because they are close and convenient to the academics who make such studies, and because students are relatively co-operative and tractable "subjects." But there may be better reasons than simple convenience and accessibility—perhaps we are not yet ready to systematically analyze more complex social/spatial units.

The earliest computers were readily programmed to play a devastating game of checkers; recently, computers have been programmed to play a creditable, if somewhat unimaginative, game of chess. But no one has yet devised a program allowing a computer to play a hand of bridge—nor is it anticipated that a computer large enough to process such a program will be available in the near future. The game of bridge has far too many variables to be understood by computer circuitry of existing limitations.

The environmental psychologist finds himself in much the same position as the computer confronted with bridge: He lacks both the conceptual language and processing capacity to deal with complex social/spatial units. The programs and circuitry simply do not yet exist. But dormitories provide a gratifyingly simple unit of analysis:



A small, clearly bounded set of homogeneous people who are further homogenized by the necessity to conform to universal rules and schedules which govern, to no small degree, how, where, when, and with whom they shall spend their time. Crucial variables such as age, sex, and to a lesser degree, income and ethnicity, have been purged from the social system. In contrast, "communities" such as Cambridgeport, East Harlem, and Levittown are incomprehensibly large, diverse, diffuse, and disconnected. For example, economics is not a primary determinant of the location of one's "home" in Baker house; each student is an independent economic unit, and the differentiation in price between the "best" and "worst" rooms in Baker House is only about 25%. Within the urban matrix, however, economics is often the most important determinant of the location and status of one's home—and the way money correlates to class and behavior is an enormous subject all to itself. After three years of "participant observation," Suttles published "The Social Order of the Slum," which is perhaps the most sophisticated study existing of the

spatial dimensions of an urban community. But even Suttles focuses on clearly bounded groups: Ethnic enclaves and teenage gangs. *Within* those enclaves, and *beyond* the boundaries of the gang—that is, for any social sub-set which does not have a single variable as its dominant characteristic—Suttles has few insights as to how territory affects, or is managed by, the diverse elements of the neighborhood.

So be it. If we are in no position to undertake the "real world" with all its concomitant variables, then there is still much informative research to be done in relatively simplistic situations. Few to no "participant observations" have been made of such comparatively simple social/spatial units as army bases, retirement villages, or ocean cruisers. Systematic, comparative observations of a variety of simplified units—social microcosms—may supply us with the guidelines or hypotheses necessary for an analysis of complete neighborhoods or cities.

The study of Baker House is facilitated by the fact that it is not simply a social/spatial unit, but a geo/political unit

*(Continued on page 23)*

Variety in the number of occupants to a suite is regarded as being in the interest of students in general, but few of the subjects felt that it would be in his own interest. This neutral position perhaps could be expected from the occupants of the strong entries. Their living unit, or social unit, is the entry as much as the suite. In terms of induction and limitation, their expressed "need" for the opportunity to develop relationships with a range of students seems to be well matched with the suite and entry configuration. The ambiguity of the third position pertaining to perception of programming might explain the neutrality. In the case of the random entry, this same need is violated by the perceived tendency of the suite to limit the occupants' choice. With the random entry, the need is not matched by the

configuration. Here, the duality in the attitude of the subjects toward programming could account for the neutrality.

\* \* \*

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as well. In other words, Baker House has evolved an elected decision-making body which is empowered to decide how space will be apportioned among the various residents. For this reason, the social and spatial structures are both mutually supportive and mutually illuminating. If room assignments were decided by random lottery rather than by a political process, it would be far more difficult to decipher the social/spatial structure. (In fact, the status of both rooms and House Committee would be significantly devalued.)

But this raises another question. Why do Baker House students submit themselves to a clearly partisan patronage system? Why do they permit the crucial decision as to where they all shall live to be made by the House Committee? It would seem, in fact, that Baker House

students prefer it that way. They prefer that the apportionment of living (or dining) space reflect their individual, personal ascendancies within the semi-formal ranking system of the community. Students apparently prefer that qualitative differences in their social status be reflected by qualitative differences in their living quarters.

This sheds some new light on the "need" for "diversity" of the environment. The argument for environmental diversity is usually founded upon the assertion that all *individuals* have different needs or preferences, or that all *individuals* need to experience a great variety of stimuli during the course of their daily lives. True enough, perhaps, but a full understanding of the need for diversity may hinge upon an understanding of *societal* complexity. In other words, the individual, with his idiosyncratic desires,

habits, and activities, is not the only, and perhaps not the best, standard for the evaluation of environmental performance.

The environmental designer is clearly in need of normative values to attach to the social structure which his built forms accommodate. Is it "good," or simply inevitable that Baker House students choose to rank themselves socially, and then to distribute living space among themselves accordingly? If this is "bad," the designer can think of many ways to frustrate the realization of such social dynamics. He can provide a dorm in which all rooms are identical, or a dining hall in which all locations and tables are roughly equivalent, thereby creating an environment which refuses to reflect social differentiation. A facetious argument, perhaps, but one which has physically manifested itself in no small number of dormitory constructions.