BOSTON CITY HALL PLAZA

A STUDY OF IT'S VALUE FOR PEOPLE

by

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ABSTRACT

The objective of this study is to learn about the specific values of the Boston City Hall Plaza for its present users. The study may be a valuable base for future designs of similar projects, for further development of the plaza under discussion, and for future comparative studies.

The author's own image of the plaza, discussed in the first four studies based on introspection, empathy and cursory observation, has been tested and supplemented by investigating the representations of five individuals, very different from him, by means of interviews, map and sketch drawing, and observation. Several survey studies of the actual population of the plaza by means of photographs, film, counts and sample interviews add some quantitative aspects to the qualitative findings. Three experiments finally indicate how one can test the value of a change with very small effort.

The holistic image composed of these different short studies shows what the symbolic value of the plaza as a focal point in the city is, which territories in the plaza are valuable for which kinds of people at what times, and for what purposes, and what kinds of changes people would like to see in the plaza.

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Associate Professor of Architecture

William Porter
Assistant Professor of Architecture and Planning
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GOVERNMENT CENTER
Proposed New Construction
1 City Hall (New)
2 John F. Kennedy Federal Building (New)
3 Government Center Plaza (New)
4 Motor Hotel (New)
5 Parking Garage (New)
6 Private Office Building (New)
7 Police Station (New)
8 Chapel (New)
9 Sears Crescent (Rehabilitated)
10 State Service Center (New)
11 One Center Plaza (New Private Office Building)
12 20 State Street (New Private Office Building)
13 Jewish Family and Children's Service Building (New)
14 Post Office (New)
15 30 Hawkins Street (Rehabilitation)
16 Faneuil Hall
17 State House
18 Court House
19 State Office Building (New)
20 Central Artery

Other Buildings Shown
16 1 Government Center Plaza
17 State House
18 Court House
19 State Office Building (New)
20 Central Artery
Introduction

Boston City Hall Plaza is part of an extensive urban renewal project introduced into the old center of Boston during the past ten years. The studies in this thesis represent some knowledge of how people perceive and act upon this new plaza which radically has turned a dense somewhat deteriorated old downtown area into a large open brickpaved space surrounded by new office buildings and dominated by the new City Hall. (See photo 1.) The studies will be rather short and will not go into great depth, but together they should represent a holistic image of the plaza's value for people.

The first four of them will describe my own representation of what the plaza and its relation to people ought to be (normative mode of representation), how people can act upon the plaza (enactive mode), what sensuous qualities of the plaza might be important to people (iconic mode), what kinds of information flows can be identified in it (symbolic mode). I will represent the plaza and how it relates to people in those modes at various levels of generality: the plaza in the city context, the various territories in the plaza context, and sometimes some details in their own context.

This representation obtained by cursory observation, introspection, and empathy is the kind architects and urban designers are used to handle. It is however heavily dependent on the specific cognitive structure of the beholder, on his previous experience, on his education and cultural background.
In order to support, modify, and enrich this private image, I will report about the representations of five persons very different from myself who are in some specific way connected with the plaza.

Gerhard Kallmann is one of the architects who designed City Hall and the plaza. Charles Hilgenhurst will be interviewed as a representative of City Hall. Otto Piene is the artist who enacted the art happening on the plaza at the opening of City Hall. My two-and-a-half year old son Janosch will serve as the representative of the children who are a minority group in the population of the plaza. Finally, I will report on the development of an average user's image from spring to summer.

In those five studies I shall employ the methods of interviewing, map and sketch drawing, empathy, and observation. Although those five studies in connection with the previous four will give us some insight in the qualities of the plaza, we cannot generalize our findings for the entire population of the plaza.

The last four studies therefore will deal with the actual people on the plaza. Different kinds of people entering into, moving through, and sitting in the plaza will be studied by means of photographs, film, and by systematic counting. The patterns of groups and crowds on the plaza will be recorded. A sample of people will be interviewed. From the results we will learn who they are, what they like to do on the plaza for what purposes, how they feel about the plaza, and whether they think it is a good place to have in the city in general. Finally, I will describe three experiments in which twelve chairs have been introduced into the plaza by a group of students who were curious how people would react.
Those four final studies ought to give us some insight into images which are shared by groups of people or even by the entire population of the plaza.

I shall report on all those studies for three reasons. Firstly, they might be useful for urban designers who are planning similar environments in similar contexts in the future. Secondly, they might serve as a base for further development of the actual plaza under study. And finally, they include data which might be useful for future comparative studies.

Footnotes

1. The history of this project will be described in a forthcoming book by Charles Hilgenhurst, the administrator for planning, urban designer, and advanced projects of the Boston Redevelopment Authority.

2. Robert Weiss suggested to me to distribute the research energy on a rich variety of studies rather than to concentrate it on one or two only which would go into great depth. His research study on the Seattle Fair is an important example of such a holistic research method.

3. Jerome S. Bruner (1966) has introduced the labels enactive, iconic and symbolic mode of representation or modeling the world in the mind. He has added the normative mode in his two final lectures on psychology in Fall 1968 at Harvard University.

4. Herbert Simon (1969) shows how we organize the knowledge of the world in such hierarchical structures in general.

5. Bruner (1966), chapters 11-13 and specially chapter 14 (an Overview).

6. For methods in general, see Rittel (1964) p. 41-46. For a much more detailed list of methods, see chapter 5 of a forthcoming book on Site Planning by Kevin Lynch (first draft has been in Rotch Library of MIT in Spring 1970).

7. Kevin Lynch (1960) labels those images which are shared by groups of people "public images" (p. 7).
8 Robert Sommer in a paper read to the MIT Department of Urban Studies and Planning on March 25, 1970, suggested to institutionalize the "Environmental Adviser" who both helps the user to use a new environment in an optimal way and changes it to better fit to the user's needs, he also suggested to store evaluation studies in a computer to make them easily accessible to designers who have to solve problems in similar contexts. See also his studies in his book on Personal Space (1969).

9 Robert Weiss suggested originally that comparative studies of two or several similar environments might be to some extent more conclusive than a case study of one single plaza. Limited time and resources in this case, however, lead to his advice described in footnote 2 above.
A Normative Representation of the Plaza

Bruner has well described the concept of representation\(^1\). The mode of knowing something can be either enactive (we know how to do something skillfully), or iconic (we know something in a picture), or symbolic (we know something by means of symbols, words, mathematics, etc.), or normative (we know something by its value).

We use all those modes of representation all the time. An architect, for instance, may feel how a house ought to be changed (normative mode), he may imagine how it looks after it has been changed (iconic mode), he may translate this image into some drawings and specifications (symbolic mode), and finally he himself may actually make the change on the house (enactive mode)\(^2\). Each mode has its specific value in this example and the translation, one into another, may be one of the "very important impulsions of cognitive growth"\(^3\).

As the only way we know about and interact with the outside world is by means of those four modes of representation, I shall try to categorize my own representation of the plaza according to them, although sometimes it seems difficult to clearly differentiate them, one from another. I shall start with the description of what I think the plaza ought to be.

My hypothesis is that in the minds of both the designers and the public there exists a normative image that a plaza of some kind ought to be in the city next to the important public buildings, because it always has been this way in our history.
We recall the Collonades of the Agora in Athens where Aristodiles and Platon discussed their problems with their students where people could buy their food, where democracy, whatever that meant, was exercised, in short where the "public life" occurred.

Or we have in mind the Forum Romanum as an important plaza surrounded by the buildings in which the far reaching decisions of the Roman Empire were made.

Another kind of plaza in our mind might be the medieval market place as a romantic and lively place filled with ordinary people and their public activities, rich in sensuous and symbolic qualities. Of course the real place was not a matter of romantic feelings, but of survival of the society.

Still other images might appear, Bernini's Collonades next to St. Peters, often empty but sometimes crowded with people who hold deep religious feelings when they listen to the Pope - their representative of God - or we imagine the parade grounds of baroque castles or even open spaces like the Common in Boston with grass and trees overlooked by the State House.

These kinds of images seem to become normative in character when we have to plan places like government centers, city halls, or cultural centers, so much are they normative that the architects can often plan such plazas without being explicitly asked for by a program. The public and their representatives just used to agree or don't discuss the matter in the initial stages.
Although the intention to have a plaza in the center of the project under discussion seems to have been shared by those who initiated the plaza, the normative representation of its general character has certainly not been a common one. Different groups of people have to be considered: the employees working in the nearby areas might want to use it at lunch hour to meet each other and enjoy the open air, the businessmen might prefer the profit they could make by having some more office blocks on the square, the City Hall might want to have a space which demonstrates it's power, but which also attracts Bostonians and tourists in order to inform them about what is going on in the decision making bodies of the administration and to interconnect people closer to their government.

Nearby residents would like to go there for open air activities: the old to stroll, sit down and watch active city life, mothers to bring their babies and children along to have them at a place where they are safe from traffic, noise, and pollution, children to drive their bikes safely, to play and to have fun.

Shoppers would like a place where they can rest a bit, have a cup of coffee, and meet somebody before going home. Hippies would like to have some territory in midst of the city. Artists would compete, one with the other, to display their work, political speakers often talk with the public near city halls. Tourists want to get a sense of city atmosphere in the central place of Boston, but also have the opportunity to rest, eat, and meet in groups. Protesters would like to have wide space for their rallies. The architects probably want to serve all or some of those desires, but they also want to create themselves a monument admired by future generations.
Perhaps the character of our plaza ought to reflect the plurality of those norms. It was built with the tax money of all the kinds of people living and working in Boston, and in City Hall is the government of all Bostonian citizens. Our society is pluralistic, and plazas of cities in the past have always in some way reflected the society's norms.

But in addition to the goal of a pluralistic plaza, let me suggest another one. It is Albert Schweitzer's ethical norm which implicitly governs our society and on which our survival seems to depend to a great extent: "to protect life, nurse it, and develop it to the highest possible value". To develop life to the highest possible values in the context of a city environment refers to growth of human capacities which help people execute their daily plans and live their city lives.

Those capacities can be categorized in bodily skills, skills to perceive and enjoy sensuous qualities, both from the outside world and from imagery, capabilities to deal with knowledge in symbolic terms as tools for thinking, planning, and communicating, and last but not least the skill to wish, prefer, and set up one's own norms which lead life through time, space, and society. Bruner's notion of instrumental conceptualism says that those human capacities grow by using them in dealing with the world. Piaget sees growth happening by adaptation to the environment, which he describes as assimilation as well as accommodation processes between the human organism and the world.

Bruner, Piaget, and other cognitive psychologists consider the richness of stimulation from the environment as an important factor for growth of those various human capacities.
To summarize, we hypothesize that both the initiators of the plaza and its public think that a plaza ought to exist in the center of the city's important public institutions. We have identified two overriding norms which would define the general character of our plaza: it ought to be a pluralistic place for all the different kinds of people in our society, and it ought to contribute to the development of the human capacities needed to deal with our complex city environment.

Footnotes

1 Bruner (1966), pp. 6-8.

2 Alexander (1964), chapter 6, he, however, does not explicitly write about the normative mode.

3 Bruner (1966), p. 11.

4 About 300 BC the market activity has been excluded from the Agora (personal communication with Prof. Kostoff, M.I.T. guest in 1970). Note that this kind of historic knowledge is normally not included in people's image of a historic place. The image is often far remote from historic data.

5 Saalman (1968), pp. 28-35. Also note that often the Rathaus has been built long after the market place.

6 It happened again and again in architectural competitions in the last decades. In our case Kevin Lynch, Jack Myer and others have developed the first design for the urban renewal project, which included a plaza. They both remembered that the program did not explicitly ask for one (personal communication).

7 Albert Schweitzer (1954) describes how he found the ethics of "Ehrfurcht for dem Leben" on pp. 248-249. Quotes to be found on p. 283.

8 Stephen Carr (1966) in this sense lists four normative guidelines for environmental design on pp. 29-35 (they conform in essence with Schweitzer's general ethics): to help people to become more aware of themselves and their needs, to organize their knowledge of the city, to increase personal meaning and the value of the city, and to carry out their particular courses of action.
9 Bruner, in his final lecture in Fall 1968/69 at Harvard, compared the values modern education puts to those four kinds of capabilities and concluded that the only systematic efforts are put to the symbolic aspects: writing, talking, mathematics, theory, etc., but he hopes that the normative mode is developing in the young generation by exercising protest against the established.

10 Bruner (1966): "human capabilities develop as a function of the uses to which they have been put", p. 320.

11 Piaget (1951). As Piaget's writing is very difficult for architects to grasp, I suggest to read pp. 45-46 of Flavell (1963).
The Plaza as a Place to Act Upon

This study will represent the plaza in relation to people's enactive capabilities, how can they move to the plaza, where would they stop and stand, where sit down, where lie down, and how can they use and improve their skills? Let us start with accessibility.

Sketch 1 shows the variety of ways to enter the walking district of City Hall Plaza. There are five subway stations covering all four lines, one leading directly to the airport, another to South Station, points which connect Boston to other cities in the U.S. and the world. North Station is within walking distance. There is access into both directions of the Southeast Expressway. Nearby parking is available both indoor and outdoor along the streets of the haymarket area and behind the Federal Building. Streets lead into all parts of the city.

Sketch 2 indicates by arrows where pedestrians come from and where they enter the plaza. Inferences on the kinds of people can be made from the kinds of sources they come from:

From the subway stations: at rush hours one can expect people who work in the office blocks nearby, during office hours people who do business in City Hall or in the Federal Building, occasionally shoppers and tourists.

From parking facilities we can expect the same kinds of people, perhaps they are somewhat richer, at the same times.
From the nearby districts one can expect some strollers and tourists from the waterfront with the new aquarium, some businessmen from the financial district, some shoppers who want to rest a bit before they continue or go home from Washington Street, Tremont Street, and the Haymarket.

From Beacon Hill perhaps some older residents would stroll down via Pemberton Square or Cambridge Street, or some mothers with children, but of course the Common and the Charles River Park are much more convenient to them.

After the State Service Center will be completed some people can be expected to come from there occasionally.

Residents from the Northend one can expect to stroll across the plaza on their way to the Common, they even might sit down for a while, old people, perhaps children. On Friday and Saturday people might cross the plaza coming from or going to the Haymarket.

Tourists who mainly walk along the Freedom Trail are very likely to come across to see the plaza and City Hall, we can expect them to be there for a while, look around at the buildings and views, photograph everything, visit City Hall, and leave. We can expect more tourists on Saturday and Sunday.

Demonstrators finally, I guess, would either gather on the plaza or they would arrive in already formed lines or crowds from the Boston Common, the more traditional place for protests and celebrations, in downtown.

Pedestrians' physical access is easy from the high levels at Cambridge Street, it is not so easy from the lower levels, where one is
confronted with all those stairs one has to climb up. A narrow ramp along the north side of City Hall allows bicycle and carriage movement. A bridge (now in working drawing stage) later will cross New Congress Street and will connect Dock Square with the plaza, but still one has to climb up stairs to arrive at the higher levels.

Sketch 3 indicates pedestrians' movement on the plaza. Coming from relatively narrow linear sidewalks, or through a small hole from underground (subway), or through one of the holes in the One Center Plaza Building, our plaza offers us wide open space all accessible to walking, made of brick paving, organized in about 15 different levels which are either horizontal or sloping and which are interconnected by a variety of steps, long and short, clusters of three to eight, or by ramps. Even the plaza levels in City Hall are to a great extent open space and accessible via a rich, dramatic, and rather confusing arrangement of levels, stairs, and ramps. The City Hall is accessible at three different levels from the plaza.

The plaza gives a new degree of freedom over the linear sidewalks and paths (as in the Common) on which one is continuously forced to protect one's own personal space against other people and often against cars. So large is the paved area that people actually use only certain parts of it for walking.

Although accessibility is rich in variety and choice, horizontally, it is very poor in both vertical dimensions, up and down. A hole and some stairs, not more, lead to the subway. The really high levels of the
environment, except some inside City Hall, are not accessible by the public. Open stairs to the roofs of City Hall (see photo 27) and a glass lift to the top levels of the Federal Building would improve vertical accessibility considerably.

What other enactive skills than walking can be performed in the plaza? There seem to be several opportunities not much utilized yet, as bike riding of teenagers, outdoor dancing, games as the European large scale chess game and others, playing and manipulating of water, with earth, sand, wood, bricks, etc. In winter the ice surface could be used for skating at certain areas. Organizing such opportunities would attract a lot of different people and would develop their skills. It would well fit into our normative image discussed earlier that the plaza ought to serve all kinds of people and that it ought to develop their capabilities.

Sketch 4 indicates by arrows where people might stop and look into the city, and by circles where people are likely to stand in groups or crowds. A separate study will compare those possible areas with those where actual groupings happened.

Sketch 5 indicates the territories where people can sit. The behavior in those sitting settings will be studied systematically later, however, we would like to suggest some hypotheses below.

The location of the sitting settings is probably the most important criteria for preference. The sunny places might be preferred because they are warm and make you feel good, the places near the main walking activities might be preferred because one can watch people, the places
near the fountain provide acoustic privacy and some sensuous qualities which might inspire people to some spontaneous activities and which might make people feel they enjoy themselves. Places under trees might be attractive because people like nature even if it is only a small reminder in midst of artifacts.

The arrangement of the benches seems very formal. They are all parallel and therefore not optimal for conversation. There is no sense of a specific place or of places for specific people.

Sitting will probably not occur much in the courtyard of City Hall because it is separated from pedestrian movement, is not sunny, and the symbolic qualities of the building do not invite ordinary people to sit down leisurely and talk. They also, I guess, will not often sit down on the steps, because there are enough benches and ledges which are more comfortable. The steps are also anywhere, they do not belong to a defined territory, except those next to the fountain area. The territory no. 6 overlooking the Northend is unfortunately badly designed, it has one long bench, too high landings, no trees, no activities, but it is a distinct viewpoint.

The most preferred sitting territory is probably the backside of the subway station, it is sunny, the bricks keep it warm, it is busy, and there are no symbolic barriers. The nearby old buildings transmit some sense of connection with the past, this might be important to people who have known the place before it has been replaced by modern architecture.

Lying - either in chairs or, even more, on grass - is a symbol for relaxation and informal behavior. One can sleep and rest, talk, eat, or
make love in this position, activities which are very human and which can give charm to a public open space. To see people lying around having a kind of privacy in the middle of public activity is one of the great impressions in the Hyde Park in London or in the Boston Common. How can it happen on brick paving? Not even hippies I suppose would like to lie down on the plaza. Thus the plaza does not accommodate the full range of behavior implied by the normative image discussed earlier.

Footnotes

1 The dancer Ann Halprin at a workshop at MIT in Spring 1970 has suggested to categorize enactive capacities in this way: moving, standing, sitting, and lying.

2 Robin C. Moore (1967) has conducted interesting experiments with a junkyard which he turned into a much liked children's playground, where children built their own environments.

3 Edward Hall (1963) found that for easy conversation people prefer arrangements where they sit at right angles to each other.

4 I therefore could not circle a territory of steps in sketch 5.
Sketch 3
Pedestrians Movement in the Plaza
Numbers refer to numbers of photographs

Sketch 4
Groups and Crowds in the Plaza, views into City
The Sensuous Plaza

Moving towards the plaza, being in it, and acting upon it or on elements of it is one mode of interaction between people and the plaza. The counterpart of it consists of the people's perception of the plaza. In order to directly perceive the plaza, one has to be there, and in order to easily get there and act upon it, one has to perceive images. We perceive the plaza by means of our senses, as by seeing, hearing, tasting, smelling, and touching. Sensuous qualities of an environment do often evoke feelings of like or dislike in people, these kinds of quality will be the subject of this study.

The Visual Environment.

The perception of the visual world can be differentiated into two mental processes: the pre-attentive and the sequence of focal attention processes. Or as Gibson puts it, we order the visual world in background images and outstanding objects. This hierarchical order is applied at several levels, at first our whole plaza may be background and City Hall an outstanding object, then City Hall may be background for the entrance environment, that entrance environment then may be background for a door, that door for a sign, etc.

Sketch 6 represents the spatial openness of the plaza in relation to the openness of its surroundings. This openness we perceive immediately in a preattentive process as a background. Note and imagine the changing
openness while moving through the various access sequences on the sketch. This continuous change with it's possible surprise effects is one of the things architects care a lot about. See for instance the space sequence Kevin Lynch, Jack Myer et al. have suggested for the area between the State House and our plaza, in sketch 7. We will not represent all the sequences leading to the plaza in photographs, because they are not really exciting, but some of the final open views into the plaza coming from Tremont Street and Cambridge Street are shown in photographs 2 and 3. The views are indicated in sketch 8.

As with the physical access coming from the Northend, there are some problems with the visual access too. Only after climbing up all the stairs can we see the plaza. Photos 5 to 7 show this sequence. Coming from the higher levels one can overlook the plaza easily.

The spatial background image includes not only eye level edges of the space, but also outstanding objects higher up. Sketch 9 indicates the very high surrounding buildings in space. At this point, however, we must turn to the focal attention processes. Some of those towers are "outstanding," they catch our attention and produce an "orientation reflex". Roger White found that many people associate the Federal Building's towers with the plaza, probably because one can see those towers already from far away, but not the plaza.

On the other hand, the environment does not solely determine our sequence of focal attentions. It is also influenced by our own thoughts. Let us hypothesize on what people may focus on in looking around, based on outstanding elements as well as on thought processes people may
be involved with. We shall test such a result of introspection by asking people what they see or remember. I shall just list the elements, the reader may recall the images by looking to the above photographs or from his own memory:

- City Hall, brick, concrete, glass, lifted up into the air, on heavy columns, is visually higher exposed, because it sits in the plaza.
- The Federal Building has two combined high towers visible from far away.
- One Central Plaza Building is remarkably long and curved, it also has commercial facilities in its ground floor.
- Sears Crescent is also curved, it is the only old building along the edge of the plaza.
- The high-rise private office blocks in the south of City Hall are very high, they cast shadows onto the plaza.
- The high-rise State office block behind One Central Plaza and the 25-year-old tower of the courthouse are also "landmarks".
- The fountain is visually outstanding, although it is lower in level than the plaza, because it is in motion, and the water is the only fluid material around. It evokes emotions and may well be one of the more important elements in people's minds.
- The trees and concrete benches in a high and sunny location may often be the object of focal attention when people look for a place to rest.
- The subway station is an important place for transportation and it has some desirable bench situations in the back.
- The brick surface of the floor takes not only a great part of the visual field, it also needs attention for walking, especially in winter when ice, snow, and water makes walking dangerous. The steps and ramps as dividers of the floor surface are important for the same reasons. From high up one can learn that the steps bring some aesthetic, but arbitrary order into the large plaza.

- The entrance situations of the various buildings may be elements people pay attention to because they have to search for them before entering. Sketch 10 indicates the visual access into the surrounding buildings.

- The courtyard of City Hall is unusual because of it's openness and it's "sculptural richness."

- The lights - two types, see photo 4 and others - get important at night.

- The sculpture next to the Federal Building may be focussed on by people interested in art.

- In general people may be impressed by the way the surrounding buildings turned at various angles, present interesting volumes.

The views into the city are important because people use those views to orientate themselves in the city and to structure the elements they know in coherent mental images. Photos 8 to 13 represent the main views into the city. There are two excellent visual opportunities not used, one the view from high up into the city, and one down into the underground.

Photos 14 to 16 show how much easier it would be to construct a coherent image from those views high up opposed to the ones shown in photos 8 to 13. We have pointed to this non-used opportunity already in the context of physical accessibility.
Sketch 11 shows the subway areas underground. Visual access by means of windows in the floor surface of the plaza would help to develop lively images of what is going on down there. Imagine children watching the trains from high above!

Sun, wind, and rain do change the visual field, but as they have an even greater impact on our skin sensors, we shall postpone this discussion a bit.

The Sonic Environment.

Not much has been written on the auditive aspects of the environment. M. Southworth's thesis is the only scientific reference I can cite\textsuperscript{11}.

The main sources and their locations of sounds in the plaza are shown on sketch 12. They are:

1) The fountain: it produces a static noise or rather sound which blocks out traffic noise, but as the visual aspect of this territory the sound has not much variety. Imagine a Halprin kind of fountain, through which you can walk under and above the water, where the water flow and its sound would change in time in short and long intervals, where you would be touched by water, and where you would smell and taste it\textsuperscript{12}.

2) The street traffic noise: though it has some variety, it blocks out by its intensity so many other sounds that it cannot be judged as a positive value. The same is true for the construction site noise which presently comes from the southeast and the southwest corner.

3) The talking of people: it can be perceived in those settings where people sit, at the back of the subway station, and at lunch hours at sunny warm days near the fountain and under the trees on the high
platform. Southworth found that sounds which carry information are preferred by people to those which do not. Music may perhaps belong into the category of information carrying sounds, Friday noons on sunny days during the summer music is performed near the flag poles for half an hour.

4) Walking people: they produce a specific kind of sound, the hard brick pavement amplifies those kinds of sounds a bit.

5) Wind noise can be quite a pleasant "voice." One can listen to it where trees stand, also in the courtyard of City Hall and near the flagpoles.

6) Airplanes sometimes block out all other sounds. The hard surfaces of floor and walls even increase the noise effect.

Obviously the sonic environment is not quite as important for people who can see as for the blind, but it does play a role in supporting visual perception. In our plaza the variety and quality of sound seems to be poor, traffic, construction sites nearby, and sometimes airplanes overrule all other sounds. Perhaps some birds would be attracted by more and larger trees, and certainly an increase of human activity would raise the level of talking and informative sounds.

The Qualities of Taste.

The plaza cannot be tasted directly, but in our image it can be connected with places which promise great pleasures of taste. Imagine the seafood restaurant and the tea kettle place in the Sear's Crescent Building. Some people may also know the cafeteria on the first floor of the Federal Building. Others may become excited about the tasty fresh
food in the Haymarket and about the restaurants in this area. People with more money perhaps remember the restaurants on Tremont Street.

Most of these images are, however, not closely connected with the plaza. Perhaps there will be open air eating near Sear's Crescent in summer, there is some lunch eating activity at the sitting places, but generally an image of pleasure of tasty food and drinks is missing.

If the Federal Building would move its restaurant and cafeteria into the ground floor and open it to the plaza, not only the image of an environment of pleasures of taste could be created, but also other sensuous qualities would improve, as smells of the food and the sounds from people sitting and talking on the platform under the trees. Benches could partly be replaced by chairs, because they can easily be watched and protected by the personnel. Colorful sun umbrellas would introduce the atmosphere of vacation.

Qualities of Smells.

There may be some smells of water near the fountain, or some others of spring near the trees or the flowers to come, or you may smell the perfumes of people in the plaza, some people may even distinguish the smells of the different lobbies of the buildings and the subway station, but all of those smells are almost blocked out by the overriding smells of car exhausts and other air pollution. However, on some few days in the year, I heard, you can smell the sea!
Skin Sensations.

We now come back to the changing plaza as indicated at the end of the discussion of the visual environment, because light and shadow are perceived not only visually, but also by our senses of temperature.

Sketch 13 indicates the territories where sun prevails and those where we always can expect shadow. The two towers in the south do cast shadows onto the plaza, at least in spring and autumn, but these shadows are moving over time, thus not making a specific place darker and cooler permanently, they rather produce some sense of ongoing time. They can of course be unpleasant when it is cold.

Specially warm is the sitting place at the back of the subway station, even on sunny winter days people like to sit there or lean against the brick wall. One would wish that there be more of those leaning brick walls.

At night not only the temperature changes but also the light. Sketch 14 shows the light distribution at night, note that the visual edge of the plaza changes because one can easily see into the brightly lighted lobbies of the surrounding buildings. The temperatures might be slightly higher where the sun heat has been stored by bricks or near the buildings which also store heat.

The whole plaza is of course unpleasantly cold in winter. Again the lobbies are important places where one can warm up. There are no infrared heaters as in the open air restaurants on the Kurfuerstendamm in Berlin, for instance, but snow melting equipment is fixed in the floor around the south entrance of City Hall.
The wind is another factor which changes the environment significantly. In winter the wind is rather unpleasant. The highrise blocks lead down to the plaza extreme amounts of wind. The trees seem to give a little protection which one can notice by looking at the snow patterns in winter. The courtyard of City Hall is extremely drafty. One of the best protected places seems to be the back of the subway station, again.

On very hot summer days of course some wind may be appreciated, in connection with its sounds it may help to create romantic summer evenings near the trees, the fountain, and perhaps even in City Hall's courtyard.

But generally the openness of the space and the highrise buildings around it do produce a drafty atmosphere in a more negative sense. Some wind protection devices probably could improve the place a little, but certainly not much.15

Summarizing the iconic mode of representation arrived at by introspection, empathy, and cursory observation, we perceive the plaza as an extraordinarily open space, which is poor in variety and choice of exciting sensations from the visual field, from sounds, tastes, and smells. Because of its openness some of the natural forces such as wind and sun can freely act upon the plaza and thus frequently change the perceptions obtained by eyes and skin. The more prevailing elements in people's image are probably City Hall, the towers of the Federal Building, the brick surface of the floor, and the fountain, the latter only in summer. To open up views into the city and in order to learn about its structure, I have suggested providing accessibility to the roofs and openings into the underground structures. To move the restaurant of the Federal Building down to the
ground floor and to open it to the plaza would certainly increase the sensuous qualities of taste, smell, sounds, and vision in the plaza; some additional shelter against wind and rain would improve the place considerably.

To use the natural forces in some positive way could be a promising task for artists, they are, I think, the specialists for improving the iconic environment, a study of Otto Piene's representation of the plaza will therefore be presented later. 16

Footnotes

1 Neisser (1967), chapter 4.

2 Gibson (1950).

3 Cullen (1961) represents those kinds of spatial sequences in sequences of photographs or sketches, see pp. 17-21.

4 The word is used by Sokolow (1963).

5 He did this study in Kevin Lynch's course in the fall of 1969 at M.I.T.

6 Hassain (1965) found that visual exposure correlates with image-ability.

7 Yarbus (1967), see specially the records on the pp. 172-189. Yarbus has recorded eye movements on photosensitive material by means of a tiny mirror fixed to the eyeball, and compared the records derived from several people looking at the same picture, one with another. He could show that the sequence and duration of looking to the environment is determined by the thought process accompanying the analysis of information obtained.

8 "Landmarks," as used by Lynch (1960) as one of the basic elements of our city images, are objects outstanding from a background which strongly orient attention towards them.

9 Lukashok and Lynch (1956) found that floor surfaces are significantly well represented in childhood memories of people.
There are some views from the higher levels of the City Hall lobby which are somewhat better than photos 8 to 13, but not nearly as good as photos 14 to 16.

11 M. Southworth, 1967, studied a sequence of sonic environments in Boston, by leading people blindfolded through this sequence. More casual experience with sonic environments was gathered by M.I.T. students during a workshop with Ann and Larry Halprin in Spring 1970.

12 Halprin during the above mentioned workshop showed slides of some of his fountains.

13 One of the findings of Southworth Study mentioned above.

14 Perhaps another opportunity not fully used on our plaza, remember for instance the sun dial on the floor of the Milano cathedral in Italy.

15 Mike O'Hare in a presentation at M.I.T. in Spring 1970 explained how windscreens can be made more effective by perforating them in certain areas. They can, however, never be as effective as trees, he concluded from his experiments in the wind tunnel.

16 Otto Piene is the initiator of many art events in which natural forces are used as the crucial elements. At M.I.T. he performed a balloon event in Spring 1969.
Sketch 6
Spatial Openness at Eye Level
Sketch 7
Open Space
Sequences originally suggested by Kevin Lynch, Jack Myer, and others.
Sketch 9

The Highrise Buildings around the Plaza.
Sketch 10
Visual Access into Surrounding Buildings
water sounds  traffic constr. noise  People's talking  People's music walking  aeropl noise  wind sounds

Sketch 12
Sound Sources
Sketch 13
Sun and Shadow in the Plaza
Light on pole

Floor light cast in concrete

Light from the inside of buildings
View from Cambridge Street into the plaza

View, coming from Tremont Street, into the plaza

Two types of lights in the plaza, Sear's Crescent in the background
Approaching the Plaza from New Congress Street

Going up the steps

Entering the Plaza
View into Tremont Street

View into Cambridge Street

View into Dock Square and Faneuil Hall
View into the North End

Parking on Haymarket Square

New Congress Street and the old Union Street
View from high up onto State House and Charles River

View from high up onto the Common and Prudential Center

View from high up onto part of the Harbor
The Information Flow in the Plaza

After having discussed what the plaza ought to be, how we can act upon it, and how we perceive it by means of our senses, we now shall deal with the information perceived by means of symbols or symbol systems.

Let us start with the information flow by means of ordinary language. Reusch and Kees (1956) distinguish four levels of communication.¹

1. The first is intrapersonal communication: thinking, imagining, feeling, talking to oneself. Although one can think while walking or while sitting almost anywhere, most people prefer some kind of private place for intrapersonal communication. Reading a book or newspaper may need some comfortable place to sit or lie, perhaps the benches in the low fountain territory are the ideal place as long as there are not too many people.

2. The second level of communication would be talking in small groups of two or some more. Again it can happen while walking, standing, or sitting. The sitting arrangements for comfortable private talking are not very responsive in our plaza. Benches are arranged in parallel military like lines. Where they face each other they are 9 feet apart from each other, too much for comfortable conversation in such a noisy environment.²

3. There are of course other than spoken languages where this kind of arrangement is not necessarily unresponsive, flirting and all communication processed by the visual apparatus is not dependent on short distance

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between sender and perceiver of messages. It is, however, well known that movable chairs offer much more choice for sitting arrangements which fit more exactly people's specific needs for talking, observing people, flirting, etc. ⁴

The third category of communication occurs in large groups or between a sender and large groups. The physical openness of our plaza and the steps allow many kinds of arrangements of masses of people and also several "stage opportunities". Sketch 4 indicates possible areas for demonstrations, celebrations, cultural happenings, etc. involving large groups of people, and the several stage situations.

Communication and social interaction in public open spaces is not only important for learning from other people, it also has the function of breaking down social barriers. ⁵ Where many different kinds of people come together, see each other, and perhaps do things together, at least the chance to make contacts seems more likely than in today's segregated residential areas for instance. Later I therefore shall present a study comparing sitting settings in respect to people who are there in groups to those who are there alone. We shall also compare those settings in respect to diversity of age groups in order to get some feeling of what kinds of settings support social interaction.

Reusch and Kees' fourth level of communication involves the whole "societal system" rather than only groups of people. Symbols and signs both explicit and implicit in the physical environment of the plaza are perceived by all people who come there over long periods of time.

Let us first consider explicit information. Except some signs which indicate the presence of some shops across Cambridge Street, some
restaurants in the Sear's Crescent Building, and except some labels at
the various office buildings (see photos 17-22) there is not much explicit
information. Considering our normative image discussed earlier that the
plaza ought to be for all the people of Boston and that it ought to help
them to learn about and enjoy the city, we are disappointed that such
powerful devices as explicit symbolic systems are not used to a greater
extent.

A group around Stephen Carr in the architectural office of Ashley,
Myer, Smith, Inc. developed an experimental information center on Park
Street in Spring 1969 in order to test the possible power of such
symbolic means of education and information. The experiment was very
successful, about 100,000 people were attracted during the several weeks,
finding out about city events, about places and their locations, about
local, national and international news, by means of film, slides, newspa-
papers, spoken and teletyped language, etc. Stephen Carr and his group
envision a whole system of such information centers distributed in the
city at certain focal points. City Hall Plaza could well be the central
point of such a system. It would not only inform people, but also be a
point to which a lot and different kinds of people would be attracted.
They would perhaps, as said before, make social contacts of all kinds
more likely. Specific information on processes going on in City Hall
could be communicated in such a center, graffiti boards could inform the
administration on what people think and how they react to policy decisions.
Such a center could really bring the people closer to the administration
and serve the idea of democracy in a pluralistic society.
The meaning of signs and symbols which are implicit in the iconic structure of our plaza is dependent on our cognitive structure to a greater extent than that of explicit signs. I am, therefore, much dependent upon my own interpretation of what such symbols mean. 8

Let us first discuss how meaningful the topological location of City Hall and the Plaza is in the city context. City Hall is located in the middle of downtown at the foot of Beacon Hill rather than on the top. The State House thus is higher up in the hierarchy! How can City Hall defend its place in this hierarchy when it can neither be high up on the hill nor consist of an immense volume, as for instance the Federal Building does? It defends its place by means of a large open plaza which is designed as the apron of City Hall. All the other buildings around the plaza just form the edge, but City Hall sits right in it and dominates! City Hall, although relatively small in floor area, is designed as a monument on an artificial hill in the plaza, representing a much bigger volume than necessary for accommodating the programmed floor area.

This notion of defending a place in the city hierarchy is coming to the mind even more after considering not only the spatial context of the city but also the context in time.

Firey writes that the Boston Common "has become the locale of historic events that pertain to early nationhood, civic origins, family genealogies, and the like" 9. Simmel points out that a place can well function as a symbol for time, because you can sense a place directly, where as time is known only by means of words and concepts. 10 Our plaza has not yet developed much of this kind of meaningful history. Ten years
ago it has been an old somewhat deteriorated and dense wholesaling business area with some bars and a few shops and restaurants. Some old people may still remember and love this past. The younger people, however, may see perhaps the plaza as a symbol for the center of the City where the decisions are made. They probably have an image in their mind which is derived from some historic stereotypes as discussed earlier. I think this symbolic image may be an important function of our plaza and we shall check by interview technique whether this hypothesis is valid.

At a lower level we would use the window patterns of the buildings as a sign which evokes the association of "office use" in our mind. The non-diversity of age of buildings would mean that there has been some strong financial power which was able to destroy old buildings and build new ones. This meaning probably has the effect of excluding certain groups of people who feel themselves suppressed by such "financial power". The high-rise towers nearby can be read as symbols of that kind of power, too.

The dominance of City Hall, the openness of the plaza, the large size and the hard surface of its floor may carry the meaning that it is not a friendly relaxing place, but a more official, parade kind of place, where people gather at serious political events. The materials are hard and durable, that may mean that the plaza would last for a long time to come. It may perhaps develop the kind of meaning which Firey has noticed in the case of Boston Common during that time.

This kind of symbolism is noticeable on a next lower level, too. The entrances into the buildings are expensive and durable, the concrete
benches will last "for ever" (compared with movable chairs), their positioning suggests a kind of "formal" behavior, you either look to the Kennedy Building or to City Hall, all other directions are not represented. The ledges of flower beds are of high quality natural stone, so are the steps. The lights are either embedded into thick concrete cylinders or stand on stable concrete stands (see photo 4). The three flag poles are a sign for a politically significant place. The huge dimensions of the inner space of the City Hall lobby express this "significance", too. Even the design of the water fountain express power opposed to grace or humor. The general impression reflects sincerity and power, a sense of humor and joy is missing, except for the golden tea kettle (see photo 3). The implicit signs of our plaza are likely to function as a barrier to people who have no or not much share in financial or political power.

To cut down the barriers of implicit symbolism, I suggest introducing activities and facilities which carry meanings different from financial and political power, such as suggested in the discussions above, as games, restaurants, sitting on chairs under sun umbrellas, more trees, more grass, opening up views into the subway and on the roofs, and a powerful information center. A very obvious improvement would be to transfer the Haymarket onto our plaza when the area where it is located presently will be redeveloped. A very careful study, however, would be necessary which would have to test whether this kind of activity could at all survive on such a new place. 11

Some change would probably be effected by introducing activities at certain territories where different people can do and act upon things,
i.e. children play in sand, mud, or with water, teenagers drive their bikes, other people do painting, sculpturing or even build things. Other activities as festivals, demonstrations, happenings, theatre and concerts I think would also absorb the symbolic barriers of power. Again a careful study is needed on how and where to introduce those things in order to minimize possible conflicts.

Summarizing, the plaza as represented in my own mind offers opportunities for intrapersonal and interpersonal communication and we shall have to compare the settings in respect to their quality by systematic observation. It also offers several generous areas for communication between senders and large groups. "Societal" communication by means of explicit symbolic systems are poor, an extensive information center would increase the numbers and kinds of people attracted and the educational value of the plaza. The implicit symbols indicate financial and political power erecting psychological barriers for people who do not share money and power in this society. My hypothesis is that such barriers could be absorbed by introducing ordinary activities involving many and different kinds of people. This hypothesis will also be tested by further observations.

Footnotes

1 Reusch and Kees (1956), p. 5.

2 Gerhard Kallmann in an interview to be reported later still believed 9 feet are ideal for conversation, but I have observed several times two people sitting on a bench, a third sitting or standing directly in front of them rather than sitting on the bench 9 feet apart.

3 Edward Hall (1959) lists 10 Primary Communication Systems constituting our culture. See especially p. 61.
I have watched for several years how people move the chairs in the central part in Stuttgart. Robert Sommer reported on controlled experiments with chairs in a lecture in Mary Potter's class at M.I.T. in Spring 1970 which support this hypothesis of choice.

Kevin Lynch (1963) discusses the issue of social contact in public open spaces in more detail and in a general normative way in "Openness of Open Space", see especially pp. 16-18.

The report is presently studied by the BRA and HUD and hopefully will be published later. MIT Press probably will publish a book based on the report.

Kevin White, Mayor of Boston, said at the opening of City Hall: "... that the people must feel that City Hall is always responsive to them and that it continuously encourages their involvement in city government."

The concept "meaning" has many meanings, discussed to a great extent in Osgood, Suci, Tannenbaum (1957), pp. 2-10. I use it here in a "mentalistic view" as stated in their book on p. 4: "Something which is not the significate becomes a sign of that significate if it gives rise to the idea or thought of that significate."

Firey (1957) in chapter IV, p. 136-169, discusses the non-economical but rather symbolic value of the Boston Common. Quoted remark is found on p. 139.

Simmel (1923): "Für die Erinnerung entfaltet der Ort, weil er das sinnlich Anschaulichere ist, gewöhnlich eine stärkere assoziative Kraft als die Zeit."

The Haymarket depends on cheap rents for the shelter in the old buildings and on short distance to the wholesale market. The wholesale market will be relocated very soon according to the BRA prediction. This would be a serious event to both the local retail men and the public. The retail men, because they lose their jobs, the public because it loses a rare and exciting activity where people of all classes and ages meet and get excellent food for low prices. A gradual shift of the haymarket to the plaze, on the other wide, may be possible for at least some of the retail men, for those who are independent on shelter and nearby wholesale. It may change it's character, but not necessarily all it's qualities.
"BOSTON CITY HALL"
cast in concrete

Small signs along the
South edge of the Plaza

"JOHN FITZGERALD"
KENNEDY
FEDERAL BUILDING"
in metal
"Government Center" Subway Station

"T" the symbol for the Subway Station

Signs in the North End area, and light used for Sitting
The four studies above represent my own knowledge of the plaza and its interaction with people by means of cursory observation, introspection, and empathy. This knowledge will now be supplemented by knowledge other people have about the plaza and its people. Gerhard Kallmann is the senior architect of the City Hall and its plaza; he, McKinnell and Knowles got the first prize in the nationwide competition for this project. Although the idea to have a plaza at all has been established by a group around Kevin Lynch and John Myer long before, he is responsible to a great extent for the details of the plaza.

Before the interview I had written some questions to Gerhard Kallmann which were concerned with the purpose of the plaza, with the kind of people and activities he had envisaged when designing the plaza, and with who he thinks had initiated the plaza. During the interview I did not talk much in order to have him talk on what he thought is important and in order not to disturb his own order he chose to discuss things.

He first concentrated on procedural and technical difficulties during the design process. He described his fight for more trees and seasonal flower beds with automatic watering. (Gropius didn't like the trees in front of the Federal Building.) He talked about the question of whether to have bricks or grass on the floor surfaces. He decided that bricks are better because protest and parade activities would destroy the grass. The main purpose of the plaza in his view is to have people
walking through. Both I. M. Pei and Gropius had suggested to have more trees (though not in front of the Federal Building) and I. M. Pei also had liked more grass. They, as well as the architects, seemed to have decided these things without much input from the citizens or from their representatives. We will later see what the people think about those questions.

Gerhard Kallmann then discussed the territories of our plaza, and I'll report what he said in his own order, assuming that the order perhaps reveals some sense of priority (see also sketch 15).

1) He hopes people will sit in the courtyard of City Hall, he provided a bench around the main skylight (one can however not look down). He hopes that flower pots would improve the atmosphere of the place.

2) The central plaza ought to be empty and free for demonstrations and parades, he feels it is too much open, he would liked to have moved the surrounding buildings further in, but the size had been established by I. M. Pei earlier. The bricks are used partly because the plaza is on the foot of Beacon Hill, an old residential area, which is well known for its characteristic brick buildings and brick sidewalks.

3) The upper platform is supposed to provide a pleasant walking territory shaded by trees. Benches are provided for old people. Young people may sit on the steps.

4) Along Sear's Crescent Building he envisages an old European like scene with street cafeterias, chairs, sun umbrellas, and dense pedestrian activity.
5) The entrance on the low level of City Hall ought to serve as a place for theater and similar happenings, the steps serving as seats for watchers. Many more people would use this entrance after the parking facilities behind the Federal Building have been completed.

6) The fountain is at a lower level, because the architects had hoped they could have two underground restaurants which would connect directly with the water-garden. Unfortunately they could not find anybody willing to run those restaurants.

7) The subway lines are at some parts immediately under the plaza surface, therefore the level had to be arranged in certain ways to meet this constraint. In arranging the steps he had in mind the plaza in Sienna: bricks, radials, and slope.

8) The links to surrounding areas are paved with bricks to demonstrate the "connectedness". Mainly Dock Square seems important to him as an element of the plaza. The linkage is a bridge across the car traffic, it is presently in working drawing stage, it will eventually increase the accessibility to and from the waterfront.

Gerhard Kallmann then talked about how activities could be introduced into the plaza. His general idea is to have the central plaza empty and to reinforce the periphery by "clusters" of things.

He talked about public toilets he could not succeed to introduce, about exhibitions of paintings in between the trees, bookstores, newspaper and ice cream stands. These things were suggested to him by the BRA, but he agrees to them only if they are "clustered" at the periphery. It seems important to him that not single objects stand around, as for
instance a glassbox serving as subway station, as suggested by the BRA originally. He insisted that this station be modelled out of the material of the floor, that is bricks, and he succeeded.

Then he suddenly said: "You asked me a very funny question" about what kinds of people would use the plaza. He said that there is a big confusion among contemporary architects in that they insist that there should be activity on and in the spaces they build. But he is not really interested in that. Even if the plaza would be empty for twenty years he would not worry. He mentioned a famous plaza in Rome which is "great" although it is not used, except by some tourists. There are shifts in attitudes in history towards places. The actual use cannot be predicted therefore. He had designed the plaza as an empty place with not much fixed "furniture" in order that it can be used in many different ways, ways which we cannot foresee. "Can we not have an empty ballroom?" he asked.

It has been suggested that works of art (Wayne Andersen of M.I.T. has been the driving force) should be posted on the plaza. Gerhard Kallmann rejects the idea, because modern sculptures are only esthetic products. In former times sculptures have been symbols which reminded people on historic actions or important public men. The meaning of such symbols were known to people, whereas modern sculptures do not transfer messages to people (except esthetic messages to an "elite" of people). He, however, does not object to any kinds of art activities as "happenings" or concerts.
The interview supports my notion that there is a normative image, in this case derived from Siena, which leads to the brick plaza, divided into radial sections, empty in the center, with activities reinforcing the periphery. It reveals that the plaza is built as a monument to last for a long time to come and that the use aspect in present days doesn't have a high priority, it is therefore consistent that the details of the plaza have been planned by "great" architects without considering too much what today's people's norms are. Nevertheless, people have been mentioned, even if only implicitly sometimes: "the foot of Beacon Hill", "the benches for the old, the steps for the young", "the people sitting in the courtyard", "people in the area along Sears Crescent", "the toilets because people need them", "demonstrations and protest", "the plaza to walk through", "people eating in the restaurants at the fountain level", etc., but in all these cases the people have been a kind of element in the plaza like the fountain or the subway, not specific people of downtown Boston with their specific images and norms are of interest to him, because the plaza lasts much longer than they do, and they change in such long times considerably.

From this interview I have learned that the architects were not much interested in whether all the different kinds of the present time people would like the plaza or not. How they would use the plaza has been - to a great extent - left open, because people in future would want to use it in ways we cannot foresee. The result is the "empty plaza". However, I feel, that this empty plaza does not guarantee the freedom to use it in all the ways each generation might want to use it. To
better adapt it to present time people's norms may well make it easier for future generations to use it the ways they want.
Territories mentioned by G. Kallmann and their order
Charles Hilgenhurst is the administrator for planning, urban design, and advanced projects of the Boston Redevelopment Authority. He is involved in the redevelopment of the former Scolley Square area since 1962. He presently works on a book on "The Evolution of the Government Center," which will be published in about one year.

I asked him who originally decided to have a plaza and what functions it had to serve at that early time of the planning process. He said that the group around Kevin Lynch and Jack Myer first suggested a plaza as the focal point of the redevelopment project (part of their design is shown in sketch 7). Because of the increasing development of high office towers, it was felt that there is a need for open space. Private developers could not afford to spend their money on such open spaces. Therefore public initiative was suggested by the planners.

Later I. M. Pei was asked to further develop and extend the project. He increased the size of the plaza and envisaged City Hall as the dominant building, surrounded by the plaza. As the size of City Hall is relatively small and as it is not located on a topologically impressive place - as for instance the top of Beacon Hill would be - I. M. Pei felt that the symbolic importance in the city hierarchy could be expressed by a large open space.

I asked Charles Hilgenhurst whether at that time a social program for the plaza existed. He said that no details were discussed at that
time. The plaza was supposed to serve for formal ceremonies. I. M. Pei's plan, as well as the previous design, showed quite a lot of trees. But the focus of discussion had been City Hall, not the plaza. That was still so for a long time following the competition for a new City Hall. The plaza now had changed to a brick-paved large place which was definitely different from both the Boston Common and the Public Gardens. No program for the details was worked out, no details were indicated in the winning competition design except the radials.

Only after the main problems with the building of City Hall were solved the BRA and the architects started to discuss a program. It was agreed that the main purpose of the plaza ought to be to serve as space to experience by walking through and as a place for public gatherings, festivals, celebrations, cultural events, etc.

Charles Hilgenhurst said that Gerhard Kallmann would not allow dividing the space into several small ones, each with a distinct function. But along the periphery they agreed to introduce into the design some places with different functions as for instance the fountain.

The trees along the Federal Building and the benches there, were added to give people opportunities to sit. Walter Gropius insisted that some of the trees were left out in order to be able to see the subway station from the entrance of the low part of the Federal Building.

The fountain was supposed to create some special micro-climate at a low level, with its sounds and its coolness, away from the car traffic.

Along Sear's Crescent the planners envisaged open air dining. It will hopefully happen next summer!
The subway station was a point of long discussion. It finally got its present shape and is considered as a successful place to sit down and "watch girls".

As Charles Hilgenhurst didn't mention the less successful territories, I asked him what they had planned the courtyard for. He admitted that it is not very useful at this moment. The big light shafts do not allow good use of a great part of the area, and they are not even functioning well for lighting the space below. Another part of the area is used up for ramps and steps. There are neither benches nor chairs. A few flower pots have recently been put into the area (see photo 33). But there is no real reason for people to climb up to the rather high levels of that courtyard. Perhaps, he suggested, some sculptures could improve the situation.

Another place not used is the platform 6 (in sketch 5). He also suggested that a sculpture or "some other attraction" should make the place better. The BRA at one time even was thinking of building a bridge over New Congress Street at that point.

When I asked Charles Hilgenhurst why the north wing of the plaza was paved with bricks and not left "natural" he said that that area belongs to the whole plaza and the architects would not allow, as said before, to cut off parts of it. The architects were asked to design an open air amphitheater around the north entrance, but they finally felt that even that would not fit into the aesthetic order of the radials and non-curved lines.
The BRA and the architects felt that the place should not be designed for any special programs, because the society changes and it ought to have the opportunity to change the plaza easily for their own purposes at any time.

I asked him who would be responsible for enacting any changes. He answered any citizen can make suggestions. The BRA in connection with Gerhard Kallmann and Mr. Forgion, the assistant commissioner of the Real Property Board, would discuss those suggestions and, if found valuable, implement them. He presently plans to plant more trees along the Federal Building, Cambridge Street, and the Sear's Crescent Building, the BRA and the architects also have plans for Pemberton Square and Dock Square which are considered to be part of the plaza.

There is also an office in the Mayor's department which is responsible for a city-wide summer program, including symphony concerts on the plaza, etc. The person in charge of that office is Kathy Kane.

Mr. Forgion, the assistant commissioner, is responsible for the time schedule of events on the plaza, and for keeping it in order and clean.

Finally, I asked him whether he agrees with Gerhard Kallman's notion of the empty plaza used mainly for walking, celebrating, demonstrating, etc. He did agree, because the Boston Common and the Public Gardens are nearby, they would serve the needs which such a hard surface place could not satisfy. However, he is open to discussing any suggestions for change.
An Artist's Representation of the Plaza

Otto Piene is not a frequent visitor, but he has had one intensive perception of our plaza when he initiated the first art happening on it - at the opening of City Hall. As this happened about a year ago, his image probably consists mainly of things which are important to him, because less important elements have been filtered out by time.

When he drew a map of the plaza (see sketch 16) he put the following elements down in this order:

1) City Hall
2) The brick basement elements of City Hall (note exaggerated size).
3) A path leading to City Hall (the plaza's paving had not yet been completed entirely when City Hall opened).
4) The area he worked in when implementing his happening (of course important to him).
5) The fountain area with a lot of terraces; he said that it is probably a good thing to have a fountain, but it is too much "geometric" ("stereometrisiert," the interview was in German).
6) Concrete ledge elements, in which the "only" trees on the plaza grow, "orderly" tied down with wires.
7) Terrace landscape leading down towards the Northend.
8) Service entrance of City Hall (he didn't know that it is a public entrance).
9) Sidewalk on low level along New Congress Street.
In a second map (I asked him to draw a map of the environment around the plaza) he added some more elements and started to talk about his normative representation of the plaza. I shall simply report in sequence the elements of his second sketch (no. 17).

City Hall.

Fountain area.

Tree area.

Terrace landscape.

Federal Building, high part, then low part.

Parking facility and police station.

Curved street between parking facility and the Federal Building.

Street leading from Haymarket Square to the Expressway.

He puts more ink to City Hall.

Buildings "which are old" (he meant Sear's Crescent).

"The Great Avenue" (he meant Cambridge Street).

He puts in the arrows and draws the intersection there.

Two buildings next to the police station, he knows them as "old post office" and "Television Station".

He puts more ink to parking facility, says that Paul Rudolph's state service center is there around and that it is really bad architecture.

Then he draws what he calls a "fashistic building" (Center Plaza Building) which he recalls being built in "Münster sandstone and red bricks".

He wonders whether it is curves and finally decides it is convex.

He doesn't know where the highrise towers are, "because one sees them in ever changing perspective from far away".
Two paths leading to City Hall.
The subway station as a "consciously formed architectural thing" (in a negative meaning).
He changes Sear's Crescent Building into a concave form, puts more ink on (fascinating that twice he confuses convex and concave).
He extends water and tree areas.
Puts in lights (dots).
Sidewalk along the "fashistic building".
Says that there are benches and pots for plants.
He then discusses what he thinks about the plaza:

City Hall is a "castle type" thing with "defense-character" in "style" as well as in "technical appearance." It reminds him of military installations, it is like a "hidden rocket-ramp", and it does not express the democratic spirit of the city administration, but rather the idea that it is "under continuous attack from its citizens".

He said that the various levels of the plaza indicate that the architect followed the fashion of the "level-time" in the 1960's.

He feels that the architect wanted to erect a monument for himself rather than to serve the public.

The atmosphere is unfriendly and ugly. All signs of life are cut off, all earth is covered by bricks, only a few trees are there and they stand in rather unnatural military lines. "Urbanity is seen by Americans as a fight against nature." The emptiness and the large dimensions of pavement remind him of fashism in Italy and Germany (he mentioned Speer, Hitler's architect). He also sees some line in architecture which goes
back to le Corbusier, fighting the idea of Mies van der Rohe.

I then asked him how one could change the place in order to make it better. He first said, it's not worth changing, one would have to do away with several buildings (the parking facility and the curved Central Plaza Building first), but then his constructive mind seemed to overcome his disappointment. He listed nine suggestions:

1) Ask an artist to give the place at night Gestalt by redesigning the lighting.

2) Bring in small business and restaurants (pointed along the plaza side of Cambridge Street and the Federal Building). Perhaps move the Haymarket into the plaza! Infrared heating would make possible to sell hot corn, etc., even in winter!

3) Redesign the subway station in order to bring more people into the plaza. (I am not sure whether this cause-effect relation is valid.)

4) Add benches and tables to serve people who play cards and spend part of their day there as they do in popular parks.

5) Do something for children.

6) The fountain area - "probably the only positive thing presently" - could be redesigned by a real artist who can make full use of the possibilities of water.

7) Plant more trees, but not in geometrical lines and orders.

8) Take away parts of the pavement, replace it by planting. All vertical brick-parts of City Hall ought to be covered by plants in order to decrease the symbolism of power ("Einschüchterung") those plants should even grow into the plaza.
9) Finally, initiate events, happenings and actions of all kinds at least twice a week: theater on the steps, concerts, sky events (he initiated the first last year), art events, ecology events, art exhibitions (temporarily only!), etc.

Asked whether he would suggest putting sculptures onto the plaza he said "no", only if one could afford to get a large number of sculptures he would suggest installing an art-garden either in between the trees or on the high platforms of City Hall (brick-bases). But he could imagine designing one large "Windspiel", a game, the wind would play, spanning over the entire plaza - here he is of course in his own medium, I am sure he would overrule the existing symbolism of power with his own symbolism, light, friendly and flexible artifacts, etc.

Otto Piene's image includes the main elements found in the earlier studies. His context image does not reach very far into the city. The shapes of the elements are often somewhat distorted. His negative feelings about the plaza are probably not shared by the majority of people. He is extremely sensitive for the implicit symbolism of the place.
Sketch 16

by Otto Piene,
representing his image of the plaza
Sketch 17

by Otto Piene,
representing his image of the surroundings of the plaza
Empathy Study and Test with a Two-and-a-Half Year Old Child

The plaza is not for children, it seems to me, but considering that the Northend as well as Beacon Hill nearby are residential areas with a lot of children in the first case and with at least some young children in the second, the plaza could serve them as one of several places for playing and learning. Also the hundreds of secretaries who work nearby in the office-blocks could bring their children along, and they could meet them during lunch hour if only there would be a place and some personnel for children.

Let us first empathize how a two-and-a-half year old child would react to the plaza, then test the hypotheses arrived at by observing my son's behavior on the plaza, and finally draw some conclusions.

Empathy Study:

The most attractive place for a child is probably the fountain territory, moving and sprinkling water is fun, as a child I would like to go down into the low levels, I would then be frustrated by the high ledge which separates me from the water, I would try to climb up and if I wouldn't succeed ask for help. I would first like to touch and play with the water, but then I would wish to go into it and especially find out about the steps the water runs over. I would like to stay in the fountain territory, but if I would be forced to leave I would be interested in the doors of whatever building is nearby, because one can move it,
open it, and do things with it. On the way, I would do some research on the big concrete cylinders standing around and discover some interesting recess where light comes out at night, unfortunately they are too big to climb up. Any flowers in the grass I would pay attention to, if I could find them. In the beginning the vast brick floor would suggest to me to run away from my parents, because I can still see them even far away. If I would find pigeons or other animals on the plaza I would try to catch them. I would like to feed them, too. But soon I would like to leave. At home I would forget the plaza soon, except the fountain, especially if I had been in it. But the open bus at M.I.T. or the boats at the sailing pavilion at Charles River I would remember, because there I "need" to go again.

The Test:

When Janosch, my two-and-a-half year old son, entered the plaza from the subway station together with his mother and grandmother, he first saw me sitting at the flag poles, after exciting greetings he immediately switched attention to a small red truck which moved with quite a lot of noise through the plaza, he ran towards and then behind it and while sitting on the steps asked again and again where the truck could be found again, it appeared and disappeared again several times. But once in between he suddenly noticed the fountain, he immediately ran towards it, but the truck appeared again and took all his attention. When it disappeared he imitated driving it while sitting on the steps near the MBTA station. He also discovered the flags and a man who sold ice cream from a yellow box on bicycle wheels.
Finally he decided to search for the truck and by walking through the plaza the water caught his attention once more, this time he ran towards it (see photo 23), and asked us to join him while going down the steps to the lower level. With sounds of surprise he immediately asked for help to climb up to the ledge, he wanted to touch the water, but unfortunately he could not reach it, the water level was too far below the top of the ledge. He asked whether "men" could swim in there. He then gets up and walks on the ledge and tries to climb up the ramp part of it. He mentions the cold wind. He now desires to swim in the water (but it is too cold, his mother did not allow him to go in). A guard came along asking us not to stand on the ledge! Janosch again wants to swim.

I suggested going to the higher level of the fountain near the Federal Building, because here he can reach the water level with his hand. He agrees and repeats in words our action, moving up the stairs. Once up there he now plays with water, he is lying on the ledge in order to easily reach the water. He is most impressed by some foam, he touches the water with one hand, then the other, then both, he touches his face with his wet hands and discusses all the events in detail and repeatedly (see photo 24). He beats the water and transfers water to the ledge. He discovers the brick bottom and discusses his discovery.

He eventually sees the sculpture (although in shade) and notices that it looks like a turtle (he saw one in the Aquarium the other day), he then returns to the water. He says he should have brought his boat (a toy) which he uses to play with during his bath.
When we decided to leave the water (it was really too cold) he asks to walk on the ledge in order to be bigger. He says the litter box is a house. He now pretends to drive a motor boat sitting on the corner benches of the fountain. He wants to do away with his shoes, because the stone is nice and warm. He then drives an imaginary truck again. He climbs up a ledge to the level where he finds the earth for a tree. He plays with the wooden pieces which lie around on the earth, breaks them into pieces, throws them away, etc.

We had difficulties convincing him to leave and look for grandmother who was still sitting on the sunny and warm brick bench at the flag poles. He asks for an ice, he gets a coin and buys it himself. He climbs up to the benches, sits next to grandmother and becomes tired.

The next day he remembered having touched the water and discovered some foam on its surface. Later there were no more comments on the plaza visit.

Conclusions:

1) Empathy is a method which can be used to learn about behavior of other people or living beings¹, but a representation derived by empathy is poor and not correct in detail compared with the actually observed behavior. An empathy study followed by observation of actual behavior, however, seems to alert attention to the behavior under study more than observation without previous empathy, because there is curiosity whether it is valid or not.
2) The plaza seems to be of value to a child in two ways. Firstly it offers intense sensuous stimuli - as the truck driving through the plaza producing noise and smoke, the water with all its outstanding sensuous qualities, the ice cream stand, and to a minor extent the flags and the sculpture. Secondly, it offers opportunities to act - as driving the truck, touching and swimming in the water, climbing up ledges, playing in the earth with wooden pieces, etc.

3) The test with a two-and-a-half year old child is very easy, because he talks all the time about his perceptions and actions. ²

Footnotes

¹ One student in Lynch's class (M.I.T. 1970) described the behavior of a dog imagined by him. Lynch even suggested putting oneself into the role of a building during design and problem solving.

² Piaget has first theorized that thinking is internalized talking. The process of internalizing speech starts in early childhood after the child is able to talk (at about age 2).
Janosch running in the Plaza

Janosch fascinated by foam

The Fountain a sensuous attraction
In order to find out what elements are represented in an average user's mind, I have interviewed a young employee in City Hall using an interview format suggested by Kevin Lynch. The first interview was conducted early in spring 1970, the representation of the plaza was, I thought, poor, I therefore conducted a second interview on a warm summer day. My hypothesis was that the second interview would reveal a richer representation because the plaza has become much "more lively" in the summer days.

Let me first represent the first interview. I asked the girl to draw a map of the plaza. Sketch 18 (top) represents the result. She started with the curved Center Plaza Building, then added Cambridge Street (not curved), then surrounded the plaza as a square and integrated seven more elements into the sketch: City Hall, MBTA, Kennedy Building, Sear's Crescent, a dark line indicating a building she didn't remember well, one of the high-rise private office blocks, and the state office block.

I then asked the girl to draw a sketch of the plaza; she said she wouldn't know how to do this, but finally she produced sketch 19 and made the following comments while drawing: "Two large windows of the council chamber of City Hall, a concrete sign saying City Hall, underneath concrete pillars, a fire escape in bricks" (I always thought it was the
place from which the mayor would speak to the public!), "a ramp" (indicated by the lines at the left), "the pillars symbolize that the City Hall is lifted up above the water of the sea, many steps lead to the entrance doors, more steps and another ramp" (indicated by horizontals at the right and by the arrow), "a frame around City Hall" (she didn't know where to put it, didn't draw it), "more windows of the council offices sticking out somehow" (put down the three windows to the left), "wonder whether building is higher" (didn't decide it), "the staircase is made of red bricks" (she drew the brick texture), "at the top it becomes wider, the detail is nice, the bricks just step out like stairs, but the other way around."

It is very remarkable that she didn't draw the plaza but the most outstanding element on it: City Hall, because the plaza is really empty, only City Hall is in it according to her image. Because she is not very good in drawing she put down only the most important elements: windows, the label "City Hall", columns, some brick structure, steps, the doors, ramps.

The third question was to draw a map of the plaza in it's city context: Sketch 20 was the result, which I thought included quite a rich variety of elements. The first map therefore has not been poor because of the lack of capacity to produce a map, but rather because of lack of imageable elements in the plaza.

In order to lead the reader through the sketch, I'll repeat the order she drew the elements, and her comments in abbreviated form:

square - Cambridge Street - City Hall - New Congress Street - Old Statehouse -
State Street - moves Old Statehouse further up, because of "scale" - Congress and Washington Streets "include the business district with all the department stores" - Tremont Street - The Common - Beacon Hill and Statehouse - "there are slopes down to the Plaza" (didn't draw them) - Cambridge Street - "Charles Street should go down, sort of this one" (didn't draw it) - Courthouse - Pemberton Square - Kennedy Building - North Station, "the distance is longer" - "Northend is over in this direction" (draws arrow) - Union Street - New Congress Street (extension at the right) - "Union Street is an old street, there are tunnels leading under the water to the east port, a bridge also leads to this island."

"There are banks and business buildings," (draws circle at the left) - "The Public Gardens are only a little walk way behind the Common" (see left high-up corner) - State Office Building - parking garage "is in construction or perhaps finished by now, there is also the State Service Center" (circled the little square next to the garage) - "these things aren't as close as drawn here, I have a scale problem" - Aquarium (circle at bottom, left) - harbor - Atlantic Avenue - "there are wharves, where one drinks tea, the Rose Wharf, but I am not familiar with them, some are taken down" - "the expressway overhead is a confusing thing" (see the very thin line above Atlantic Avenue).

Because she did the sketch rather quickly, I missed noting when she put in Faneuil Hall, Quincy Market, Court Street, Sear's Crescent, and the black line next to it. The sketch represents almost all the elements I have mentioned in the studies of accessibility and the visual elements, even some more (Quincy Hall, Congress Street, and the Public Gardens).
The main structure of her image seems to be provided by the "paths," into it she integrated "landmarks" and "districts" (the line between the harbor and the land may be considered as a "borderline")\(^2\). This observation may fit into the notion that the image of our plaza in its city context is constructed by moving through rather than overlooking it from a high standpoint. It might be an interesting research project to test whether people overlooking a city would structure their images around districts or landmarks, rather than around paths.

I then asked the girl what she knew about the past of our plaza, she only knew that the plaza didn't exist six years ago, she had only "slight recollections," but didn't remember what they were.

When asked about future changes on the plaza, she inferred from the "big hole next to the courthouse" that something is going up there. She also knew about the pedestrian mall leading from the plaza over the New Congress Street to Dock Square and further down to the waterfront. She finally said something about a plan for a new "State Service Building."

When I asked her how she uses the place she said it is too cold and windy to walk around it, she daily walks from the subway station to City Hall and occasionally passes by along Cambridge Street on her way to a cinema. She does not live nearby.

Nevertheless she said that she likes the plaza, "it adds to the government center idea". In summer she might sit on it, on the steps, she feels secure on the place, nobody would hit her, at night the plaza is well lighted. City Hall provides most of the light at night. She also likes the way the buildings are arranged and the way the subway station relates to City Hall, she again mentioned the ramps.\(^3\)
When I finally asked her what she would do if she had the authority and the money to change the plaza, she said that the plaza is complete and it functions well, changes are more needed in other areas of the city.

The second interview was conducted in the end of May on a warm day at the low level of the fountain where one could not see the plaza. Asked to draw a map of the plaza she this time started drawing the City Hall on the top of the sheet, then defined the plaza, not with a surrounding line, but with the elements in and around the plaza! The elements were put down in this order: line on the bottom indicating Cambridge Street, MBTA station, steps at the left of City Hall, the Federal Building differentiated in high and low part, the fountain (as a square!), curved line of Sear’s Crescent, more steps at MBTA station and next to City Hall, an air intake near the flagpoles (she mentioned "flagpoles"), benches and trees (see sketch 18, bottom).

Asked whether she would like to mention any more details, she drew the four lights in the middle and one light on a stand near the trees, she then talked about the rails and drew one at the steps near the subway station.

Compared with the map produced in early spring, she now represented a much richer plaza. It includes the fountain, the flagpole territory, the benches with the trees along the Federal Building, the lights and the hand rails at the steps. Because she could use the plaza on sunny days also for sitting and eating her lunch, and not just for walking from the subway to City Hall, she has acquired a richer image of the plaza. If the order she put the elements down reveals the rank of importance of
them, we can see that my own image discussed in study 3 is not far out of hers, except that the traffic flow on Cambridge Street has not been as important in my image as in hers, and that the brick surface on the floor was not mentioned by her.

I then asked her what she likes best in the plaza and what, in her opinion, is bad. She first answered the second part of the question and noted two things: the bad drainage system - water stays on the surface and freezes in winter (see photo 28) - and the large amount of steps one has to climb up coming from the Northend (see photos 5 to 7).

The good things are, in her image, that people gather in the plaza, for instance to listen to the Friday noon concerts, that you can walk through so conveniently, that the buildings look good, and that the way they are arranged is very satisfactory. The very best thing is that one can sit in the sunshine during lunch hour. When I asked her what she would change, she thought a long time about the question and finally concluded that "one should not change anything, because one couldn't, the way it is set up."

The result of this study, though it is not surprising at all, demonstrates clearly that the plaza's value to people may change from the cold to the warm season. It seems, therefore, to be worth including it in this thesis as a case study of a typical user's representation.

In order to generalize some of the results of this and the four previous case studies, however, we will have to conduct some survey studies which concentrate our efforts to a few important issues only, but which reflect the representations of a sample of all the people involved.
All the previous studies revealed the qualitative issues, the following studies shall add the dimension of quantitative research.

Footnotes

1. The interview format was part of a suggested term project in his course "Urban Landscape" at M.I.T. in Spring 1970.

2. These are some of the key elements Lynch (1960) discovered in people's city-images.

3. In the meantime the architects have received an award for having provided ramps in addition to the steps and stairs around City Hall.
Her first sketch in early spring

Her second sketch in early summer

Sketch 18
Maps done by an average user in spring and summer
Sketch 19
by an average user,
representing her image
of the plaza
Pedestrian Flow and Sitting Behavior
A systematic Survey.

The analysis of the qualities of the plaza in relation to people by means of introspection, cursory observation, and empathy, as well as the five case studies of different people's representations of the plaza have been useful to learn about it's qualities and it's opportunities for future change. We now will describe some more systematic survey studies of samples of all the people using the plaza.

To learn about the main movement patterns on the plaza three methods were tested. The first method was to take photographs of the plaza after a snow storm from a nearby 41-story high building (marked with x on sketch 9). The assumption was that the footprints accumulating at those areas where people walk would reflect not only the locations of movement but also the intensity.

In general sketch 3 was confirmed by the photographs, however, two disturbing factors have to be noted: there is an automatic heating system in the floor areas around the south entrance of City Hall, and some paths were plowed artificially. Those paths are naturally used by people who would, without them, perhaps have chosen different ways. The paths, moreover, were only plowed where no steps would disturb the smooth running of the plowing machines. On the other hand, one can assume that the paths were plowed where people, at least approximately, would need them.
The photographs 26 and 29 show, in a convincing way, that most of
the movement goes on around the subway station with relatively heavy
movement along Cambridge Street and with a concentration of that movement
around the Tea Kettle corner. A heavy stream leads from that corner and
the subway to City Hall. Another heavy stream is noticeable along the
Federal Building. There is not much movement in the area with the steps
between the path along the Federal Building and City Hall.

The second method was tested to find out about the time cycle of the
movement. A film was made (by Bob Rowan and myself) which shows in about
three minutes the movement of a whole day. Every 10 seconds one frame was
shot from the 40th floor of the tower mentioned before. After one gets
used to the strange quick flickering in the film, one can easily recognize
where and when movement increases and diminishes during a day. To infer
number, sex, and age of the people, however, one would have to do a frame
by frame analysis of sample sections of the film, and such an analysis
would consume much more time than the traditional counting technique in
the field. The latter therefore was applied as a third method to learn
about movement in the plaza.

The counts were taken at about one hour intervals during a whole day
(Thursday, May 28, 1970, sunny, fairly warm, windy). Each count lasted
for exactly five minutes. The counts were taken in sequence at the
following access points:

1) Entrance from the Northend between City Hall and the Federal
   Building (in figures indicated with 'N' for Northend).
2) Entrance from Cambridge Street (C).
3) Entrance from Tremont Street (T).
4) Entrance from the subway station (S).
5) Entrance from Faneuil Hall (F).

Between those counts of entering people, we also counted the people sitting at the four most preferred sitting settings: subway station (photo 31), flag poles (photo 30), fountain (photo 25), and the benches (photo 7). Only those four settings were studied because, on all the others, almost nobody was ever sitting down.

Sitting and entering people were differentiated in male and female and in age groups of 0-20, 20-30, 30-50, and 50 years and older, except at times when too many people were entering, so that a differentiation was not possible, as during the morning rush hour at the subway entrance. At the other locations at least male and female differentiation was possible. It was also noted whether people were sitting alone or in groups of two or more.

The approximate number of people entering at a working day can be calculated by multiplying the counted total by twelve (the 5 minute count period is 1/12 of an hour, the counts were taken every hour). It can be assumed that the same amount of people will leave the plaza during the day. This number is approximately:

25,000 people entering the plaza

62.2% of them are men

and 37.8% are women

The approximate number of people sitting down cannot be calculated from our data because it is difficult to judge how long the counted people
would, on the average, remain seated. But out of all the people sitting in the plaza approximately

58% were men

and 42% women.

Figure 1 shows the distribution of people, men and women, entering the plaza over time. The peaks are at rush hours, at noon when people working nearby enter the plaza to have lunch, and after lunch when people who have eaten in a restaurant outside the plaza return to work. It is interesting to note that during the day about twice as many men enter
the plaza than women. In the late afternoon, however, even more women than men were counted. At the rush hours many people enter the plaza from Cambridge Street and Tremont Street to reach the subway station, most of them are office workers, including many secretaries.

Number of people entering at various access points (5 min. periods counted)

Figure 2

Figure 2 shows the high number of people entering from those two streets after 5 o'clock in order to reach the subway. The peak from the Northend in the morning is due to the Haymarket subway station just across New Congress Street. The peaks after lunch may indicate the large number of people returning from having eaten lunch somewhere around Tremont
Street or the Northend. The morning peak at Cambridge Street indicates that quite a number of people come from the Beacon Hill area to do some business in City Hall or some shopping in the Northend. Also, people who come by car may park around the foot of Beacon Hill rather than in the Northend, and enter the plaza from Cambridge Street. Note that the subway people are not shown in figure 2, but in figure 3.

Number of people entering from the subway
(5 min. periods counted)

The erratic curve indicates that the five minute periods may not be appropriate since arriving trains tend to accumulate a lot of people at certain short time spans. Figure 3 can, however, inform us on the general
trend that many people arrive in the morning and that the inflow of people decreases during the day, but it is not reliable in the short term details. As the subway people are included in figure 1 we suggest that, except for the percentage of men and women, this figure is also only reliable as a general tendency and that figure 2 is more informative on details.

Number of people of various age groups entering the plaza (5 min. periods counted)

Because the age groups could not be noted at the morning rush hour at some places, figure 4 shows the different age groups entering the plaza only between 9:30 a.m. and 4:30 p.m. The prevailing age groups at rush hours are, in any case, people of 20-50 years of age, who work in
the offices nearby. Young people under 20 are not well represented on the plaza. Those between 20 and 30 enter at more equal rates during the day, whereas the middle aged show a peak around lunch time (they can afford to eat in a restaurant). The old arrive in great numbers after their nap around half past two. On the average the age groups entering are represented as follows (in brackets the counted numbers):

- younger than 20: 6.4% (75)
- 20 - 30: 23.5% (276)
- 30 - 50: 43.0% (506)
- older than 50: 27.1% (318)

Figure 5 indicates the age profile at all the access points except the subway. Figure 6 translates that profile into percentages of age.
groups for each access point. It shows clearly that a higher percentage of old people enters from the Northend and at Tremont Street than from any other access point.

Figure 7 shows that sitting behavior peaks during lunch time when all the office staff comes out to eat or to enjoy the sun. Because of the large number of secretaries sitting, men and women are more equally represented than one would infer from the entering people (figure 1). At lunch time there were about 150 people sitting at the various locations.

In figure 8 one can compare the preferences for those places during the day. Fountain and benches are preferred during the first part of lunch time, and the subway has its peak shortly before 2 p.m. The numbers of people counted at the various places during the 10 observation periods may provide a certain preferences indicator. Out of 456 people counted
36.8% were sitting near the fountain (F),
29.4% on the benches under the trees (B),
25.0% at the back of the subway (S), and
8.8% at the flag poles (Fl).

If one, however, considers that in each of those places one counts
a different number of available seats, one could arrive at a different
preference priority list. The number of available seats at the places
were about:

Number of people sitting
at various settings

Figure 8
220 at the fountain
160 at the benches
75 at the subway
45 at the flag poles.

At the peaks around lunch time those seats were occupied to about
59% at the subway, and
27% only at each of the three other settings.

(80 cm have been taken into account for one seat in this calculation.)

Note that near the base of the flag poles no one sat during the morning, perhaps because it is in shade at that time. Similarly, almost no one was counted on the benches late in the afternoon for the same reason. The flag pole ledge and the fountain area, however, are sunny and warm in the evening, and the number of people sitting there at that time is relatively high. The back of the subway station, usually a popular place, had few people then because it was really dirty after so many people had eaten their lunch there. A litter box is badly needed at that location.

Figure 9 shows that the age group of 30-50 doesn't sit as much as their younger colleagues aged 20-30 compared with the numbers of entering people. It also indicates a predominance of middle aged and young people sitting during lunch time. The old, however, are well represented in the late morning and during the whole afternoon, as well as during lunch time. On the average, the age groups sitting in the plaza are represented as follows:
Number of people of various ages sitting on the plaza

![Graph showing age distribution at different times of day]

**Figure 9**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-20</td>
<td>9.6%</td>
</tr>
<tr>
<td>20-30</td>
<td>33.6%</td>
</tr>
<tr>
<td>30-50</td>
<td>29.3%</td>
</tr>
<tr>
<td>Older than 50</td>
<td>27.5%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Figure 10 indicates the age profile of the people sitting at the various territories. Figure 11 translates the data into percentages. The flag poles seem to be the favorite place for the old, also, though to a smaller extent, the benches, as predicted by Gerhard Kallmann. The
fountain is preferred by the young. The subway back is the most diverse place with respect to age groups.
Figure 12 surprisingly shows that, at times when many people are sitting, only half of them sit alone. In the morning and afternoon, however, most people are not in company with others. On the average, slightly more people sat with company than without. The relationships between them at the various territories are almost equal:

- Fountain: \( \frac{95}{77} = 1.23 \)
- Benches: \( \frac{72}{60} = 1.20 \)
- Subway: \( \frac{59}{55} = 1.07 \)
- Flag poles: \( \frac{22}{18} = 1.22 \)

These relationships are inconclusive because we cannot compare them with those of other plazas. We include them here so that future studies of plazas can compare their relationships with ours.

The findings described in the above survey study were partly tested on two other weekdays at selected points in time. One of those days was warmer and not windy, the other one was cooler, windy, and sometimes cloudy. The findings of the tests indicate that on the cooler day the number of people entering the plaza at lunch time was reduced by 30-50%, except for the people entering from the Northend, whose numbers were reduced only slightly. The number of people sitting was reduced by more than 50%, except for the flag pole setting where the reduction was quite small.

On the warmer day, the number of people entering the plaza was only slightly higher, the peak of Cambridge Street at around noon, in fact, was even lower. But the number of people sitting during lunch time was considerably higher: at the fountain by 100%! at the benches by 50%, and
at the flag poles by about 30%. Also, people were sitting longer. The
ledge around the subway station was especially heavily occupied for
several hours. The peak, however, was only 20% higher than shown in
figure 8. Remember that 59% of the available seats had been occupied
by then, whereas the fountain had much more free capacity. The occupancy
at the peaks of the warm day have been approximately as follows:

<table>
<thead>
<tr>
<th>Setting</th>
<th>Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subway</td>
<td>71%</td>
</tr>
<tr>
<td>Fountain</td>
<td>56%</td>
</tr>
<tr>
<td>Benches</td>
<td>40%</td>
</tr>
<tr>
<td>Flag poles</td>
<td>38%</td>
</tr>
</tbody>
</table>

(again, one seat was assumed to be 80 cm long).

It is remarkable that even after more than half of all available seats
were taken people did not sit in the City Hall courtyard, and only very
few were sitting on the steps or leaning against the concrete lamps.

The two tests have shown how walking activity and, to a greater
extent, the sitting behavior is dependent upon weather conditions,
especially at the lunch time peak.

In general the survey has confirmed our hypothesis that most movement
activity occurs around the subway station, it has furthermore revealed
exact numbers of people entering at the various access points, the times
when they enter, and what kinds of people they are in terms of sex and
age.

The survey has also confirmed our hypothesis that certain sitting
settings are preferred, especially the ledge around the subway station,
while others are not used at all, such as the courtyard of City Hall
(photo 33), the territory 6 facing Northend (photo 32), and most of the steps. It has revealed at what times people sit where, which places are preferred by the young and the old, and which age groups are more likely to sit down in the plaza than others.

The survey in addition will provide us with some information on the weight and credibility we ought to attach to the findings of an interview study described in the section following the next.
Patterns of movement around the Subway Station in snow

The roof of City Hall is not accessible

Problems with the drainage system
Patterns of foot trails inprinted in snow

Sitting near the three flagpoles

Sitting on the ledge of the Subway Station
Badly designed setting facing the North End

The Courtyard of City Hall (symbolic barriers)

Earth Day, April 22, in the morning
People gathering in groups and crowds in order to celebrate public events or to protest some decision or to listen to speeches or music have been anticipated by the planners and architects of the plaza. This anticipation has lead to the decision to pave the whole plaza with bricks. In this study I shall describe what kinds of large groups have gathered on the plaza, at what times, where, and for what reasons, during the months of April and May. I shall report on nine of the gatherings.

1) April 22, Earthday, noon. People had several choices on the plaza: tables where they could sign petitions, several stands to buy things like ice cream, buttons, balloons, etc., and a music stage on the first of the City Hall ramps (see little wooden platform on photo 34). As a result people were distributed at several focal points - as one can see on photo 34. Photo 35 shows the stage arrangements with large loudspeakers on the bottom of the ramp and a lot of people sitting on the ledges of the brick bases of City Hall. After about half an hour it started raining. People moved into City Hall and, after many of them were inside, the place lost all of it's stiff atmosphere and it's "symbolic barriers" - as one can see in photo 36.

2) In the afternoon of the same day several speeches were held from the same stage. A sizeable number of students and other concerned citizens gathered. The group was more concentrated (photo 37).
38 shows the informal character of the group and photo 39 shows that people were sitting down on the warm bricks.

3) The next day 100,000 people gathered at the Boston Common to demonstrate against the war. Before that big event, two smaller ones took place on City Hall Plaza. The first occurred in front of the Federal Building (photo 40) and included a Harvard professor who was speaking to a small group of people. He spoke standing on the ledge of a corner of the fountain territory where people could use steps and ledges to sit down (photo 41).

4) The same group later moved to the sidewalk of Cambridge Street (photo 42), where passers-by would either stop to listen or had to walk around the group. This strategy increased the size of the group slightly.

5) On April 5 a different kind of people had a non-left-wing demonstration hosted by Bob Hope. It was much bigger (see photo 43) and more formal. People did not sit down. A concentration of people could be noticed along the steps in front of the subway station. Once again the stage was located on the first ramp of City Hall. Both formal (photo 44) and informal parades (photo 45) were performed.

6) The Bruins celebration attracted by far the largest mass ever seen on the plaza: about 16,000 people. Several stages were distributed on the plaza near the quarter circle of the fountain. The whole plaza except the bench territory, the courtyard, and the area north of City Hall, was used. Cambridge Street was closed for cars. All balconies of City Hall and the roof of the subway were crowded with people. Again there was a concentration along the steps near the subway and around the
fountain. The fountain was crowded with children playing in the water, in spite of the efforts of the police who were trying, vainly, to keep them out. After the crowd had left, the plaza was a desert of paper, tins and bottles, all of which were being blown around, noisily, by the wind. After an hour or so the plaza was stinking badly. Later it was cleaned by men working individually with simple cleaning tools.

7) Photo 46 shows a demonstration after the invasion of Cambodia by U.S. forces. The stage was in the middle of the curved steps of the fountain territory. At the entrance of the subway station one can notice a booth, staffed by M.I.T. students, distributing anti-war telegram forms.

8) A demonstration for the rights of youths, attended mostly by blacks, happened in front of the Federal Building on the steps between it and the fountain. The ledge of the fountain served as a stage.

9) Each Friday at noon there are concerts on the plaza. The stage is under the flag poles, and people stand or sit on the steps in front of the subway entrance.

These observed groups and crowds of people on the plaza are shown in sketch 21 (numbers refer to the numbers in the text above). Comparing this sketch with sketch 4, we find that the west plaza is even more heavily used than hypothesized, but that the north wing of the plaza has not been used at all, although Gerhard Kallmann anticipated the area around the base entrance as an important place for groups and crowds. In consequence of this finding, one would note that this whole north area does not need a brick surface. It could be grass, bushes, shrubs, with some small paths and steps, where needed.
Earth Day, April 22, afternoon -122-

Stage situation

Concert continued inside City Hall after it started to rain

Earth Day, April 22, afternoon
Earth Day, people were sitting on the floor

Informal behavior around the Stage

Moratorium, April 23, in the afternoon
Harvard Professor at the Moratorium

Later the group moved to the sidewalk of Cambridge Street

American Rally with Bob Hope attracted many people
Parades of official character

Hippies dancing during the National Hymn

Cambodia Protest Rally (Bob Goodman speaking)
Sketch 21

Patterns of observed groups and crowds of people
The following interview survey, as well as the three experiments described later, were conducted by a group of M.I.T. students, Peter Lamaris, Romin Koebel, Bob Rowan, and myself, under the supervision and with the advice of Prof. Mary Potter in the spring of 1970. An extensive paper to come out soon will report on all the details, here I will only report on our general methods and on those findings which seem to be important in the context of this thesis.

The purpose of the interview survey was, first, to learn some more about the kinds of people who enter the plaza at the various access points and who sit in it: about their sex, age, class, and whether they work in the area or not. Secondly, we tried to find out what their normative image of the plaza is, whether and how frequently they walk around the plaza or sit down in it, their reasons for sitting down, what kinds of things they like or dislike, and finally what changes they would like to see in the plaza.

The data was obtained in the following way: a predetermined number of people both entering at each of the five access points and sitting in the plaza were interviewed. The people to be interviewed were selected in a way which would ensure a representative sample, for instance the first person who crossed a predetermined line at a predetermined point in time was approached for the interview. A sequence of coin-flipping procedures was employed to determine the sitting persons to be interviewed.
However, the time when the persons were interviewed was not predetermined. The interviewers could do their interviews whenever they liked, and only a predetermined number of them at the subway access during the morning rush hour was required.

The number of interviews to be taken at the various points was determined before the count study, presented above, was completed. The following comparison shows that those numbers did approximately reflect the relative amount of people entering the plaza, except at the subway station where we originally assumed that more people would enter. The numbers in brackets represent the results of the previously described count study:

<table>
<thead>
<tr>
<th>Location</th>
<th>Number Interviewed</th>
<th>% of Total</th>
<th>Counted %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tremont Street:</td>
<td>8</td>
<td>20%</td>
<td>(696 - 33.8%)</td>
</tr>
<tr>
<td>Subway Station:</td>
<td>21</td>
<td>51%</td>
<td>(543 - 26.4%)</td>
</tr>
<tr>
<td>Cambridge Street:</td>
<td>4</td>
<td>10%</td>
<td>(289 - 14.0%)</td>
</tr>
<tr>
<td>Northend:</td>
<td>5</td>
<td>12%</td>
<td>(414 - 20.0%)</td>
</tr>
<tr>
<td>Faneuil Hall:</td>
<td>3</td>
<td>7%</td>
<td>(119 - 5.8%)</td>
</tr>
</tbody>
</table>

Out of the 52 people interviewed
41 - 79% were walking (2061 - 82%)
11 - 21% were sitting (458 - 18%)

Compared with the counted numbers (in brackets) the interview sample seems to be highly representative with respect to the relation between walking and sitting people.

The numbers of different kinds of people represented on the plaza according to the findings of the interview study are listed below. The
comparative results from the count study, where available, are once again listed in brackets.

**Sex**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Male:</td>
<td>30 = 58%</td>
<td>(1547 - 64%)</td>
</tr>
<tr>
<td>Female:</td>
<td>22 = 42%</td>
<td>(969 - 36%)</td>
</tr>
</tbody>
</table>

(Note: These numbers include both counted people sitting and entering the plaza.)

**Age**

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 20:</td>
<td>9 = 17%</td>
<td>(119 - 8%)</td>
</tr>
<tr>
<td>20 - 30:</td>
<td>16 = 31%</td>
<td>(430 - 26%)</td>
</tr>
<tr>
<td>30 - 50:</td>
<td>17 = 33%</td>
<td>(640 - 39%)</td>
</tr>
<tr>
<td>50 + :</td>
<td>10 = 19%</td>
<td>(444 - 27%)</td>
</tr>
</tbody>
</table>

(Note: The numbers in brackets exclude people entering at rush hours and from the subway, because age could not be differentiated in the count study when too many people entered within the five minute period).

**Class**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>working class:</td>
<td>14 = 26%</td>
</tr>
<tr>
<td>middle class:</td>
<td>34 = 66%</td>
</tr>
<tr>
<td>upper middle:</td>
<td>4 = 8%</td>
</tr>
</tbody>
</table>

**Working in the area.**

<p>| | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>working in the area:</td>
<td>20 = 38%</td>
</tr>
<tr>
<td>not working in the area:</td>
<td>32 = 62%</td>
</tr>
</tbody>
</table>
The fact that women and the young are somewhat over-represented in the interview study, compared with the counts, can be explained: all interviewers were men, and for them it was obviously much nicer to interview young girls than old men. How this could be done in spite of the sampling rules, I don't know. But the discrepancies are not too big (maximum 8%). We at least can state in general that there are more men in the plaza than women, that there are relatively few children and people under 20 in it, that most people are middle class, that only a quarter of the population of the plaza is working class and that more than one-third of it is there because of work location.

The question whether the plaza is "a good place to have in the city in general" was answered positively by most of those interviewed:

44 said yes  (84%)
4 said maybe  (8%)
4 said no       (8%)

This result may support the notion that historic images of plazas become normative in character not only in the minds of planners and architects, but also in those of the public. There was no specific group who did not share this image: (3 women, 5 men; one each of age groups 0-20, and 20-30, three of the 30-50 group, and two of the 50+ group; two working, five middle, and one upper middle class).

Whether people's attitudes towards the plaza were negative, neutral or positive was computed from the results of four questions: 1) "What do you think about this plaza, do you like it?" 2) "Is it a good place to have in the city in general?" 7) "So, to sum up your feelings about this
plaza, what are the best things and the worst things about it from your own personal point of view?" and finally 8) (optional) "What changes would you like to see in this place?" The answers were rated from ++ to -- in a five point scale and then balanced to either positive, neutral, or negative.

30 people reacted positively  (58%)
17 people reacted neutrally  (33%)
5 people reacted negatively  (9%)

As the case study on the average user's image of the plaza indicates, this result might have been less positive in winter; nevertheless, in summer-time most people seem to like the plaza.

It is no surprise that those sitting were more positive than those walking (walking people in brackets):

Sitting people positive: 73%  (54%)
sitting people neutral: 27%  (35%)
sitting people negative: 0%  (12%)

Because relatively more women like to sit in the plaza than men, it is no surprise either that women like the plaza more than men (percentages of men are shown in brackets):

women positive: 68%  (50%)
women neutral: 27%  (37%)
women negative: 5%  (13%)

It was, however, surprising that working class people seem to like the plaza somewhat more than the middle class, because this does not support the notion of the "symbolic barriers" mentioned previously both
by myself and Otto Piene. The upper middle class people perhaps like the plaza less than those of the lower classes because they feel that most of the money invested in the project came from their taxes:

<table>
<thead>
<tr>
<th>Class</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working class</td>
<td>64%</td>
<td>29%</td>
<td>7%</td>
</tr>
<tr>
<td>Middle class</td>
<td>56%</td>
<td>35%</td>
<td>9%</td>
</tr>
<tr>
<td>Upper middle</td>
<td>50%</td>
<td>25%</td>
<td>25%</td>
</tr>
</tbody>
</table>

The young people feel predominantly neutral about the plaza. The old do not like it as much as the age groups from 20–50 years. Generally the older the people, the more critical they are in their attitudes towards the plaza:

<table>
<thead>
<tr>
<th>Age</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–20</td>
<td>33%</td>
<td>67%</td>
<td>0%</td>
</tr>
<tr>
<td>20–30</td>
<td>69%</td>
<td>25%</td>
<td>6%</td>
</tr>
<tr>
<td>30–50</td>
<td>65%</td>
<td>23%</td>
<td>12%</td>
</tr>
<tr>
<td>50</td>
<td>50%</td>
<td>30%</td>
<td>20%</td>
</tr>
</tbody>
</table>

There seems to be little difference in attitudes of those who work in the area and those who do not (the latter in brackets):

<table>
<thead>
<tr>
<th>Category</th>
<th>Positive</th>
<th>Neutral</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>60%</td>
<td>(56%)</td>
<td></td>
</tr>
<tr>
<td>Neutral</td>
<td>30%</td>
<td>(35%)</td>
<td></td>
</tr>
<tr>
<td>Negative</td>
<td>10%</td>
<td>(10%)</td>
<td></td>
</tr>
</tbody>
</table>

The results of the answers of the four questions listed above perhaps would suggest that the plaza ought to be improved for men, young people and children, and for the elderly. Generally, however, the results indicated that only few people of all the different kinds interviewed in this study seem to dislike the plaza. 25% was the maximum
percentage of those who dislike the plaza in one group, and this maximum was represented by a single person, because the sample of the upper middle class included only 4 persons: definitely too small to provide conclusive evidence.

Four other questions in the interview dealt with frequency of coming to and sitting in the plaza, and with where people walked or sat down and for what purposes. I'll include some of the results, although they are conclusive only in comparison with those from studies of one or several other plazas.

Out of 49 people who answered the frequency of the coming question 13 said never
9 occasionally
6 monthly
10 weekly
11 often or daily.

Most people said that they never sit down in the plaza (30 out of 52). The remaining 22 - not limited to one choice - mentioned the fountain (12 x ), the trees (7 x ), or said they sat "all over" (5 x ). One said he sat on the concrete lights (see photo 22), and one even likes to sit in the courtyard of City Hall.

People sit down to rest or read (15 x ), for lunch (6 x ), to talk (4 x ), or for other reasons (6 x ).
5 of them sit down occasionally
2 monthly
6 weekly
8 often or daily
(30 never)

The sample of people interviewed felt that the best things about
the plaza are:
The visual appearance, indicated by words like pretty, scenic, etc. (16 x)
the space (9 x)
the buildings (9 x)
City Hall was mentioned (4 x)
the fountain (6 x)
qualities for people (5 x)

The worst things about the plaza, people felt, were:
That it costed too much tax money (11 x)
that there is not enough "green" (8 x)
That the space is too large (6 x).

Other things mentioned in answer to question 7 (worst things) were
the drainage, the railings, the many levels, the windy climate, the
visual appearance, City Hall, and the Federal Building.

25 people answered the optional question "What changes would you
like to see in this plaza?"
14 said they would like to see more trees, bushes, flowers or grass!
8 would make no changes because they felt the plaza was complete.
3 would introduce more benches or chairs.
2 would improve the drainage system (see photo 28).
"More activities," "better railings," "more buildings," "shelter for certain walking areas," "move City Hall to another place in the plaza," "provide more parking," and "don't close the view into the Northend," are some of the demands expressed by one or two.

From this interview study we have learned that a relatively small sample can be fairly representative for the entire population of the plaza and that one can obtain a number of insights which could not have been obtained by the previous kinds of studies.

Those results can be summarized as follows:

1) Two-thirds of the population of the plaza are middle class, while only a quarter is working class.

2) A good third of the population works in the area, perhaps even more, since not enough people at rush hours were included in the sample.

3) Most people share the normative image that the plaza is a good place to have in the city in general.

4) More than half of the people like their plaza, while only less than 10% dislike it: at least in summer time.

5) Sitting people like the plaza more than those just walking through, women like it more than men, working class people like it slightly more than the others, the very young people have mixed feelings about it, the elderly like it less than the middle aged and young people, and there is not much difference between those working nearby and visitors with respect to their attitudes towards the plaza.
6) The results on the frequency of use may be interesting if compared with those obtained from studies of other plazas.

7) Most people sit down in order to rest, read, or have lunch, but more than half of all the people do never sit down in the plaza.

8) The fountain area and the benches along the side of the Federal Building are mentioned frequently as preferred places to sit down.

9) The visual appearance, the space, the buildings (especially City Hall), and the fountain are considered as the best things in the plaza by many of the people.

10) The fact that it cost a great deal of tax money, that it has only a few trees and no grass, and the large size of the plaza were often listed as the worst things.

11) Many changes were suggested by the people interviewed, but more than half of those talking about changes requested more trees, bushes, grass, or flowers.
Three Experiments

In the first experiment twelve light canvas chairs were introduced into the plaza (see photograph 47). They had light wooden frames, and six of them had red canvass on seat and back, while the other six were orange.

We drove into the plaza and were immediately asked by a policeman to drive out the car. We placed the chairs in the middle of the plaza (see position on sketch 22). Eight of the chairs were placed in a formal way around three imaginary tables which were introduced only in the third experiment. The four other chairs were placed nearby, but in an informal pattern. The observers stood on a high platform at the west edge of the courtyard of City Hall (see cross on sketch 22). Photographs 33 and 34 are taken from this position.

A man working for the assistant commissioner in charge of the plaza maintenance came within five minutes and asked where we got permission to put chairs on the plaza. One of the observers had to leave with this man in order to arrange for that permission. It turned out that the assistant commissioner's interest is to keep the plaza clean and undisturbed. He worried that people from Beacon Hill might bring their own chairs and sit all over the plaza. It then would no longer be empty and clean. The Mayor's office, however, seemed to be in favor of developments and experiments of that nature.

The experiment was conducted from 11:30 a.m. to 1:30 p.m. on May 20, a sunny, warm lunch time. Our hypothesis had been that people will move...
chairs to the places where they would like to sit, probably near the fountain. We were prepared to follow those who might carry the chairs far away or even try to steal them. We also hypothesized that people would prefer the chairs placed in an informal pattern.

Both hypotheses were not supported by the findings. People would sit on the chairs not caring whether they were arranged formally or informally, in fact they turned their chairs sometimes into positions towards the sun or towards the fountain. Beyond such adjustments, they did not move the chairs away from the group. Newcomers often asked those already sitting whose chairs they were or whether they could sit down on them. They believed City Hall had put them there, and there was no attempt to steal them. That indicates that City Hall could provide chairs, at least during lunch time, but most probably during the whole day without running a great risk of loss.

Another interesting finding was that the chairs attracted some people immediately. On the average more than half the chairs were generally occupied, whereas only less than a quarter of the available seats on ledges or benches were occupied.

Figure 13 shows that more chairs were occupied during the first half of the lunch time than during the second. A cursory observation of the plaza's other sitting settings, however, indicated the reverse tendency: benches and fountain were occupied more during the latter half. The explanation for that phenomenon could be the following: When people first arrived, they had a choice either to sit down on the chairs or at the other settings. Many preferred the chairs. After the chairs were almost fully occupied, the newcomers had no choice but to sit down on the
other settings. The people who came first had to leave first because lunch hour is staged in the offices around the plaza (information from City Hall), but after they had left fewer newcomers arrived to occupy either seating option. If this explanation is valid, it would clearly indicate that people prefer chairs to the existing benches and ledges.

In order to find out more clearly about preferences of chairs versus benches, a second experiment was conducted in which the chairs were placed among the concrete benches. The time span was the same as in experiment 1, but the weather was cloudy, a bit windy with temperature of about 15°C (50°F). At first it looked like nobody would sit down, but
the experiment later turned out to be successful. Had the weather been sunny, all the chairs would have been immediately occupied and a comparison would not have been possible, since people arriving later would have had no alternative but to use benches, thus disturbing our preference study. In our situation, however, people always had a choice between chairs and benches, and neither of them were ever heavily occupied.

Sketch 23

The twelve chairs (see positions sketch 23) were compared with the nine benches surrounding them. Benches and ledges further away were not considered because there the choice between chairs and benches was not an equal one in terms of distance to overcome in order to sit down.
The results again show a preference for chairs. Figure 14 compares the number of people using benches and the numbers of those using chairs over time. This finding is even more convincing after considering that we compared 36 places on benches (each bench can seat four people easily) with only twelve places on chairs!

However, the result also shows that some people do prefer benches, therefore only an addition of chairs - not the replacement of benches by them - can be recommended on the basis of this experiment.

In the third experiment not only the twelve chairs were introduced, as in experiment 1, in the middle of the plaza, but also an activity: two persons played a game of chess on chair 1 and 2 (see sketch 24), a box of about one cubic foot served as a table. Two more such cubes were placed in between the formally arranged pairs of chairs. On one of them we put
a game of checkers. The other one was left empty, but we had another set of chess in reserve, in case somebody would ask for it. Nobody, however, did ask for it.

The purpose of this experiment was to find out whether the activity of chess playing would attract watchers, whether the opportunity to play would evoke people's desire to also play, and whether this activity would make people more open to talk to each other, even if they didn't know one another.

Sketch 24

When we started to arrange the stairs, a policeman again approached us, but when we said that we had permission from the assistant commissioner he finally agreed to our experiment.

Unfortunately there was the traditional Friday concert at the flag poles nearby, we therefore cannot compare the numbers of people sitting
down on our chairs between experiments 1 and 3. The concert lasted from 12:10 to 12:50 p.m. and of course attracted quite a lot of listeners. A comparison of the results of the two experiments is not possible for two more reasons: the weather was sunny but windy and some chess figures were blown away several times; and games seem to attract people who like to stand rather than only those who would sit down.

Figure 15 indicates how many people were sitting during the time of the experiment, 11:30 a.m. to 1:30 p.m. Shortly after the game was over, all people had left their chairs. People started to sit down again after the second game had started.

In the first hour only 2 or 3 people were sitting, perhaps the two chess players indicated to people that the chairs were supposed to be used only by players.
Number of people standing and watching the games

Figure 16 indicates very few spectators standing around for the first hour of play. Shortly thereafter, however, there were 10 people standing and watching. Some of them started to talk to each other about the chess game, which was by then in the very exciting final stage. Also, the number of people sitting down increased, only two chairs were not occupied during about 20 minutes.

The peak activity around our setting can perhaps be explained this way: most people have lunch from 12 to 1 p.m. When they entered the plaza they saw preparations for the concert. They went there and listened to the concert for a while. Some of them then went back to our setting to
see what was happening there. As soon as a certain number of people stood around the players, more people got curious and were attracted, until there were so many that people had difficulty in watching the game properly. Shortly before one o'clock most of the people went back to work. Also the first chess game, as well as the checkers game, were finished shortly before 1 p.m.

Two more observations were not predicted by us: the watchers standing around stopped for considerably shorter times than those sitting down, and the watchers standing were almost all men.

The setting with the checkers game was used almost all the time by three successive pairs of players. The setting without a game was moved soon: the chairs to places where people could watch the games and the cube — supposed to serve as a table — was moved and used as a seat.

There was quite a lot of talking about the games, and, as in the experiments before, people often asked whether they could sit down or play. The few people we talked to toward the end of the experiment all thought that City Hall had put the chairs out, and they all were delighted to see and use the chairs on the plaza. An old woman walked all the way from the Southend to the plaza to rest and read a paper in the sun.

A young lady obviously enjoyed talking to us although she didn't know us. A middle aged woman who had worked in City Hall discussed at length the difficulties the assistant commissioner would have in taking care of all the chairs. She thought the idea that people bring their own chairs was a good one. Talking and commenting seems to arise when something unusual happens, or when people actually can participate in some action, such as game playing for instance.
The third experiment supported our assumptions that game playing would attract watchers; that it would evoke the desire in some to participate and that people are likely to talk to each other about the situation. In addition, we found that after a critical number of people have gathered, other people are attracted more strongly, that people standing around would stay shorter than those who are sitting; and that standing game watchers were almost always men. Although we cannot compare this experiment with the first, we got the impression that some people did not dare to sit down in experiment 3 because they thought the setting had been prepared for some special people: chess players.

The three experiments show clearly that with little money and effort one can find out how successful an anticipated environmental change would be. The findings in this case were that people like chairs as well as game activities and that at least during the daytime the chairs would not be moved extensively nor would they be stolen.
Sketch 22
Locations of chairs and observers in experiments
First Experiment, chairs in the middle of the Plaza

Second Experiment, chairs surrounded by benches

Third Experiment, playing chess on the Plaza
Summary

The problem in the studies presented above has been: what are the specific values of Boston City Hall Plaza for its present people. We want to know about this for three reasons: first, such knowledge can form a valuable base for future designs of similar projects in similar contexts. Secondly, such knowledge is essential for trying to make the plaza more valuable to its people than it is presently. Thirdly, the data can be used for future comparative studies.

Several methods have been employed in order to collect such knowledge. In the first four studies I have described my own representation of what the plaza ought to be, how one can act upon it, what one can perceive in it, and what information flows occur in it. In analyzing the plaza's value this way I have suggested that the plaza ought to be responsive to all the kinds of Bostonians and that it ought to contribute to their capabilities to live in and enjoy the complex city of our present time.

In terms of enactive capabilities, I found that the plaza is very accessible by various means of transportation, that it provides so much space to walk on, that people do not use all of it, and that there is not much opportunity for skilled action other than walking.

I found that there are a number of outstanding visual elements which may be perceived, remembered, and perhaps enjoyed by people, such as the wide open space, City Hall and other buildings, some settings in the plaza, such as the subway ledge, the fountain, the trees, etc. But I
also found that there could be much improvement of the sensuous qualities
by introducing more activities, restaurants, small scale commercial
facilities, opening up views into the underground and into the city, etc.

I finally found that the prevailing symbolic properties perform
barriers to those people who do not share power in this society, and
that the people cannot learn much about the city, its people, and their
activities. I hypothesized that those barriers can be broken down by
introducing facilities and activities for people not in power, and that
an information center, such as suggested by Stephen Carr and the people
around him, could increase the information flow considerably.

All these findings and suggestions were based on cursory observation,
empathy and introspection. These methods are, though traditionally often
employed, not very reliable, because the findings depend a lot on the
cognitive structure and the cultural background of the researcher.

In order to correct and supplement those findings and suggestions, I
have studied the representations of five persons very different from
myself, using the methods of interviewing, map drawing, and observation.

From Gerhard Kallmann, one of the architects of City Hall and the
plaza, I have learned that, in studying the values people attach to the
plaza, I should not forget that the plaza's life span is much longer
than the value of any such study. The plaza ought to be designed in
such a way that it can adapt to future needs which we presently cannot
foresee. Gerhard Kallmann, therefore, developed the image of an empty
plaza, surrounded by only a few facilities at the periphery.
This image is in general shared by Charles Hilgenhurst, administrator of planning, urban design, and advanced projects in the B.R.A. since 1962. I have learned from him that the actual programming of the plaza's details was done jointly by the architects and the B.R.A. after the main problems of the City Hall building had been solved. The plaza is still not considered to be complete and the B.R.A. will listen to the suggestions of any citizen to make it or parts of it a better place for people. I have further learned that the assistant commissioner of the Real Property Board is responsible for the scheduling of any events on the plaza, as well as for keeping it in order and clean. Another office, in the mayor's department, is responsible for the planning of events on a city-wide scale, some of which are supposed to happen on the plaza.

The architects seemed to not be aware of the symbolic barriers created by the monumental structure of City Hall, the surrounding new buildings, and some of the details of the plaza. But Otto Piene, the artist who initiated the art happening on the plaza at the opening of City Hall, is extremely sensitive about them and therefore definitely dislikes the plaza. Nevertheless, he suggested a number of improvements, such as to cover some of the elements which produce undesirable symbolic barriers with plants, or to utilize the strong natural forces as wind, rain, and sun for art happenings, and many more.

An empathy study, describing what a representative of an important minority group on the plaza, a child, would feel about it, was tested by observing an actual child's behavior and by listening to his talk. The test indicated that the empathy study was not reliable in the details
but that it was useful in connection with the test. The study showed that a moving truck and the fountain were the most attractive elements for the child, but that his image of the plaza soon vanished from his memory.

Finally, the development of an average user's image of the plaza was studied. Her sketches and comments obtained in summer, compared with those obtained in early spring, indicated that the value of the plaza increased considerably after the weather got warm and sunny. When asked to make a sketch of the plaza, she drew City Hall! Her image of the surrounding areas confirmed, in general, my own representation described earlier. The method, to study maps and sketches which reflect a person's image, seemed to be quite time consuming. In addition, not everybody was willing or able to make a drawing of the plaza. But it did supplement the information, obtained by interview technique, a lot.

One can learn about the qualities of the plaza and it's context by studying representations of people who are supposed to represent certain groups of people in the plaza, but one cannot generalize the findings for the entire population of it. One cannot judge how many and what kinds of people would share any of the feelings expressed in those five case studies.

Some of the findings, therefore, have been tested and supplemented by means of several survey studies. The movement pattern recorded by snow photographs and by a film which comprised a whole day into a few minutes, indicated peaks around the subway station corner, along most of the edges and on the main section of the plaza. It indicated further a very low density on the north and south wings, the areas with all the steps.
Counts of people at the various access points revealed that most people enter the plaza from the south corner (tea kettle and subway station). But many people also come from the diagonal corner (Northend and Haymarket subway station). The average age of people coming from both those points is higher than that of the people entering from Faneuil Hall and Cambridge Street. Peaks are occurring in the morning and evening rush hours and at lunch time, but there is also quite a lot of movement in between those peaks. The numbers of very young people and of children on the plaza are relatively small. Almost double as many men as women enter the plaza during the day.

The subway ledge, the fountain, the benches under the trees, and the flagpole territory are most preferred as sitting settings during sunny warm lunch times. Some people, often elderly, sit down also at other times. The courtyard of City Hall and the steps are not accepted as good places for sitting down. The data of this study is recorded in greater detail than necessary to support those general findings, because it may be needed for future studies as reference or for comparisons.

A survey of patterns of groups and crowds on the plaza, by means of photographs from a high standpoint, indicates that the hard surface of the plaza is needed only on the large west part of it. The north wing could well have been planted with grass, bushes and trees. People don't gather, nor do they walk a great deal in the north wing.

More grass, bushes, and trees were requested by more than half of those who responded to the question "what changes would you like to see in the plaza?" in an interview survey. This survey also revealed that
more than half of the people do like the plaza, that most people think it is a good place to have in the city in general, that many people like the visual appearance of the plaza most, and the fact that it was expensive least. By comparing the data with the findings of the previous count study, we could show that the small sample of 52 people was fairly representative for the entire population of the plaza. The survey gave some insight on what kinds of people come to and stay in the plaza and how those kinds of people feel about it.

All those studies together evoke images of change, such as to plant grass on the north wing, to have restaurants and small scale commercial facilities along the edges, to install the Haymarket in the plaza, to introduce children's play facilities, games for adults, openings in the floor surface into the underground, an information center extending from the courtyard into the plaza, art happenings, and other cultural events, shelter and wind protection, etc. Each suggested change, however, ought to be studied carefully in its context, because so often a change pleases one group of people, but at the same token angers another one.

One way of testing suggested changes are simple experiments. Even such a modest change as introducing some light canvas chairs into the plaza evoked conflict. The people liked the idea, but the assistant commissioner had some doubts about how to administer the procedures of putting the chairs out in the morning and back again in the evening. He also felt that some people might bring their own chairs from Beacon Hill down into the plaza – a frightening idea to him, but a wonderful one to me.
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