

neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings

workshop report

Brooklyn, September 29-30, 2007

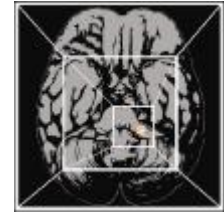


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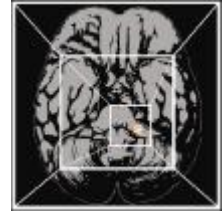
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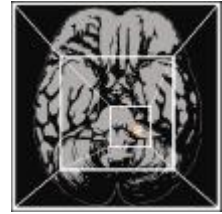
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Disclaimer

This project was supported in part by HDR Inc. and Polytechnic University in Brooklyn. The opinions stated in this report are those of the authors only and not of the HDR Inc. or Polytechnic University in Brooklyn.

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Introduction

Overview of the Project

Following a very successful workshop on Neuroscience and Correctional Facilities in October 2006, the American Institute of Architects (AIA) Academy of Architecture for Justice proposed a workshop on Neuroscience and Courthouse Design in conjunction with the 6th International Conference on Courthouse Design in Brooklyn, NY.

In the workshop, the potentials for applying and developing knowledge that can improve the safety, humanity and effectiveness of courthouses were to be considered.

Specific topics that could be appropriate for investigation using neuroscience methods in courthouse settings include:

- § image and symbolism of the courthouse
- § natural light (courtrooms and jury deliberation)
- § views of nature (from courtrooms and jury deliberation)
- § wayfinding in the courthouse
- § height of judge's bench; center versus corner bench (impact on perceived status & interaction); similar issues for jury box and witness

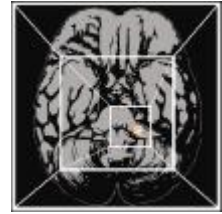
The eventual outcomes from this project are expected to be better, more evidence-based design decisions about courthouse environments, and more satisfied clients of design services.

Project Origins

This project grew from a complex set of circumstances which included the following (and which are detailed below):

- An interest on the part of the American Institute of Architects (AIA), initiated by a challenge from Jonas Salk, in neuroscience and its usefulness in understanding responses to architecture.
- This led to the formation of ANFA - the Academy of Neuroscience for Architecture - which has explored applications in schools, places of worship, laboratories, healthcare settings, facilities for the aging and correctional facilities.
- The AIA's Academy of Architecture for Justice (AAJ) - which has established a research agenda. Its annual conference in 2005 was held in San Diego, home to ANFA making possible discussions of mutual interests.

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- The AAJ research agenda highlighted an initiative around the application of neuroscience to correctional environments. The research began with a neuroscience and correctional environment direction-setting workshop at the 2006 Annual AAJ Conference in New Orleans.
- Following the workshop, members of the AAJ expressed interest in continued exploration and research. The AAJ's 2007 Annual Conference was scheduled to focus on courthouse design in the 6th International Conference on Courthouse Design.
- The AAJ partnered with Polytechnic University in Brooklyn (location of the 6th International Conference on Courthouse Design) to conduct a direction setting workshop on neuroscience and courthouse design.
- Funding was provided by a grant from HDR, Inc. and in-kind contributions from Polytechnic University.

The Courthouse – A Subject for Design Research

The courthouse is a symbol of government as well as a center of each community. An excerpt from *Building Type Basics for Justice Facilities* (Phillips, Griebel 2003), illustrates their vital roles:

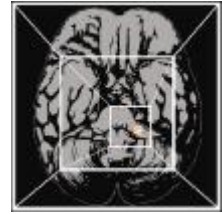
"The nation's courts are the centerpiece of the third branch of government, the judiciary. The courts have a twofold role. They are the instrument for administering the rule of law, and they are the check on the state in cases where the executive or legislative branches may have overstepped their bounds."

"The courts are continually adapting to new challenges and using new tools. The challenges include more complex litigation proceedings involving numerous parties, and disputes that increasingly cut across jurisdictional lines. The new tools range from technology-based systems to new ways of working with court-related professionals and public and private resources."

According to Phillips and Griebel, the planning and design of courthouses include four major categories: adjudication, work processing, customer service and court support services.

A courthouse may promote a range of different philosophies of delivering justice – punitive, therapeutic/problem solving, restorative and community. Many jurisdictions implement more than one of these approaches within their system. Also, many different types of people use the courthouse – administrators, judges, victims, offenders, supporting agencies, attorneys, court staff, jurors, citizens, vendors and the media.

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Research investigating image and symbolism has been ongoing by David Tait and the Court of the Future Network. More details of this investigation will be discussed later in this report.

The AIA & ANFA: Architecture & Neuroscience

The AIA has heightened its interest in “evidenced-based design”. Architects clearly can contribute to good decisions being made during the design process – again, if the information is available, clear and convincing. The AIA has even begun referring to its committees as “knowledge communities” and “academies” – such as the Academy of Architecture for Justice – for which Jay Farbstein, serves as the head of its research program and which has supported the development of the agenda leading to this workshop.

The AIA has launched certain initiatives aimed at developing the “evidence” for “evidence-based design”. Principal among these efforts is the formation of the Academy of Neuroscience for Architecture (ANFA – no longer an AIA program, but originally started with a Latrobe Fellowship award, receives partial funding from the AIA, and incorporates national and local AIA leadership on its Board together with leaders in the neuroscience community).

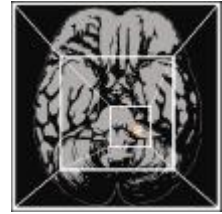
ANFA’s mission is:

“to promote and advance knowledge that links neuroscience research to a growing understanding of human responses to the built environment.

The Academy benefits from the expanding body of research that has evolved within the neuroscience community in the last two decades, and the promise of even more in the coming century. Some observers have characterized what is happening in neuroscience as the most exciting frontier of human knowledge since the Renaissance. All humanity stands to benefit from this research in countless ways still to be determined. The profession of architecture has become a partner in developing the application of this knowledge base in order to increase its ability to be of service to society.”
[from the ANFA website]

The following is a summary of the key points from the theme presentation address at the 2003 AIA National Convention by Dr. Fred Gage (a current Board member and Past President of ANFA):

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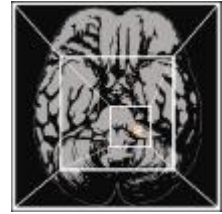
- The brain controls our behavior.
- Genes control the blueprints for the design and structure of the brain.
- The environment can modulate the function of genes, and ultimately, the structure of the brain.
- Changes in the environment change the brain.
- Consequently, changes in the environment change our behavior.
- Therefore, architectural design can change our brain and our behavior.

ANFA is concerned with developing knowledge about how architectural settings impact the experience of those who are in the setting; thus, it uses neuroscience concepts and techniques to investigate such things as how the human brain and mind form experiences; how these interactions affect behavior; and how changes in the attributes of the architectural setting can change experience. ANFA is engaged in research on environments for healthcare, aging, research labs, sacred spaces, and K-6 schools, and correctional environments.

(It should be pointed out that while ANFA is not a formal sponsor of this research project, several of the team members are architects or neuroscientists affiliated with ANFA and the workshop follows a model developed by ANFA.)

Viewed from the opposite perspective, neuroscience can also be seen as a natural extension for environmental design research in courthouse settings, since it allows understandings and insights about mental processes as well as behavioral and health outcomes which were not previously available. This application suggests that neuroscience concepts and methods offer tremendous promise for developing crucially important information of use to courthouse planners and operators. They offer the ability to go deeper into the processes and causes behind behavioral outcomes, understanding the way design and environment influence the mental structures and processes which result in behaviors (and even to find the reasons that the behaviors occur) – and thus present the opportunity to more effectively respond to and channel these behaviors in ways that are more positive for the individuals and institutions.

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Project Objectives

The project is intended to define a program for courthouse design research. Because it is a leading-edge effort to explore new possibilities, the project's objectives may be considered ambitious. Key objectives are:

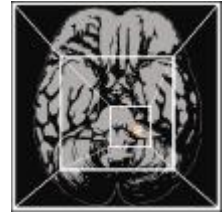
- § to discuss the topic area – what is the problem? what do we know now? what would we like to know?
- § what are the law/courthouse correlates? the neuroscience correlates?
- § to formulate hypotheses about how the environment impacts outcomes
- § to discuss how to test the hypotheses – what methods, what measurements?
- § are there logistical, legal, or other constraints that need to be considered?
- § to set priorities for field research
- § to discuss data gathering issues and logistics
- § to identify candidate facilities
- § to discuss next steps – including publishing results of workshop & distribution
- § to identify opportunities for further support and funding

The Workshop

The workshop was held on September 29-30, 2007 at Polytechnic University in Brooklyn, New York. It was attended by 18 participants including 5 researchers, the founding president of ANFA, 3 court administrators/representatives, 1 environmental psychology student and eight architects. Three of the participants were also project organizers.

The workshop began on Saturday morning with a welcome from Richard Wener, PhD, Professor of Environmental Psychology at Polytechnic University, and an introduction to the project and project goals by Jay Farbstein, PhD, FAIA, Jay Farbstein and Associates. Melissa Farling, AIA, Jones Studio and ANFA Research Associate, gave a brief introduction to the Academy of Neuroscience to Architecture. A thorough introduction to courthouse research on design evaluation was

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given by Debajyoti Pati, PhD, AIA, and Director of Research at HKS. This was followed by a thoughtful introduction to neuroscience and its applications to architectural environments by John Eberhard, Latrobe Fellow and Founding President of ANFA. Next, Richard Wener, PhD and Donald Phillips, Lecturer at Polytechnic University, presented pertinent research on wayfinding and cognitive maps. All presentations are summarized in the next chapter and their PowerPoint slides are reproduced in the Attachments.

Following the introductions, the group spent the afternoon discussing the topics. The court administrators and representatives related the important issues regarding the topics. They also gave specific examples of challenges and opportunities that currently exist. The group further explored the issues and elaborated possible hypotheses about the effects.

On Sunday morning, the group further discussed one of the topics and then generated hypotheses for research. The whole group then prioritized the research projects. This discussion is also summarized in the next chapter.

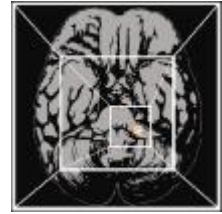
Conclusions and Next Steps

The work group outlined steps for further research:

- § identification of potential funding sponsors and/or partners
- § implementation of a pilot study based on priorities outlined in the workshop
- § identification of locations for the pilot study
- § timing of the study
- § follow up meeting at the 2008 AAJ Annual Conference in San Francisco

References

Phillips, T. S. & Griebel, M. A. (2003). Courthouse Facilities. In S.A. Kliment (Ed.), *Building Type Basics for Justice Facilities* (pp. 75-76). New York: Wiley.



Introductory Presentations

Introduction

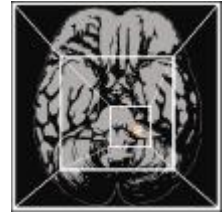
The workshop began with an introduction to research on court design evaluation given by Debajyoti Pati, PhD, AIA, and Director of Research at HKS. This was followed by an introduction to neuroscience and its applications to architectural environments by John Eberhard, Latrobe Fellow and Founding President of ANFA. Finally, current research on wayfinding and cognitive maps was discussed by Richard Wener, PhD, Professor of Environmental Psychology at Polytechnic University, and Donald Phillips, Lecturer, Polytechnic University. All of the presentations are summarized below and their PowerPoint slides are reproduced in the Attachments.

Rethinking Openness: Courthouses in the United States

Debajyoti Pati began his introduction to court design research with a presentation on “rethinking openness”. The study began with the question: “what does openness mean?” Eighteen projects were assessed. Topics for discussion included siting, access, massing, style, footprint, materials and program.

- Openness is conceived in 6 ways by clients (designers, judges):
 - Accessibility
 - Transparency
 - Exposure
 - Organizational clarity
 - Illumination
 - Inclusiveness
- Objectives:
 - Identify patterns of conception
 - Identify interpretations
- Accessibility (interpretations):
 - Accessibility to the building – an articulated entrance can seduce people into the courthouse; visibility of public entrance
 - Accessibility to spaces *within* the building – multiple circulation paths to the interior
 - Accessibility to the site – site location - close to public transportation and comfortable parking

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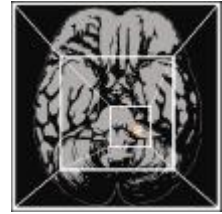
- Transparency (interpretations):
 - Visual link – outside in and/or inside out
 - Exposure:
 - § Visibility – local scale – enables state-citizen engagement
 - § Visibility – city scale – the building is a landmark at the city scale
- Organizational Clarity:
 - Clarity of spatial organization – enhance comprehension of functions and spaces
- Illumination:
 - Natural light – leads to better clarity; dark, unlit spaces are synonymous to closed doors
- Inclusiveness:
 - Program and use – open up spaces to non-judicial public functions. Use atrium for public functions

Balancing Openness and Security in Federal Courthouses: Reassessing Openness in a Heightened Security Scenario

Study Context

- The previous study looked at late 20th century desire for openness in public buildings. Late 20th century also had security concerns. How do you balance them?
- What is openness for courthouse users?
- 3 courts were studied ranging from 49,000 sf to 291,000 sf, 3-8 stories in height and 1-14 courtrooms. A framework of dimensions was constructed for an openness survey in which 110 users voluntarily participated. The focus was on building users perceptions. What is the tenant/user perception?
 - Physical : site
 - Symbolic : illumination, transparency, local scale
 - Social : inclusive, accessible
 - Cognitive : conceptualize building and function, organizational clarity, wayfinding
 - Each person surveyed rated the openness of the courthouse on an 8-item questionnaire. The purpose was to assess initial (client) framework against user (tenant) response. The perception of openness was mapped with the proposed hypotheses (cognitive, social...).
- What components association with “openness” is statistically significant?
 - Transparency and exposure (significant at 0.05 level)

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- Illumination and Inclusiveness also contributes (significant at 0.1 level)
- Accessibility was not as important to the users
- The clients focused more on accessibility and transparency while the users perceived transparency, exposure, illumination and inclusiveness more in relation to openness of their courthouse.
- Transparency – percentage of area of transparent glass is important (not “false” or spandrel glass).
- Exposure – local connectivity value is important. The value is at the building level, the day to day interaction (going to lunch, etc.).
- From the building user’s perspective, openness is a symbolic and cognitive issue.

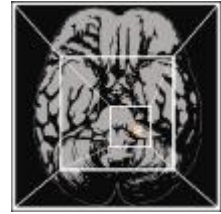
Supportive Courtrooms

Debajyoti Pati continued with a presentation on “supportive courtrooms”. An outline of the main points is presented below:

What are the fundamental tasks of a courtroom?

- What variables influence these tasks?
- 26 courtrooms in 14 courthouses were evaluated (mostly Superior courts in Georgia).
- 93 users evaluated supportiveness of their courtrooms for critical courtroom tasks, 24 were Judges.
- Critical performance issues included being able to see and perform tasks, hear clearly, converse privately when needed, have no barriers to performance, safety and security. Safety and security was not part of the scope of this study.
- Environmental correlates included:
 - Shape
 - Size
 - Location and attributes of courtroom elements
 - Auditory environment
 - Visual environment
- Visual environment includes:
 - Illuminance
 - Brightness
 - Glare
 - Light direction
 - Spectral power distribution (color temperature)
 - Luminance
 - Sightline obstruction
- Auditory environment (the worst noise comes from doors closing):
 - Reverberation
 - Background noise
 - Movement

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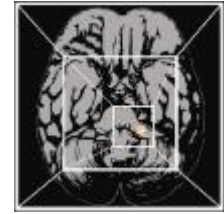


- Data analysis: Principal component analysis, multi-variate regression analysis, hierarchical regression models.
- Near visual tasks:
 - Task / background luminance (+)
 - Window area (+) (surrogate measurement for natural light)
 - Age (-)
 - Reporter (-) (Judge was the reference/reporter was the most extreme difference)
- Far visual tasks:
 - Vertical/horizontal illuminance (-) (indicates shadow on face – impacts face recognition)
 - Surrounding / ceiling luminance (+) (reflection)
 - Reporter (-)

Significant findings:

- Conversation:
 - RT (-)
 - NC (-)
 - Sightline obstruction (-)
 - Reporter (-)
- Speech Privacy
 - NC (-)
- Physical variables:
 - Well length (+)
 - Well width (+)
 - Attorney (-)
 - Gallery capacity (+)
 - Public waiting (+)
- Courtroom symbolism:
 - Courtroom:
 - § Shape (-) (prefer wider over longer)
 - § Area (+)
 - § Height (+)
 - § Window (+)
 - Gallery:
 - § Seating capacity (-) (the more seats, the less symbolic)
 - Visual environment:
 - § Vertical/horizontal illuminance in well (+) (the more shadows, the more symbolic – in room or on faces – more dramatic)
 - § Surrounding floor/luminance (+) (more contrast – lights and colors)
 - § Judge's bench height did not impact perception. Location was not measured,

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size not correlated. However, there was not much variability in height. ADA has brought height down and is getting negative feedback. If lowered too far, eye level of seated judge will be lower than eye level of standing participants. (At Red Hook, the Judge wanted a lower height because it made him more approachable).

Information and Communication Technology in Courthouse Design & Management

Ultimately, Debajyoti Pati shared a court research project through GSA. Dr. Pati (Co-Principal Investigator) worked with Dr. Craig Zimring (Principal Investigator) and Dr. Athanassios Economou (Co-Principal Investigator) at Georgia Tech, on a USGSA and US Courts sponsored project. They have developed a “Courts Web” interactive database which is only accessible to those involved in the design and construction of federal courthouses. The site is a database of case studies and lessons learned of new buildings only. A public version with limited information is accessible at www.courtsweb.gatech.edu.

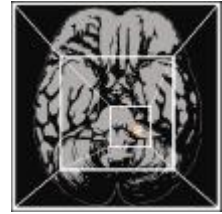
The Brain, the Mind and the Design of Courts

Next, John Eberhard began his presentation with an explanation of the brain versus the mind. The brain is an *organ*; the mind is a *process* (i.e., it processes images and recognizes symbolism). A summary of the points follow:

Statements about courthouse design and purpose:

- Judge Conrad L. Rushing, Superior Court of California, states that symbols of the court are not limited to Lady Justice wearing a blindfold. Justice actually sees and understands those who come before it.
- Amendment VI to the Bill of Rights provides the rights to a speedy trial, an impartial jury and legal counsel.
- Government buildings remind people they belong to an organized polity. The courthouse articulates the communal dimension of society.
- The U.S Courts Design Guide states that the architecture of federal courthouses must promote respect for tradition – a courthouse must express: solemnity, stability, integrity, rigor, and fairness. The building must also provide a civic presence. These are attributes perceived by the mind.
- We know that people are comfortable with “traditional” courthouses, because they recognize what they are seeing. How do we know if they perceive attributes of a “contemporary” courthouse if they may not recognize the building as a courthouse?

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Discussion of the brain and the mind:

- The mind is the most complicated object in the universe.
- Our senses are processed via the thalamus then into the cortex. This is true for all senses except for sense of smell – smell goes directly to the cortex. Early in our evolution, smell was the most important sense. However, we do not smell when we sleep.
- In addition to the five senses of smell, taste, vision, hearing, and touch, proprioception is the “sixth sense” – this is an awareness of the location of our limbs, posture, and equilibrium.
- Memories are collected, interpreted and matched. If an event does not match previous events in our memory recognition will not occur.
- We are the only species that can contemplate the future and think about the past, and be aware of being aware.

Hypotheses that support our design intuitions:

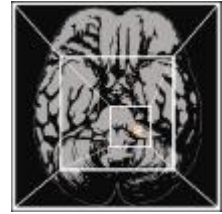
- Natural light: There is a relationship between ambient lighting, the response of the circadian rhythms of the body, and the ability to sleep.
- Views of nature: Research conducted by Roger Ulrich has shown that windows impact the healing process – reducing length of stay and reducing medications. A possible hypothesis for windows in a jury room is: It is hypothesized that windows influence staff performance because variations in environmental variables affect brain processes that in turn alter outcome measures.

- Wayfinding: Landmarks are critical in wayfinding. A possible hypothesis is: Some people are more gifted or challenged in wayfinding. Different regions of the brain are attributed to this. More people are more adept at

reading maps. Studies at the University of California at San Diego have shown a difference in wayfinding in male and female mice.

- Height of Judge's Bench: A center location is perceived as conferring a higher status than a corner location. Why would this be true? If the judge's bench is located at least three feet above the main floor this confers an “imperial” status. Is this translated in the

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mind to making the judge a “regal” person with little concern for the accused?

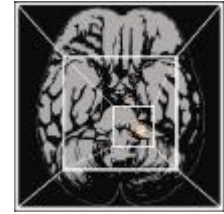
- Symbolism: Lady Justice conveys the sense of equal opportunity before the law. Why?
- The brain is always looking for novelty. This may be an issue, which contributes to boredom (and consequently attention) for jurors on long trials.

Wayfinding and Cognitive Maps

Rich Wener gave an overview of wayfinding and cognitive maps. A summary of the presentation follows:

- Wayfinding is an invented word to describe how to find your way from one place to another.
- Edward Tolman introduced the term and the idea of ‘cognitive map’ when he tested rats in a maze. The rats wandered the maze without desire and then remembered the location of food when placed back in the maze, finding their way directly to the food. Cognitive maps are mental representations of physical settings.
- Kevin Lynch later referred to cognitive mapping in *Image of the City*. He observed people at an urban scale (which is transferable to building scale). He documented the importance of paths, edges, districts, nodes and landmarks. The more you have, the more ‘imageable’ the city or place becomes – a better cognitive map.
- Other elements also help imageability:
 - Rectangularity: this is easiest to maneuver, know and recall. A diagonal can become a landmark, too (Broadway in New York City).
 - Simplicity: clarity of geometry, understandable, describable
 - Expectation: from experience, history, culture
 - Visual access: can I see there from here?
 - Asymmetry: differentiation of spaces, refers to distinct landmarks
 - Terminology: room numbers and building names. University of Michigan conducted a study on building names.
 - Orientation aids: maps, signs, technology
 - Affordance: human factors research – perceive certain things instantly (i.e. horizontal surfaces at a certain height is a good place to sit). Does it afford that use?

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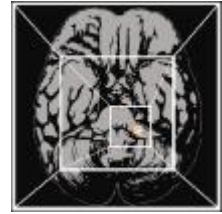
- Learning map of an area:
 - Sequential: route knowledge – this is more primitive, less creative
 - State – survey knowledge – an overview of the layout, can develop new routes if one is blocked
- How find way in a new place?
 - First and best is to get cues from the environment – design affordances (does it look like a door or exit?).
 - Second is to look for aids – signs, maps, etc. This strategy requires more cognitive effort.
 - Third is to look to other people to see what they are doing. This is less clear and more risky.
 - Last is to ask people or to wander. Both are stressful and unpredictable.
- Stress plays a role. It reduces one's ability to solve complex problems, which wayfinding can be.
- Costs of being lost:
 - At the Metropolitan Correctional Center, visitors were have a hard time with wayfinding. Signs were added. This reduced the amount of people asking for help. Time to complete tasks was cut in half. Navigational errors were reduced as well as perceived waiting times. Anger and stress (blood pressure) levels were reduced. The addition of signs also reduced the perception of crowding (Wener).
- 'You are Here Maps' (Martin Levine) must be oriented so straight up is straight ahead. Map also has to be oriented so that you can see the object on the map from where you are located. When maps are not oriented properly, wayfinding is down significantly.

Wayfinding, Cognitive Mapping and Memory

Don Phillips followed with further discussion of wayfinding, cognitive mapping and memory. A summary of the presentation follows:

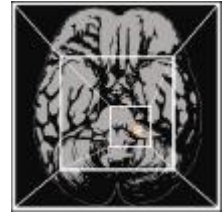
- Only humans have an asymmetry of functions in the neocortex of the brain
- Hippocampus – long term memory consolidation and retrieval, cognitive mapping, navigation and wayfinding
- Amygdala – negative emotions (fear, anger, aggression)

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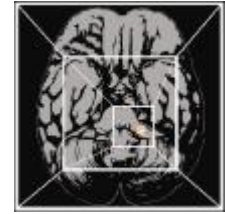


- Odors create some of the most powerful memories
- Remote senses – smell, vision, hearing
- Contact senses – touch, taste
- Right hemisphere of the brain:
 - Spatial geometry, mapping
 - Face
 - Geometry
 - Emotion
 - Sounds
 - Music
 - Patterns
 - Braille
 - Movement in spatial patterns
 - Nonverbal memory
 - Direction
 - Distance
 - Damage to right temporal lobe is detrimental to chess players
- Left hemisphere of the brain:
 - Language
 - Sequential processes, algebraic math
- Some animals have much larger hippocampi – homing pigeons have larger than other pigeons; squirrels have larger than other rodents (hide nuts).
- Form and color – our brain has cells that map this – primary visual cortex on medial surface of the right hemisphere
- Information eventually travels to the inferior temporal lobe (naming, words, association) and to parietal lobe (sense of location). Memory of an event is triggered. Memory is “re-living an event”.
- Relational learning – most complex – recognize with more than one sensory modality (remembering sequences).
- Place cells: fire when in a certain location. It is actually not as much the location as what we think the location is.
- Hippocampus: spatial memory and recall memory – to improve memory, increase the emotion.
- Amygdala: processes information regarding odors, danger.
- Hypothalamus: processes information relating to hunger and thirst.

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- Subtemporal: objects, how get there, mosaic of stimuli.
- The hippocampus ties all the processes together and compares to other stimuli.
- Eleanor Maguire and her team analyzed the hippocampus of taxi drivers in London. There was a significant increase in grey matter in the posterior hippocampus but decrease in the anterior hippocampus of the driver over the non-driver. The posterior hippocampus recalls spatial memories and the anterior hippocampus consolidates new memories.
 - Bus drivers who use the same route did not have as large hippocampi as taxi drivers.
- Does storage of more memories and cognitive maps reduce the ability for new maps?



Topic Summaries - hypotheses and research projects

Introduction

The core of the workshop was the time spent discussing possible hypotheses and research projects. All participants had been asked to prepare for the discussion. To prepare for the workshop, the following questions were presented:

(Court Administrators) What is the situation in your court facility? What are the conditions, the impacts and the problems (if any) that you and your people experience and what would you like to have?

(Architects) What do you see as the range of possible environments or design features that affect this area? What are the design choices you face, what research findings would contribute to your discussions with clients and owners?

(Researchers) What are the brain processes (including cognitive) that relate to this topic and how it might be studied in the court environment (and with subjects who might be difficult to gain access to – jurors, especially once empanelled, litigants, in-custody inmates)? Are there laboratory experiments which could contribute? In designing experiments, what features would be held constant, and which would vary?

The groups covered the following topics:

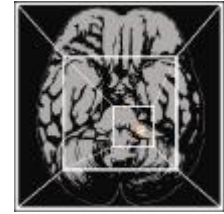
1. Image and symbolism of the courthouse
2. Natural light (courtrooms and jury deliberation) and Views of nature (from courtrooms and jury deliberation)
3. Wayfinding in the courthouse
4. Height of Judge's bench: center versus corner bench (impact on perceived status and interaction); similar issues for jury box and witness

Results of the discussions follow:

1. Image and Symbolism

David Tait, PhD, Senior Lecturer University of Canberra, led a discussion on image, symbolism and ritual. The following summarize his points, including discussion by the group:

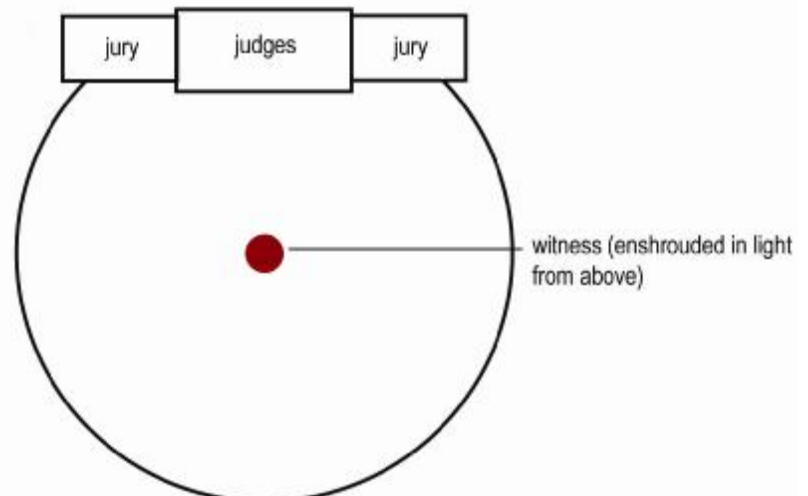
neuroscience and courthouse design workshop: understanding cognitive processes in courthouse settings



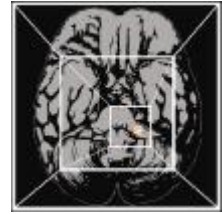
- Justice is a ceremony – full of ritual with dynamic context.
- There exists a cultural framework in a courthouse.
- A range of perceptions exist within the justice process.
- Antoine Garapon, Director, Institute des Hautes Etudes sur al Justice in France, focuses on rituals in practice. He proposes that the American judge becomes anonymous and neutral until he or she robes - this is symbolic of becoming sacred. There exists a transition from secular space (outside the courtroom) to transitional space, which is critical, to a more sacred space (the courtroom).
- Restorative Justice illustrates use of symbolism. The role of the circle in the Australian court is an example. The defendant, in the center of the circle, is on display – this may feel oppressive. There is choreography within the spaces – official stands at the head and then moves to the side leaving a voided space; the family is left in the room and the officials leave, implying that the family “owns” the space and is better able to make a decision. This process can also be regenerative, growing out of local experiences.

Symbolism in the French Courts

- Symbol has been rejuvenated in French courts. New rituals that restore have emerged from vernacular. The old courts represented decayed authority. The prosecutor was in the left corner – in a royal position, on a “throne”. The prosecutor wore royal robes – the last link with monarchy in France, and had the highest position in the room while the defense attorney had the lowest. This (inappropriate) symbolism leads to vulnerability. It is critical to consider how people interact with symbols. The witness diagrammed below is enveloped in light from above.



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- Is symbol derived for antiquarians or distressed litigants?
- What historical pasts and futures do you choose to promote?
- How do symbols contribute to regeneration of society? Symbols are for the community as well as the individual.

Role of Symbolism in the Courtroom

- There are layers of symbolism embedded in the spatial qualities as well as the materials.
- In Robert Jacob's *Images of Justice*, he discusses the symbolism of wood – the demarcation of sacred/profane.
- The word courthouse comes from “co hortus”, literally “with the garden”. This represents a transparent, safe place. This idea has continued with the use of wood in the courthouse.

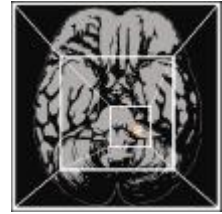
Role of Symbolism in the American Court

- There is a didactic role of teaching people about the system they are experiencing – display of authority balanced with compassion.
- First impression is critical.
- The symbolism is focused on external expression.
- What says courthouse? Mass? Huge amounts of glass?
- Culture and memory are integral to the collective symbolism.

Memory

- We are hard-wired from pre-language 50,000 years ago with an auto response to authority. Language lessened the need for authority, but a residual need remained.
- Explicit memory is based on facts (i.e. John F. Kennedy was president, Paris is the capital of France).
- Procedural memory allows us to learn to ride a bike or play the piano. We practice to improve.
- Implicit memory is the memory stored as a result of personal experiences. They are unique to the individual. Dispositions are collections of pieces of memory (i.e. your wedding day). You will recall when in a similar experience (i.e. when your child gets married).
- Biology is impacted by memory (i.e. heart rate) although not registered at a conscious level.

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Applications to Neuroscience

- Jury Deliberation
 - Position of foreman in the room.
 - Social interaction of the jury – measure mirror neuron activity.
 - Shape of the table.
- Test “What is Courthouse” by showing 6 images fast to illicit response.
- Conduct an associative test where there is no time for verbal response (i.e. “authority” or “respect” or “fear” or “welcome”). Go through a set of words (i.e. “judge”).
- Conduct a similar test with images – i.e. “awe” – for traditional court buildings, schools, French court building (using light).

Research Topic 1.1 – Symbols

- “Traditional” symbols of justice will be perceived differently by
 - Judges
 - Staff
 - Public
- as “oppressive”, more “just”
 - Flags
 - Seals
 - Balance
 - Blindfold
 - Etc.

Research Topic 1.2 – Position

- Position of players impacts trial outcome (break out variables).

Research Topic 1.3 – Transparency

- A more transparent exterior wall will result in a more positive perception of justice.

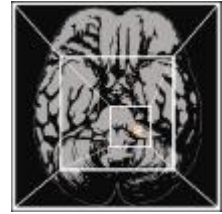
Research Topic 1.4 – Wood

- Dark wood vs. light wood in the courtroom will affect user participant’s perception of ... (fairness, justice, fear, etc...).

2. Natural Light and Views of Nature

- It is not just the design of the physical environment, but also the ability to control it that is important. This is important to the jury, too.

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- At the Doge's Palace in Venice, there is daylight behind the jury which shines and illuminates the evidence. This is functional and symbolic.
- View is important.
- Stress is associated with a system with which one has no control.
- A clerk is in his/her office/work area all day long, what is the quality of space for that clerk?
- Access to natural light is critical. What are local rituals and experiences? How can these be applied?
- Time of day should be indicated with light.

Research Topic 2.1 – Light/views and the Jury

- Natural light and/or views at jury deliberation and assembly will affect perceptions/outcomes.

Research Topic 2.2 – Light and perceptions

- More natural light in the courtroom will improve perception of "justice" or "fairness".

Research Topic 2.3 – Shadows

- Shadows on witness's face will cause him/her to be seen as less believable/reliable.

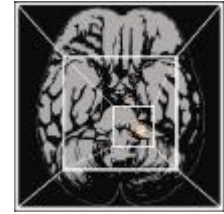
Research Topic 2.4 – Light in holding cells

- Natural light in prisoner holding cells will decrease their stress and increase their perception of fairness.

3. Wayfinding

- Who are all the users of the courthouse? Focus on the first time user.
- Scale of the project – total size? Low rise or high rise?
- Configuration?
- Screening of visitors, staff: Is it a new building or complex? Is it an existing building or complex?
 - How can the screening area be disguised to limit anger or stress?
 - Often screeners are distracted by wayfinding questions. What is the cost benefit ratio? How much staff time is spent? Measure how much time staff are spending helping with wayfinding instead of doing their assigned jobs.
 - What is a tolerable waiting time? Disney successfully manages long lines where you are entertained and do not realize the length of the line.
 - Should there be a by-pass for employees?
 - Is the screening area crowded?

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- How important is a “friendly face” or “concierge”, so a visitor has the ability to ask questions?
- Directories: virtual transparency? Does the visitor know the layout of the space? What about spaces beyond the entry? Spaces other than the courtrooms?
- Existing spaces should be evaluated.

Stress Reduction

- How are expectations managed?
- How does the courthouse support valuing people’s time? Caring about their needs?
- Universal symbols – Belinda Collins and Peter Hecht. Something in symbol is being registered in the brain. Pictographs use different part of the brain than language.
- Measure stress before entering the building and when reach destination. Where does stressed actually begin?
- What makes good/bad screening area or process? The subtlety of the equipment or the visibility of it? The length of the line?
- Should the queuing lines be removed and replaced with chairs?
- Does a sense of “fairness” help? Banks have one line and everyone has their turn vs. always picking the “wrong” line.
- Should the queuing experience provide a lesson while waiting (i.e. learn about the Constitution)?
- Does a “beautiful” or enriched space reduce stress (generous light, space, materials)?

Research Topic 3.1 – Courthouse legibility and stress

- A clearly laid out legible courthouse will greatly reduce the stress on first time/occasional user.

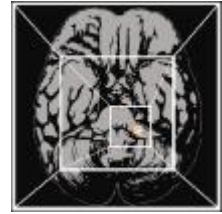
Research Topic 3.2 – Spatial qualities and stress

- Being in a “beautiful” space reduces stress (generous – light, space, materials).
 - Security line
 - General waiting

Research Topic 3.3 – Display of information

- Broader, more comprehensive display of information (map/data) will be better than single/limited information (multi-cue).

neuroscience and courthouse design workshop: understanding cognitive processes in courthouse settings



Research Topic 3.4 – Screening wait times and stress

- Shorter wait times in screening reduce stress and increase satisfaction.

4. Height/Location of Judge's Bench and Jury Box

- What is the symbolism – dignity and respect vs. authority? Sense of dominance and height are integral to social relationships. Interactions are “designed”.
- Should the judge and jury be the same height? Where is the lawyer? The witness?
- In England, the judge is the lowest person in the room.
- Should the well be raised and all participants be placed at the same level?
- Should the jury be the highest, since their role is most important?
- Should the judge be perceived as most important or as a neutral party?

Center vs. Corner Bench

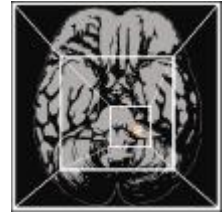
- Historically, the corner was a royal position where the king sat. This gave ultimate visual access with minimum exposure to the room.
- How do gradations in height between judge and jury impact sense of fear, empathy? Is it just ritual or necessary? Study one jury with randomly assigned juror seating at multiple levels – first row, second row. Face recognition can be studied.
- Measurement of responses using a shadow jury is possible for research.
- Video arraignment – non-verbal cues such as eye contact and empathy are lost. Are there ways to overcome this loss? Are there substitutes for such cues?

Research Topic 4.1 – Height of Jury bench

- Height of jury bench affects juror perception.

Research Topic 4.2 – Height of Judge's bench

- A lower bench will increase empathy while a higher bench will increase perceived “authority” of judge.



Summary of large group discussion

Introduction

This chapter summarizes the concluding discussions held with the group on Sunday morning.

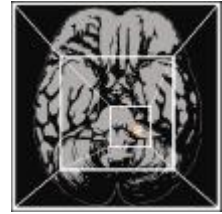
General discussion points

The group was asked to set priorities from among the research topics identified.

Hypotheses are listed in the order of highest priority at top (number of votes is in parentheses):

1. (9) Natural light and/or views at jury deliberation and assembly will affect perceptions/outcomes.
2. (5) More natural light in the courtroom will improve perception of "justice" or "fairness".
3. (5) A clearly laid out legible courthouse will greatly reduce the stress on the first time/occasional user.
4. (5) Being in a "beautiful" space reduces stress (generous – light, space, materials).
 - Security line
 - General waiting
5. (4) Height of the jury bench affects juror perception.
6. (3) "Traditional" symbols of justice will be perceived differently by
 - Judges
 - Staff
 - Publicas "oppressive", more "just"
 - Flags
 - Seals
 - Balance
 - Blindfold
 - Etc.
7. (2) A lower bench will increase empathy, while a higher bench will increase perceived "authority" of the judge.
8. (2) The position of players impacts trial outcome (break out variables).
9. (1) A more transparent exterior wall will result in a more positive perception of justice.

neuroscience and courthouse design workshop: understanding cognitive processes in courthouse settings



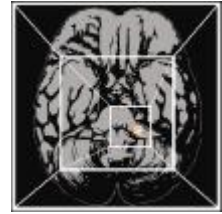
10. (1) Shadows on witness's face will cause him/her to be seen as less believable/reliable.
11. (1) Natural light in prisoner holding cells will decrease their stress and increase their perception of fairness.
12. (1) Broader, more comprehensive display of information (map/data) will be better than single/limited information (multi-cue).
13. Shorter wait times reduce stress and increase satisfaction.
14. Dark wood vs. light wood in a courtroom will affect user participant's perception of... (fairness, justice, fear, etc...)

Conclusions & Next Steps

Funding and further research

- A variety of possible sponsors or partners were discussed:
 - State Justice Institute
 - A consortium of large courts involved
 - General Services Administration
 - American Bar Association
 - American Judicature Society
 - Illuminating Engineering Society of North America
 - National Science Foundation (NSF)
 - American Institute of Graphic Arts (wayfinding)
 - Glazing companies (natural light and views)
 - Center for Jury Studies within the National Center for State Courts
 - National Association for Court Management
 - Academy of Architecture for Justice
- David Tait emphasized the possibility of cross national testing of different juries in different countries. The NSF has collaborative linkage grants with the Australian Research Council.
- Once funding is secured, a pilot study would be conducted. The topic would depend on the funding source or partner, but the priorities set by the workshop will be followed.

neuroscience and courthouse design workshop: understanding cognitive processes in courthouse settings



Locations

- Possible locations for research include New York City, Los Angeles, Phoenix and Georgia Tech's simulated courtroom lab. Another suggestion was to conduct research utilizing courtroom sets in Hollywood studios (i.e. *Law and Order*). This would allow greater manipulation of the space inside the courtroom as well as controlling views from the courtroom – projections could create the views/light if necessary.

Timing

- Research will need to consider timing of the study. For example, August is a slow month for federal courthouses, and this may or may not be desired for a particular measure.

Follow-up meeting

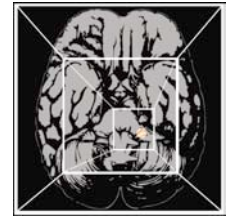
- The workshop sponsors suggested keeping in touch and possibly regrouping in a year to discuss the results and steps to take them forward. A meeting is tentatively scheduled for San Francisco in fall 2008 in conjunction with the AAJ's annual conference.

neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings



Attachment 1: Invitation letter with agenda
& participant list

neuroscience and courthouse design workshop:
understanding cognitive processes in the courthouse



invitation

September 29-30, 2007
Polytechnic University
Brooklyn Campus
Six MetroTech Center
Brooklyn, NY

Dear Colleague:

You are cordially invited to participate in a workshop exploring the application of neuroscience concepts and methods to understanding the impact of courthouse design on judges, staff, victims, offenders, and all of its users. The workshop will bring together neuroscientists, judges, court administrators, national (and perhaps international) court experts, and architects who design courthouses. In the workshop, we will consider the potentials for applying and developing knowledge that can improve the safety, humanity and effectiveness of courthouses.

We expect that the workshop will take the first steps toward defining a research program in this area – and lead to specific funding proposals for field research in courthouse settings. The program is sponsored by the American Institute of Architects (AIA) and its Academy of Architecture for Justice (AAJ) in cooperation with the Academy of Neuroscience for Architecture (ANFA) and Polytechnic University of New York. The workshop will immediately follow the AAJ's International Courthouse Conference in New York.

In previous workshops, ANFA has focused on environments such as healthcare, aging, classrooms, spiritual settings, neuroscience laboratories and correctional settings. Our workshop will follow the ANFA model (see the attached draft agenda) which suggests a number of promising focal topics. Please let us know if one or more of them is of particular interest to you - and feel free to suggest others. We will be discussing these topics in terms of how they are affected by courthouse design, the impacts they have on particular user groups, the ways in which neuroscience may be able to illuminate them, and specific hypotheses about how they work and can be studied. At the conclusion of the workshop, a research program will be selected for implementation and the pursuit of funding.

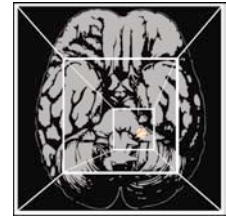
I am happy to say that the workshop will be supported by a grant to the AIA from HDR, Inc. (as well as in-kind contributions from Polytech) so there will be no charges for participation.

We look forward to your participation in this exciting exploration. Please feel free to call either of us with questions - and RSVP by August 31 or as soon thereafter as practical.

Jay Farbstein, PhD, FAIA
Jay Farbstein & Associates, Inc.
Los Angeles, CA 90049
310.889.0199

Melissa Farling, AIA, LEED AP
Gould Evans Associates
Phoenix, AZ 85013
602.234.1140

neuroscience and courthouse design workshop:
understanding cognitive processes in the courthouse



agenda

Saturday, September 29, 2007

8:00 am – 12:00 pm - **Introductions**

- 8:00 am Continental breakfast
- 8:30 am Welcome/introductions
- 9:00 am Background and purpose of workshop
- 9:30 am Presentations:
 - Overview of current courthouse research (Debajyoti Pati, PhD)
 - Introduction to neuroscience and ANFA research (John P. Eberhard)
 - Review initial list of research issues/topics for work groups:
 - wayfinding
 - natural light (in courtroom and jury deliberation)
 - views of nature (from courtroom and jury deliberation)
 - height of judge's bench; center versus corner bench (impact on perceived status & interaction)
 - image and symbolism of the courthouse
- 11:00 am Work group explanations and assignments. Groups will move into separate areas for their discussions.

12:00 pm Reassemble for buffet lunch and work group discussions

1:00 pm - 5:30 pm - **Work groups**

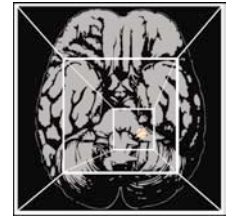
- discuss topic area – what is the problem? what do we know now? what would we like to know?
- what are the law/courthouse correlates? the neuroscience correlates?
- formulate hypotheses about how the environment impacts outcomes
- discuss how to test the hypotheses – what methods, what measurements?
- are there logistical, legal, or other constraints that need to be considered?
- prepare presentation for Sunday

Sunday, September 30, 2007

8:30 am – 12:30 pm

- 8:30 am Continental breakfast
- 9:00 am Opening Session
 - Each group will have 30 minutes to report on results of their collaboration
- 11:30 am Discussion based on group results
 - set priorities for field research
 - discuss data gathering issues and logistics
 - identify candidate facilities
 - discuss next steps – including publishing results of workshop & distribution
 - identify opportunities for further support and funding

12:30 pm Adjourn



neuroscience and courthouse design workshop:
understanding cognitive processes in the courthouse

participant list (tentative)

September 29-30, 2007
Polytechnic University
Brooklyn, NY

Confirmed or Highly Probable:

Co-Organizers:

Melissa Farling, AIA, LEED, AP, Gould Evans Associates (and ANFA)
Jay Farbstein, PhD, FAIA, Jay Farbstein & Associates, Inc.
Richard Wener, PhD, Professor of Environmental Psychology, Polytechnic University, NY

Researchers/Neuroscientists:

John Eberhard, FAIA (ANFA)
Eve Edelstein, PhD, RA, UCSD (and ANFA)
Debajyoti Pati, PhD, AIIA – Director of Research at HKS (dissertation on court design evaluation)
David Tait, PhD, University of Canberra
John Zeisel, PhD - Hearthstone, Inc. (and ANFA)

Architects:

Frank Greene, AIA – Ricci Green, NY
David Hobstetter, KMD, San Francisco
Carol Loewenson, AIA – Mitchell Giurgola, NY
Christina Noble, Gould Evans Associates
Beverly Prior, AIA LEED AP, San Francisco
Representatives from HDR [1 or 2 – names to be confirmed]

Court Administrators, Judges, etc.

Marcus Reinkensmeyer, CEO from Maricopa County AZ
John Van Whervin, Facility Manager, Superior Court of Los Angeles County
Ed Rodman, Architect, New York State AOC

Invited but not yet confirmed:

Neuroscientists:

[others from the NY region]

Architects:

Graham Brawn, University of Melbourne
Chuck Drulis, AIA – Ross, Drulis, Cusenberry

Court Administrators, Judges, etc.

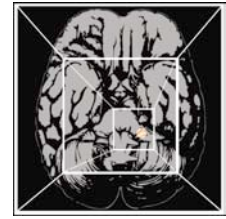
Representative of Planning and Programming, State of Massachusetts Court System
Jude Del Priore – NACM
Center for Court Innovation - **probable**
California AOC – Clifford Ham
National Center for State Courts [Chang-Ming Yeh] - **probable**
Judge from New York City – Alex Calabrese of the Redhook Community Court

neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings



Attachment 2: Preparation letter with
instructions

neuroscience and courthouse design workshop:
understanding cognitive processes in the courthouse



preparations

September 12, 2006

Dear Colleague:

In preparing for our upcoming workshop, we have drafted some questions to think about. As you saw in agenda sent with your invitation, we have identified topics or questions which may be appropriate for study. We are starting with five topics – though we may reduce or recombine them down to three or four depending on how many participants we have. They are:

- wayfinding in the courthouse;
- natural light (in courtrooms and jury deliberation);
- views of nature (from courtrooms and jury deliberation);
- height of judge's bench; center versus corner bench (impact on perceived status & interaction); similar issues for jury box and witness;
- image and symbolism of the courthouse.

We would like to know which of these topics interest you the most. If you had to choose one or two to focus on for the workshop which would they be? If you all choose the same one, we may have to make arbitrary assignments – but we will try to accommodate you while ensuring that each small group has at least one court administrator, a neuroscientist – and not too many architects(!). Please email us this week listing your top interests.

As you think about these topics, from the perspective of your own particular role, please consider the following: What do we already know (from experience and/or research) about the topic and its impacts? What kinds of decisions are being made operationally and in design that impact this issue? What do we need to/want to learn to help make better decisions? What are the neuronal (as well as behavioral, cognitive, and emotional) factors which are important in understanding what people experience and do in at the courthouse (do we know what parts of the brain are involved)? Would we expect differences among various types of court facilities and users (given their role, age, time exposure to the facility, whether they are habitual or first time/occasional users, or what's at stake for them)? Differences between males and females; criminal, civil or family court? Specifically, please be prepared to discuss the following, depending on your role:

- **Judges and Court Administrators** – what is the situation in your facility – what are the conditions, the impacts, and the problems (if any) that you and your people experience, and what would you like to have?
- **Architects** – what do you see as the range of possible environments or design features that affect this area – what are the design choices you face, what research findings would contribute to your discussions with clients and owners?

neuroscience and correctional facility design workshop:
understanding cognitive processes in correctional settings

September 12, 2007

Page Two

- **Neuroscientists** – come prepared to explain to the non-scientists in your group the brain processes (including cognitive) that relate to this topic and how it might be studied in the court environment (and with subjects who might be difficult to gain access to – jurors (especially once empanelled), litigants, in-custody inmates)? Are there laboratory experiments which could contribute? In designing experiments, what features would be held constant and which would vary?

In addition, here are some “thinking points” about each of the topics that we would ask you to ponder and come prepared to discuss.

- **Wayfinding** – larger courthouses presumably face greater challenges, as may older ones – how have they responded? What about multiple floors? Signage systems? Information desks? How about clarity of identifying the entrance? Visibility of destinations within the courthouse? What do we know about how the brain works to help us find our way – and how design can help?
- **Courtroom participants’ locations (judge’s bench, etc.)** – the physical layout of the courtroom structures (or impacts) perceptions and communications among the parties. What is the impact of their relative heights and positions – practically and symbolically? What about impacts on empathy (mirror neurons)?
- **Daylight** – natural light in the courtroom is often discussed but how often – and how – is it provided? Is it enough to have natural light – or must it be present to a certain extent or in a certain way? What about the location of the windows or skylights (which can enhance detail and atmosphere – or contribute to glare or back-lighting)? Since participants’ time exposure is limited, how great are the impacts (e.g., is the circadian rhythm affected; mood; alertness)?
- **View and exposure to nature** – if there are windows in a courtroom or jury deliberation room, is there also a view – and of what? What impact could one expect the view to have – on proceedings or outcomes? Research on courthouse openness (and its importance as a design aspiration) is suggestive. Can the impact of view be tested independent of natural light? What about view in, as well as out?
- **Image** – this is a high-level cognitive function with many layers. What are the roles of memory and culture? How could we identify appropriate images for courthouses and how can they be tested? What parts of the brain are involved?

We expect to send out additional materials, including information about the site location and access as well as participant bios (please send them to us if you have not yet) in a few days. We are excited about the workshop and look forward to seeing you there.

Best,

Jay Farbstein, PhD, FAIA
Jay Farbstein & Associates, Inc.
Los Angeles, CA 90049
310.889.0199

Melissa Farling, AIA, LEED, AP
Gould Evans Associates
Phoenix, AZ 85013
602.234.1140

neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings



Attachment 3: Participant biographies

John P. Eberhard, FAIA

Founding President

Academy of Neuroscience for Architecture | Washington, DC

Jpeber@aol.com 202.478.2443

John P. Eberhard, FAIA is currently a senior consultant to the Academy of Neuroscience for Architecture and is the author of articles on the subject of architecture and neuroscience. He has two books in preparation on the same topic.

From 2003 to 2005 he served as the Latrobe Fellow of the College of Fellows of the American Institute of Architects, the Founding President of the Academy of Neuroscience for Architecture and as Visiting Scholar in the Division of Biology at the University of California at San Diego.

He was the Director of Research Planning for the American Institute of Architects in Washington, DC. from 2000 to 2003.

He has served as Director of Research of the Sheraton Hotel Corporation (1960-63); Director of the Institute for Applied Technology at the National Bureau of Standards (1964-68); President of the AIA Research Corporation (1973-78); and Executive Director of the Building Research Board of the National Academy of Sciences (1982-87).

A graduate of the University of Illinois in architecture, and the holder of a Masters in Industrial Management from the Sloan School at MIT, his academic career has included: an appointment as adjunct professor in the Sloan School at MIT (1959-63), Dean of School of Architecture and Environmental Design at SUNY-Buffalo (1968-73), and Head of the Department of Architecture at Carnegie Mellon University (1989-95).

From 1995 to 1998, as a consultant to the American Architectural Foundation in Washington, he immersed himself in learning about developments in the field of neuroscience.

He is a member of the Cosmos Club in Washington, DC. and a member of the Society of Neuroscience.

Jay Farbstein, PhD, FAIA

Principal, Jay Farbstein & Associates | Los Angeles, California

Chair, AAJ Justice Facilities Research Program

jfaincorp@aol.com 310.889.0199

Principal of Jay Farbstein & Associates, Inc., Mr. Farbstein has more than 30 years of professional experience and is nationally recognized for his contributions in the field of courts and criminal justice facility planning.

Mr. Farbstein has conducted courts planning projects for many jurisdictions including Los Angeles, Orange, San Francisco, Santa Clara, Butte, Santa Barbara, Placer, and San Diego counties in California as well as in Bexar County, Texas and King County, Washington where he is currently leading a master planning study for an integrated juvenile and family court facility of approximately 40 courtrooms.

For the California Administrative Office of the Courts (AOC), Mr. Farbstein led a team preparing courts master plans for five county court systems (Lake, San Mateo, Modoc, Inyo, and Kern). Mr. also Farbstein led the effort in programming a new 18 court project for the South Courts (Laguna Niguel) for the County of Orange which is proceeding into construction with partial support from the AOC.

Mr. Farbstein provided programming services for three AOC projects: a sixteen court conversion of the Sisk Federal Courthouse in Fresno (with the Smith Group whom he also assisted with design), the Los Angeles Mental Health Court (with Pfeiffer Partners) and the Placer-Nevada Joint Use Court (with RNL Design). JFA has also been selected by the AOC along with five architectural firms to provide services in an indefinite quantity contract and pre-qualified with six firms to provide full services on projects from \$10 to \$50 million.

Recently, Mr. Farbstein participated as courts planning specialist in a value engineering study of the \$175 million Staten Island Supreme and Surrogate courts for the city and state of New York which resulted in proposals for substantial savings in cost and concurrent improvements in function, security and operations.

Mr. Farbstein participated as an invited presenter in an executive-level, international conference on court ritual and design held in Paris in 2005 and attended by representatives from France, Britain, Australia, New Zealand and China. He presented the results of his experience at the AIA justice conference in San Diego and is preparing an article for publication.

Mr. Farbstein received three programming and design awards from the American Institute of Architects' Committee on Architecture for Justice and two applied research awards from Progressive Architecture magazine. He has been invited to lecture about his work in Japan, Canada and France and has been interviewed by 60 Minutes and quoted in Time Magazine, the New York Times, Psychology Today, and several architectural magazines.

Mr. Farbstein is a registered architect in California, holds a Bachelors Degree in Fine Arts from UCLA (1965), a Masters Degree in Architecture from Harvard University (1969), and a Ph.D. in Environmental Studies from the Bartlett School of Architecture at the University of London (1975). He is a fellow of the American Institute of Architects and served as its representative to the national AIA/ACSA Council on Architectural Research; he currently serves on the national Academy for Justice Architecture where he heads its Justice Facility Research Program.

Melissa M. Farling, AIA, LEED AP
Jones Studio | Phoenix, Arizona
Research Associate, Academy of Neuroscience for Architecture
Vice Chair, AAJ Justice Facilities Research Program
melissa.farling@jonesstudioinc.com 602.264.2941

Melissa Farling, AIA is an architect who is actively engaged in the application of neuroscience concepts to architectural settings. She is a Research Associate at the Academy of Neuroscience for Architecture (ANFA) as well as being a Project Manager/Designer at the architectural firm of Jones Studio in Phoenix, Arizona. During her nineteen year career, she has programmed, planned and designed a range of judicial and detention facilities prior to the Maricopa County Downtown Court Tower project. Her passion for studying the affects of architecture on behavior began with her Master's thesis, which explored these affects in a highly restricted environment – case study: an Arizona State Prison (1992).

Melissa has additional programming, design and project management experience, which encompasses a breadth of public project types that have further influenced her ongoing research. These include the Biodesign Institute at Arizona State University, Tempe, Arizona; the Clark County Department of Family and Youth Services, Las Vegas, Nevada; and the New Civil and Adolescent Behavioral Health Facility in Phoenix, Arizona.

Currently, Ms. Farling is assisting the Biodesign Institute at ASU with their post occupancy evaluation. She has recently completed a post occupancy evaluation for the New Civil and Adolescent Behavioral Health Facility in Phoenix, AZ. This was conducted with the cooperation of the Hospital and the Arizona Department of Administration. The design process and results of the State Hospital's POE has led to several speaking engagements for Melissa including this year's AIA National Convention in Los Angeles. The title of the seminar was "Design That Empowers: Redefining a Behavioral Health Institution".

Melissa is currently a Co-Principal Investigator (with Jay Farbstein, PhD, FAIA as Principal Investigator) for a National Institute of Corrections cooperative agreement. This agreement funds a pilot study of application of neuroscience concepts to correctional environments - specifically jail settings.

Ms. Farling is a registered architect in Arizona and holds a Bachelors degree in Architecture from the University of North Carolina at Charlotte (1988), and Bachelor of Architecture and Master of Architecture degrees from the University

of Arizona (1992). She serves as a local AIA Chapter Past President on the Central Arizona Chapter Foundation Board and sits on the Board of Gnosis Ltd, a non-profit organization which seeks to preserve and present the significant creative contributions of individuals who have changed our world.

Frank J. Greene, FAIA

Principal, RicciGreene Associates | New York, New York

frank@riccigreene.com 212.563.9154

Frank J. Greene, FAIA is an architect whose practice is devoted to the planning and design of public buildings. With projects ranging from courthouses to schools, from detention facilities to public spaces, his passion for creating places for people to conduct their public lives has produced uplifting work of spirit and purpose.

A principal of RicciGreene Associates in New York City, he directs a nationally known practice that is unique in its primary focus on the design and planning of justice buildings. His work has been honored with awards, publications, and exhibitions. He is active in professional associations and serves the 2007 Chair for the Advisory Group of the Academy of Architecture for Justice of the American Institute of Architects. He is a noted speaker on the subject of justice design and on design excellence in secure settings.

He has organized exhibitions, juried awards programs, and served as a guest critic at schools of architecture.

Education

Howard University School of Architecture and Planning Bachelor of Architecture, 1978 cum laude

Graduate School of Design, Harvard University 1978-80

Registration

Massachusetts, New York, Connecticut, Georgia
NCARB

Awards

Design Award, Wyoming County, NY courthouse
Rochester Chapter American Institute of Architects 1999

Design Excellence Citation, Wyoming County, NY courthouse

Retrospective of Courthouse Design, 1991-2001

National Center of State Courts 2001

GSA Design Awards Citation

US Courthouse, Pittsburgh, PA 2000

Certificate of Appreciation
New York Chapter AIA 1999
GSA Design Awards Citation
US Courthouse, Scranton, PA 1998

Honorable Mention
Pershing Square Design Competition
A New Center for Los Angeles, CA 1985

Bard Club Design Award
South Cove, Battery Park City
New York, New York

Gold Medal for Design
Howard University School of Architecture 1978

Medal for Service to the School of Architecture
Howard University School of Architecture 1977

Lawrence M. Gutterman AIA, LEED AP
Associate Partner, Beyer Blinder BelleRicci | New York, New York
LGutterman@BBBARCH.com 212.777.7800

Larry Gutterman is a senior architect and project manager with twenty years of professional experience. He is noted for his leadership in managing large projects through close coordination with clients and building users, building consensus among often diverse interests. He is experienced with both public and private sector clients, and works seamlessly between both realms. Notable work includes: the U.S. Capitol Infrastructure Master Plan, U.S. Capitol House and Senate Chamber upgrades; Rockefeller Plaza Promenade and 30 Rockefeller Plaza Retail Concourse; Newark Liberty International Airport Administration Building; Pennsylvania Avenue at the White House; the Chrysler Building; and the Times Square Hilton Hotel. Judicial expertise includes the Thurgood Marshall U.S. Courthouse Infrastructure Upgrade in New York City, and the restoration and expansion of the Old DC Courthouse in Washington, DC. Mr. Gutterman is currently project manager for the Thurgood Marshall U.S. Courthouse and for numerous projects at the United States Capitol. He co-chairs the AIA New York Chapter Architecture for Justice Committee. Larry Gutterman graduated from Cornell University with a Bachelor of Architecture in 1988.

Carol Loewenson, AIA

Partner, Mitchell/Giurgola Architects | New York, New York

Loewenson@mitchellgiurgola.com 212.663.4000

Carol Loewenson graduated from Barnard College and the Columbia Graduate School of Architecture and has been practicing architecture for more than 25 years. She is a partner at Mitchell/Giurgola Architects where she has a diverse practice in Higher Education, Research Facilities, and Public Buildings. Her expertise ranges from highly technical buildings to the complexities of renovations to the intricacies of work in the public sector. Academic clients have included Cornell, NYU, Rockefeller University and City University. Many of these academic buildings have been for scientific research. Over the last ten years Ms Loewenson has also developed a focus on courthouse design. Ms. Loewenson is a member of the New York Chapter of the AIA and has long served as a member of the Committee on Architecture for Justice.

Kaloyan Marinov

Student, Polytechnic University | Brooklyn, New York

kalo.marinov@gmail.com

Christina A. Noble, Associate AIA, LEED AP

Associate, Gould Evans | Phoenix, Arizona

christina.noble@gouldevans.com 602.234.1140

Christina Noble, LEED AP, brings six years of design and programming experience to Gould Evans. She has worked on numerous high profile and large-scale projects in her career, including collegiate, mixed-use, government and private development high rise buildings. She also has experience programming and designing judicial projects including the Maricopa County Downtown Justice Center and the Maricopa County Juvenile Probation Programming and Masterplan.

Christina has a unique background designing under internationally recognized architect mentors, as well. Prior to returning to her hometown of Phoenix, Christina worked for Michael Graves on a residence hall for Rice University, her alma mater, and a fifty-two story mixed-use highrise located on 5th Avenue in Manhattan.

Christina graduated from Rice University in 2002 and has also attended continuing education courses at Princeton University with Peter Eisenman. She is actively involved with the AIA Associate Committee, currently serving as the AssociateNews news editor and writing for Forward, the National Associate Committee quarterly journal.

Debajyoti Pati, PhD, AIA

Director of Research & Senior Design Architect, HKS, Inc. | Dallas, Texas

dpati@hksinc.com 214.969.5599

Dr Debajyoti Pati is the Director of Research at HKS, Inc., a top-ten international design firm. He holds a PhD degree in Architecture from Georgia Tech, with concentrations in the areas of architecture, culture & behavior, and in building technology. He directs the firm's healthcare operations and planning research, and develops modalities for representing research findings for end use in programming and design for all HKS offices, internationally. His current work focuses on clinical efficiency, staff well-being, and patient outcomes in acute and critical care environments, spanning several not-for-profit hospitals across the United States. Dr Pati has a professional degree in architecture in addition to over 19 years experience in research, practice, and teaching in the United States, Canada, and India. He has worked on research projects funded by the USGSA, US Courts, AIA, and Herman Miller, among others. He has presented his work in respected professional forum such as the AIA, AIA-AAJ, Healthcare Design, Healthcare Facilities Symposium, ASHE-PDC, Tradeline, EDRA, AACCS, and the GSA-PBS. His views on healthcare research have been sought by such esteemed Newspaper as Express Healthcare Management of the Indian Express Newspaper group. His scholarly work has been widely published in such refereed journals and conference proceedings as Journal of Architectural and Planning Research, Automation in Construction, Computer-Aided Civil and Infrastructure Engineering, International Journal of Physical Sciences, Indian Journal of Social Work, ACSA, EDRA, AEI-ASCE, AEC, and CIB. His work has also been published in industry journals including Health Facilities Management and Healthcare Design.

Donald Phillips

Lecturer, Polytechnic University | Brooklyn, New York

dphillip@duke.poly.edu

Beverly J. Prior, AIA, LEED AP
Principal, Beverly Prior Architects | San Francisco, California
Past Chair, Academy of Architecture for Justice Advisory Group
BPrior@bparch.com 415.777.9422

Beverly Prior, AIA, LEEDAP, is president of Beverly Prior Architects, an award-winning, 30-person firm in San Francisco, one with a special focus on justice facilities. In her 25+ years of professional practice, Beverly has planned and designed courthouse, law enforcement, adult and juvenile detention and prison facilities. She has worked in numerous California counties on courthouse planning and design projects. She is a member of the Academy of Architecture for Justice's Advisory Group and is the liaison to the Research Committee which sponsored, in collaboration with the Academy of Neuroscience for Architecture, the jail research workshop in 2006 and is now sponsoring the courthouse research workshop in 2007. At the AAJ's 2007 conference – Sustainable Excellence: 6th International Conference on Courthouse Design – she is presenting a workshop titled, "The Courthouse's Role in Creating a Vibrant Downtown" to explore what makes a downtown vital, how courthouses contribute to the vitality of a downtown, what role the government should play in contributing to this vitality, and what courthouse siting and design models create great downtowns.

Marcus W. Reinkensmeyer
Judicial Branch Administrator, Superior Court of Arizona in Maricopa County |
Phoenix, Arizona
mreinken@superiorcourt.maricopa.gov 602.506.3190

Marcus W. Reinkensmeyer is the Court Administrator for the Judicial Branch of Arizona in Maricopa County (Phoenix), serving a jurisdiction of 3.85 million residents. Previously, he served as Superior Court Administrator, Chief Deputy Court Administrator and Director of Judicial Information Systems (JIS), Superior Court in Maricopa County. Prior to moving to Arizona in 1991, Mr. Reinkensmeyer served as Assistant Director of the Administrative Office of the Courts (Court Services), Court Administrator (17th Judicial Circuit), Assistant Superintendent of Juvenile Detention and Probation Officer in the State of Illinois. Marcus holds a Bachelor's Degree from Michigan State University Honors College, a Master's Degree in Public Administration from Northern Illinois University and is Graduate Fellow of the Institute for Court Management of the National Center for State Courts. He is the recipient of the Institute for Court Management's Award of Merit (1989) and the Supreme Court of Arizona's Distinguished Service Award (2003). Currently, Marcus is the President Elect of the National Association for Court Management (NACM), having previously served as Editor for The Court Manager. Mr. Reinkensmeyer has served as adjunct faculty for Arizona State University, College of Public Affairs, the Past President of the Arizona Courts Association and a consultant/presenter for state and local court improvement projects. His articles on court management have appeared in the *Justice System Journal*, *Judicature*, *The Judges' Journal*, *Government Computer News*, *The Court Manager*, *The Handbook on Court Management and Administration* and *The Improvement of the Administration of Justice*.

Ed Rodman, RA

Chief Architect, New York State UCS OCA | New York, New York

ERODMAN@courts.state.ny.us 212.428.2967

Chief Architect, since 2006

New York State, Unified Court System, Office of Court Administration since 1993

High Rise Residential developments in NYC.

Costas Kondylis, Architects PC

Philip Birnbaum and Associates, Architects PC 1984 to 1993

Low Rise Construction and Alterations in the NYC area.

Employed by several NYC firms 1980 to 1984

Bachelor of Architecture, 1980

New York Institute of Technology

Attended City College and Queens College

Graduate of Brooklyn Technical High School, 1973 - a few blocks from the Marriott

Professor: William M. Singer, AIA, LEED AP
Tel: 212 477 0900 Fax: 212 477 1257
Email: wsinger@gruzensamton.com

Gruzen Samton LLP, Partner
320 West 13th Street, 9th Floor
NY, NY 10014-1200

Gruzen Samton Architects LLP, November 1999 to date

NYC DoB Proposed Code Cost Impact Assessment Phases 1 & 2. PM. Technical Existing & Proposed code comparison analysis & support for three bldg types—Commercial & Residential High-rise, Residential Low-rise—352 code changes.

WTC Insurance Consortium Phases 1 & 2. PM Phase 1 technical analysis & deposition support to establish design fees to replace WTC and Consulting Partner Phase 2 estimate WTC TI design & replacement costs, on 10 Sept 01—both phases.

Modernization of the Emanuel Celler U.S. Courthouse, Brooklyn. Project Architect: 284,000sf, \$90M architectural, structural & MEPFT upgrades to a 1961 courthouse, in construction w/ completion Spring 2010.

Rehab & ADA compliance \$83M upgrade 71st-Continental & Union Turnpike Stations NYCT IND, Queens, PM to CDs.

Corona Branch Library Expansion, Queens, NY. PM—design parti: 5,000sf MEP & architectural renovation w/ a 2,500sf addition to a 1965 QBPL children's library @ \$2.4M, C of O May '05.

El Museo Del Barrio, NYC. PM—design parti: 7,500sf interior & 5,000sf courtyard renovation @ the 1921 Heckscher Bldg. \$17M; construction start Apr 07 w/ completion Spring 09. NYC Arts Commission Design Excellence Award '04.

Queens Family Courthouse & City Agency Facility, NY. PA: \$90M for 293,000sf of new construction; C of O Sept '04.

Shanghai Racquet Club, China. PM, Phase 1—13 bldgs w/ 193-condominiums & 30,000sf clubhouse project, occupied '03; Phase 2—3 bldgs w/ 210 condominiums, occupied '06.

R.M. Kliment & Frances Halsband Architects, January 1996 to November 1999

U.S. Courthouse & Post Office. Brooklyn. Snr Arch: \$200M Landmarked bldg. renovation & adaptive re-use, coordinated all disciplines for 380,000 existing sf & 130,000 new sf—concepts to CA. GSA Design Excellence Award, occupied May '06.

New York University, Hagop Kevorkian Center for Near & Middle Eastern Studies. NY. Project Designer & PA \$1.5M interior renovation auditorium, seminar rooms & new telecommunications switchgear room; C of O Aug '98.

Severance Art Building, The College of Wooster. OH. PA CDs through CA: 35,000sf renovation & adaptive re-use in a landmarked gymnasium w/ 17,000sf new addition. This \$6 M project converted an existing gym into art studios & faculty offices w/ art galleries & classrooms added in new construction, C of O Aug '98.

Gruzen Samton Steinglass, and Gruzen Samton Architects, June 1988 to December 1995

Touro College, Flatbush Campus. Brooklyn. Project Designer to CA, fast-track 89,000sf, 5-story liberal arts college, 2 flrs below grade @ \$25M, C of O Aug '94.

Long Island City HS, Queens. Asst Designer & Detailer to CA: 345,000sf, 2,500-student media arts school, C of O Aug '94.

East Campus Dormitory, Columbia University, NYC. Asst Designer & Detailer through CA: 23-story façade replacement & interior public space renovation, C of O Aug '93.

Stuyvesant High School, NYC. Asst Designer & Detailer to CA, fast track 395,000sf, 3,000-student new math/science magnet school, C of O Aug '93.

New York City Transit Authority Broadway/East New York Station Complex Rehabilitation, Brooklyn, NY. A \$26m project, in association w/ Vollmer Associates, Gruzen Samton as contract prime. PM & MEP coordinator for GS's work & Designer & PA for a separate \$1.3m breakout contract for a new District Station Manager's Facility, completed Spring '06.

NYC Department of Environmental Protection. Queens, New York. PA CDs & CA: 43,000sf state-of-the-art technical analysis laboratory & 450,000sf upgraded & outfitted for citywide department consolidation, C of O Aug '92.

Garfield Place, Phase I, Cincinnati, OH. Asst Designer to CD: 148-unit residential bldg w/ 14,000sf commercial space & a 390-space garage, C of O Summer '92.

Professor: William M. Singer, AIA, LEED AP
Tel: 212 477 0900 Fax: 212 477 1257
Email: wsinger@gruzensamton.com

Gruzen Samton LLP, Partner
320 West 13th Street, 9th Floor
NY, NY 10014-1200

The Regatta, Battery Park City, NYC. CA/site observation 183 condos w/ 29,000sf of commercial space. C of O, Aug '89.

Two Hannover Square, Raleigh, NC. Asst Designer to CD & part-time CA site observation: 505,000sf office/retail tower & 3-story atrium hotel link, C of O Winter '92. Precast Concrete Institute 1991 Special Honor Citation.

Education

Master of Architecture: School of Design, NCSU, 1988 Thesis: *Towards a Definition of Post-Modern Architecture*.

Master of Arts in English: UNC-CH, 1977 Thesis: *A Study of Twenty-two Dreams in Reynolds Price's The Surface of Earth*.

Bachelor of Arts in History and in English: Duke University, 1973.

Memberships

Society of Architectural Historians—New York City Chapter, 2005 to date

AIA New York Chapter Committee for Architecture & Justice, 2001 to date

AIA New York Chapter Design Awards Committee; 2004 to present, Co-Chair 2006, Chair 2007

AIA New York Chapter Young Architects Committee; 1995, Founding member

American Institute of Architects 1993 to date

NYC Model Code Program, Mechanical Committee, September 2003 to date

Registered architect in the State of New York, 1992

Architectural League of NY, 1995 to date

Central Park Conservancy, NY, 1997 to date

NYC Municipal Arts Society, 1997 to date

The Church of the Epiphany, NYC: Vestry 1991-93 & 1996-2002; St. John the Divine Monthly Soup Kitchen 1988-1993

Awards

Senior Fulbright Research Scholar, Ljubljana, Republic of Slovenia, 1993-1994.

NCSU Grad. Teach. Asst., 1986-88 and O'Brien Atkins Design Scholarship, 1987-88.

Duke University Dean's Academic Achievement List 1971-72, 1972-73.

Teaching

New York University Real Estate Institute, *Planning and Design Issues in Development*, Spring 2003 to date.

New York University School of Continuing and Professional Studies, *ARE: Arch CDs*, Fall '05, Summer '06, Spring & Fall '07

Design Seminar, Faculty of Architecture, Studio of Ales Vodopivec, University of Ljubljana, Slovenia, 1994

Lectures & Readings

The Inferno by Dante Alighieri, Canto Reader, Cathedral of St. John the Divine, NYC, annually 1999 to date

"Joze Plecnik: Idiosyncratic Brilliance." NYC Chapter Slovene Cultural Society, 25 Feb 2007.

"Bridges from Manhattan." New York Transit Museum, 29 Oct 2006.

"Doing Justice to Mid-Century Modern Courthouses." Presenter & Panelist, Annual Conference AIA AAJ, 4 Nov 2005.

"The Modern Family Court." Panelist, Annual Conference AIA AAJ, 4 Nov 2005.

"Doing Justice to Mid-Century Modern Courthouses." Presenter & Panelist, AIA NYC Center for Architecture, 3 Feb 2005.

"On Plecnik." Am. Assoc. Advancement of Slavic Studies Annual Mtg, Slovene Committee. Boca Raton, FL: 27 Sept 98.

"The Bridges of Manhattan: Typology & History." Faculty of Architecture. Ljubljana, Slovenia: 29 Sept '95; DESSA Ljubljana, Slovenia: 22 Sept '95.

"Plecnik & the Inversion of Architecture." National Institute for Architectural Education. NY, NY: 5 April 1995.

"When I Think Continually of Those Who Are Truly Great." School of Design, NCSU. Raleigh, NC: 4 November 1994.

Publications

"2007 AIA New York Chapter Design Awards: Introduction." *Oculus: 2007 AIA NY Design Awards*. (AIANYC) Vol. 69, No 2, 2007: 19

"Considering the Sources of Joze Plecnik's Designs." *Slovene Studies: Journal of the Society for Slovene Studies*. (Bowling Green, Ohio) Vol. 18, #2, 1996: 145-170.

"The Widening Gyre: Some Current Problems in American Cities—A Personal Perspective" *Teorija in Praksa: Družboslovna Revja (Theory & Practice: Sociology Review of the Faculty of Social Sciences, Ljub. Slo.)* XXXI, Vol. 1-2, 1994: 136-144.

David Tait, PhD

Associate Professor, School of Law at the University of Canberra | Canberra, Australia

David.Tait@canberra.edu.au 212.428.2967

David Tait is co-ordinator of the Court of the Future Network, a group of architects, judges, social scientists and court officials in Australia and New Zealand with an interest in exploring new ways of representing and delivering justice. He heads two national research projects that bring together court communities and researchers – one looks at how juries respond to interactive visual evidence, the other at how to achieve greater 'presence' for remote court participants, including forensic scientists and indigenous witnesses. The Network has run two national Justice Environments conferences, one week-long executive seminar on court architecture and judicial rituals in Paris, with the French Judicial Research Institute, and is running an architectural tour of European and international courts in early April 2008. A New Zealander by birth, David Tait received his Ph.D in social sciences at the London School of Economics, and is now an Associate Professor in the School of Law at the University of Canberra.

Selected publications relevant to this workshop

Articles and book chapters

'Lay participation in legal decision making in Australia and New Zealand: Jury trials and administrative tribunals' in ed. Kaplan, M. and Martin .M., *Understanding World Juries through Psychological research*, New York, Psychology Press, with J.Goodman-Delahunty. (2007)

'Les rituels justes? Comparaison entre une "conference reparatrice" en Australie et une audience d'une juge des enfants en France, 651-660, ed. N Queloz et al, *Delinquance des jeunes et justice des mineurs*, Berne, Staempfli (2005).

'Sentencing as performance: restoring drama to the courtroom' in *Sentencing and Society: International Perspectives*, 469-482, ed. Cyrus Tata and Neil Hutton, Aldershot, Ashgate (2002)

'The ritual environment of the mental health tribunal hearing: inquiries and reflections', *Psychiatry, Psychology and Law*, 10: 1, pp. 91-96 (2003)

' Popular sovereignty and the justice process: towards a comparative methodology for observing courtroom rituals', *Contemporary Justice Review* , 4:2, pp. 201-218 (2001)

' Pardons in perspective: the role of forgiveness in criminal justice', *Federal Sentencing Reporter*, 13: 3-4, pp.134-138 (2001)

'Displaying the law: a cross-disciplinary learning experiment using the Internet and multimedia technology', *International Review of Law, Computers & Technology*, 14:2, pp.191-204, with R de Young (2000)

'Boundaries and Barriers: The Social Production of Space in Magistrates' Courts and Guardianship Tribunals', *Journal of Social Change and Critical Inquiry*, 1, (1999)

Commissioned report

Architectural psychology of courts: report to Western Australian Law Reform Commission, with L. St John Kennedy, 1999 (research report based on commissioned research)

DVD

Court architecture and judicial rituals: reflections on executive seminar in Paris, DVD, 2006, with Diane Jones

Art exhibition

Trois visages de la justice, exhibition of watercolours by Noelle Herrenschmidt of court environments in Melbourne, Paris and Chicago, Australian Embassy, Paris, September-December 2005

John C. Van Whervin

Director, Facilities Services and Capital Projects Divisions, Los Angeles Superior Court | Los Angeles, California
JWHERVIN@LASuperiorCourt.org 213.974.5303

John Van Whervin has been involved in the design, construction and management of courthouses for more than 15 years in a 20 year career. Projects have ranged from renovations/refurbishments of existing space to the development of new courthouses from concept to construction and beyond. The following is a brief history of Mr. Van Whervin's experience.

Director: Facilities Services and Capital Projects Divisions, Los Angeles Superior Court,
September 2001 – Present

Responsible for facilities management and capital projects at 52 courthouse sites. Coordinates with County Internal Services Department for maintenance staff and Department of Public Works for project management. Interfaces with Administrative Office of the Courts, Office of Court Construction and Management for long term planning and management of court facilities. Manages approximately 4.5 million gross square feet of space. Responsible for monitoring almost \$20 million annual in facilities and related expenditures and recently completed \$200 million in capital construction.

- New Long Beach Courthouse, pre-design, Long Beach, Public Private Partnership, est. \$300M

- Santa Monica Courthouse Addition, Santa Monica, 2004, \$3.5M
- Lancaster Juvenile Justice Center (renovation), Lancaster, 2004, \$1.5M
- Antelope Valley Courthouse, Lancaster, 2003, \$110M
- Guest Speaker, American Institute of Architects, International Conference on Courthouse Design, Public/Private Design/Build Partnerships, Phoenix, Arizona, 2002
- Member of Administrative Office of the Courts, State of California, Operations and Planning Group organized by Kim Davis, Assistant Director, AOC, 2002
- Palmdale Courthouse, Palmdale, 2001, \$5M

Assistant Director: Facilities Services and Capital Projects Divisions, Los Angeles Superior Court August 1997 – August 2001

Responsible for the operations of two divisions including 60 employees, covering facilities planning, maintenance, telecommunications, transportation, stock room warehousing, fleet management, and mail services. Annually reviewed budget requests from individual sections and coordinated the final request prepared by administrative staff. Involved in decision making relative to Division's budget, programs, organization, procedures, and personnel. Interfaced with the Internal Services Department, Department of Public Works, and the Chief Administrative Office for maintenance and capital projects issues related to the operations of 52 courthouses.

- Staff to member of Task Force on Court Facilities (John A. Clarke, Executive Officer, Los Angeles Superior Court), 2001
- Certificate of Facilities Management, Rockhurst College Continuing Education Center, 2000
- Airport Courthouse, Los Angeles, 1999, \$95M
- San Fernando Courthouse Earthquake Reconstruction, San Fernando, 1997, \$13M

Capital Projects Manager: Los Angeles Municipal Court, March 1996 – August 1997

Reported to Deputy Court Administrator, directly responsible for project management of two new courthouses, one constructed at \$90 million, including interfacing with the Department of Public Works. Monitored total project cost estimates prepared by Public Works detailing county costs as well as those allocated for design and construction contracts. Interfaced with private sector developer and monitored financing process with Treasurer/Tax Collector and County Counsel.

Assistant Capital Projects Manager: Los Angeles Municipal Court, January 1991 – February, 1996

Responsible for the development, management, and expansion of three separate projects for the Court. Included design/build and lease/leaseback negotiations, as well as the overall monitoring of the project management staff

responsible for the day-to-day project management. Required to make decisions relative to policy, budget, and schedule, in order to control and ensure that the proper architectural, construction, and environmental processes were expeditiously handled.

- Certificate for Americans with Disabilities Act: Problems and Solutions for State and Local Courts, 1993
- Certificate for Private Development of Public Projects, University of Wisconsin – Madison, College of Engineering, 1991

Facilities Project Manager: Internal Services Department, Project Management Division, 1989 – 1991

Project Manager directly responsible for the coordination of complex county facility projects through all phases. Assumed full responsibility for the timely completion of projects within budget and schedule. Worked as Team Leader responsible for overseeing a Facilities Project Manager II and Project Manager I, the governing of total budgets, schedules, and resource management. Responsible for preparation of monthly reports to the Chief Administrative Office and Supervisorial Districts, and the fiscal management of team managers.

- Certificate for Space, Facilities, and Effective Management, Institute for Court Management of the National Center for State Courts, 1991
- Certificate (40 hours qualification), Value Engineering, American Society of Value Engineers, 1990

Facilities Project Management Associate: Internal Services Department, Project Management Division, 1988

Project Manager of record responsible for coordinating and monitoring Architect/Engineer, client department and general contractor during design and construction. Also responsible for the timely completion of projects within schedule and under budget. This includes issuing changes in the work (change orders) and supplemental to Architect/Engineer (Supplemental Agreements).

Education:

Master's of Science in Public Administration Candidate

California State University at Los Angeles, 45 units completed, 2001

Bachelor of Architecture

California Polytechnic State University of San Luis Obispo, 1987

Richard Wener, PhD

Associate Professor of Environmental Psychology, Department of Humanities and Social Sciences, Polytechnic University | Brooklyn, New York

rwener@poly.edu 718.260.3585

Dr. Wener is the Head of the Department of Social Sciences and Associate Professor of Environmental Psychology at the Polytechnic University in Brooklyn, N.Y. He is Past President, Division of Population and Environmental Psychology, American Psychological Association and winner of the 1995 Environmental Design Research Association Award for Extraordinary service to the field of Environmental Design Research.

Prof. Wener's research and consulting have focused on the way correctional architecture affects facility operations and the perceptions and behavior of staff and inmates. This work began in 1975 with evaluations of the then new federal Metropolitan Correctional Centers in Chicago and New York. He has since conducted evaluations of dozens of prisons and jails and several large nationwide surveys of correctional facilities. He has consulted in the area of facility design and planning for adult and juvenile detention and corrections facilities

Prof. Wener currently an investigator for a National Institute of Corrections funded study to examine best policies and practices used by direct supervision jails in dealing with overcrowding. He served as consultant to "Cost and Design Implications for Third Edition Conditions of Confinement Standards." This effort, funded by the National Institute of Justice, resulted in a manual used in implementing changes to the American Correctional Association's Standards for Adult Correctional Institutions. He developed (with Jay Farbstein) a Standardized Environmental Evaluation system for correctional environments for the National Institute of Corrections and the National Institute of Justice.

Some related papers and publications are:

Wener, R. (2006). The Effectiveness of Direct Supervision Correctional Design and Management: a Review of the Literature,@ *Criminal Justice and Behavior*, Vol. 33, No. 3, 392-410.

Wener, R. (2006). "Direct Supervision - Evolution and Revolution," *American Jails*, Spring.

Wener, R. (2005) "The Invention of Direct Supervision,@ *Corrections Compendium*, 30(2), 4-7, 32-34

Wener, R. (2002). "Post Occupancy Evaluation,@ in the *Encyclopedia of Psychological Assessment*, Rocio Fernandez-Ballesteros (ed.) Thousand Oaks: Sage Publications.

Wener, R. (2000) "Design and the Likelihood of Prison Assaults", p49-54, in Prison Architecture Leslie Fairweather and Sean McConville (eds.) Butterworth-Heinemann.

Wener, R. (1993) "An environmental model of violence in institutions", Division 34 presidential address, American Psychological Association Convention, Toronto, Canada.

Wener, R., Farbstein, J., and Knapel, C. (1993) Post-occupancy Evaluations - Improving correctional facility design", Corrections Today, 55,6,96-103.

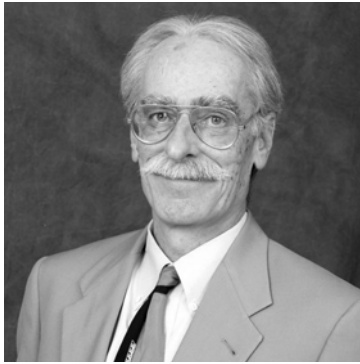
Wener, R. (1993) "The Environmental Psychology of Jails: An Explanatory Model of Violent Behavior", Synopsis, 19.

Wener, R. and Keys, C. (1988) "The Effects of Changes in Jail Population Density on Perceived Crowding, Spatial Behavior, and Sick Call: Absolute and Contrast Effects", Journal of Applied Social Psychology, 18,10,852-866.

Wener, R., Frazier, F.W., and Farbstein, J. (1987) "New Designs for Jails", Psychology Today, 21,6, 40-49.

Wener, R., Farbstein, J. and Frazier, B. (1985) "Three generations of environment evaluation and design", Environment and Behavior, 17, 71-95.

Farbstein, J. and Wener, R. (1982) "Evaluating correctional environments", Environment and Behavior, 14, 6, 671-694.



Recognized as one of the premier planners of court facilities in the US today, Rob West provides his clients with a thorough knowledge of judicial operations and the subsequent affect on space deployment. To date, his work includes the planning and design of over 30 major court facilities, representing more than 7 million square feet of court and court related spaces with a total construction value of over \$1 billion.

Rob provides our clients a thorough knowledge of court facility planning and design issues such as three-way circulation and security planning. He has made presentations at venues such as the International Conference on Courthouse Design and AIA's "Justice in the Next Millennium: The Basic Art and Emerging Trends" conference on the planning and design of courthouses.

CURRICULUM VITAE

Years of Experience:

29

Education:

Bachelor of Architecture, University of Wisconsin, Milwaukee, 1979

Registration

Registered Architect, 1981

Professional Activities:

National Center for State Courts (NCSC), Member

National Center for State Courts (NCSC), Association - Institute for Court Management, Member

* Project completed while with another firm.

RELEVANT PROJECTS

Calgary Court Centre Design/Build RFP Preparation, Review and Owner's Representative

Calgary, Alberta, Canada

Calgary Courts Centre Bridging Consultant

Calgary, Canada

Polk County Courthouse Annex

Des Moines, Iowa

Houston County Criminal Justice Complex

Perry, Georgia

Mecklenburg County Courthouse

Charlotte, North Carolina

Ellis County Courthouse, Detention Facility and Parking Garage

Waxahachie, Texas

Gwinnett County Justice and Administration Center

Lawrenceville, Georgia

Mesa County Justice Center

Grand Junction, Colorado

Fairfax County Courthouse Expansion

Fairfax, Virginia

Escambia County Judicial Center Expansion/Renovation

Pensacola, Florida

Lyon County Courthouse Expansion and Renovation

Emporia, Kansas

Frank Crowley Courts Building

Dallas, Texas

General Services Administration, U.S. Federal Courthouse

Laredo, Texas

General Services Administration, U.S. Federal Courthouse

*Kansas City, Kansas**

General Services Administration, U.S. Federal Courthouse

*Sacramento, California**

North County Regional Center Phase IA

Vista, California

Palm Beach County Judicial Center

*Palm Beach, Florida**

Sacramento County Courthouse

*Sacramento, California**

Sarasota County Courthouse

*Sarasota, Florida**

Orange County Courthouse

*Orlando, Florida**

St. Mary's Courthouse Renovation

Leonardtown, Maryland

Travis County New Criminal Justice Center

Austin, Texas

neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings



Attachment 4: Introductory Presentation – Pati –
Rethinking Openness: Courthouses in the United States

*Balancing Openness and Security in Federal Courthouses:
Reassessing Openness in a Heightened Security Scenario*

Supportive Courtrooms

Courtsweb

Neuroscience and Courthouse Design

Overview of Current Courthouse Research



Debajyoti Pati PhD AIA
Director of Research
HKS Architects

Rethinking Openness

Courthouses in the United States



Debajyoti Pati PhD AIA
Director of Research
HKS Architects

Acknowledgments



Introduction



- Public architecture as communication medium
- Rethinking Federal Architecture
- 20th Century security threat
- Openness-security

“Architecture is inescapably a political art, and it reports faithfully for ages to come what the political values of a particular age were. Surely ours must be openness...”

Senator Daniel Patrick Moynihan

Background/ Importance



- Focus on Openness:
 - New Projects
 - Public forum
- \$10 billion federal construction program
- Lack of definition of Openness

Study Question:

How has the abstract notion of openness been conceived and interpreted by clients and designers of new courthouse projects?

Method: Cases



- Eighteen Courthouse Projects
- Thirteen from journals and electronic sources
- Five unpublished cases

Published source: Islip, Omaha, Beckley, Scranton, Las Vegas, Boston, Santa Ana, Concord, Portland, Salt Lake City, and Baton Rouge; Queens; La Crosse

Unpublished source: Wheeling, Phoenix, Charlotte, Buffalo, and Nashville

- ***Siting***
- ***Access***
- ***Massing***
- ***Style***
- ***Footprint***
- ***Materials***
- ***Program***
- Unpublished courthouses
 - Semi structured telephone interviews
- Published courthouses
 - Literature search for formal descriptions

Method: Analysis

Siting	Accessibility	Scale	Massing
Compatibility	To Building	To Judges	
We wanted the project to be built immediately adjacent to the old courthouse. There were 3 sites to choose from before we were involved - we feel the current site is the best.	We believe Federal architecture is NOT closedup doors.	Much of it is the function of the individual judge.	The four existing historic structures were considered for reuse purely based on aesthetic value (not because of their age or whether they were listed or not).
Surrounding occupancy types was not important - eg Washington DC where fed bldgs area next to fed bldgs and all are distinctive.	There would be multiple entrances to the building and its public spaces.		Our recommendation to demolish the existing historic building had a lot to do with its massing as related to our understanding of what a federal CH should be. The bldgs were evaluated on its floor-to-floor height and the character of the facade.
	Due to ADA issues we were unable to provide the traditional courtroom steps (create the old style)- an elevated main entry with beautiful steps leading upto the main entrance.		From a MASSING standpoint our design attempts to equal the existing Fed building.
	Multiple destination is accessible from within the atrium : Post Office on the south; probation office on the SW; Congressman's office on the W, public elevators and stairs on the NW; and clerks space on the N.		We are building a 4-story glass atrium to the northern end of the existing courthouse, and a granite and limestone building to that is equal in massing to the existing bldg on the other side of the atrium.
	For normal people the atrium entrance would appear as the only entrance to the facility (although there are multiple-independent entry to each facility in the building.		Based on the massing and the interface the public would judge this as a monumental building. This would be the largest construction project in downtown Wheeling for some time - a big important building even not taking the signage into consideration.
	The main public atrium entrance is distinctive owing to the contrast provided by the glass atrium between two stone bldgs, significant curved sections of the glass extend beyond the façade that creates a cover for the entry point.		
	The sidewalk proper is extended to include parking and the landscape directs towards this greater, higher entry point. PROCESSION		
	Magnetometer has to be there, but we try to incorporate it in design in a way that they are aesthetically pleasing and are not frightening. In time the public is going to be more and more used to such devices.		

Objectives:

- Identify patterns of conception
- Identify interpretations - built form link

Content Analysis

- Matrix 1: main conceptions
- Matrix 2: interpretations

Conceptions



- Openness conceived in six ways
 - Accessibility
 - Transparency
 - Exposure
 - Organizational Clarity
 - Illumination
 - Inclusiveness



- Accessibility to Building
 - Articulated Entrance
 - Visibility of Public Entry

"The main public entrance is distinctive owing to the contrast provided by the glass atrium between two stone buildings, significant curved sections of the glass extend beyond the façade that creates a cover for the entry point"- Participant, Wheeling project.

Accessibility: Interpretations



- Accessibility to Building
 - Invitingness of public entry
 - Multiple Entrances



"We believe federal architecture is not closed up doors...there would be multiple entrances to the buildings and its public spaces..there are multiple, independent, entry to each facility in the building"- Participant, Wheeling project.

Accessibility: Interpretations



- Accessibility to Building

- Mitigation of security device
- Easy accessibility for all



"We are trying to incorporate it (Magnetometer) in the design in a way that is aesthetically pleasing and not frightening"- Participant, Wheeling project.

"We consider it (perimeter parking) an important part of accessibility, especially for older people" – Participant, Wheeling project.

Accessibility: Interpretations



- Accessibility to spaces within building
 - Multiple circulation paths to interior spaces

"The Grand stairs to the right and the elevator core to the left...giving various types of access to the spaces in the building." – Participant, Phoenix project.

Accessibility: Interpretations



- Accessibility to the Site
 - Site Location

"The ability of the public to get there...the principal downtown destination for buses is only three blocks away – so there is considerable public access to the site" – Participant, Charlotte project.

Transparency: Interpretations



- Visual Link
 - Outside-in
 - Enable interior view from outside

"Abundant glazing gives an effect of openness and accessibility, enabling visual contact between the inside and outside of the building." – architect's published statement, Las Vegas project (Yazdani & Ghirardo, 2001, p.120).

Transparency: Interpretations



- Visual Link

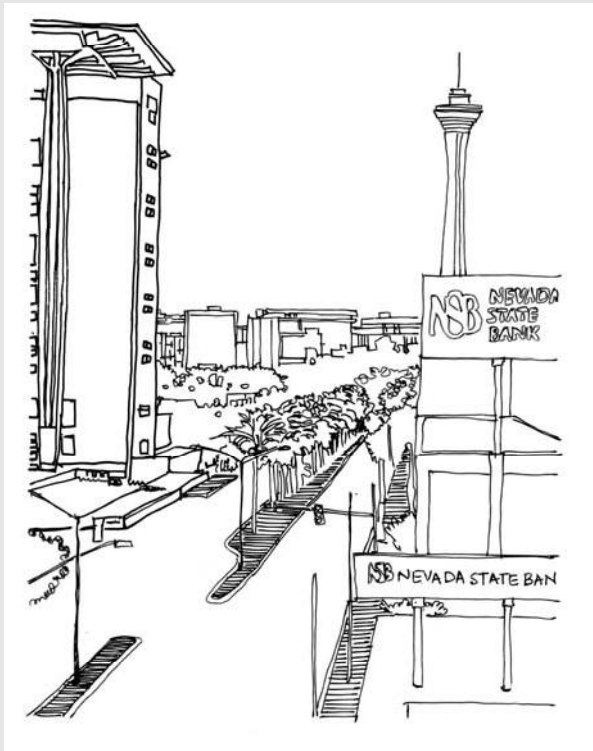
- Inside-out

- Enable exterior views from interior spaces



"Furthermore there would be some vistas from inside the building which we would take advantage of. The more attractive scenery-- we got some new attractive buildings downtown...and that is kind of internal looking outside" – Participant, Nashville project.

Exposure: Interpretations

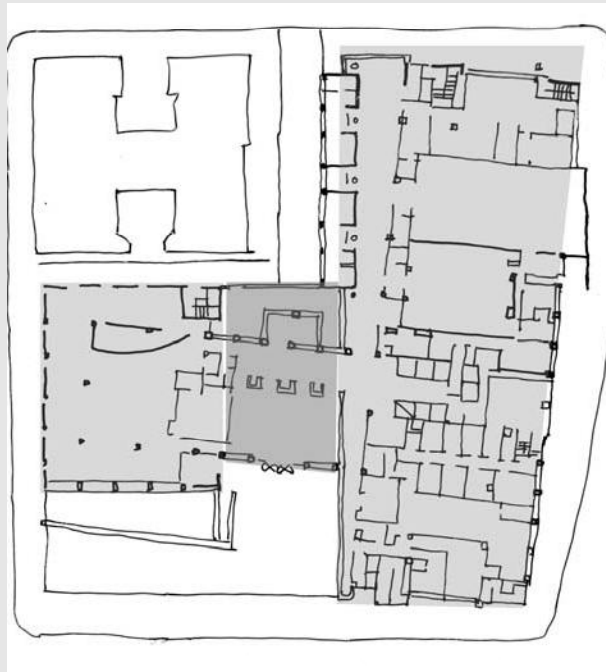


■ Visibility

- Local Scale
 - Enable state-citizen engagement
- City Scale
 - Landmark

"Exposure was important. It is located on the main spine of Government mall. The courthouse is designed in such a way that as one drives past it one confronts the entry" – Participant, Phoenix project.

Organizational Clarity



- Clarity of spatial organization
 - Enhance comprehensibility of functions and spaces

"A clearly articulated organization is intended to encourage interaction and exploration of the building." – architect's published statement, Las Vegas project (Yazdani & Ghirardo, 2001, p.120).



- Natural Light

- Illumination lead to better clarity

*"...a large sky-lit hall
... emphasizing the
court's status as an
open and democratic
institution" –
architect's published
statement, Scranton
project (Bohlin & Litt,
2001, p.112).*



■ Program and Use

- Open up spaces to non-judicial public functions

"The atrium can be used by the public for anything consistent with a public purpose and the imagination of an individual - Mexican Fiesta, elementary school graduation, large naturalization ceremony" - Participant, Phoenix project.

Balancing Openness and Security in Federal Courthouses:

Reassessing Openness in a Heightened Security Scenario



Debajyoti Pati PhD AIA
Director of Research
HKS Architects



ACKNOWLEDGMENT



Contents

- Study context
- Unanswered questions
- Method
- Assessing openness framework
- User perception – client intention

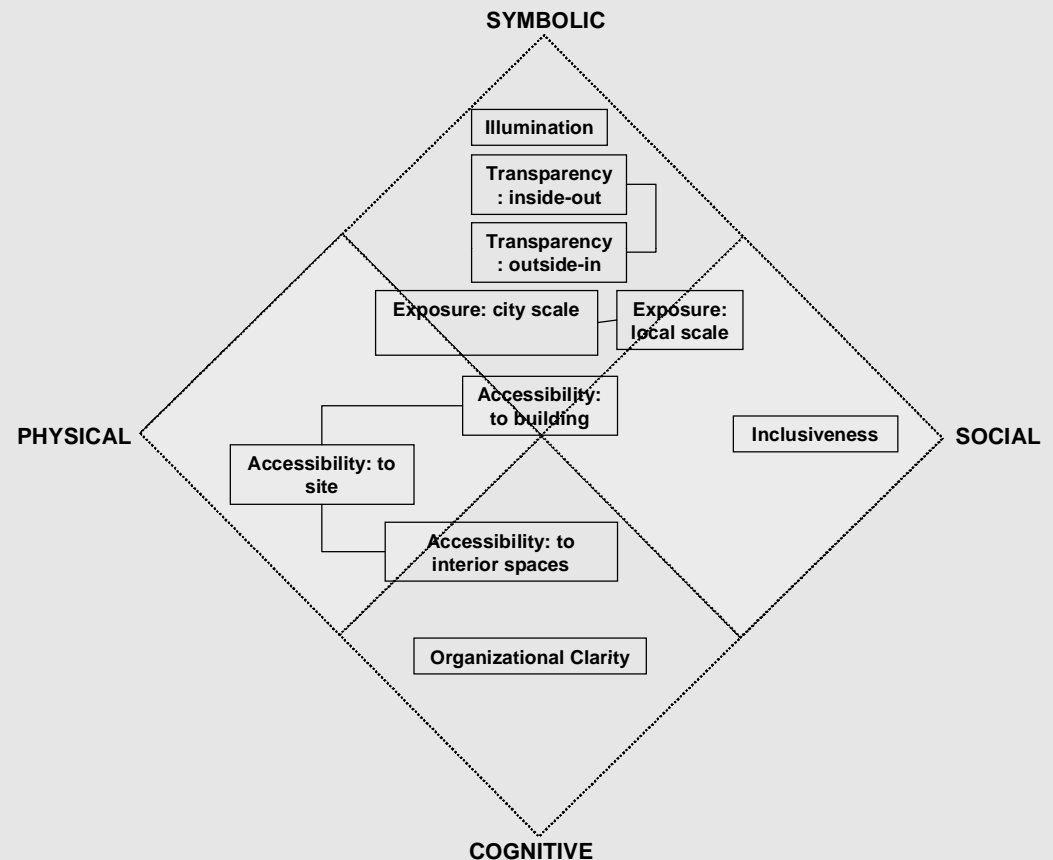
Study Context

- Previous Study*
 - Late 20th century desire for openness in public buildings
 - Courthouses
 - Embassies
 - Border Stations
 - Late 20th century security concerns
 - Dar Es Salaam
 - Oklahoma City
 - 9 - 11
 - Security vs Openness?



* Pati, Zimring, and Bose, 2008.

- What is openness?
 - **Client interpretation/intention**
 - Tenant perception
 - Public perception
- Preliminary openness framework dimensions:
 - Physical
 - Symbolic
 - Social
 - Cognitive



Unanswered Questions

- **Tenant/user perception**
 - Public perception
- Robustness of previously hypothesized openness framework.
- Building users' response to client's (judges, designers) interpretations.
- Openness dimensions that truly interact with security considerations?

Method

■ Setting

■ 3 Courthouses:

- Youngstown OH
- Gulfport MS
- Montgomery AL

■ Attributes:

- Completion: 2001-2003
- Geographic location
- Gross area: 49,282 – 291,000 sft
- Courtrooms: 1-14
- Building height: 3-8 story



Method - Continued

- Data collection
 - Survey 1: Courthouse users' openness survey
 - Salient features:
 - 8 questions
 - 7 questions on underlying dimensions
 - Last question on overall openness of the courthouse
 - 7-point ordinal scale
 - Wordings reflected client's intention from previous study

Construct	Question
Openness as Access to site	For you, traveling to, arriving at and entering this courthouse is:
Openness as Access to building	Your walk to this building entry from sidewalks and/or car parking is:
Openness as Transparency	This building suggests to you that the activities carried out in it are:
Openness as Exposure	When visiting or driving through this area, you see this courthouse:
Openness as Organizational Clarity	Upon entering this courthouse, finding your way around is:
Openness as Illumination	For a courthouse, the building interiors according to you is:
Openness as Inclusiveness	You are likely to visit this courthouse for activities unrelated to litigations:
Openness	As a public building you perceive your building to be:

- Data collection
 - Survey 2: physical openness rating
 - Rating scale developed from findings of previous study
 - Both surveys pre-tested by group of doctoral students at Georgia Tech
 - Site visits: late 2004 – early 2005
 - 110 responses

Assessing Openness Framework

	Component			
	SYMBOLIC	PHYSICAL	COGNITIVE	SOCIAL
Access-site	.058	.930	.124	-.048
Access-building	<u>.388</u>	.621	.126	<u>.422</u>
Transparency	.811	.237	-.062	-.080
Exposure	.010	.070	.835	.240
Org-clarity	<u>.322</u>	<u>.301</u>	.637	<u>-.348</u>
Illumination	.722	-.040	<u>.408</u>	.172
Inclusiveness	.020	.046	.088	.892

- Purpose: assess initial (client) framework against user (tenant) response
- Method: principal component analysis of user responses
 - Specified extraction of 4 components
 - Extracted components explain 76.38% of total variance

Assessing Openness Framework

	Component			
	SYMBOLIC	PHYSICAL	COGNITIVE	SOCIAL
Access-site	.058	.930	.124	-.048
Access-building	<u>.388</u>	.621	.126	<u>.422</u>
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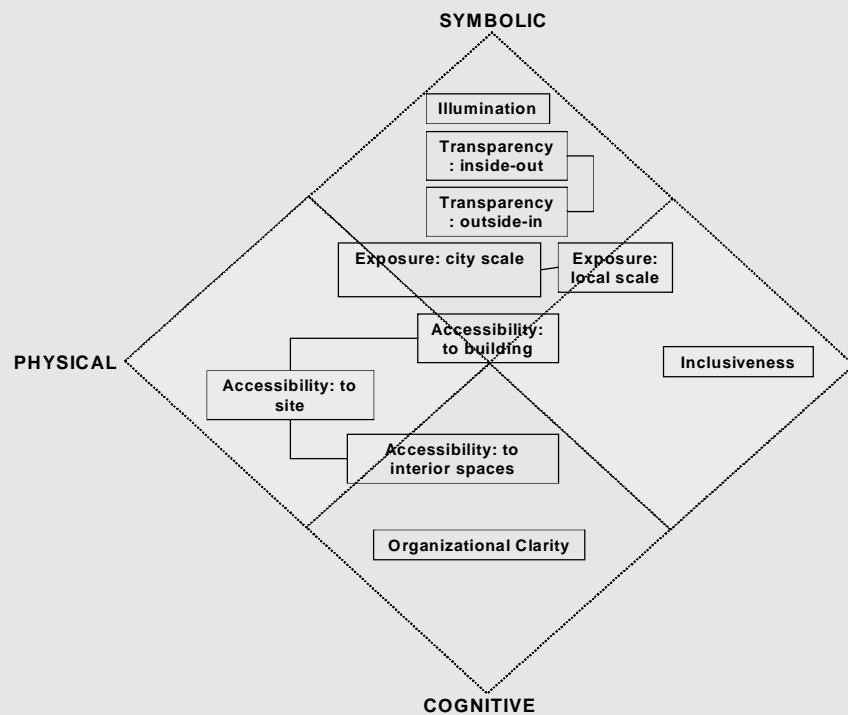
- Confirmatory findings
 - Access to site – physical
 - Access to building – mainly physical + symbolic and social
 - Transparency – symbolic
 - Inclusiveness - social

Assessing Openness Framework

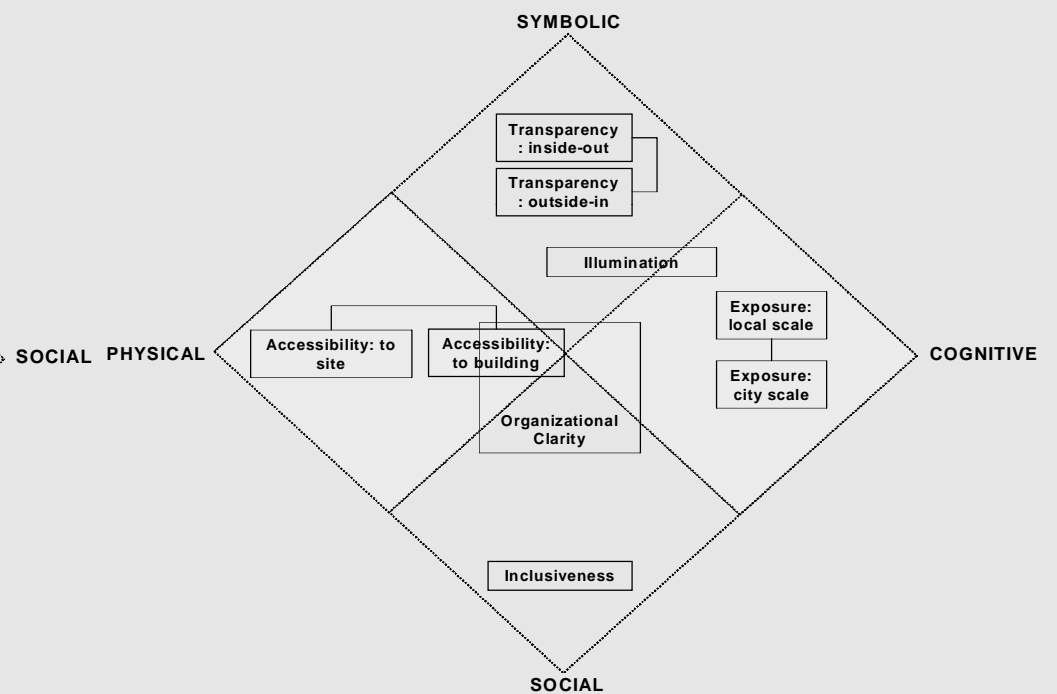
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Illumination	.722	-.040	<u>.408</u>	.172
Inclusiveness	.020	.046	.088	.892

- Deviations
 - Exposure – cognitive
 - (original: physical + symbolic + social)
 - Illumination – symbolic + cognitive
 - (original: symbolic)
 - Organizational clarity – cognitive + symbolic, physical and social
 - (original – cognitive)

Assessing Openness Framework



Original framework



Revised framework

User Perception – Client Intention

R	R Square		Adjusted R Square	Sig.
.549	.302		.249	.000***
Unstandardized Coefficients			Standardized Coefficients	Sig.
	B	Std. Error	Beta	
(Constant)	.155	1.037		.887
Access-site	.000	.001	.027	.794
Access-building	.003	.012	.026	.815
Transparency	.930	.401	.220	.023*
Exposure	.003	.001	.220	.021*
Organizational Clarity	.014	.011	.127	.220
Illumination	.019	.011	.178	.084+
Inclusiveness	1.041	.573	.167	.073+

*** significant at 0.001; ** significant at 0.01; * significant at 0.05, + significant at 0.1

- Purpose: identify significant dimensions
- Method: multivariate regression
- Findings:
 - Model explains 25%
 - **Transparency + exposure:**
 - Significant at 0.05
 - Comparable influence
 - Illumination + inclusiveness
 - Significant at 0.10
 - Comparable influence

- Predominant focus:
 - Client: **accessibility** + transparency
 - Users: transparency, exposure, illumination, inclusiveness
- Transparency:
 - % area of transparent glass important
- Exposure:
 - Local connectivity value important

Further Studies

- Additional courthouses
- Public perception

Supportive Courtrooms



Debajyoti Pati PhD AIA
Director of Research
HKS Architects

Contents

- Question
- Method
- Variables
- Analyses
- Findings

Question

- **What are the fundamental tasks in a courtroom?**
- **What variables significantly influence performance of courtroom tasks?**

Method

- Understanding courtroom tasks and functions:
 - Brochures and publications
 - Ethnographic studies and interviews
 - Judges, court executives, courtroom deputies/clerks, court reporters, security personnel, and lawyers
- POE of courtroom users
 - 26 trial courtrooms in 14 courthouses
 - 93 users
- Physical and environmental data hypothesized to be correlated

Fundamental Courtroom Tasks

- The ability to see clearly and perform visual tasks.
- The ability to hear clearly when spoken to by other people, and the ability to discuss issues with others without being overheard, in many circumstances.
- The ability to perform each phase of the proceeding without undue disturbance or obstructions - smoothness of task flow.
- Ensure safety and security of all people, proceedings/function, and objects (such as evidence) throughout the court proceedings.

Environmental Correlates

- Courtroom shape
- Courtroom size
- Location and attributes of courtroom elements
- Auditory environment
- Visual environment

Environmental Variables

- Visual environment
 - Task illuminance
 - Task brightness
 - Background brightness
 - Surrounding brightness
 - Glare
 - Light direction
 - Spectral power distribution
 - Screen illuminance
 - Screen luminance
 - Sightline obstruction
- Auditory environment
 - Reverberation time
 - Background noise
 - Movement noise
- Other variables
 - Temperature and relative humidity
- Physical data on
 - Courtroom
 - Courtroom spaces
 - Courtroom elements

Analyses

- Principal Component Analysis
- Multivariate Regression
- Hierarchical Regression

Significant Findings

- Near Visual Tasks

- Task:background luminance (+)
- Window area (+)
- Age (-)
- Reporter

- Far Visual Tasks

- Vertical:Horizontal illuminance (-)
- Surrounding:ceiling luminance (+)
- Reporter

Significant Findings

- Conversation
 - RT (-)
 - NC rating (-)
 - Sightline obstruction (-)
 - Reporter
- Speech privacy
 - NC rating (-)
- Physical variables
 - Well length (+)
 - Well width (+)
 - Attorney
 - Gallery capacity (+)
 - Public waiting area (+)

- Courtroom Symbolism

- Courtroom

- Shape (-)
 - Area (+)
 - Height (+)
 - Window area (+)

- Gallery

- Seating capacity (-)

- Visual environment

- Vertical:Horizontal
illuminance in well (+)
 - Surrounding:floor
luminance (+)

COURTSWEB



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HKS Architects

CourtsWeb



**PBS Capital
Construction
Conference**

Miami April 4 – 7, 2005



Athanassios Economou, PhD

Debajyoti Pati, PhD

Georgia Institute of Technology

Information and communication technology in courthouse design and management

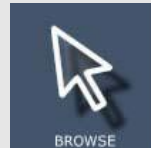
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Case Exploration Site Visits

Programming Early Design

Design Development

Specifications



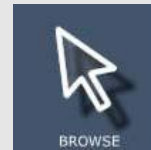
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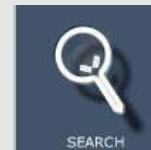
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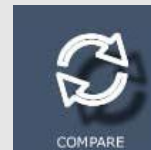
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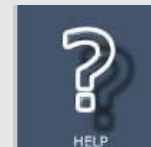
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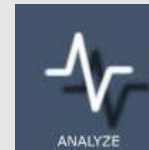
COMPARE



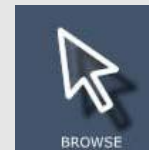
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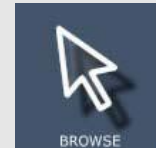
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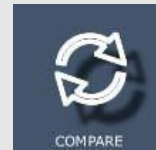
ANALYZE



BROWSE



BROWSE



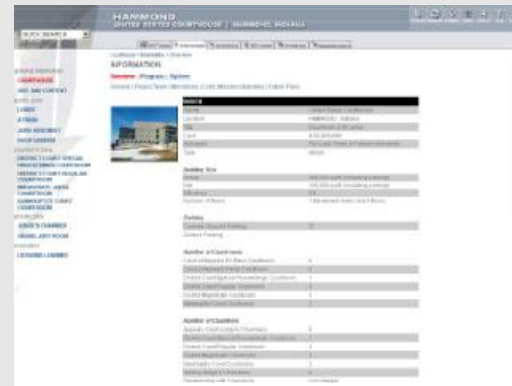
COMPARE

Building Procurement Phases

Designed to inform decision-making from case exploration to specifications phases of design evolution.

Information and communication technology in courthouse design and management

CourtsWeb



Browse Courthouses

Provides descriptive and evaluative information at courthouse level in textual, graphic, and numeric formats.

Brief

3D Model



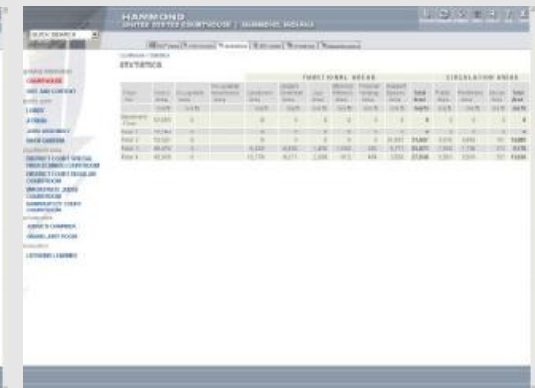
Information

Drawings



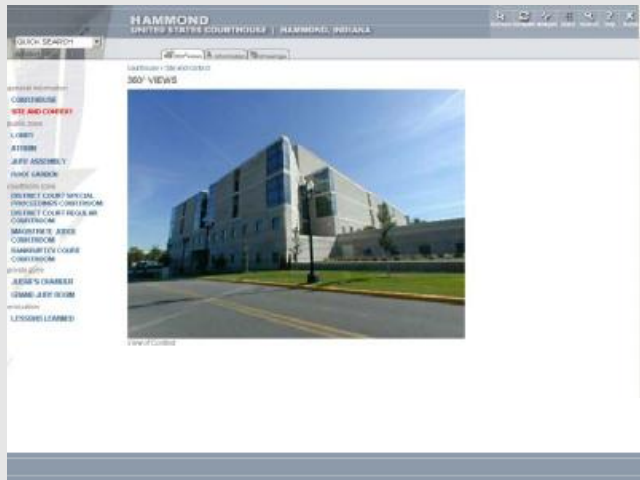
Statistics

I-Plans



Information and communication technology in courthouse design and management

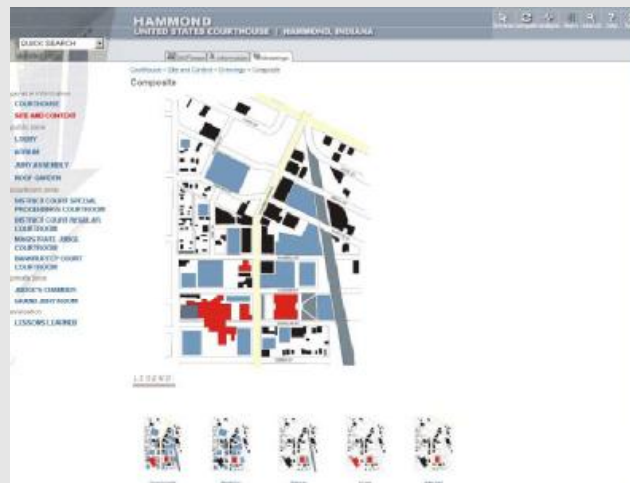
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360 View

Browse Context

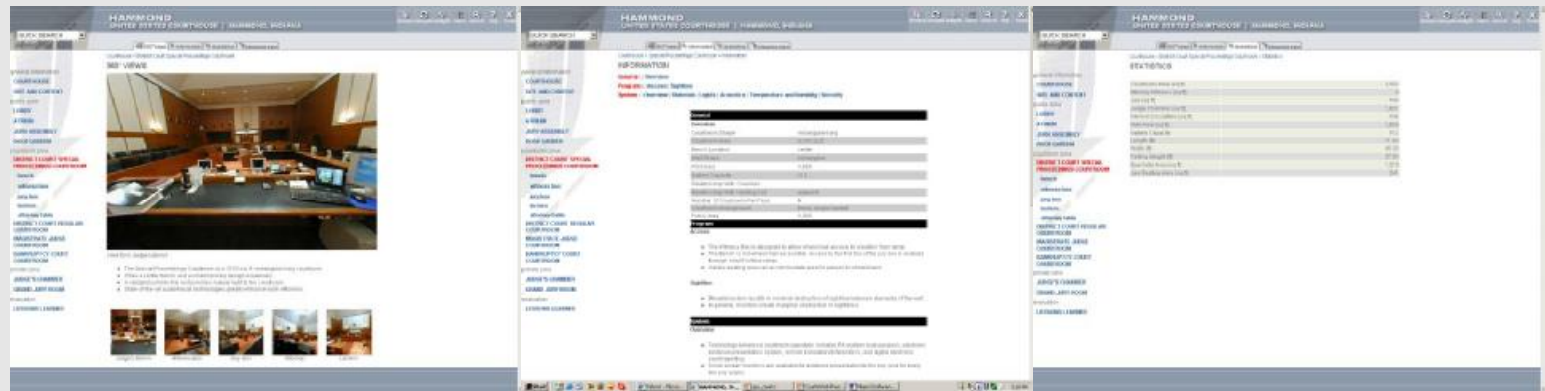
Provides descriptive and evaluative information of context in textual and graphic.



Information

Information and communication technology in courthouse design and management

CourtsWeb



Browse Courtrooms

Provides descriptive and evaluative information at courtroom and element levels in textual, graphic, and numeric formats.

Brief

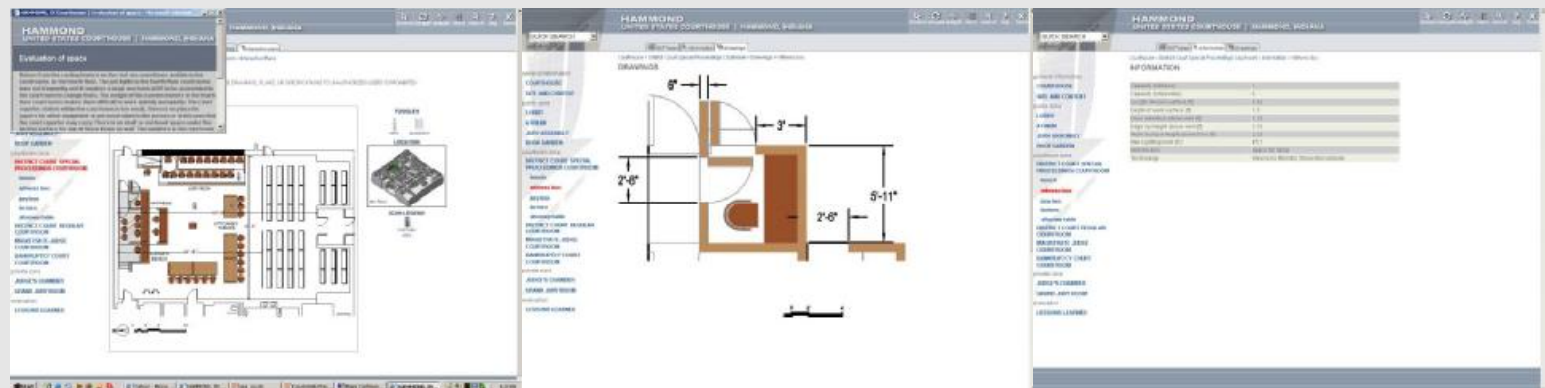
Information

Statistics

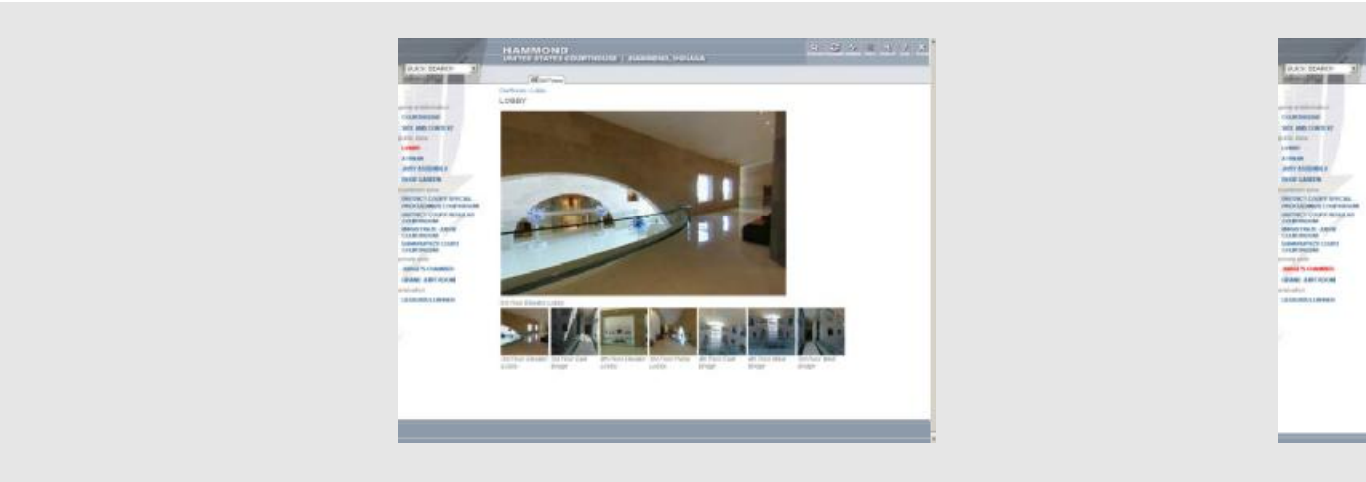
I Plan

Elements

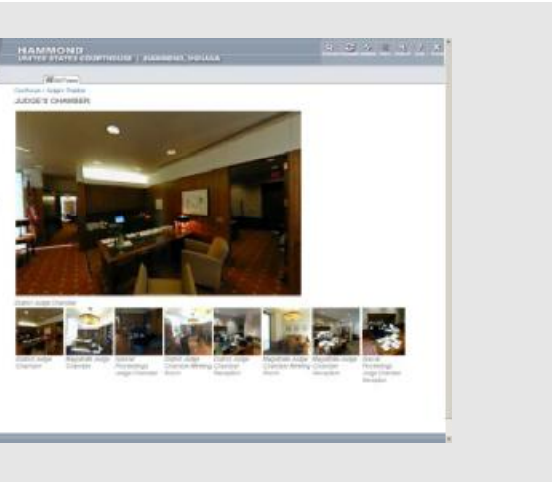
Element Stats



Information and communication technology in courthouse design and management



Public



Restricted

Lessons Learned

Browse Public and Restricted Spaces + Access Lessons Learned Information

IPIX views of important public and restricted spaces.

Textual descriptions of important lessons learned.



Information and communication technology in courthouse design and management

CourtsWeb

SEARCH
COURT HOUSES

DPSPSE COURTHOUSE SEARCH CRITERIA

Number of Courthouses	Search Criteria	Value
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10
10	Search Criteria	10

Search

Criteria Selection

SEARCH
COURT HOUSES

Showing results 1 to 2 of 2

The following courthouses match your search criteria. Click the courthouse name to view the courthouse details.

Search Criteria	Value
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10

Result 1: **James H. Rouse U.S. Courthouse**
1000 N. 1st St., Suite 1000
Detroit, MI 48226

Search Criteria	Value
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10

Result 2: **James H. Rouse U.S. Courthouse**
1000 N. 1st St., Suite 1000
Detroit, MI 48226

Search Result

Search Result

SEARCH
COURT HOUSES

Showing results 1 to 10 of 17

The following courthouses match your search criteria. Click the courthouse name to view the courthouse details.

Search Criteria	Value
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10

Result 1: **James H. Rouse U.S. Courthouse**
1000 N. 1st St., Suite 1000
Detroit, MI 48226

Search Criteria	Value
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10
Search Criteria	10

Result 2: **James H. Rouse U.S. Courthouse**
1000 N. 1st St., Suite 1000
Detroit, MI 48226

Search

Search the database to locate courthouses and courtrooms meeting one or more criteria.

Information and communication technology in courthouse design and management

CourtsWeb

Select Courthouses



Compare

Simultaneously Browse and Compare two cases from the database.



Information and communication technology in courthouse design and management

CourtsWeb

ANALYZE
GSA | U.S. COURTS

level
COURTHOUSE

elements
GSA REGIONS
JUDICIAL CIRCUITS
NUMBER OF COURTROOMS
CONSTRUCTION COST
GROSS BUILT UP AREA
COURTROOMS PER FLOOR
NUMBER OF FLOORS

SELECT COURTHOUSES

☐ New England

- ☐ Boston, MA
- ☐ Concord, NH

☐ Northeast and Caribbean

- ☐ Camden, NJ
- ☐ ISLIP, NY
- ☐ New York, NY

☒ Mid Atlantic

- ☒ BECKLEY, WV
- ☒ Charleston, WV
- ☒ Greenbelt, MD
- ☒ SCRANTON, PA

☒ Southeast Sunbelt

- ☒ ALBANY, GA
- ☒ COVINGTON, KY
- ☒ Fort Myers, FL
- ☒ GREENEVILLE, TN
- ☒ GULFPORT, MS
- ☒ Knoxville, TN
- ☒ Montgomery, AL
- ☒ Tallahassee, FL
- ☒ Tampa, FL

☐ Great lakes

- ☐ CLEVELAND, OH
- ☐ HAMMOND, IN
- ☐ Minneapolis, MN
- ☐ OMAHA, NE

SELECT ATTRIBUTES TO ANALYZE

☒ Area

- ☒ Site Area
- ☒ Built Up Area (Gross)
- ☒ Built Up Area (Net)
- ☒ Efficiency

☐ Number of Courtrooms

- ☐ Total
- ☐ Enbanc
- ☐ Panel
- ☐ District Special Proceedings
- ☐ District Regular Proceedings
- ☐ District Magistrate Proceedings
- ☐ Bankruptcy
- ☐ Number of Courtrooms per floor

☐ Number of Chambers

- ☐ Appeals
- ☐ District Special Proceedings
- ☐ District Regular Proceedings
- ☐ District Magistrate Proceedings
- ☐ Bankruptcy
- ☐ Visiting Judges

☐ Cost

- ☐ Design Fee
- ☐ Estimated Construction Award Amount
- ☐ Construction Award Amount
- ☐ Final Construction Cost
- ☐ Cost per square feet

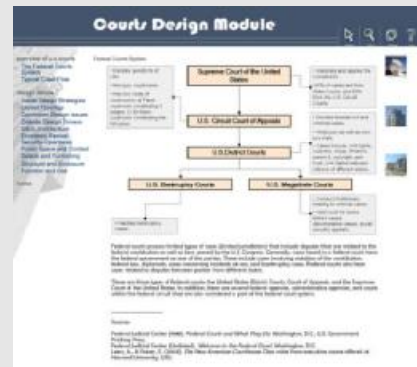
☐ Dates

Analyze

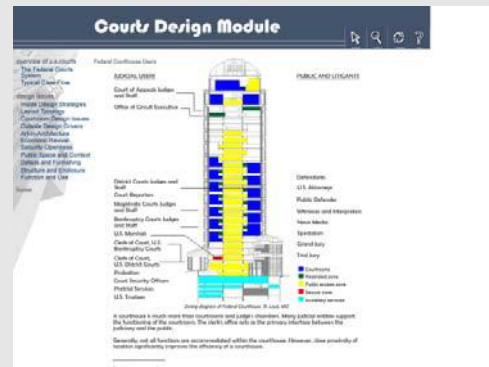
Compare multiple courthouses on one or more attributes.

Information and communication technology in courthouse design and management

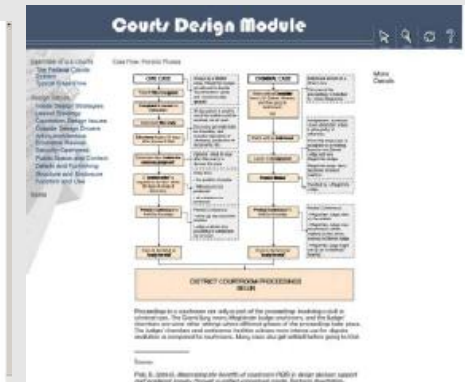
CourtsWeb



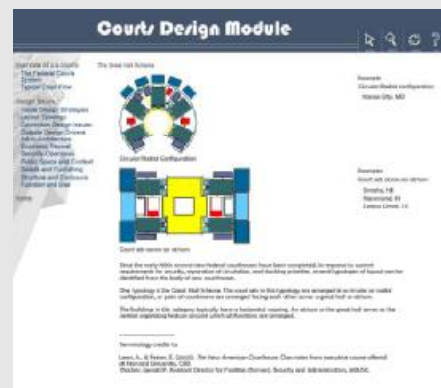
Structure



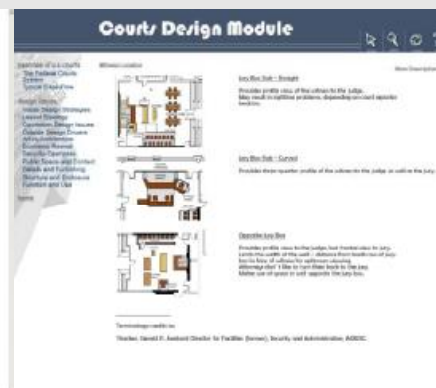
Users



Proceedings



Footprint



Courtrooms



Issues

Learn

Learn about the courts systems, courthouse users and key issues involving courthouse design.

Information and communication technology in courthouse design and management

CourtsWeb

U.S. Courts Design Guide

The Federal Courts System (PDF 16kb)
Courtroom Programming and Budgetary Considerations Overview (PDF 132kb)
General Design Guidelines (PDF 192kb)
Courthouses (PDF 3.8Mb)
Audience Chambers & Suites (PDF 386kb)
Auxiliary Facilities (PDF 220kb)
Jury Facilities (PDF 648kb)
Central Court Facilities (PDF 544kb)
Clerk's Office (PDF 672kb)
Judiciary-Related Offices (PDF 1.2Mb)
Court-Related and Miscellaneous Facilities (PDF 320kb)
Building Support Facilities (PDF 80kb)
Considerations for Special Facilities (PDF 40kb)
Criminal Justice Security (PDF 48kb)
Appendix Glossary of Abbreviations (PDF 25kb)

US Courts Design Guide

Help

Access Courts Design Guide and Courts Visit Guide.

Navigation Help



Media Center/Publications/U.S. Courts Visit Guide

Conducting Effective Courthouse Visits

Executive Summary (PDF 268kb)

Preparation

Site Visit

Action Statement

Introduction (PDF 36kb)

Courthouse Visit

Common Problems

Why Do a Facility Visit

Major Tasks (PDF 268kb)

Preparation

Site Visit

Summary

Appendix I (PDF 52kb)

Architectural Design Issues

Appendix II (PDF 36kb)

Contact Numbers

Involved in Courthouse Design/Planning

Construction and Operation

Appendix III (PDF 160kb)

Sample Facility Sheet

Appendix IV (PDF 48kb)

Blank Forms

Appendix V (PDF 476kb)

Bibliography



Courthouse Visit Guide

Information and communication technology in courthouse design and management



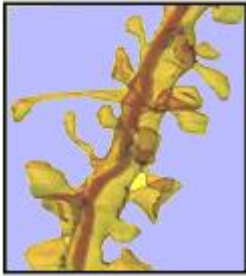
QUESTIONS



neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings



Attachment 5: Introductory Presentation – Eberhard –
The Brain, the Mind & the Design of Courts

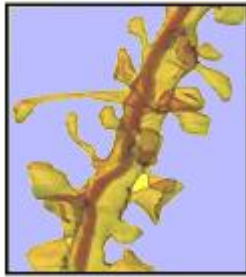


The Brain, the Mind, and The Design of Courts

Opening keynote

Date: 09/29/2007

Time: 9:30 PM



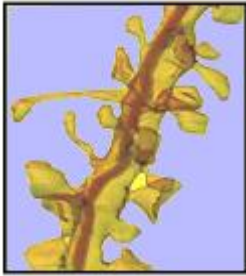
The Brain, the Mind, and The Design of Courts

Presentation outline:

- Statements about courthouse design and purpose
- Discussion of the brain and the mind
- Forming hypotheses for architecture and the mind

Workshop topics:

- Hypotheses related to natural light and views of nature
- Hypotheses related to wayfinding
- Hypotheses related to judge's bench
- Hypotheses related to image and symbolism of justice

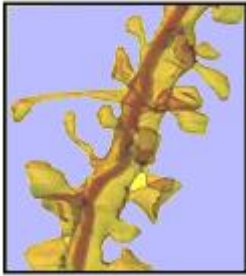


The Brain, the Mind, and The Design of Courts



Symbols of the court are not simply limited to the lady justice wearing her blindfold. Many recent courthouses, including the Supreme Court do not have a blind lady justice -- indicating that Justice actually sees and understands those who come before it. Here she reflects the symbol that allows that the inevitability of revenge be replaced by the rule of law.

Judge Conrad L. Rushing

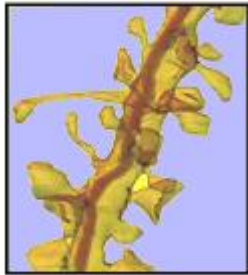


The Brain, the Mind, and The Design of Courts



Amendment VI to Bill of Rights

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have a compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.



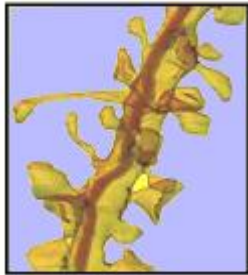
The Brain, the Mind, and The Design of Courts



Photo: Keith Hair

Berrien County Michigan 1898

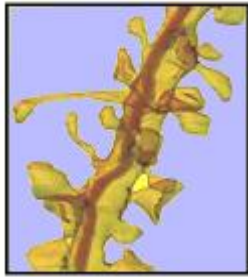
Government buildings remind all citizens that they belong to a comprehensive, organized polity. The fact that the same structure serves everyone reminds people that they hold their citizenship in common. There is only one city hall in a town of modest size, one central post office, and one main public library.... The ungainly, old-fashioned, grimy, and yet landmark city hall on its public square, or the distinctive courthouse tower with its clock looming over the rural landscape, articulate the communal dimension of society.



The Brain, the Mind, and The Design of Courts



The message conveyed is that a different kind of institution is in our midst. The building does not house acts of buying, selling, or manufacturing, but more profound human deeds such as registering births, recording our deaths, taxing our treasure, protecting our lives, preserving our commons, and sending our young to war.



The Brain, the Mind, and The Design of Courts

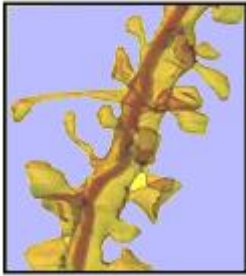


Courthouse Maricopa County AZ

“The architecture of federal courthouses must promote respect for the tradition and purpose of the American judicial process. To this end, a courthouse facility must express solemnity, stability, integrity, rigor, and fairness. The facility must also provide a civic presence.” from U.S. Courts Design Guide

How can anyone determine: solemnity, stability, integrity, rigor, or fairness in a courthouse or courtroom?

These are attributes perceived by the mind as contrasted to the brain.



The Brain, the Mind, and The Design of Courts

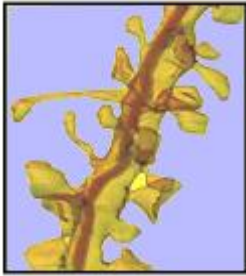


When the average person sees the Orange County Federal Courthouse in Vermont, their mind is comfortable with what they see.



On, the other hand, when they see the new Federal Courthouse in Las Vegas, they may not realize what kind of building they are seeing.

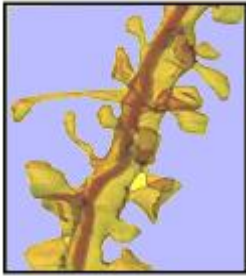
How can we know if their mind perceives: solemnity, stability, integrity, rigor, or fairness in this design?



The Brain, the Mind, and The Design of Courts

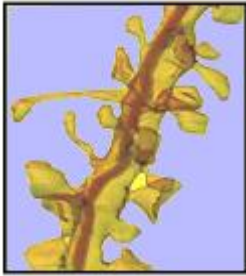
It was the county courthouse and its attendant personnel that finally and forever ended the extreme lawlessness of the marauding bands and gangs that roamed the United States after the Civil War. It was the notion that crime would be dealt with in a prompt orderly way that caused it to succumb to the force of law. The old courthouse in Missoula, a structure of native stone hewn in large blocks covering its façade. The ten commandments are deeply cut into one large gray tablet to the side of its entrance. The jail is in the basement. It speaks to order in a wild country. The writing that adorns the building may not have been readable by the gang members that it brought under control. But the building itself had a plain meaning and message. The structure said man and reason are present and confer meaning to the countryside.

As told by Judge Conrad L. Rushing of the Superior Court of California



The Brain, the Mind, and The Design of Courts

Discussion of the mind and its organ the brain



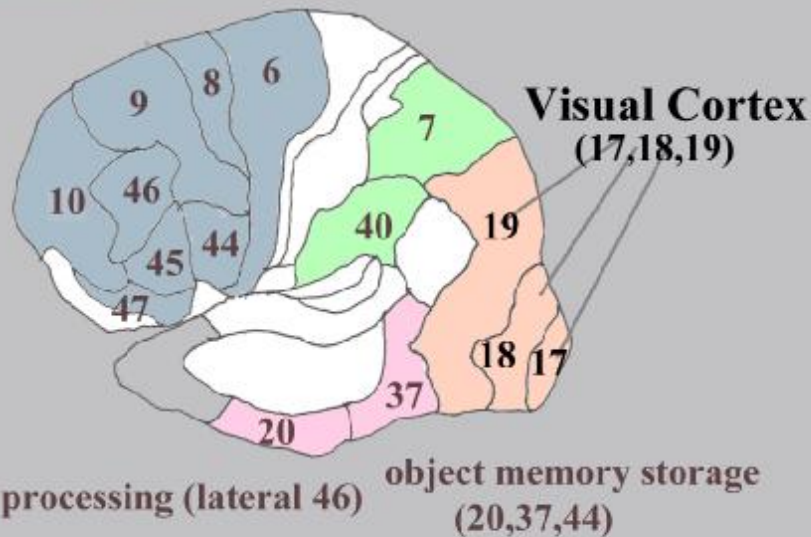
The Brain, the Mind, and The Design of Courts

prospective memory (8,9,10,47)

object processing (dorsal 45)

verbal storage (6,40,44,45)

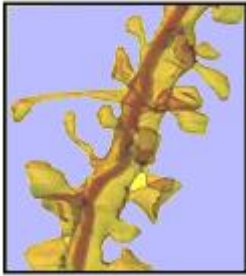
spatial memory (7,8)



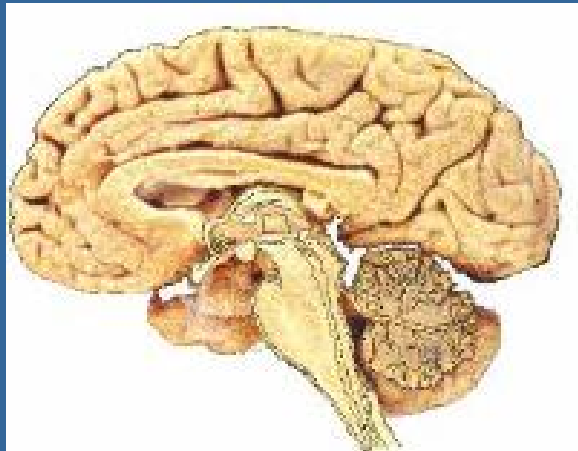
Source: Dubin, M.W., How the Brain Works 2002

The brain is the most complicated part of the universe.

Only in the past few decades has real progress been made in understanding how it is developed, how it works at the molecular level, how it relates to cognition and the **mind.**

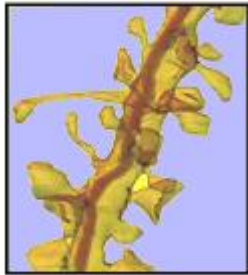


The Brain, the Mind, and The Design of Courts

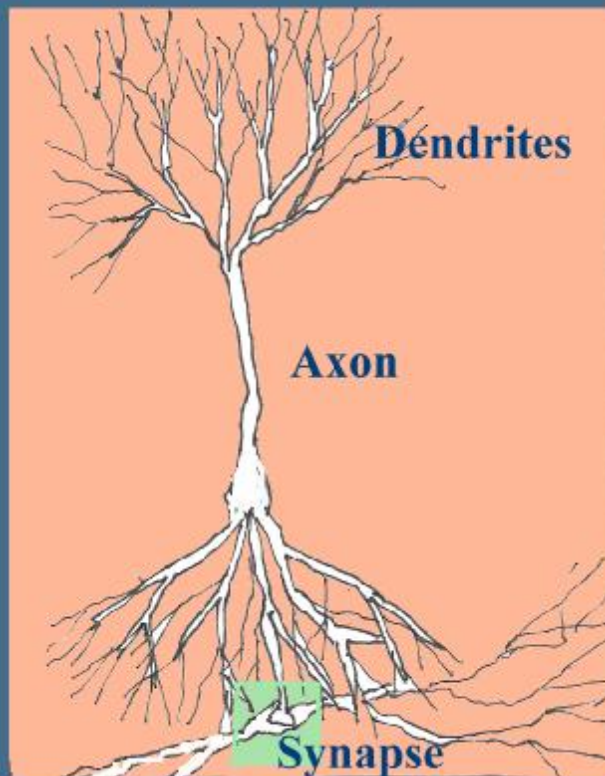


The brain is about the size of a coconut, the shape of a walnut, the color of raw liver, and has the consistency of chilled butter. It has two hemispheres, each covered by the thin gray tissue of cortex. These two halves are bound together by a band of fibers called the *corpus callosum*.

- The brain is composed of more than 100 billion cells contained in various components. The cortex is that folded “thirty inch square *napkin* with six layers” – looking like cauliflower. But this is not the **mind**.



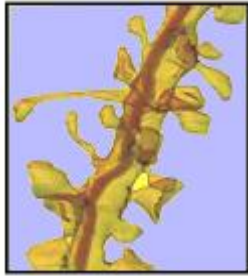
The Brain, the Mind, and The Design of Courts



- Neurons are the basic building block of the brain. There are about ten billion of them in the cortex of the brain, held in place by ninety billion glial cells



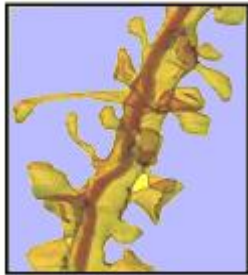
Dendrites collect electrical signals, that cause ions to be transmitted down the axon, releasing neurotransmitters through the synapse into the brain space. But this is not the **mind**



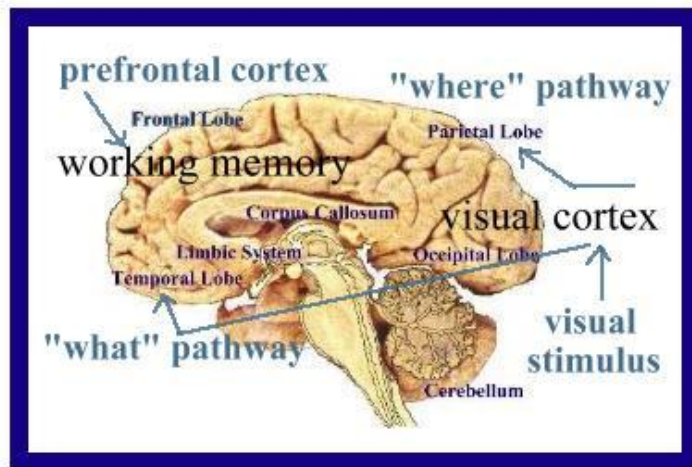
The Brain, the Mind, and The Design of Courts



- In addition to the five senses commonly understood to be the basis for perception – seeing, hearing, smelling, tasting and touch – there is a special sense called “proprioception”. This sixth sense provides us with an awareness of the position of limbs, our posture and equilibrium
- What makes one stream of electrical pulses turn into vision and another into smell depends on which neurons in the cortex are stimulated.
- But this does not constitute the **mind**

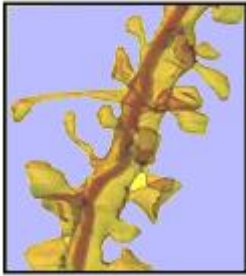


The Brain, the Mind, and The Design of Courts

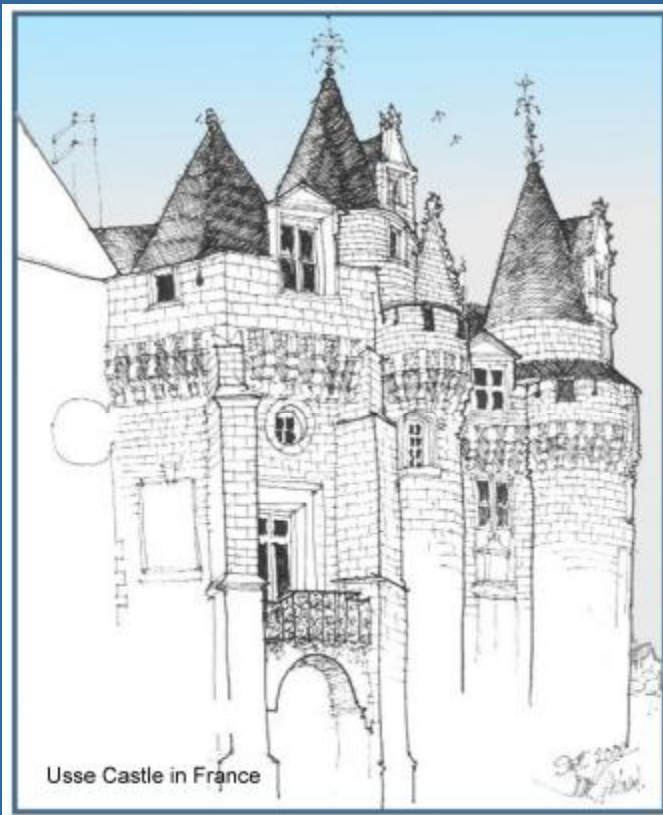


Like the Wizard of Oz, these executive processes work behind the scene of consciousness.

- Working memory (what we are currently thinking with) helps form our ability to hold a conversation, play a board game like chess, or find our way by looking at a map. It also contributes to special human endeavors, such as composing music, solving math problems, or designing a building.
- This underlies the process we call the **mind**



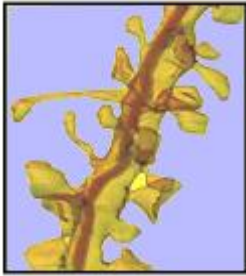
The Brain, the Mind, and The Design of Courts



We all know what consciousness is: it is what you lose when you fall into a deep dreamless sleep and what you regain when you wake up. (like Sleeping Beauty)

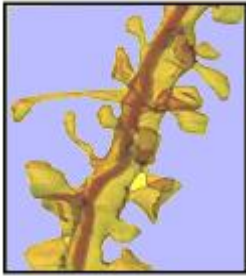
Primary consciousness is the state of being mentally aware of things in the world, of having mental images in the present.

In contrast, high-order consciousness involves the ability to be conscious of being conscious, and it allows a thinking subject to remember the past, contemplate the future, and be aware of being aware.



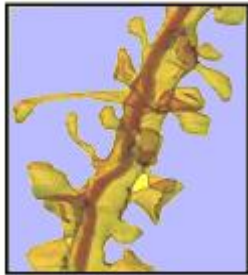
The Brain, the Mind, and The Design of Courts

Hypothesis formation for the five topics



The Brain, the Mind, and The Design of Courts

When a scientist describes a hypothesis, he or she would hope to provide convincing evidence (by conducting a series of tests) that the hypothesis (or the concept underlying it) is correct. After a series of tests have been done, all of which seem to support the original hypothesis (or, to put it another way, give no evidence that the hypothesis is false) it is considered reasonable to treat the hypothesis as true. There is always the possibility that later research will produce results contrary to the initial findings, but if reviews of the initial tests all seem to support the hypothesis, then the statement can be used as “evidence.”

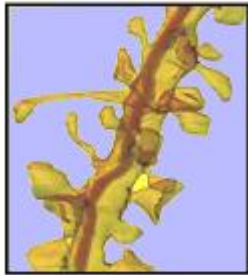


The Brain, the Mind, and The Design of Courts



Hypotheses related to natural light in the courtroom:

There is a relationship between ambient lighting, the response of the circadian rhythms of the body, and the ability to sleep.



The Brain, the Mind, and The Design of Courts

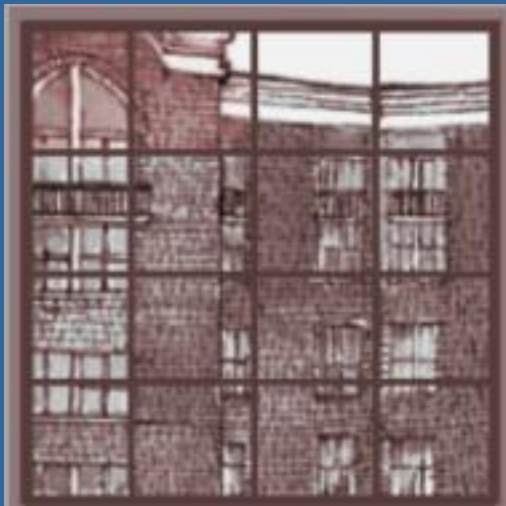


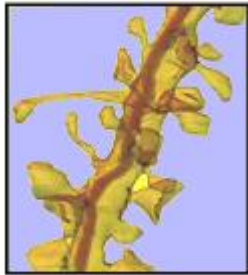
Views of Nature:

One early research project showed that windows influence the healing process, shortening the stay, reducing medication, etc. (after Roger Ulrich)

Possible hypothesis for juries:

It is hypothesized that windows influence staff performance because variations in environmental variables affect brain processes that in turn alter outcome measures.





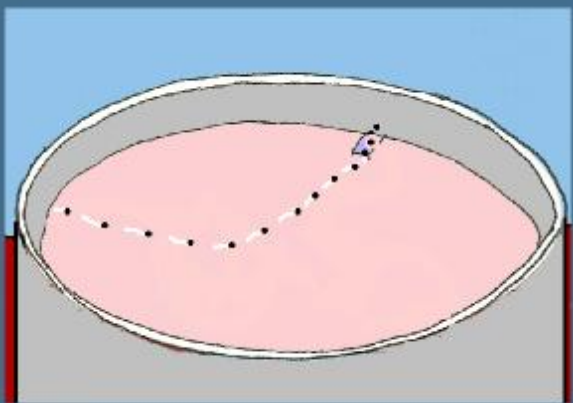
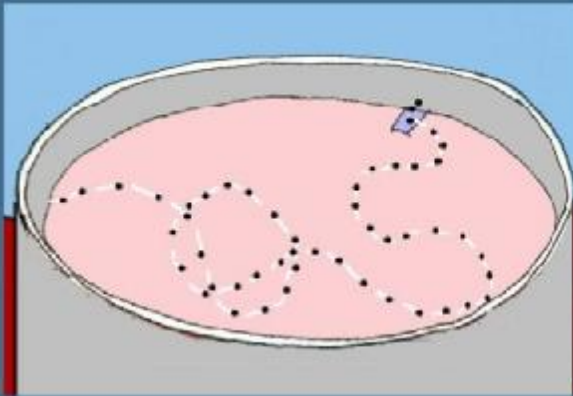
The Brain, the Mind, and The Design of Courts

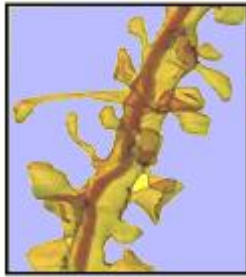
- Landmarks are critical elements in wayfinding.

Hypotheses related to
WAYFINDING

- There are people who are wayfinding-gifted and wayfinding-challenged. Different regions of the brain can be attributed to these capabilities.

- There are some people who are more adept at reading the maps



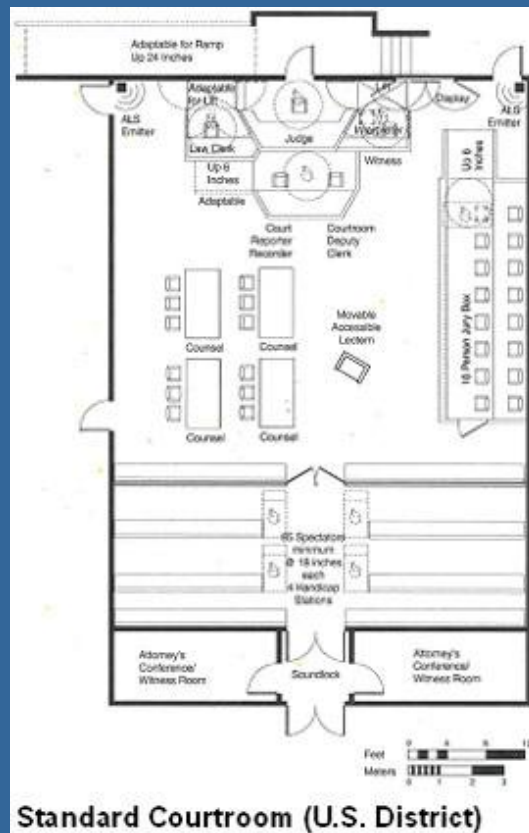


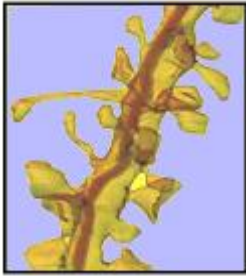
The Brain, the Mind, and The Design of Courts

Location and height of judges bench

Hypothesis:

- A center location is perceived as conferring a higher status than a corner location. Why would this be true?
- If the judge's bench is located at least three feet above the main floor this confers an "imperial" status. Is this translated in the mind to making the judge a "regal" person with little concern for the accused?





The Brain, the Mind, and The Design of Courts

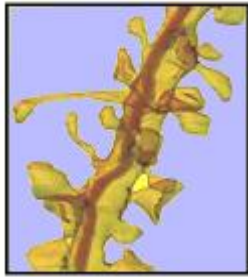


Symbolism in the courthouse and courtroom.

- Hypothesis:

Lady justice conveys the sense of equal opportunity before the law. Why?

If lady justice is blindfolded there is another message – justice is impartial because it does not “see” the accused.



The Brain, the Mind, and The Design of Courts

Conclusions:

While there are a large number of intuitive design decisions available to those who design and manage court houses, we are now in a position to test these intuitive notions with neuroscience methods.

Such methods will potentially provide evidence of how and why the brain and the mind provide visitors, staff, and justice officials with experiences in court houses and court rooms.



Courthouse Superior Court of
Los Angeles County

neuroscience and courthouse design workshop:
understanding cognitive processes in courthouse settings



Attachment 6: Introductory Presentation – Wener–
Wayfinding & Cognitive Maps

neuroscience and courthouse design workshop:
understanding cognitive processes in the courthouse



Wayfinding & Cognitive Maps

September 29-30, 2007
Polytechnic University
Brooklyn Campus
Six MetroTech Center
Brooklyn, NY

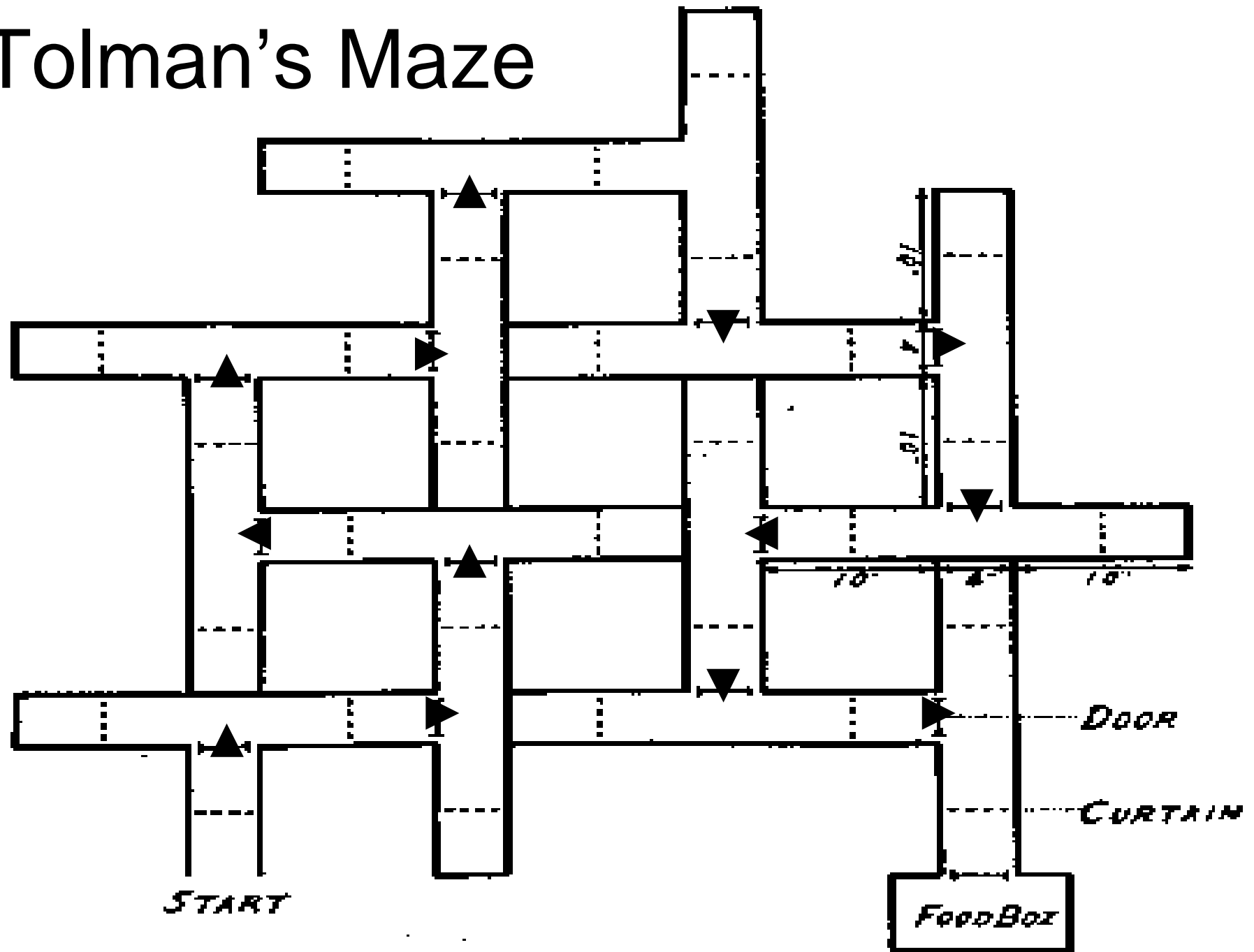
- Wayfinding

- How to use environment to find your way from here to there

Cognitive Maps

- The mental representation of the physical setting
- First discussed by Edward Tolman, in 1940's to describe rats in mazes

Tolman's Maze



Plan of maze

- Term later picked up by Kevin Lynch for urban planning

“The Image of the City”

- Lynch – Elements critical to forming a clear image of a space (good for large scale and building scale environments)
- PATHS
- EDGES
- DISTRICTS
- NODES
- LANDMARKS

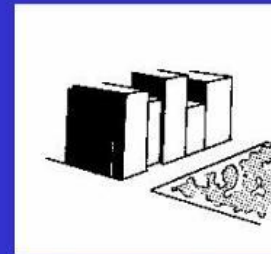
Paths- Channels along which one moves

- streets, walkways, transit lines, railroads.
- most people observe the city most while moving along these paths.
- paths with clear origins and destinations have stronger identities and help tie the city together.

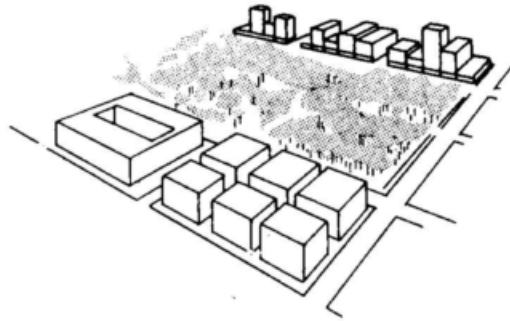


Edges- linear elements that act as barriers between two areas.

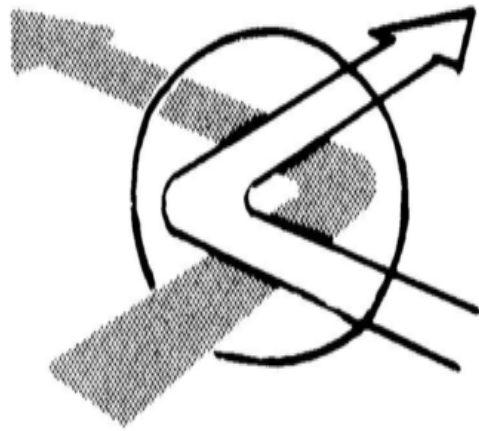
- Shores, railroad lines, edges of development, walls.
- may or may not be penetrable, but delineates a separate zone.



Districts – areas experienced as unity

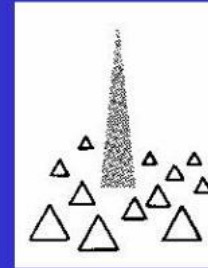


Nodes – junctions, intensive ‘foci’,
convergence



Landmarks- external point-reference which the observer does not enter within.

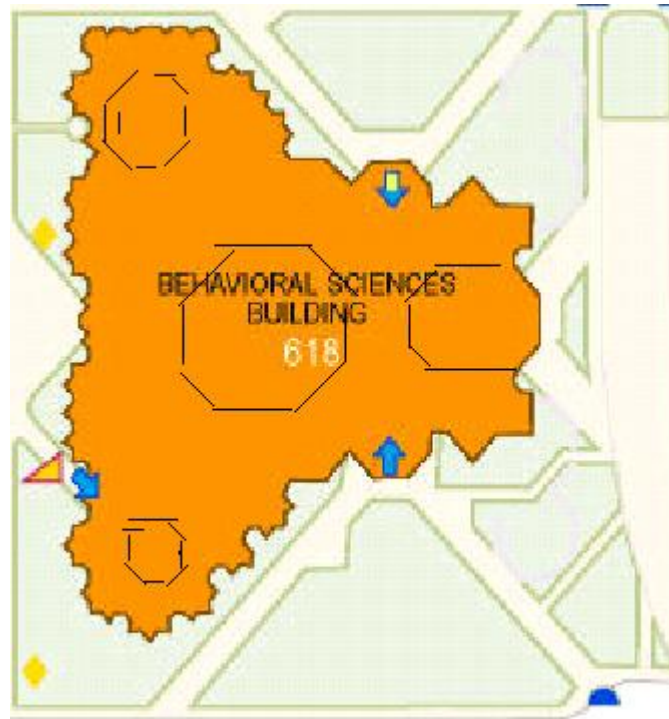
- building, sign, store, mountain.
- often maintains a spatial prominence.



Other elements that help “image-ability”...

- **Rectangularity** (right angles easiest to maneuver, know, recall)
- **Simplicity**, clarity of geometry of overall plan
 - Understandable, describable?
- **Expectation** from Experience, history, culture
 - Is it like it always was – convention
 - eg – a Church looks like THIS!?!
- **Visual Access**
 - Can I see there from here?
- **Asymmetry** (differentiation of space)
- **Terminology** (room numbers, building names, etc.)
- **Orientation aids**
 - Maps, signs, directions
 - High tech

No right angles



Tradition home and ...



School Arch – U of Cincinnati

where is the front door?



Learning the “map” of an area

- We do it in 2 ways
 - 1. Sequential information– *Route Knowledge*
 - Process – [e.g., “go 2 blocks, make a left at the light, then...”]
 - More primitive, less creative
 - 2. State – *Survey knowledge*
 - Overview of layout – relationships
 - Can develop new routes if old one is blocked
- These may be 2 steps in developmental learning process

How do you figure out where to go when you enter a brand new place?

- **First & best** - look to get information from the environment
 - Design “affordances”
 - “does it look like a doorway, exit?” “does it “read” as a cafeteria?”
- **If not, then** look to *signs, maps*, etc.
 - Requires more cognitive effort
- **After that...** look to *other people*
 - Less clear, more risky
- **Last** – *ask people* (stressful, unpredictable)
- Or **wander** (stressful, unpredictable)

Stress also plays a role

- Stress reduces ones ability to solve complex problems – which wayfinding can be
 - Requires simpler solutions
- Are courthouses stressful places to be?
 - Being confused and lost, under time pressure can be very stressful

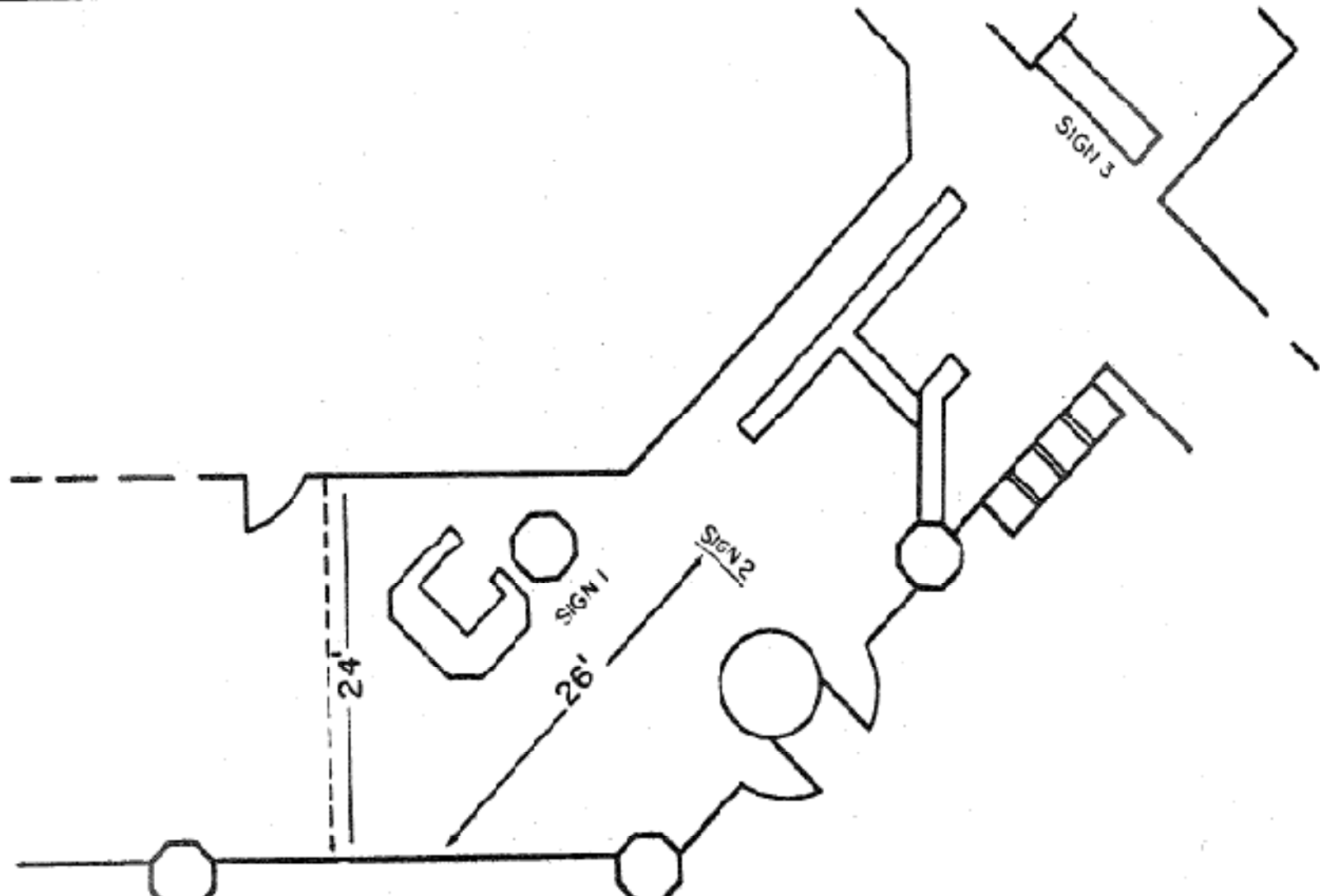
Costs of Being Lost

- We studied wayfinding & stress in a busy lobby (MCC) (Wener & Kaminoff... & Nelson Shulman) –

Metropolitan Correctional Center

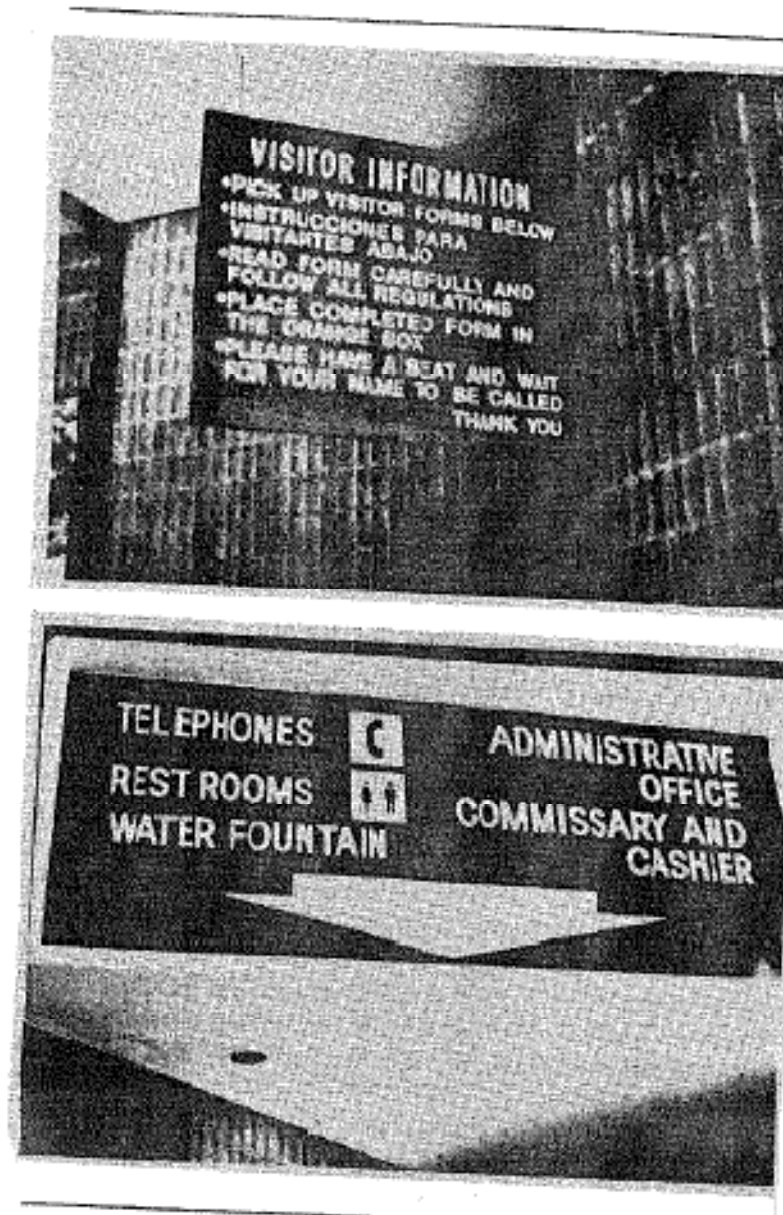


Lobby plan



Simply added signs

Werner, Kamiroff / PERCEIVED CROWDING



Pre-post sign data

- Showed that adding signs to stressful situation:
 - Reduced asking for help
 - Reduced time to complete task
 - Reduced navigational errors
 - Reduced perceive waiting time
 - Reduced stress (BP) (Nelson-Shulman in hospital)
 - Reduced anger