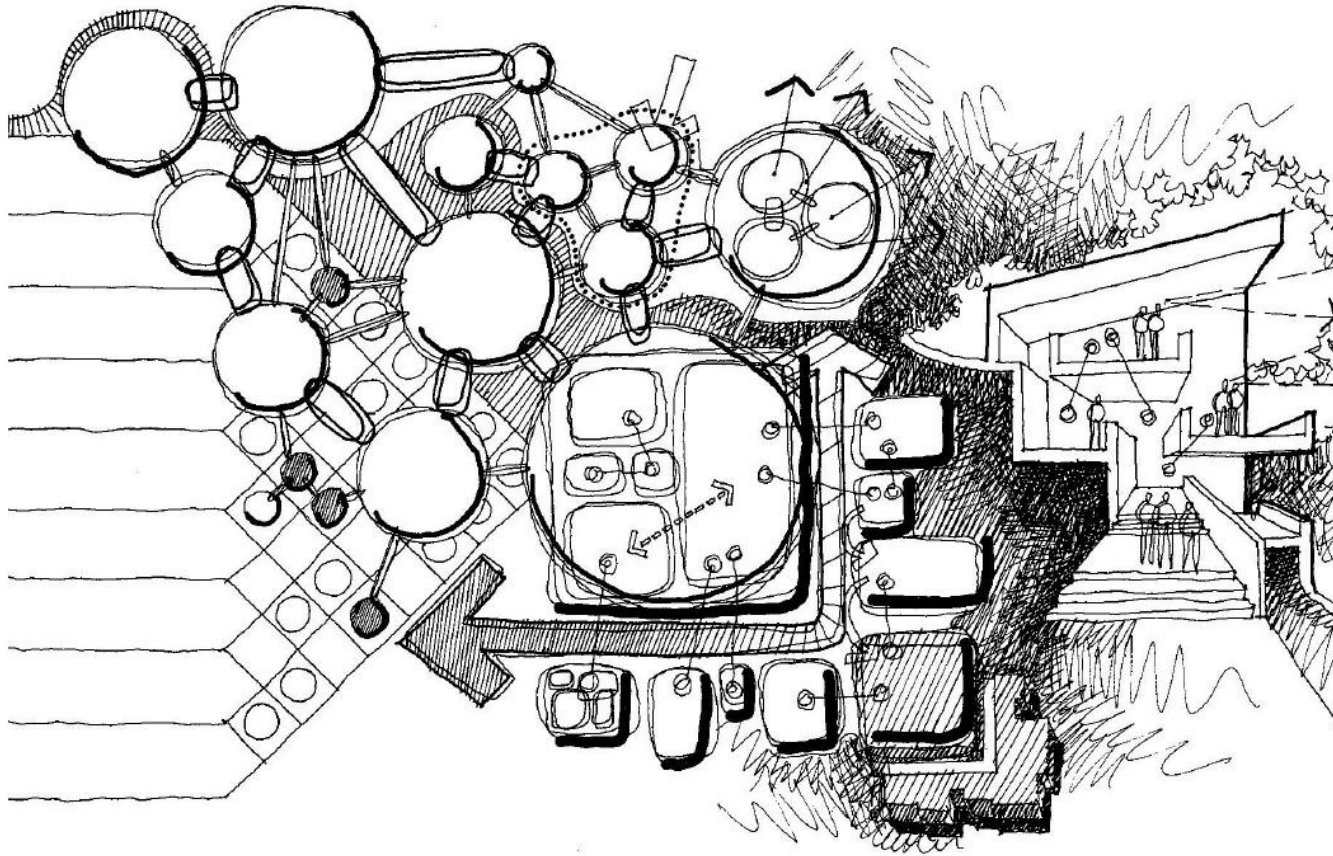


SPACE ADJACENCY ANALYSIS

Diagramming Information for Architectural Design



EDWARD T. WHITE

SPACE ADJACENCY ANALYSIS

DIAGRAMMING INFORMATION
FOR ARCHITECTURAL DESIGN

EDWARD T. WHITE



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- Space Adjacency Analysis: Diagramming Information for Architectural Design
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Space Adjacency Analysis: Diagramming Information for Architectural Design

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INTRODUCTION

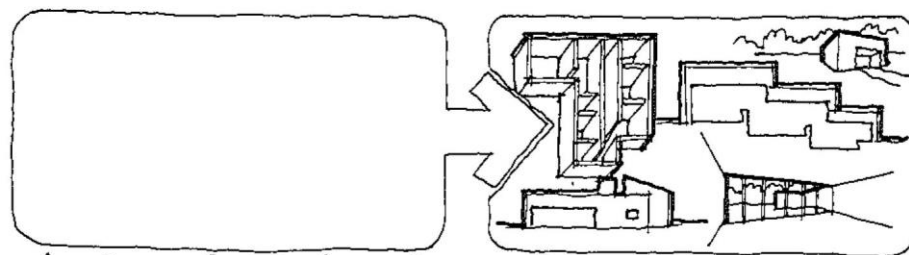
We designers are often more comfortable and skilled at drawing plans, elevations, sections, and perspectives than at diagramming project needs, issues and requirements.

We sometimes seem overly anxious to draw the architectural answers to ill-defined project questions and reluctant to invest in graphic techniques that help us to better understand the project needs and that stimulate responsive and creative design concepts.

We need to balance our skills at drawing design solutions with our skills at drawing and visualizing the project problems and requirements.

This book is the second of a series about diagramming in architectural design. The theme of the series is visualizing information for design in the dual sense of converting the information into graphic images and seeing or understanding the information better. The central thesis is that our ability to draw needs, requirements and early design concepts is just as important as our ability to draw final building design solutions. In fact, our diagramming skills profoundly influence the quality and success of our building designs.

There are several reasons why it is helpful for us to visualize design information when planning buildings:

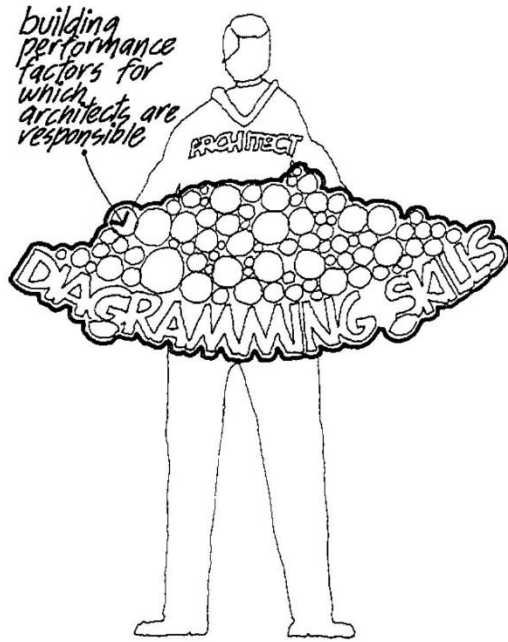


drawings of project questions, needs, issues and requirements

drawings of building responses to project questions, needs, issues and requirements



visualizing: *drawing and understanding*



Accountability. As designers, we are being held responsible for the success of more and more aspects of the building delivery process and building performance. At the same time, the criteria for successful buildings are becoming more defined and the building evaluation processes more systematic and rigorous. New facts are being produced by the building research community each year which multiply our professional, legal and moral obligations and responsibilities in projects. Diagramming is a tool which can assist us in coping with information overload and in more thoroughly addressing the project requirements in design.

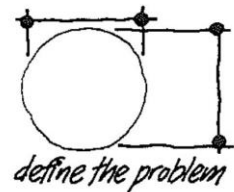
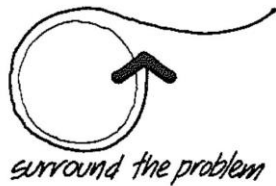


Communication. Clients of architectural projects are becoming increasingly multi-personal (boards, committees, community interest groups) and more demanding in terms of their participation in design decisions. Complex clients often mean complex interpersonal relationships, conflicts and difficulties in obtaining consensus and timely decisions. These situations require strong project organization, clear procedures and effective communication techniques to facilitate thoughtful, well-informed decisions. We must have solid defendable reasons for our design recommendations that are rooted in the needs of our clients. The decision processes in design must become more transparent so that our clients can understand where we are, where we've been and where we're going. We must be better documented in both the analysis of the problems and in our generation of the solutions. It is important for us to leave decision tracks that can be retraced and to be able to explain how we arrived at particular design proposals. Diagramming is an effective means of increasing the quality of communication in our building planning processes.



Efficiency. We are constantly faced with severe time pressures to expedite the completion of projects to meet client deadlines and to finish work within internal (design office) budget and time constraints. Very few design offices can afford to plan projects in a leisurely, passive manner—that is, to wait until good design ideas “happen along.” We must be able to make ideas happen, to design assertively and to control idea getting processes rather than allowing these processes to control us. We should have tools which can help us to cause design solutions to occur in a relatively short time. This need for techniques extends beyond problem analysis and conceptualization into the synthesis, testing and refinement of design solutions. Diagramming is an excellent tool for getting started in our design thinking, for taking control of the planning process and for getting unstuck when we hit snags.

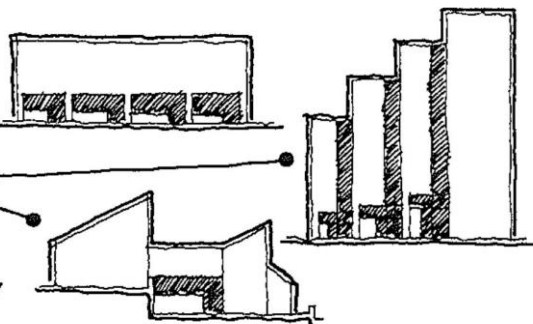
diagramming can help us to:



Diagramming is an important aspect of our design language with which we produce our design solutions. Mastery of that language is fundamental to attaining competence in the design profession. Much of the attention in the area of design graphics has been focused on techniques for drawing our final building designs. We need to begin to codify those pre-design and early design graphic techniques that help us to surround the problem, define it, crack it, enter it, and explore alternative architectural responses to it.

Diagramming is a way to get close to the problem, to engage it, to absorb it, to restate it in our terms and to render it second nature so that we can attend to the selection and integration of potential solutions.

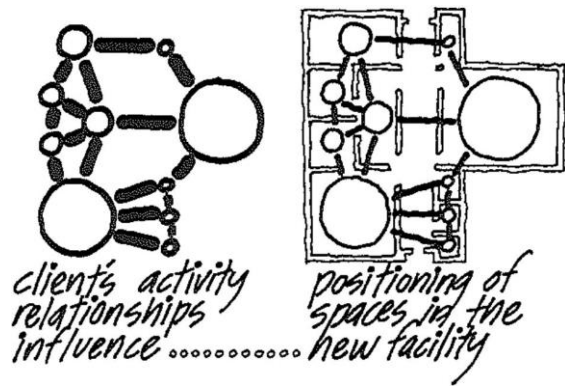
Ideally, the profile of the design solution should reflect the profile of the programmatic requirements and conditions. Diagramming is useful in constructing the problem profile so that it may serve as a beacon toward which to manage the design solution.



Investing in diagramming often leads us to the discovery of design ideas that otherwise wouldn't have occurred to us. It helps us to build our vocabulary of design solutions for use in future projects by expressing solution types in storable and retrievable (memorable) form. Diagramming assists us in bridging between the problem as expressed in verbal terms and the solution as expressed in physical/architectural terms. Through diagramming we decrease the likelihood of losing something in the translation from problem to solution. Diagramming can facilitate the discovery of key problem issues and can clarify, summarize, amplify and test verbiage. It is a way of simplifying and collapsing project issues into a manageable number and of transforming those issues into more meaningful and evocative form for design. Diagrams can serve as efficient reminders (programmatic shorthand) about complex issues during design that would require pages to explain in writing. The entertainment value of diagrams helps to make programmatic information less tedious and intimidating and more approachable.

investing in diagramming results in:

- discovery of new design ideas
- bridging between analysis and synthesis
- translating more of the program into the building design
- better understanding of key project issues
- spatial testing of verbal concepts
- simplification of the problem
- a more evocative form for program issues
- efficient reminders about important project needs
- a more approachable program

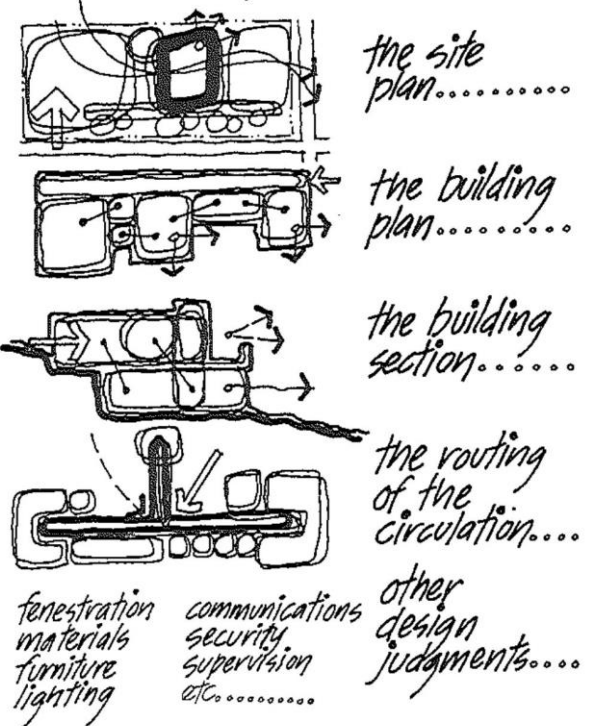


This book deals with one aspect of diagramming information for the design of a building: the analysis of the client's activities that will be contained in the building and how their interrelationships influence the positioning of the spaces in the new facility.

Space adjacency analysis is a predesign study tool that reveals the extent to which building spaces need to be located adjacent to one another and the reasons for these required adjacencies. Analysis results lead to informed design decisions about the site plan, building plan and section configurations, the routing of the circulation network that connects the building spaces and other planning judgments that ensure that the client's organization will function smoothly and efficiently in the new facility.

SPACE ADJACENCY ANALYSIS

informs design decisions about:



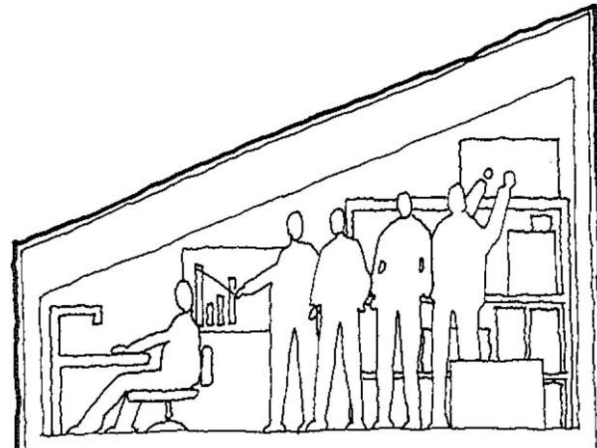
DEFINITIONS, ISSUES, AND DESIGN IMPLICATIONS

OVERVIEW

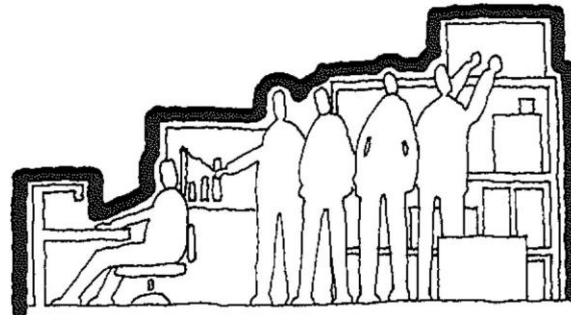
One of our major responsibilities as architects is to design buildings that support the activities of the users of the facilities. Our building designs should positively reinforce and facilitate the performance of the operations that they house. A facility should go beyond simply containing activities and should actually contribute to the productivity of our client's organization.

This responsibility that we have as designers to properly enclose people and activities with architecture requires that we understand how the client's organization works before we begin to design.

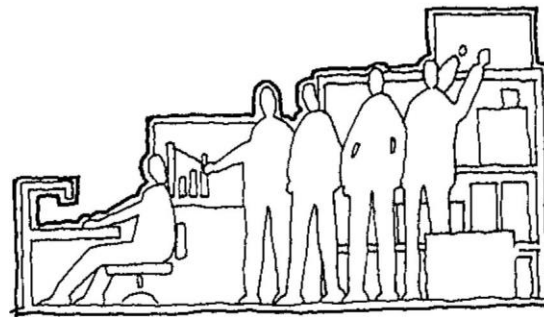
Space adjacency analysis can help us to learn about a wide range of issues related to our client's operation including workflow, circulation, proximity of functionally related spaces, security, maintenance, human factors, furniture and equipment layout, service, vehicular movement patterns and supervision and control. The techniques of space adjacency analysis may apply to any scale design situation from the layout of industrial complexes, where several buildings are involved, to the planning of a secretary's workstation. Space adjacency analysis focuses upon client activities that will take place within the building as well as exterior activities such as parking, service and deliveries and outdoor functions including playgrounds, maintenance yards and patio dining.



buildings should support and reinforce the people and activities that they house



to properly enclose activities and people with buildings, we must first understand the client's operation

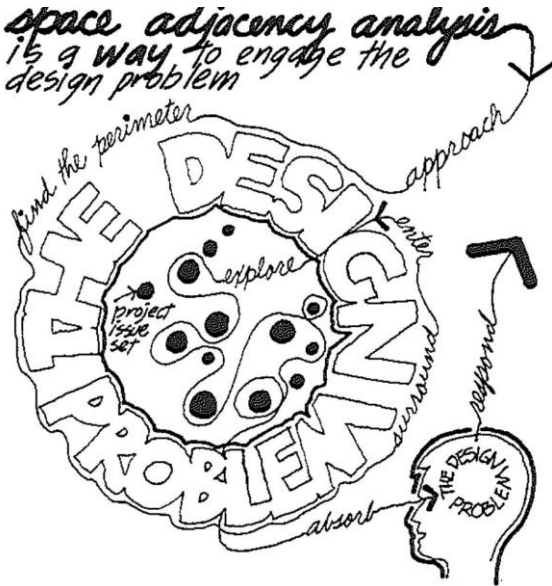


space adjacency analysis is a way to understand the client's operation

understanding

ENTERING THE DESIGN PROBLEM

Our first encounters with a new design project usually include efforts at becoming involved in the problem, finding the perimeter of our design responsibility, understanding all the project issues and their interrelationships and committing the major ones to memory. This allows us to begin to conceptualize appropriate architectural solutions. Entering, surrounding and absorbing the design problem are all aspects of predesign thinking. Space adjacency analysis is intended to support that effort and to provide a way for it to occur.



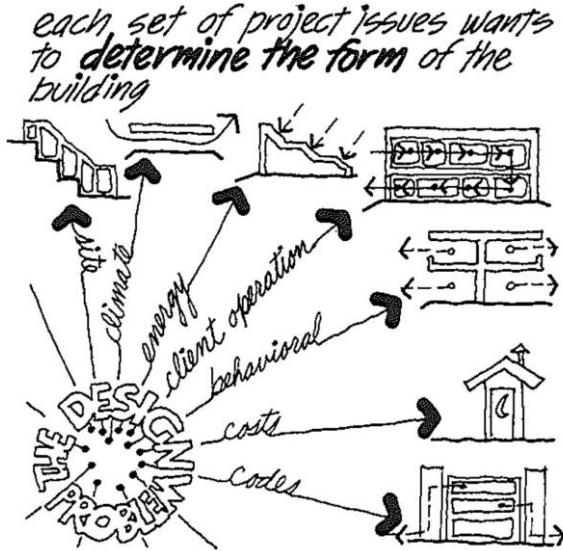
The design of buildings requires us to respond to a range of issues such as site, climate, the client's operations, energy, building image, behavioral aspects of the building occupants, costs, schedules and codes and regulations. Each of these issues has a unique set of analytic tools for entering the problem and showing us the particular project requirements to which we must respond with the building design. These same tools are also helpful in prioritizing the project requirements and in anticipating the ones that are likely to be the major influences in determining the building form.

We should have a way to enter the design problem for each set of project issues



Because the building must be successful in terms of all the relevant project issues, we should have ways of entering the design problem for all of them. Each project requirement tends to pull the building design in a different direction to ensure that its own needs are met. Climate wants the building to be one way, construction costs another and site still another. Early analysis of the project through diagramming can help us to learn what each of these issues wants the building to be. We can then knowledgeably balance and integrate our architectural responses to all the requirements.

Space adjacency analysis is one way of entering the problem to learn what the client's operation wants the building design to be.



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As an architecture student... I found these two books invaluable. As a design studio instructor 28 years later, I find no other books that cover this particular subject matter as clearly and comprehensively for the novice design student.

For design studio teaching, I seek books... that students can immediately use to support their design process without the need for translation. White's books fit this bill. They are still relevant in terms of content and method. These books should again find a home in architectural design studios at any year-level as well as in site design and architectural programming courses.

Michael McGlynn, AIA, LEED AP
Kansas State University

Excerpted from review in SBSE (Society of Building Science Educators) News

