

Expansion Increments

Expansion raises three questions: What is the right size for the expansion increments? Which direction should expansion take? How to expand and yet maintain critical indoor-outdoor relationships for the existing buildings?

We take these questions one by one.

1. *How large should the increments of expansion be?*

We are unable to formulate the answer to this question, in numerical terms. We know, however, that in most cases the increments should be rather small. There are two basic reasons for this: First, it is always easier to get a small sum of money together for building expansion, than a large sum. This is so for large organizations with complicated budgets, as well as for families. Second, the new needs brought into play by the growth of an organization are best met by small increments, gradually added. The needs themselves arise slowly, and small increments can be responsive to

these changes as they arise.

2. *What direction should expansion take?*

Should expansion be vertical or horizontal? At the moment the idea of vertical expansion is remote. It is rarely done well or efficiently. There are problems with the structure of the original building, its ability to continue functioning during the new construction period, the difficulties of putting more people into the same ground area, and so forth. Furthermore, when a new facility is added it needs adjacencies to many existing structures. This is impossible to achieve with vertical expansion. We therefore strongly recommend that priority be given to horizontal expansion, according

to the precinct scheme sketched out above in 1.

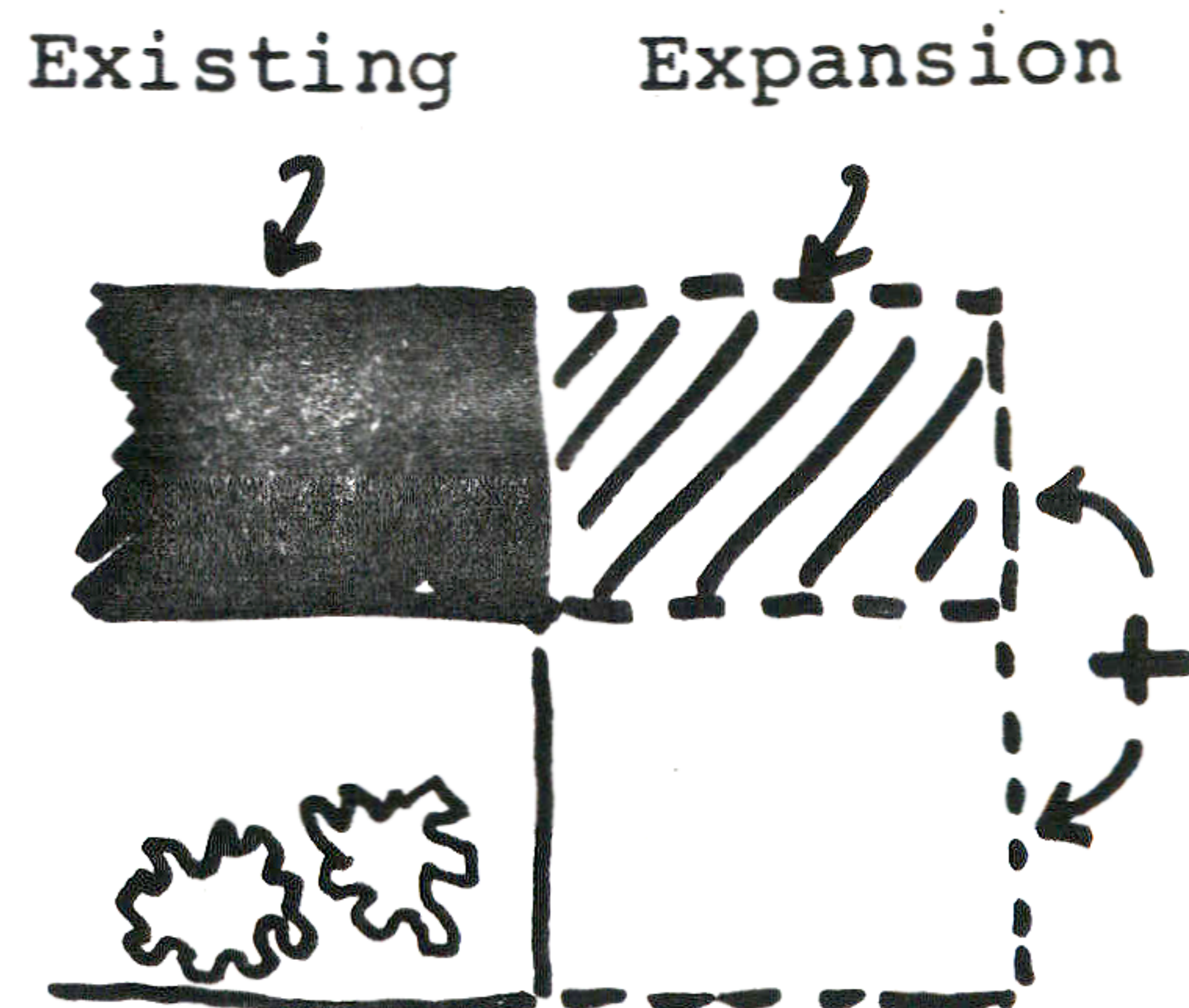
3. *How should a building complex expand without destroying critical relationships among existing buildings and outdoor space?*

Often, when expansion occurs, it cuts off natural light, the view, and access to the original building.

This is true of tract houses placed in the middle of a narrow lot: rooms cannot be added at the side, without blocking windows. And it is true of office extensions which expand into courtyards and gardens which once were an important part of the original building. A garden view is replaced by either a blank wall, or another office.

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Therefore: Let the buildings expand horizontally, allow for expansion in small increments in terms of "precincts" — where each precinct is an inseparable combination of indoor and outdoor space; make each precinct self contained with respect to views, circulation and light; and give it a long perimeter up against which new structures can grow. Be sure that obstacles to expansion are allowed for, and that the original buildings are either right up against these obstacles, or far enough from them for complete precincts to grow in between.



Expansion Increments

Problem (continued)

Traditional building practice seldom made these mistakes. At every stage of the growth of a building, or a building complex, the critical relationships were maintained.

A traditional Mexican house, for example, begins with a few rooms backing on a street, facing onto an open yard. As the house expands, rooms are added along the side wings, and finally across the back, so that at every stage there is an open space serving each room; and the open space finally evolves into a central court.

Similarly with Japanese temples—the many buildings that are added over the years are always placed in careful relationship to each other so that none of the space around them is ever violated: no garden is destroyed, no vista is blocked.

The key issue in both of these examples, is that *the outside space is considered to be as real as the inside space.*

How can modern buildings be made to expand in the same spirit? Hermann Field has studied this question in detail, and the following points are adopted from this work.

A. Consider each part of a building and the outdoor space which supports it, as an inviolable precinct (e.g., a living room and its patio, an office and its courtyard, a classroom and its playground).

B. Consider each precinct as an inward looking, self-contained unit—with its own natural light, access, and view.

C. Assess the site for obstacles to expansion (e.g., property lines, steep slopes, other buildings), and

place the precincts either up against these obstacles, so that no new precinct can ever be added between the built precinct and the obstacle; or far enough from the obstacles, so that one or more complete *precincts* can be inserted in the future. The size of a precinct will vary with building type. For a house it may be as small as 20' across—enough for a room and a small garden. For a factory it may be upwards of 400'—for production, loading access, etc.

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This pattern is tentative. If you have any evidence to support or refute its current formulation, please send it to the Center for Environmental Structure, P.O. Box 5156, Berkeley, California 94705; we will add your comments to the next edition.