

Schools of Architecture

Bart Goldhoorn (ed.)

with contributions of

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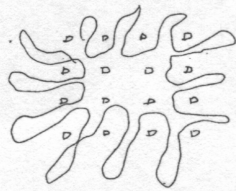
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Fred Feddes

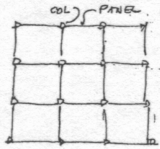
**architecture
education**

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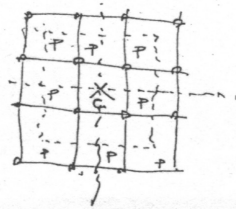
The nine square falls between two poles, one of complete fluidity and one of complete containment.



TOTAL FLUIDITY

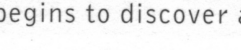
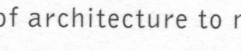
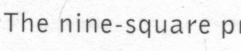
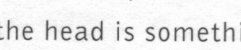
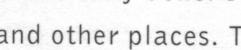
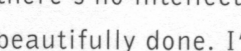
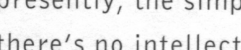
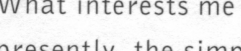
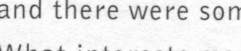
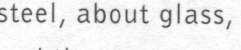
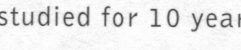
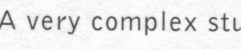
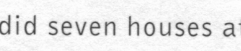
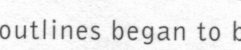
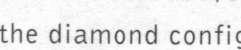
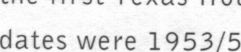
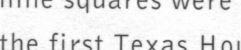
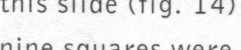
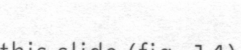
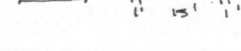
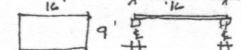
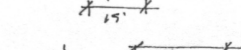
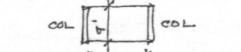
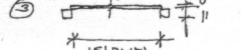
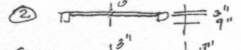
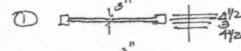


The idea of The Center and of the periphery, 1 center cell and 8 peripheral cells.



Take the full panels (model) and study spatial relationships within the 9 square grid (16 columns). Then take the scheme and draw up in pencil an asymmetric. This form of study will be carried in through the following problems.

1. Full Panels.
2. 1/2 Panels (Horizontal/Vertical).
3. Combine Full and Half Panels.
4. Curved Panels and Half Circle.
5. Combine Full and Curved Panels.
6. Combine Full, Half, and Curved Panels.
7. Full Panel at 45° or 60°. Or, 45° and 60°.
8. Combine Full Panels 90° and 45° or 60°.
9. Combine Full (90°, 60°, 45°) 1/2, and Curved Panels.
10. Above systems off the column frame (not touching columns).
11. Make series of volumes (circle, square, triangle) ranging from 1' square, 1' diameter, 1' triangular to 10' square, etc. and ranging from 1' vertical height to 10' vertical height.
12. Combine columns with panels in a series of different combinations.
13. Build stairs, ramps, straight run stair, U run stair, circular stair, straight run ramp, U run ramp.
14. Build second storey frame and continue study.
15. Build third storey frame and continue study.
16. Build roof structures 1/2 circle, 1/2 hexagon or 1/2 diamond, 1/2 square.
17. Combine all systems.



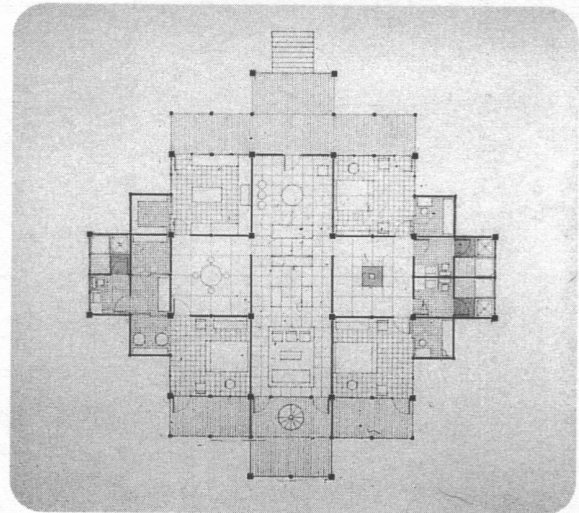
new steel was put in and that was lifted an eighth of an inch and then the whole building, section by section was set back down. There were six stories, and we were lifting four. It's about Cooper Union and its pragmatism (we teach four years of Structures).

I want to just go through a series of classic problems that are/were given at the school in architecture. In 1954, I had to study, I felt that I didn't know how to detail. I spent ten years making a set of seven houses, called the Texas Houses in order to understand how to detail and construct. It's as simple as that. More complex a little farther down the line. And this was the original project of the nine-squares (fig. 13), you just see nine squares, there's other things in them, but what interests me about

this slide (fig. 14) was that the nine squares were inherent in the first Texas House. The dates were 1953/54, but also the diamond configuration outlines began to be visible. I did seven houses at that time. A very complex study, one just studied for 10 years, about steel, about glass, about walls, about concrete and cement, about stucco, and there were some hundreds of drawings.

What interests me today about architecture being done by architects presently, the simple stuff, I call it modified modern. It's modified modern, there's no intellectual substrata foundation holding the work up, they're beautifully done. I'm speaking of new architecture in Spain, and Holland and other places. Thank God they're simply done. But what's going on in the head is something else again. I wrote about the 'Nine-square' Problem in Education of an Architect, Vol. 1, 1971:

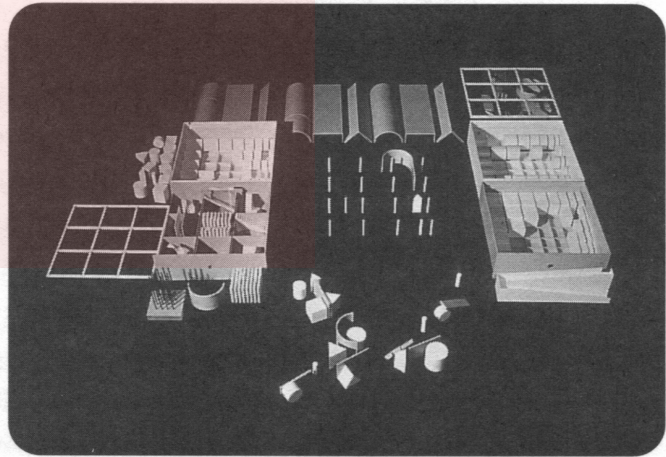
'The nine-square problem is used as a pedagogical tool in the introduction of architecture to new students. Working within a problem the student begins to discover and understand the elements of architecture. Grid,



frame, post, beam, panel, centre, periphery, field, edge, line, plane, volume, extension, compression, tension, shear, etc. The student begins to probe the meaning of plan, elevation, section, details. He learns to draw. He begins to comprehend the relationship between two-dimensional drawings, axonometric projections and three-dimensional (model) form. The student studies and draws a scheme in plan and in axonometric, and searches out the three-dimensional implications in the model. An understanding of the elements is revealed - an idea of fabrication emerges.' Also we are speaking of the nine-square in 1954. It was before Sol Lewitt.

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The following project was a quintessential ending and that's when I stopped teaching the problem. Lorna McNeur, a woman student who now teaches architecture at Cambridge University in England, made the quintessential nine square kit (fig. 15). That ended the nine-square problem at least from me.



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People ask: 'What do you do at Cooper Union?' We make things well and we like to fabricate and we like parts. One student in third year did this project (fig. 16). He

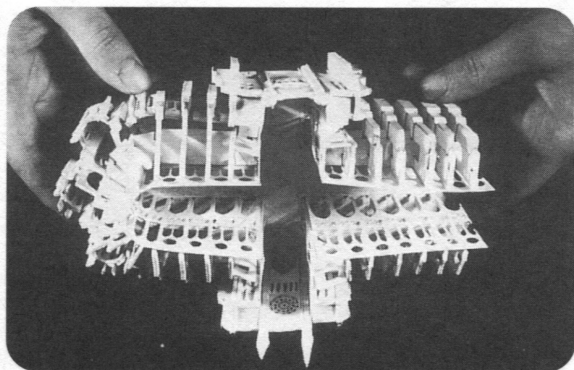
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made all the parts up in our shop. He made all kinds of machines. He found some wheels, I think from bicycles, things like that, and then again the idea of fabrication, of parts, of pieces and then putting them together. He would ride around the school in his invention, but it only went forward, it never went back. His name was Peter Saitta. The next problem given was the 'Analysis' problem where we cut and dissected. We were autopsying buildings, historical buildings of Andrea Palladio and of modern architecture. The strange part of it is, Frank Lloyd Wright's building never came back together again. That was very odd. All the other works

we put right back together again, but you never could put Wright's buildings back together again.

This student did a little paper cut-out model of Chartres (fig. 17). Next problem we went to was 'Musical Instruments'



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