The Moment of Beginning

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The beginning sentence of Edward Said's Beginnings defines the problem of beginnings as one that would "confront one with intensity" (Said, 1985); at the levels of both theory and practice. The beginning of architectural education is the same. In this paper, two foundation design instructors will carry on a dialogue to interrogate the what, when, and how of such beginnings in terms of both fundamental and current issues. This paper intends to formulate a teaser rather than an investigation to address a complex situation. The objective is to present conflicts rather than to find solutions.

The Complexity of the Discipline

The what, when, and how of beginning design are challenging questions due to the complexity of the architectural discipline. In Complexity and Contradiction in Architecture, Robert Venturi promotes an inclusive approach beyond the "oversimplification" towards architecture, arguing in favor of the complexity. Although directed to the architectural object and its design processes, Venturi's perspective reflects the essence of Architecture as a discipline.

Architecture is both a discipline and a non-discipline. On one hand, vernacular architecture illustrates the formation and refinement of architecture derived from individualized and collective understanding of everyday life as well as the available technology and skills for building. Evaluation of architectural design can be personal and does not require any professional qualification. On the other hand, the rise of star-architects who claim a new era or stand for an ideal coincides with the specialization and even exclusivity of architecture. Through manifestos and designs, such as Le Corbusier's Towards a New Architecture and Rem Koolhaas' Delirious New York, architects seem to have the power to influence the masses on how to think and live. The architectural discipline seems hyper-controlled by the professionals.

The complexity of the architectural discipline also resides in the varied but essential mediums that architects work with to explore ideas and design strategies, such as drawing, text, abstract sculptures, and installation. Although the ideas developed in these mediums will triangulate and focus back to buildings, the artifacts created outside buildings can become works in their own right. Further, architectural design may depart from an existing work or process outside the field of architecture, such as music, dance, medicine, biology, film, and literature. These translation processes both facilitate a deeper understanding of the medium of architecture and emphasize the ambiguous boundaries between architecture and non-architecture.

In the mid and late twentieth century, the increased exchange between philosophy and architecture elevated architectural conceptualization, which increased the discipline's complexity. One of the critical impacts of philosophy to architecture is literary theory. In "From Object to Relationship II: Giuseppe Terragni," Peter Eisenman explored the question: can architecture be studied as a language? In A Pattern Language, Christopher Alexander borrowed Chomskyian linguistics which also led to the development of George Stiny and Terry Knight's shape grammars. In The Eyes of the Skin, Juhani Pallasmaa referenced phenomenology in reading, thinking, and making architecture. What is even more complex is the fact that mis-readings of Jacques Derrida's investigation of the interplay between language and the construction of meaning defined an architectural movement, Deconstructivism.

Regardless how intellectual the discipline of architecture may appear, it can never escape its social meaning and impact. French philosophers, such as Jacques Derrida, Gilles Deleuze, and Michel Foucault, treated social and scientific topics in their work that permeated the architectural discourse during the Post-structuralist and Postmodern period. In a double negative tone, Venturi argues that architects "can exclude important considerations only at the risk of separating architecture from the experience of life and the needs of society." That is why both Rural Studio, a structured architectural education program, and the slums in Caracas, Venezuela, an autonomous urban phenomenon, are both of critical value for architectural studies.

Although a discipline whose changes are always delayed relative to technology, Architecture is undergoing a digital revolution. Digital tools are changing the computation and fabrication processes of architecture. More importantly, they not only have facilitated a physical existence that impacts primitive human sensations, but also have created and supported the cyber existence of architectural space. The expansion of Architecture in digital space only increases its level of complexity.

The complexity of the discipline of Architecture demands an open-ended learning structure. Perhaps, the foundation of beginning design studios can be framed by discipline and non-discipline at the same time. The theme of the 2008 National Conference on Beginning Design Students was "the presence and absence of disciplines within beginning design." Sabir Kahn, the chair of the conference, believes the paradoxical presence and absence of disciplines index "unspoken or explicit assumptions and anxieties about disciplinary turfs and thresholds. That beginning design education is considered a distinct terrain compounds these anxieties further as its status as a discrete discipline and as a threshold into other disciplines is put into question." (Kahn, 2008) The following conversation between two beginning design instructors documents a fragment of such debate at this threshold.

Dialogue

What are the foundations of architectural studies?

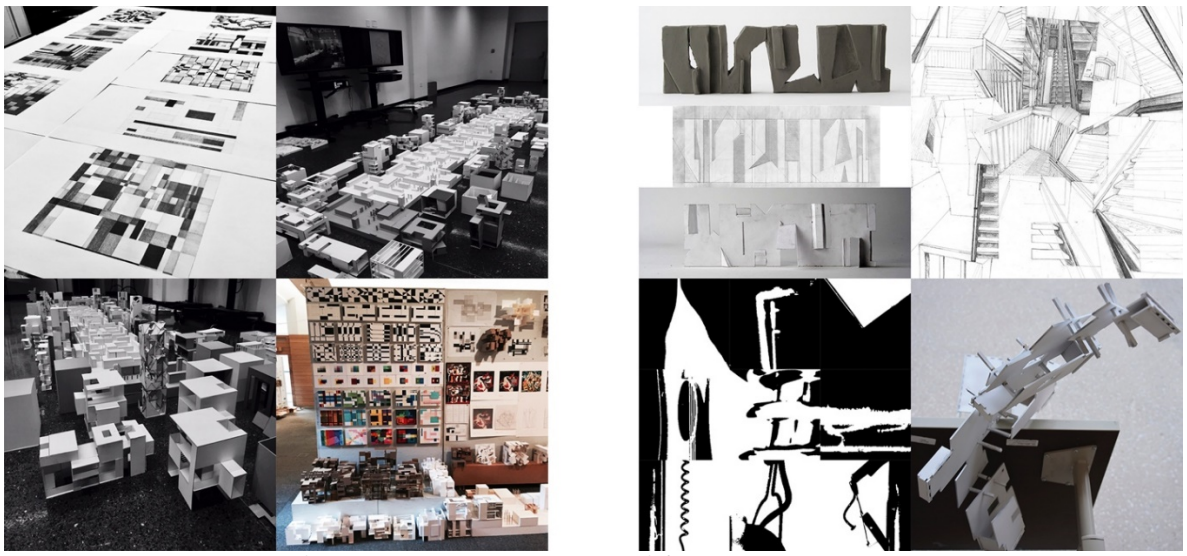

Figure 1. Critical Thinking versus Abstraction: student work from authors' studios. Images owned by the authors.

AB: Critical thinking.

In my beginning design studio, the main objective has two folds. First, it contributes to the definition of the architectural space by emphasizing the commitment between the object and its generative process while maintaining a global notion of various aspects that work in such relationship, such as: physical, historical, technological. Second, it includes research in architectural design by introducing precedents as a critical component in the design process. The research is based on the study and analysis of relevant work, reinforcing the notions of architectural themes and programs.

Critical thinking represents a linkage in all design decisions made. The studio must be a place for discussion of the different ideas and attitudes generated by individual processes of students and a place for confrontation as an academic strategy. Each project is an opportunity to investigate a particular theme or concept. Through critical thinking we develop a conceptual framework which is the fundamental base for the studio. Theoretical foundation is an essential part of the dynamics of the studio and the development of critical thinking. Each studio is enhanced by a series of fundamental readings with the purpose of constructing a solid base from which to operate.

WH: Abstraction.

To think critically, students need to challenge their pre-existing motivations for design by pondering what to investigate, and develop problem-solving skills by learning how to cultivate stimulating questions. Abstraction is a vehicle for critical thinking. Focusing on observing relationships among and within objects, abstraction is a de-familiarizing process for students to detach from the conventional perceptions about the built environment and progress towards conceptualization. Visual abstraction may be the first and most obvious step to take. That is to see non-objectively. In my studio, for example, students were invited to photograph everyday sceneries, crop the pictures to make square units, exaggerate the unit's graphic contrast, and make a new composition from the units. Through the process of transformation, everyday figures give place to recursive compositional flow between the black and the white spaces. Through abstraction, space becomes an organization of point, line, surface, mass, and void; the formulation of space becomes operational processes of folding and carving. The

abstraction process helped students challenge their preconceived idea of architecture and make them realize the existence of architecture outside "building" both literally and metaphorically.

AB: The problem with abstraction is the challenge it represents for students to make connections between abstraction and the notion of "building". In my experience, students tend to see architecture and building as two separate things. I have developed a series of exercises that help them to link both aspects as a continues process. Students need to analyze in details a series of relevant projects in the history of architecture with the idea of exposing and interpreting the diverse conceptual and design operations present in such projects. Through a detailed set of drawings of plans, sections, elevations, digital and physical modeling we can understand the basic principles of composition so we can re-interpret them in the individual projects.

WH: What you are emphasizing is to tie abstraction back to building; what I am emphasizing is to push abstraction to conceptualization. Architecture can mean multiple things. Engaging ideas from multiple disciplines can instigate architectural designs that are personal, contextual, and further extend our environment into increasingly dynamic places. This is when abstraction is critical because it helps students explore spatial meanings. For example, examining paintings by Mondrian, Braque and Picasso helps students understand the three-dimensionality of space in relation to the flattened space on paper. Movie narratives and music rhythms/volumes provide students unconventional environments to investigate new ideas of non-linear relationships. Together, these techniques of abstraction lead to metaphorical conceptualization of space and structure.

Where to start?

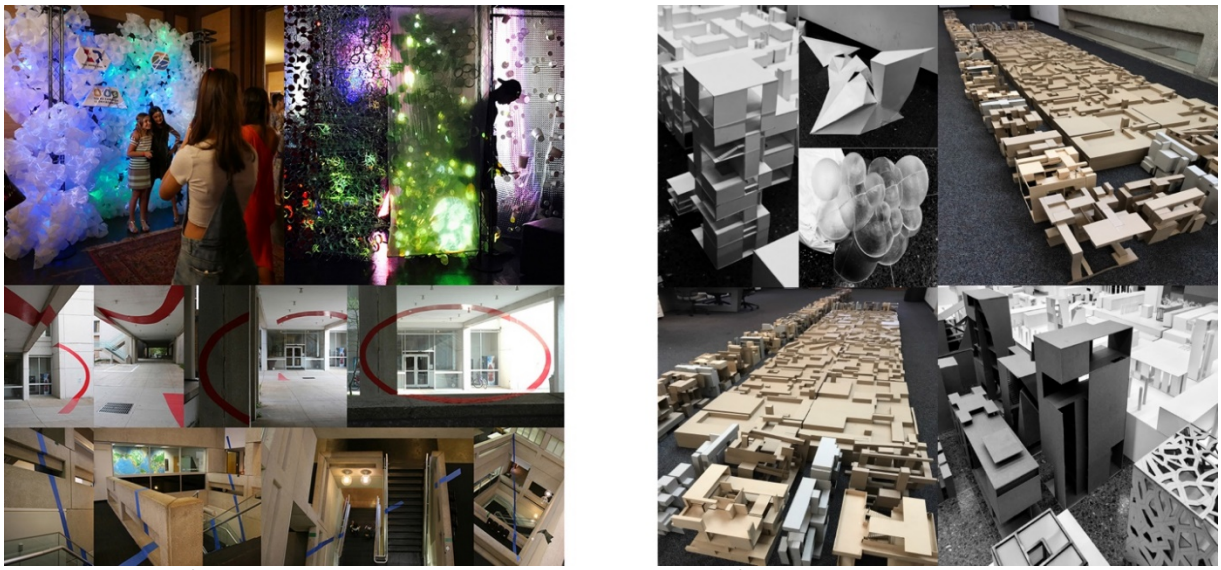

Figure 2. The Unfamiliar and the Uncertain versus Sequence: student work from authors' studios. Images owned by the authors.

WH: The Unfamiliar and The Uncertain.

Design studio is a special learning environment where students confront intellectual challenges with some degree of personal uncertainty. The nature of a design process is to find inspirations and solutions within the unfamiliarity and the uncertain. Through such a process, studio projects become both an extension of one's inner self and a reflection of one's environment.

The first project on the first day of the semester is literally the beginning point of academic architecture education. It is a threshold where students compartmentalize their existing experiences in built environment and project into future practices. The critical point of departure in my studio was a one and a half weeks' warm-up exercise engaging students in a fast-forward experience in architectural design. The project invited students to use disposable everyday plastic objects as modules to design and construct a backdrop for a red-carpet stage. Through the process of communicating with clients, visiting the site, and resolving real construction issues, students formed a renewed first impression about architecture.

AB: The Sequence.

After the de-familiarization and the acceptance of uncertainty should be a methodical and carefully designed sequence that leads students through the design process. Two aspects are fundamental in my studios. First, design is understood as research where relationships between the space production process and its resulting consequence of a certain attitude or intention are explored. Second, the methods and techniques used in this exploration are developed in order to identify and reflect upon the architectural artifact's inherent spatial and structural orders.

One of the most difficult concepts to be introduced to students is space, a critical topic for beginning design studios. The objective of the sequence developed in my studios is to make students detach themselves from their preconceived notions of architecture, in order to be able to introduce the basic principles of spatial composition. Hence, the introductory exercises are about composition and spatial approaches such as: proportion, hierarchy, grid, positive / negative space, notions of poche and figure ground among others. These approaches are abstract.

Another important aspect of the learning process is the notion of phenomenal transparency. It represents a mechanism of understanding space not as an object, but as an intangible and simultaneous condition. My studio develops this essential concept through a series of exercises which range from simple figure-ground compositions to more complex problems of tonal value and color theory with the idea of establishing direct connections between the visualization of space in two dimensions and its three-dimensional reinterpretation.

WH: The realization and acceptance of unfamiliarity and uncertainty is a process. Perhaps the difference between our approaches is the degree of uncertainty in such process. In your case, the learning sequence is determined, and hence, provides a level of certainty and security; in my case, the design problem is presented as a comprehensive shock and hence the seemingly improvised learning sequence.

Another de-familiarizing strategy is to create projects that re-direct students to fundamental design issues from an unconventional angle. The project seems out of the architectural context at first but, while moving through the design process, students gradually develop sensitivity to various architectural issues. For example, in a project producing wall diagrams based on the work of a French artist, Felice Varini, the objective was to project geometric shapes onto architectural and urban spaces so that a single point of view became the only position in which one could see a complete shape superimposed upon actual architectural space. Varini's artistic language demonstrates tectonic architectural concepts such as spatial depth and embodied experience. In another example, students designed movable

structures around their bodies, performing physical transformations of the structures' parts in a runway fashion show. Students learned to integrate understandings of the body's movement in space with the tectonics of materials.

AB: It is not that simple. I agree on the importance of uncertainty as a strategy. I would argue that even though there is a precise structure of the exercise sequence, the results may be very different depending on each student. It is essential for me that each student interprets and develop their projects based on their interpretation and not mine. It is not predetermined outcome in spite of the fact that there are some approaches more frequent than others. Is on this point that is useful to understand what Jung's theory on projection argue. Every perception is a projection of an inner reality. The sequence of exercises I introduce operate from this perspective. The goal is to make students interpret through visual perception what they see and what they feel and use those perceptions to think about concept and space. The certainty that you mention is in the sequence, but not in the results.

How to start?

AB: The Relationship between Art and Architecture.

Art and Architecture operate on common foundations. Architecture first exists as representation. Its ultimate purpose is to exist in the physical world where it can be experienced as a manifestation of certain social conditions. Art is a concept that encloses all creations in which a sensible vision, either internal or external of the world have been developed. It is a vehicle that allows ideas, perceptions and emotions to be re-presented through plastic [visual or not] resources. Architecture is the interaction between reason and emotion. Everything that is part of the architectural process is a consequence of these two forces. Reason and emotion create a discipline that is the result of both right and left parts of the brain acting together in a singular motion. Basic design composition principles are introduced within the context of architectural representation in order for the students to internalize the relationship between spatial thinking and its implications in architectural programming.

In Art and Architecture, there is an exchange of emotions and associations between the work and the observer that depend on specific experiences and particular interpretations. A work of architecture is not perceived as an isolated collection of images, but rather, as an integrated haptic series of perceptions and emotions. Architectural space is the place in which physical structures, tectonic elements and external perceptions are overlapped with internal images and symbols, conscious and un-conscious mental sensations that, together, create a coherent experience with specific meaning. Rather than producing objects of visual seduction. But the question of creativity needs to be addressed. Can we learn to be creative? Can creativity in architecture be developed towards a new kind of spatial thinking? In such a creative process, we must recognize two aspects: what is produced by an architect as a consequence of an awakening of ideas and the impact on their conscience, and the particular visions and concepts derived from his / her direct interpretation. These ideas represent the principle that underlies in all created forms. Every form is a symbol and every symbol is thus the external-visible expression of an internal and spiritual reality.

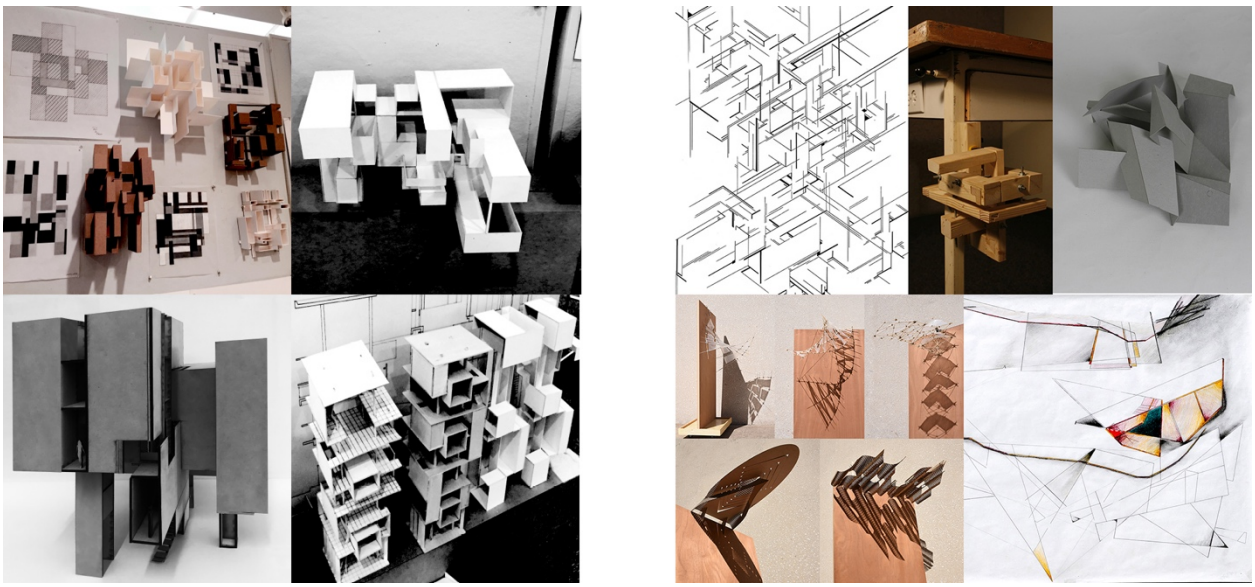

Figure 3. The Relationship between Art and Architecture versus Thinking Medium: student work from authors' studios. Images owned by the authors.

WH: Thinking Medium.

Comparing art and architecture is a strategy for creative thinking where art becomes a context and a reference for architecture. Within such a context, beginning design students also need to learn mediums, such as drawing and physical modeling, to facilitate design thinking. Skill levels of these mediums could empower or limit students' explorations of architecture.

AB: Drawing is a mechanism of communication of design intensions. It is not pure representation of an architectural object, but rather it is the expression of a conceptual intension to solve a problem. Pérez-Gómez has said that the distance between architectural drawing and building has always been opaque and ambiguous. He analyzes how Vitruvius, for instance, understood the drawing as a minor part of the practice and how during the renaissance, architect's drawings signified a symbolic intention to be fulfilled in the built space while remaining an autonomous object of representation.

My studio focuses on the idea of a concrete definition of the architectural object as a product of a spatial and programmatic synthesis process, allowing it to set a coherent relationship between the conceptually determined as genesis of such architectural synthesis, and its transformation to an object built with a high level of site specificity and development, also how we establish those connections between representation and its concrete physical manifestation in order for students to learn meaning.

WH: Meaning is medium specific. How meaning is constructed in a medium varies from one to another. When architectural drawing becomes the medium to think and develop meaning, it is no longer a representation but a diagram. A diagram registers a thought process, invites interpretations, inspires design formulation with embedded ambiguity, and clarifies design intentions. To emphasize drawing as a design tool, I would not hesitate to introduce diagramming to beginning design students.

Diagramming expands their understanding of drawing not merely as an observational medium but also as an analytical and formative medium.

AB: Is digital drawing being used as a diagramming device or something else? There is an understandable fascination with digital technology and visualization of the architectural object. In spite of its infinite benefits for architectural project development, computer imaging tends to generate a simplification of our extraordinary, multi sensorial and simultaneous possibility of imagination by transforming our creative process into a passive manipulation of visual experience. Digital technologies tend to base the understanding of space through perspectival manipulation. This happens today especially in our schools. Architecture students tend to understand the design process as the learning of particular programs and applications, and as the immediate experience of self-gratifying visual objectives rather than focusing on a more haptic sense of design thinking and cultural specificity.

WH: I have similar concerns. With the increased accessibility of digital tools and the prevalence of digital fabrication, the moment of beginning is in question again. Have we entered a world where we naturally think digitally? Is manual drawing merely a nostalgic performance? This is not merely a debate on digital tools versus manual tools or what is the best timing to teach them, but an investigation on the media themselves: how they function as design tools and how they convey meaning in their specific ways.

AB: The contemporary tendency of architect's and architecture is to be part of the world of architecture as mass-media in which Instagram, Face Book and the web is the ultimate goal. Renato de Fusco in his book "Architecture as Mass Media" put forward the idea that architecture is part of the systems of communications that define culture not only from its functional aspects, but also as a container of image/meaning. Prof. Mark Jarzombek analyzes how modern society is determined by what he calls data exhaust - an invisible anthropocentric ether of ones and zeros - as a consequence of "our digitally monitored age". The tools have changed, but the objectives of architectural education [should] remain focused on the role of architecture as a social art. It is not about the tools, it is about what we can do with them. What kind of impact we want to have in an ever-changing society. The central discussion is culture itself. Tools represent mechanisms of mediation between society and the discipline. Today we have computer programs that will be rapidly out of date and will be substituted by others. Therefore, the question is not if we teach a particular program, but how we teach them to think. That is, to use any tool, from a sketch on a napkin or sketchbook to an animation or VR to communicate intensions clearly.

The Complexity of Conclusion

This paper has no conclusion other than acknowledging the complexity residing in the moment of beginning for design studios. Perhaps there is no best way to begin architecture education than a vision of what Architecture is and the agreement on the unavoidable core of "building." We cannot forget that the architecture's role remains socially impactful and its fundamental existence is in the physical world. Hence, the education of an Architect, especially in beginning design studios, must address the core and the complexity of our discipline and develop conceptual approaches and skills necessary to push it forward along with the constant change in our society.

References

1. Paz, O., 2004 'Prólogo. Unidad, modernidad, tradición', OC, México, FCE, Vol. 3

2. Foucault, M.1992, 'Heterotopías', LOTUS 48/49.

3. De Fusco, R.,1997, ' Arquitectura como mass medium', Editorial Anagrama, Barcelona.

4. Jarzombek, M. 2016, 'Digital Stockholm syndrome in the post ontological age', Forerunners ideas first. University of Minnesota press.

5. Jung, C., 1933, 'Modern man in search of his soul', Harcourt inc.

6. Aladro, Eva. 2015. 'Sobre el concepto de proyección en el mundo comunicativo', Universidad Com plutense de Madrid.

7. Perez-Gomez, A.1982, 'Architecture as Drawing', JAE, Vol. 36, No. 2

8. Quiroga, M. 2010 'Art and analytical psychology, an archetypal interpretation of art', Universidad Pontifical de Salamanca.

9. Venturi, R., 1977, Complexity and Contradiction in Architecture, The Museum of Modern Art, New York, 2nd edition.

10. Eisenman, P., 1971, 'From Object to Relationship II: Giuseppe Terragni', Perspecta, The Yale Archi tectural Journal, 13-14, Cambridge, 36 – 75.

11. Said, E., 1985, Beginnings, Columbia University Press, New York.

12. Corbusier, L., 1985, Towards a New Architecture, Dover Architecture.

13. Koolhaas, R., 1997, Delirious New York, The Monacelli Press.

14. Alexander, C., Ishikawa, S., Silverstein, M., 1977, A Pattern Language, Oxford University Press, Cambridge.

15. Pallasmaa, J., 2005, The Eyes of the Skin: Architecture and the Senses, Academy Press, 2nd Edition.

16. Kahn, S. (ed.), 2008, We Have Never Been Pre-disciplinary, Proceedings of the 24th International Conference on the Beginning Design Student, Georgia Institute of Technology, Atlanta, Georgia.