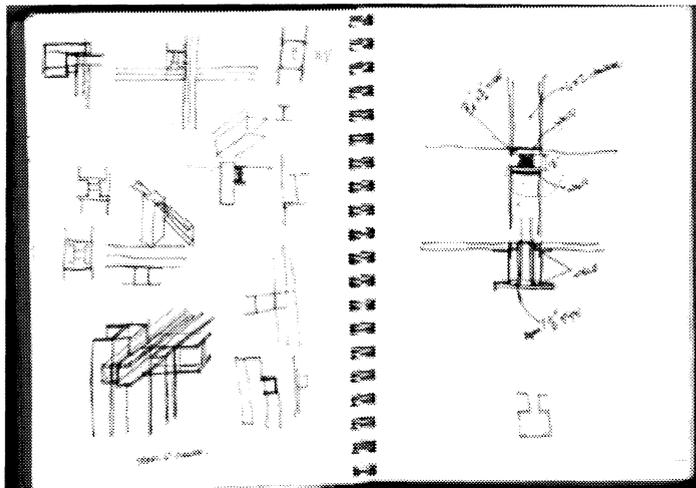


The Hyphen of The Hybrid

ALICE CHUN

University of Pennsylvania

"Architecture is the most unselfish of the arts, it belongs to the passers-by, and every old house and garden... is a gift to the nation, to be enjoyed by future generations who will learn from it more history and art and philosophy than may be found in books." —George Sitwell, *On the Making of Gardens*



The discourse of how we learn the fundamental nature of architecture has undergone a shift towards using the computer to teach. This quote by Sitwell evokes an aspect of design pedagogy absent in the academic realm where computer programs are now being used and abused. The result of which is now showing deep scars on the body of architectural education. It seems that the programs that we use for teaching—Form-Z, PhotoShop, Auto-CAD, and various other virtual modes of representation—show the architectural qualities of future built artifacts, but do not teach the fundamental nature and the appreciation of those qualities. Computer software representations do not teach the sound or smell of things. They do not teach how materials merge and come together. They do not teach the inherent lightness or heaviness of things. They do not teach the intrinsic strength or weakness of things.

This odd condition, this lack of learning begs the question, **how do we learn these things?**

The answer is (simple): through the impact of experience that takes place within a design-build process. However, this answer does not solve the problem since the solution of the predicament is the hyphen in the hybrid word “design-build”. The aim of my paper is to give an answer to what is the hyphen between design and build.

In a small book devoted to a discussion of the modern condition, Bruno Latour states that the word “Modern” includes two sets of entirely different and distinct practices. One is the act of purification and the other is the practice of translation. The latter creates a mixture of entirely new types of beings, hybrids of art and culture. The design-build process is a process of translation since it is manifest in a game of projection, it parallels on the one hand the exquisite corpse of the surrealists, and on the other hand the ‘pataphysics’ of Alfred Jarry, by kindling the origins of “monsters”. The design-build process becomes a re-interpretation of a rich architectural Praxis. I would venture to say that it is a process of translation that brings the beginnings of understanding the qualities of architectural constructions. This can be modeled within the dual paradigm elaborated by Bruno Latour by analyzing the work of the *ETHEREAL THEATRE*, a design-build project erected for the Phila-



delphia Fringe Festival during the summer of 2000 by a group architectural students from Temple University.

ETHEREAL THEATRE: A new body, an exquisite corpse (of constructions) created as a hybrid condition, born through the collective conscious of each participant in the studio. So long as each participant considers these two practices of translation and purification separately, they are truly modern and willingly subscribe to the to a critical project.

PROGRAM FOR THE ETHER: PHENOMENAL (PURE ELEMENT)

Light and Lightness is a key element: The theatre is used during the day and night so the walls had to be versatile, adaptable, and multifunctional for the use of dancers, media artists, etc. Walls had to transform the identity of the space used with the prowess of light. The phenomenon of floatation and suspension are carried by the structure of the platform. Variant conditions will alter the quality of the stage but the construction is designed to become a host or participant for the performances. Because of weathering and the air, it will be packed into a compact storage area in winter, and then employed in the warmer months. A system to accommodate this transformation was required.

PROGRAM FOR THE THEATRE: PHYSICAL (PURE ELEMENT)

The stage: the limits 32' x 20' x 12' (Includes the side areas and space.)

Roof will be a movable structure.

Height of walls 12' maximum

As acts of knowledge, all real acts of construction begin with the unknown. This precarious position that urges the quest for knowing, kindles the process of poetic logic and monsters. To demonstrate is to make an act of knowledge. One gains knowledge through the act of making. The Ethereal theatre, pedagogically developed as a design studio, was created through a series of full-scale details that undermined the "traditional" method of building since all the necessary construction documents were encrypted within the sketchbooks of the students, the notes on the walls of the metal shop, and in the traces within the seams of the melted steel. Each evolution of a detail, led to the knowledge of the boundaries within each material. The nature of steel tested to its boundary; the floor of the stage required a natural spring or flex for various media and dance performances. The steel, in this case, works analogously since it has the resilience of flesh and muscles. Wood could not be used because of the weight. All components of the construction needed to be light enough for two people to *handle*. All parts required adaptability, compatibility, and thus ethereality.



Why ethereality?

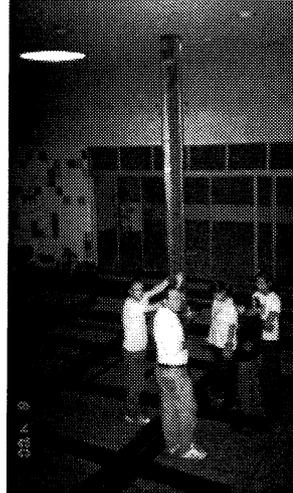
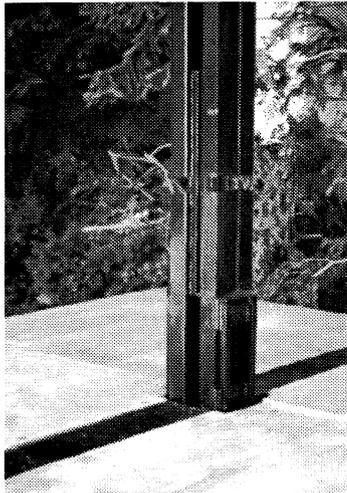
Since the process of construction had to incorporate two distinct issues, the nature of the culture, (art and performance), changing nature of site, and the hybrid condition is inherent in the project. Ethereality deals with the demonstration of "Poetic Logic," which is the marriage of these two conditions.

So where were the origins of "Poetic Logic" born from? Giambattista Vico states in *The New Science*: Logic comes from logos- from *fabula* (fable) carried to Italian *favella*, speech. In Greek the fable is *mutus* (mute) because speech was born out of mute times, as mental or sign language came before vocal or articulate language. Whence logos means both word and idea. Poetic monsters and metamorphosis arose from a necessity of this primary human nature, its inability to abstract forms or properties from subjects. By their logic, they had to put subjects together, or to destroy a subject in order to separate its primary form from the contrary form, which had been imposed on it. In Roman law, as Vico observes, children born of prostitutes are called Monsters because they have both the noble and the bestial, coming from uncertain origins. "And it was as being monsters of this sort we shall find that children born of noble women with out benefit of solemn nuptials were commanded by law of the Twelve Tables to be thrown in the Tiber.¹

The De-Monstration occurs when there is the knowledge of both halves of the origin of the monster. It is no longer a monster but evidence as it's own witness. In the act of translation, we regulate the proliferation of "Monsters" by representing their existence formally. Architectural monsters or hybrids are then "de-monstrated". Here is the moment where we go back to understanding technology as a method of understanding the art of making. Demonstration is the result of the design build process. I hope to show this through the process of the Ethereal Theatre.

The process of construction involved translations of the intersections between the beautiful (phenomenal) and the ugly (physical). The Greeks believed the origins of beauty began with the origins of the heavens, the sky, and the air. The relationship to these formless things, of many identities, were the essence of the gods or the "beautiful". Things with a specific identity became related to the mortal, the "ugly". They constructed demonstrations of the marriage be-

tween the cosmological phenomena of light, vision, and experience with the physical realm of the earth, body, and measure.



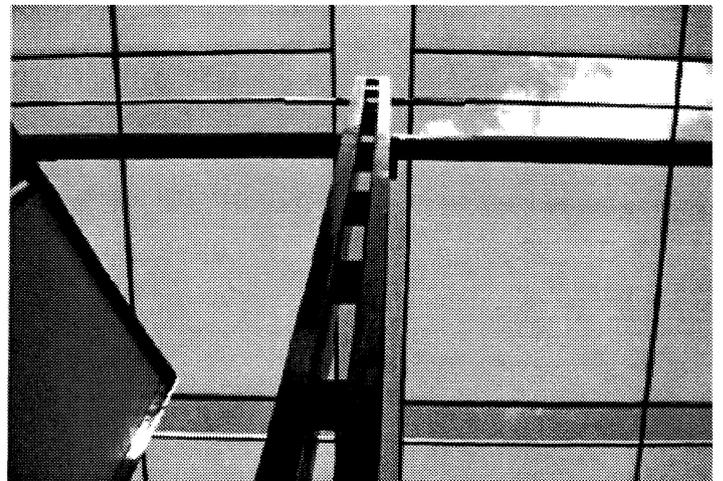
The Ethereal Theatre included the design of a mobile form that could adapt to various sites in the city. The impact of experience teaches how one can encompass the beauty of lightness, wonder, and the phenomena of materiality. The challenge is the movement from the process of purification (identities and non-identities) to the process of translation (phenomena of the hybrid). Employment and transformation of these relationships to method making, began first with 1/4" models, then 1/2", then with full-scale details and constructions. All drawings were done on site. In some cases the details could not have been born from drawing, but only from the space of cause and effect. An example of this instance came when the connection between the floor and the columns. The wrath of steel became evident as there was not any tolerance from the steel when a miniscule fraction of an inch was needed to insert the base of the columns into the sleeve attached to the underside of the flooring structure. Within ten minutes a new detail was fabricated, where the feet of the columns were amputated and a new prosthetic was attached. In hind site, the detail as it became, was in some ways, always meant to be.

Technology in this studio was pursued as an erotic procedure that attempted to express a search for knowledge. Technology is the fertile factor for the architectural production of elegant meanings, as Marco Frascari states, "it deals with both the construction- the logos of techne (elegant art)— and the construing—the techne of logos (rhetoric). Elegant technology translates from figures of thought to figures of site, and figures of making"² The translations are ambiguous but the implications may be understood by verbal and visual cunning.

This theatre was built for an actual client, The Fringe Festival. Funds were donated by a private Foundation to provide for the material construction costs. The Fringe Festival is an annual event that occurs in Philadelphia during the month of September for two weeks. The term 'Fringe' refers to artists who are on the edge, or

exploring the boundaries of existing modes of performance and dance. Multimedia performances, classical ballet, modern dance are a few of the functions that took place and will take place there.

Purification process begins with the "pure elements" the body, the building materials, the projected dimensions, the individuals and the culture. In this case the primary material was steel. The individuals or participants were a class of 19 students ranging in age from 20 to 36. It was a vertical studio. Within the primary condition of the human and tactile condition, the students found themselves in touch with the objects that were made. The primary link being the hand. In the design- build process we embrace and define our humanity from this phenomenon. As Malcolm McCullough states in a brief book dedicated to the argument of craft, "skill also differs from talent and from conceptual grasp even if it reflects that. Talent seems native, and concepts come from schooling but skill is learned by doing. It is acquired by DEMONSTRATING and sharpened by practice. The circumstances of practice are often themselves a source of satisfaction. This is because skill is sentient it involves cognitive cues and affective intent."³



A construction of logic bears the birth of a simple system of footings and structure for the stage. The basic notion of the level and reference to the ground became the backbone to the whole construction. Crafting the structure could not begin without crafting the execution of the setting according to the ground plane. As Henri Focillon writes "when one realizes that the quality of a tone or of a value depends not only on the way in which it is made, but also on the way in which it is set down, then one understands that the god in five persons manifests himself every where."⁴ Through the hand, identity involves execution, and expression involves workmanship, pleasure, and craft. The practice of work maintains a necessary connection to an inner history. "The hand knows that an object has physical bulk, that it is smooth or rough, that it is not soldered to heaven or earth from which it is inseparable. The hand's action defines the cavity of space and the fullness of the objects that occupy it. Surface, volume density and weight are not optical phenomena. Man first learned about them between his fingers and in the hollow of his palm. He does not measure space with his eyes, but with his hands and feet."⁵ In this case the columns, structure,

and footings had to bow the strength of the human body. The strength of a material required the employment of something extremely light but extremely strong. Thin miniature steel c-channels and I-channels were fabricated and used in 27 different ways. Our bodies were the unit of measure for all the constructions. Fabrication processes beckoned the hand as a unit of measure for the beam and joists.

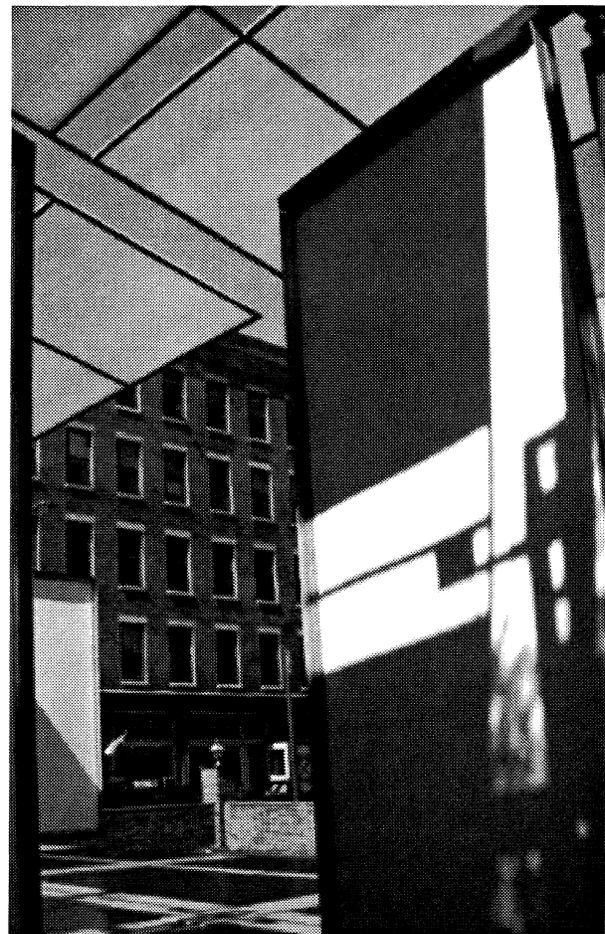
Work proceeded with a translation between the conscious of each individual member of the studio to the collective conscious, then to the reactive and active space of communication between production and projection processes. This engaged the circumstance of making hybrids and confronting monsters, from each joint to the balance of weight on the wing and roof panels. "Every man-made form - and in particular, every architectural form - does not exist solely as a static consequence to an otherwise irrelevant act of production, but conversely, that the nature of form is inlaid in the process of making."⁶

Octavio Paz states within a compelling short film called "In praise of Hands", "In the work of hand craftsmen there is a constant shifting back and fourth between usefulness and beauty. This continual interchange has a name: Pleasure." Things are pleasing because they are useful and beautiful. This copulative conjunction defines craftwork, just as the disjunctive conjunction defines art and technology: usefulness or beauty". Within the process of making, every inch of the materials were caressed, marred or marked, by all the hands of the participants. Evidence of extent became a rich character on the auratic skin of the theatre. Slight differences within simple and minimal details were noticed because fabrications were all hand made. One could sense the hands on it. A reporter for the City Paper came to the opening and commented on how she enjoyed the fact that everything was *not* machine perfect. Human labor evokes appreciation.

Industry, worshiped objects that have no soul but their use. Industry breeds efficiency. "The industrial object tends to disappear as a form and to become indistinguishable from its function. It's being is it's meaning and it's meaning to be useful. It is the diametrical opposite of the work of art.... The destination of the work of art - is the air conditioned eternity of a museum; the destiny of the industrial object ordinarily escapes both of these."⁷ As McCullough sites, "The handcrafted object reflects not only informational economy of energy, but also, pleasure. Its production involves some play, some waste, and above all a kind of communion. Its long life continues to enhance its qualities through use and contemplation. Architecture as a model represents and serves its culture. It is daily handling and use is a humble act of participation in that culture."⁸ "Since the thing is made by human hands, the craft object preserves the fingerprints -be they real or metaphorical - of the artisan who fashioned it. These imprints are not the signatures of the artists; they are not a name. Nor are they a trademark. Rather, they are signs; scarcely visible, faded scar commemorating the original brotherhood of men and their separation. Being made by human hands; the craft is made for human hands; we cannot only see it but caress it with our fingers."⁹

According to Webster, the word "craft" derives from the Middle English Craeft, Which simply meant strength or power. We must resemble that because such forces were regarded with suspicion. The word origin also retains and gives breathe to intellectual skills, of thoughtful and poetic making. It is one of cunning process of translation between the mind the hand and the material. In later meaning the word referred to a more specific power, namely specialized skill or dexterity. "The crafty architect has the hands of an angel and the mind of a thief."¹⁰

In the manual arts "We fashion tools and coax materials. Under visual guidance, what would otherwise be brute grasp grows into a specialized skill. Hands acquire some independence through training but they still turn to the eyes for a purpose...Reflection finds



harmony in the steady flow of the hand and eye, tool, and material. The crafty artifact is therefore as much a product of the eye as of Vision. Rudolf Arnheim: Visual Thinking "We need and want to rebuild the bridge between perception and thinking. I have tried to show that perception consists in the grasping of relevant generic features of the object. Inversely, thinking, in order to have something to think about, must be based on images of the world in which we live. The thought elements in perception and perceptual elements in thought are complementary. They make human cognition a unitary process, which leads without break from the elementary acquisition of sensory information to the most generic theoretical

ideas. The essential trait of this unitary cognitive process is that at every level it involves abstraction. Therefore, the nature and meaning of abstraction must be examined with care. There is no getting around the fact that an abstractive grasp of structural features is the very basis of perception and the beginning of all cognition.” The use of which became a fundamental building tool and test to the constructions that took place on the theatre. The speed of accuracy pre-defines the calculated error. Many of the tests of alignment, from the leveling of the floor beams to the plum line of the wings, were used by sight and oddly enough when checked by actual measurement all intuitive answers were correct.

THE PROCESS OF TRANSLATION: THE HYBRID

When we look into the surrealist mirror of the exquisite corpse. The game of design would be started by one participant then eventually completed by another. One cannot escape the logic and wonder of the *pata physician*. The realm of the hybrid, the new body, the “mediation”, or the “network” can be accomplished through the use of *Pataphysics*. The process of making the hybrid or monster became a primary exploration within the studio.

As Alfred Jarry might put it, the world of *Pataphysics* is a most unique world in which forms may be generated through this science. It creates the inverse of cosmology. *Pataphysics* is the science of the exceptional and specific. It enacts discovery through demonstration; it celebrates technical processes and architecture as a verb. It narrows the distance between form and content. Measure becomes a subject and object. New definitions and identities are born out of two entirely different identities. This new third identity is instilled by the memory of both previous identities; it is the “monster” of the former identities.

“An epiphenomenon is that which is super induced upon a phenomenon. *Pataphysics* is the science of that which is super induced upon metaphysics, whether within or beyond the latter’s limitations, extending as far beyond metaphysics as the latter extends beyond physics. It is the science of the particular.”¹¹ It could be envisioned as the production of new identities, or the process by which the birth of “uniqueness” occurs.

“Definition: *Pataphysics* is the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their lineaments.”¹²

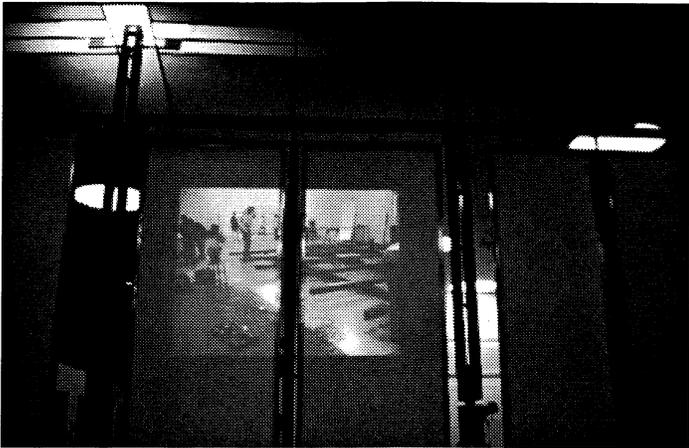
We discover that architectural theory is not science, but that architecture as a mode of production is necessarily technology. It prefers a practice through poesis, revealing a moment where meanings are fused into the impact of experience over a practice that waits for a subject to tell us an objectified meaning. This story can best be told through the story of the “sentinels” or columns. The nickname arrived when the difficulties of construction were lifted from our site when the columns were finally put in place. During construction, the columns were made on the ground and laid for the most part like dead figures waiting to be buried. For some reason all the demons of bad weather, misaligning hinges, and dark mood of the all hu-



mans involved, disappeared as soon as the columns rose up from the dead and linked into their slotted spaces. The columns themselves were hybrid since the same stock of parts for the floor structure was used as well as the same sectional configurations. The height of the columns propelled the design team to think of ways to join by separation with nominal dimensions.

Lightness being the driving phenomena for the structures, a celebration of materials through the reveal, became a common demonstration of our discovery. A minimal budget compelled us to find a light yet inexpensive panel system to be the skin of the wings and roof. An accidental discovery of the cheapest material panel to be manufactured called coroplast, was used for the perfect backdrop, for film and digital media, shadow enhancing space of the stage, for dramatic dances, and the lightness and rigidity of the panel made it a perfect skin for the wings. The wings being the side and back panels of the stage, they allowed the performers to stand prior to performance. Coroplast became the more than just a cheap plastic but a perfect skin. The “Marvelous confusion of the animate and the inanimate the modern mannequin and the romantic ruin. The first – crossing of the human and the nonhuman. The second – a mixing of the historical and the natural.”¹³ In the surrealist image repertoire evokes the reconfiguring of the body as machine. In this way the ethereal theatre, become a new body or host to the performances as it participates within the realm of “viewing in”, which is the etymological origin of *theatre* and *theory*.

Through the impact of experience, that takes place within a design-build process. The process becomes a fertile architectural Praxis. ETHEREAL buildings create hybrid conditions, born through the collective mindful work of each participant; architectural monsters are then “de-monstrated”. The process of construction incorporates two distinct issues, the nature of the culture. (art and performance); changing nature of site, and the hybrid condition becomes inherent in the project. The process of construction translates between the beautiful (phenomenal) and the ugly (physical). The challenge is the movement from the process of purification (identities and non-identities) to the process of translation (phenomena of the hybrid). This purification process begins with the interfacing the body and the building materials with the projected dimensions articulated by a dialogue between individuals and culture. The primary link is the hand; in the design-build process we embrace and characterize the phenomenon of an architectural praxis, which knows how materials merge and come together and what is the inherent lightness or heaviness of things, together with the intrinsic strength or weakness of things. Through the hand, identity involves execution, and expression involves workmanship, pleasure, and craft siting a cunning process of translation on one side between mind and hand, and on the other side between material and measure. The hyphen between design - build becomes a subject and object.



NOTES

- ¹Giambattista Vico, *The New Science*, p127.
- ²Marco Frascari, Seminar on Elegant Technology, University of Pennsylvania, 1990
- ³Malcolm McCullough, *Abstracting Craft*, p.3, 7, 8.
- ⁴Henri Focillon, *The Life of Forms in Art*, p.174, 180
- ⁵*Ibid*, p.162-163.
- ⁶Guseppe Zambonini, *Notes for a theory of Making in a Time of Necessity*.
- ⁷Octavio Paz, “In praise of Hands”
- ⁸Malcolm McCullough, *Abstracting Craft*, p. 67.
- ⁹*Ibid*.
- ¹⁰Marco Frascari, Seminar on Poesis, University of Pennsylvania, 1990.
- ¹¹Alfred Jarry, *Selected Works of Alfred Jarry*, p 193
- ¹²Alfred Jarry, *Selected Works of Alfred Jarry*, p 193
- ¹³Andre Breton, *Manifestos on Surrealism*, p.

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