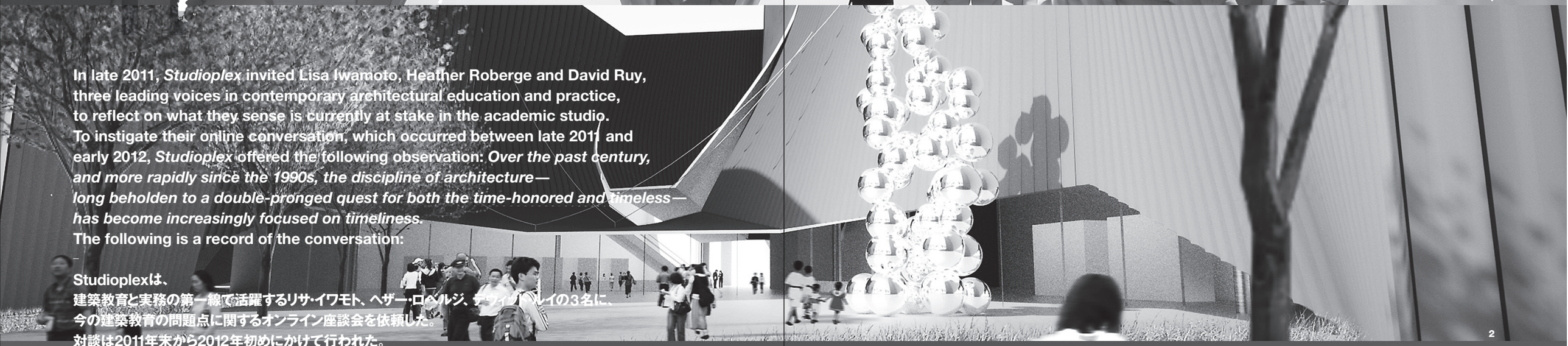

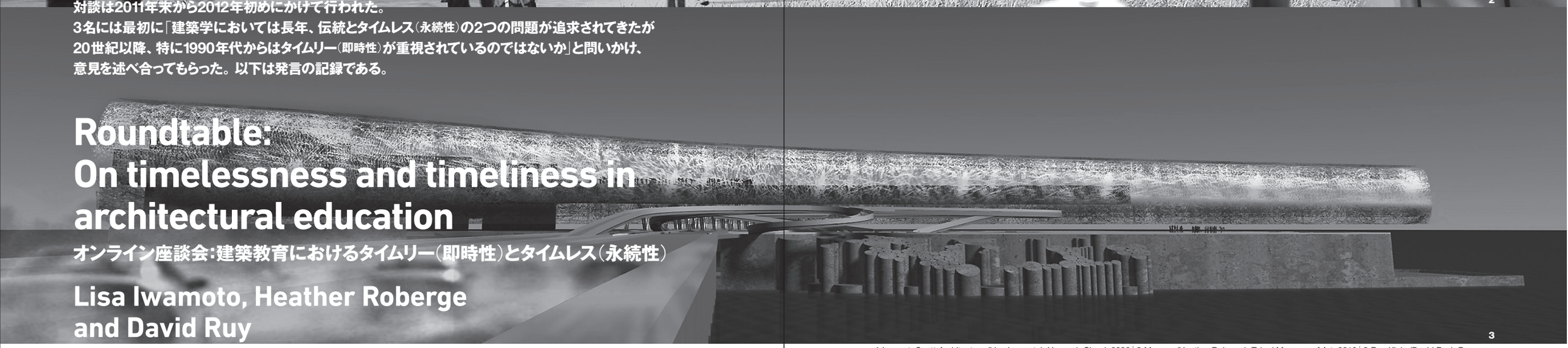

In late 2011, *Studioplex* invited Lisa Iwamoto, Heather Roberge and David Ruy, three leading voices in contemporary architectural education and practice, to reflect on what they sense is currently at stake in the academic studio. To instigate their online conversation, which occurred between late 2011 and early 2012, *Studioplex* offered the following observation: *Over the past century, and more rapidly since the 1990s, the discipline of architecture—long beholden to a double-pronged quest for both the time-honored and timeless—has become increasingly focused on timeliness.* The following is a record of the conversation:

Studioplexは、建築教育と実務の第一線で活躍するリサ・イワモト、ヘザー・ロベルジ、デヴィッド・ルイの3名に、今の建築教育の問題点に関するオンライン座談会を依頼した。対談は2011年末から2012年初めにかけて行われた。3名には最初に「建築学においては長年、伝統とタイムレス(永続性)の2つの問題が追求されてきたが20世紀以降、特に1990年代からはタイムリー(即時性)が重視されているのではないか」と問いかけ、意見を述べ合ってもらった。以下は発言の記録である。

Roundtable: On timelessness and timeliness in architectural education

オンライン座談会:建築教育におけるタイムリー(即時性)とタイムレス(永続性)

Lisa Iwamoto, Heather Roberge and David Ruy

1 IwamotoScott Architecture (Lisa Iwamoto): Voussoir Cloud, 2008 | **2** Murmur (Heather Roberge): Taipei Museum of Art, 2010 | **3** Ruy Klein (David Ruy): Pangaea, 2005

DR (David Ruy): I'm happy that we're not going to focus on 'time-based' techniques, as I think the usefulness of that discourse for destabilizing architectural form is already history now. Ironically that project is complete because it was largely successful. Now that principles of architectural form have been successfully destabilized, we ask "Now what?" What was it that architects were trying to do in the first place when they encountered unproductive obstructions in design culture? I think this is a timely issue to discuss.

The obsession with 'timeliness' is indeed peculiar to the current state of design culture (and education). Engaging in the present seems far more relevant these days than speculating about the past or the future—especially so at the academy. There are so many reasons for this, but two trends stand out.

First, starting in the 1990s (perhaps with the fall of Post Modernism), there's been a general move away from seeing architectural history as central to architectural education (however this is starting to change). Second, and this is a more recent tendency, there's an evident disenchantment with technology. Everyone wants to employ technology, the newer the better, but no one thinks that technology is going to save us. For example, we're much more concerned about what we can make with a 3D printer right now, and no one really thinks that it's a polemical device for articulating a Utopian future anymore. Even when engaged in design speculation, the concern is hardly ever to paint an image of an ideal future, instead it's usually about radicalizing the present.

LI (Lisa Iwamoto): I would like to think that the two—timelessness and timeliness—aren't opposed, but can be understood together. I agree that there's a surfeit of 'timely' architectural design at the moment. I also agree that linkages to previous historical periods are less stressed in the academy and in architectural language in general. However, the work that I find the most interesting doesn't attempt to make a 100% break from the past, but has some resonance with precedent and architectural lineage: it is situated. This would support the idea that for work to be astutely positioned in the present it would acknowledge its position relative both to what has come before and to what is current.

HR (Heather Roberge): It's much easier for me to discuss an interest in timeliness when thinking back to five years ago. More projects were happening and, by necessity, the teams behind them embraced the notion of timeliness through design, manufacture and construction technology. The academy, despite its comfortable distance from practice, was influenced by the applications of technology to problems of practice.

Five years ago, the timely in the design studio included the parametric project, the facade technology project and the landscape urbanism project. Now what's at stake is much less clear. With a series of financial collapses, an ongoing global recession, the political turbulence of the Arab spring, to name just a few uncertainties, the timeliness of practice is waning. In the academy we are turning toward longstanding architectural problems and attempting to situate recent questions more carefully in the discipline.

My current studio research began with an exercise in the timely a few years ago when I developed a technology seminar called 'Between the Sheets' to investigate the impact of aerospace manufacturing on the design of metal building skins. Students designed and prototyped rain-screen façade systems, embracing the manufacturing constraints of thermo-formed aluminum parts and the potential of digital design to embed geometry and performance in the architectural surface. Southern California's aerospace industry provided a timely case study in the use of digital design, simulation and rapid prototyping in the manufacturing process.

The course was called "Between the Sheets" because students managed two sets of material constraints simultaneously. Their designs anticipated manufacture with thermo-formed aluminum sheet while their prototypes were produced with vacuum formed plastic sheet. The implications of the work were broad allowing students to position the work with regard to tectonics, cosmetics, materiality, assembly and surface. This led to a series of studios that looked at the spatial, tectonic and assembly implications of what we call 'sheet logics'. The term surface was replaced by sheet because it refers both to topology and substance, to geometry and material. To borrow Lisa's terminology, we attempted to situate the work within the discipline by exploring the impact of contemporary technology on both the ideas of the organizational and the cosmetic. Importantly, the research is on-going. 'Sheet logics' are geometric organizations that avoid the solid logics typically associated with massing in favor of surfaces that manage both figure and ground simultaneously. Sheets are thus agents of spatial invention untied from the limits of established geometric models but capable of producing different ones. With sheets, there is no hierarchy of relationships between master plan, building organization, ornament and detail.

So as the subject matter of a fabrication course, sheets offer a fertile test-bed for design research. Sheets typically involve areas of curvature, which require careful translation when produced as full-scale material assemblies. At least in part, these areas behave structurally in ways that differ from flat surfaces demanding tectonic solutions that become form-active. Thus the implications of fabrication on both structure and skin are emphasized in the research and the disciplinary questions of massing are revisited when working with sheets. Designers formulate alternative relationships of building surface to ground, to silhouette and to assembled layers and parts.

LI: I think "Voussoir Cloud", a project my office completed during summer 2008 with students

at the Southern California Institute of Architecture (SCI Arc) illustrates our attempt to situate work in the present as well as within the lineage of architecture. Like Heather's research, the design employed thin material and examined relationships among surface, geometry, fabrication technologies and material performance. Simultaneously referencing and provoking new ideas about work from previous historic periods was also important in this case. The form of the project—a series of catenary vaults—obviously took cues from work of previous periods including classical architecture, and later developments that united form with structural geometries in the earlier part of the 20th century.

Our research used computational techniques to modify the typically symmetrical and uniform peristyle hall into an asymmetrical array in both plan and section. We also inverted the expected by questioning the idea of the vault as a compressive and weighty building type. In using an engineered material that is ultra-thin, translucent and foldable, we sought to make the vault porous, lightweight, and ethereal. The means to this end was to employ folding along a curved seam to achieve the stability and bearing surface for each module that we required. This entailed geometrically unraveling the resultant behavior of the material when bent along a curve, as well as computational, structural form-finding for the whole array to minimize internal stresses. Mergers of the contemporary pre-occupations with structural surfaces, translucency, and material behavior and the displacement of deeply known historic referents into the contemporary realm were crucial to the timeliness of the project.

DR: In my earlier comment, I was noting the recent tendency to turn away from both the future and the past. That is, from both utopian projects and architectural history. Without the future and the past, there is only the delirium of the contemporary, or the never-ending obsession with new digital tools and technologies. Parallel to these two different manifestations of wanting 'the now,' we still see many studios producing never-ending diagrams, or maps, of this and that condition; and slide after slide of research pertaining to something provocative, or an event happening today. Just as tedious, we see studio work that amounts to nothing more than elaborate demonstrations of tools and techniques. In both cases, the absence of design is very troubling, and it seems to be a peculiar, perhaps unexpected, symptom of the lust for the present. In the excitement to swim in the contemporary ocean, inspired by so much profound social and political change and technological innovation in the late 20th century, I think that the academic culture of architecture severely underestimated the power and necessity of developing our core disciplinary knowledge.

Like Lisa and Heather, I'm decisively on the side of design (even at the cost of forgoing what might be valuable research), and it's become painfully clear to me that there really cannot be meaningful architectural projects without a deep relationship to a very old architectural discipline. I have a hunch that all of the good architects in practice and education have covertly maintained the disciplinary focus all along, but I think it is time now to be much more explicit about this to the various audiences of architecture, and most importantly to our students. I think it's time to move away from methodological rhetoric and drill deep into specific disciplinary problems. For me, this has the most relevance today.

So in both Heather's and Lisa's projects, I think the profound value of the work is in how it picks up on very specific disciplinary problems that were in some sense dormant in the discipline's past and unfurls material potentials of the present carefully into the future as possible worlds and makes the past present again.

Recently I found it incredibly liberating when my experiments with digital fabrication became invested less in milling paths and more in a contemporary interrogation of Louis Sullivan's 'A System of Architectural Ornamentation' and Frank Lloyd Wright's 'Textile Block Houses.' I don't think of it as historical quotation, but more as a continuation of the same disciplinary problem that both Sullivan and Wright worked on. It was exciting when those historic figures seemed so near to my interest and attention in the here and now, rather than being inert, obscured in history.

More recently, I've been using what we normally call 'precedent research' more vigorously in my studios at Pratt as a starting point. However, there's a twist to this old pedagogy. I don't want the students to study precedents as time-tested models that are truer than their contemporary imaginations, but rather as specimens to dissect in the present. I don't want slavish devotion to history, but a personal and immediate understanding of the many disciplinary problems lodged in these historical objects. I want them to fall in love with those problems and obsess over them. Then when they are given the design problem after precedent research (usually a program unrelated to the precedents) it is absolutely fascinating to see how the disciplinary problems return in profoundly unexpected ways. I try to employ advanced software and hardware as mere default conditions of the studio now. I tell students that I expect to see it used, but that I do not want to discuss it. I only want to talk about design.

When I was starting out the late Detlef Mertins asked me time and time again, "David, what is your project?" asking not about a particular design project (I was initially puzzled by the question), but the general one, the one that would be ongoing. Today, I realize it was incredibly generous of him to keep asking me that. As I have come to some understanding of this for myself, I can observe that the present never has any answers for this question.

LI: One thing that strikes me in this conversation is the strong consensus among us. I suppose it's not surprising since we're perhaps the last

generation to have learned to design in a very different manner than we are now practicing.

Though conversations about “the digital” are essentially over, there is an undercurrent in all of our work that privileges the material, the physical, the sensual in a manner that reflects our learning of architecture in an analog fashion. As much as I am immersed in teaching and contemporary practice sometimes I feel like a bystander in the new world we are now creating, and one that students in this generation are soon to make - an interested, excited, but also wary bystander.

DR: Yes Lisa, I definitely know the feeling. The pace of change is truly remarkable, and often I feel as though I’m just standing there watching. But the three of us aren’t exactly innocent bystanders (is there such a thing as a guilty bystander?).

I think to a large degree, the perception of constant change is an affect of the media we now use (especially the internet). I believe it was my first year in grad school when I heard about something called ‘Mosaic’ that was being used to access something called the ‘World Wide Web.’ I’ll never forget what that felt like the first time I surfed. It truly felt like dipping into a new kind of ocean. I have to remind myself that we used to rely on books and magazines to see what was going on in the world of architecture. Perhaps this is getting too nostalgic, but I remember the publishing of the annual Progressive Architecture award was a big deal in the mid 1990s. The publication of a new project by a colleague would be a significant event. Now work, both amateur and expert, gets posted the moment the rendering is practically done. I see my students relying on design blogs like *Suckerpunch* and *Dezeen*, and the websites of practitioners more than the library these days.

This isn’t the place to assess all that’s good and bad about these changes to the infrastructure of design culture, but I want state that I don’t think it’s all bad. Even though blogs and *Facebook* postings do not constitute an authoritative or even reliable stream of imagery, they’re probably closer to the reality of how uncertain and frenetic architecture culture is today. But perhaps it’s always been like this. Though sometimes people want to blame electronic media as a cause of the decay of the architectural discipline, I think it may actually be revealing the uncertainty of the discipline that was always there. In other words, I suspect that the stability of architecture culture in pre-electronic media was, in fact, a fiction.

With regard to Lisa’s point about the three of us being the last generation that was analogically trained (The Last of the Mohicans!), I think that an unspoken consequence is the strange fetishistic love we have each developed for producing beautiful artifacts like perfect line drawings and intricate models. I remember the masochistic pleasure of being in Andrew Zago’s insane, first year drawing class: projecting rotations of an object with a.18 pen on opaque bond (no erasures allowed). This is what’s called

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1 caption: dummy dummy dummy dummy | **2** caption: dummy dummy dummy dummy | **3** caption: dummy dummy dummy dummy

3

Stockholm syndrome, right? This obsessiveness has probably been our saving grace as design techniques got turned upside down by the computer. Without this irrational desire, we may not have had enough motivation for re-originating our discipline.

HR: I agree with both Lisa and David in that what I feel is especially important to our students is to collect and sift contemporary design production in order to understand its relationship to the past and its possible extension as design research in the future. This speaks to our ability to teach the relevance of what they do, its relationship to old problems and its potential to contribute to an architectural "project."
The consensus among us seems to be that one's tools do not define a 'project' in architecture. Each set of tools swerves a project but its trajectory is tethered much more tightly to other proposals with which it has an affinity. For me, the potential of contemporary education is to make apparent the affinities between things so that more robust, sustained and substantial conversations around design 'projects' occur.

デヴィッド・ルイ(以下、デヴィッド)｜「建築のあるべき形」が揺らいでいる中、確かに現代のデザイン文化(と教育)にはタイムリーへのこだわりがみられます。過去や未来をあれこれ考えるのではなく、今この瞬間への取り組みを考える方が、特に教育現場において意味があると思われているようです。主な理由は2つあります。
第一に、1990年代以降(おそらくポストモダニズムの衰退とともに)、建築史は建築教育の中心ではなくなっています(ただし最近また状況は変わっていますが)。第二にさらに最近の傾向として、テクノロジーへの幻滅が挙げられます。誰もが最新のテクノロジーを使いたがりますが、それが自分たちを救うとは誰も思っていません。たとえば3Dプリンターには、ユートピア的将来を描き出すための道具としてではなく、それを使って今何ができるかに皆の関心が向いています。デザインを考える際も、理想の未来を描くことではなく、現在をどう変えられるかに関心は向けられる方が多いのです。

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リサ・イワモト(以下、リサ)｜永続性と即時性は相反するのではなく、むしろ相補的な概念だと思います。確かにタイムリーな建築デザインは現代に氾濫しています。建築の教育や言語においても、歴史や時代とのつながりは前ほど重視されていません。しかし私が一番おもしろいと思う作品は、過去や歴史と完全には決別しておらず、その位置づけも明確です。これは、ある作品の現在における位置づけを見極めるためには、過去と今を相対的に見るべきだという考え方を裏付けるものです。

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ヘザー・ロベルジ(以下、ヘザー)｜私は、今より5年前の方が興味を持ってこの問題について語ることができたでしょう。当時はもっと多くのプロジェクトが動いており、それに関わる人たちも必然的に、デザイン、製作、建築技術などを通じてタイムリーの概念について考えていました。建築の現場とはある程度隔たっている教育界も、最新技術の影響を受けていました。
しかし、5年前にタイムリーだったパラメトリックやファサードの技術、あるいはランドスケープ・アーバニズムなどのプロジェクトのインパクトは、その後の世界不況や中東の政治的混乱などにより薄れてしまいました。教育界でも再び、伝統への回帰がみられます。
私が今取り組んでいるスタジオ研究は数年前、当時タイムリーだった技術を使った演習から始まりました。「Between the Sheets(シートとシートの間)」と題するこのセミナーにおいて学生は、南カリフォルニアの先端航空技術(デジタルデザイン、シミュレーション、ラピッドプロトタイピングなど)をビルの金属壁のデザインにどう応用できるかに取り組みました。セミナーの名称は、模型に真空成形のプラスチックシートを用いる一方で、完成品には熱成形のアルミシートの使用を想定しており、そこで異なる2つの素材の制約を受けることからつけられました。
この演習を通じて学生は、構造、表面、美装、物質性、組立など広い観点から作品を検討し、その結果、シートを基軸とした新しい概念「シートロジック」を研究するためのいくつものスタジオが誕生しました。ここで「表面」という言葉は、トポロジーと実体、幾何と物質の双方を意味する「シート」という言葉に置き換えられました。リサ流に言うならば、現代のテクノロジーが構成や表面の仕上がりにどう影響しているかを探ることで、作品の建築上の位置づけを明らかにしようとしたのです。この研究はまだ続けられています。
シートは既存の幾何学モデルの制約から解き放たれた、空間創造の手段です。シートを使えば、マスタープランと、建物の構造、装飾、ディテールの間のヒエラルキー関係もなくなります。このように、シートにはデザイン研究・制作の素材として豊かな可能性がありますが、シートを使うと折り曲がる部分が生じ、平らな表面とは異なる動きをするので、模型から作品を作る際にはテクトニック的な解決策が必要です。シートを使うと、ビルの表面と地面、シルエット、組み立てられたレイヤーやパーツとの間に新たな関係がつくり出されます。

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リサ｜私の事務所が南カリフォルニア建築大学(SCI Arc)の学生と共に2008年夏に実施したプロジェクト「Voussoir Cloud(迫石の雲)」も、ヘザーと同じように薄い素材を使って、表面、幾何学、製造技術、素材の性能などの関係を追求したものです。そこで採用したカテナリーアーチの形は、昔の古典建築や20世紀前半に流行した幾何学的形態などからヒントを得ました。
まず、薄くて、軽量で、折り曲げることのできる半透明の材料を使って、くさび形のモジュール(Voussoir)をつくりました。それから、モジュールを組み合わせてヴォールトを作るために、素材を曲線に沿って折るとどのような形や動きとなるか、コンピュータを用いて計算し、また内部ストレスが最小限となるような構造計算も行いました。結局、曲線の継ぎ目で素材を折ることで各モジュールに必要な安定性と座面を確保し、石でできた重いヴォールトという従来の概念をくつがえす、軽量で優美でモジュールの隙間から光のさすヴォールトが完成しました。今の建築界で関心が高い構造表面、透過性、材料挙動を、過去の歴史的作品と融合させた、「タイムリー」な空間表現のプロジェクトが実現したのです。

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デヴィッド｜最近は、未来と過去の双方から目を背ける傾向にあると前にも指摘しました。過去も未来もないとすれば、あるのは現代の幻覚と、新しいデジタルツールや技術への飽くことない執着です。また多くのスタジオは、いまだに図面や設計図、研究やイベント用のスライド、ツールや技術を誇示するだけの退屈な作品を次々と作り続けています。いずれの場合も、デザイン不在のまま、ただ今を追い求めているように思えます。20世紀後半の大きな社会政治的変化と技術革新に触発された現代という大海で泳ぐのを喜ぶあまり、建築教育の担い手たちは、自分たちのコアとなる教育の力を過小評価し、研さん（discipline）を積み重ねることを怠ってきたような気がします。

私もお二人と同じように、デザインを重視しています。そして残念ながら建築の分野でも、蓄積された研さんの成果との深い結びつきなしには、意味のある建築プロジェクトとはならないことが明らかとなりつつあります。優れた建築家は誰しも、こっそり研鑽を積んできたと思えますが、いまや学生にもそれを明確に示すべきでしょう。小手先の方法論ではなく、もっと深く建築教育上の問題について考えるべき時がきたのではないのでしょうか。

リサとヘザーのプロジェクトは、これまで見過ごされてきたこれらの問題を掘り起こし、素材の新たな可能性を追求し、過去を現在によみがえらせるという点に、深い意味があると思います。

最近、デジタル制作の実験において、具体的な技術よりも、ルイス・サリヴァンの「A System of Architectural Ornamentation（建築的装飾のシステム）」やフランク・ロイド・ライトの「テキスタイル・ブロック住宅」の今日的意味について考える方に時間を費やし、大いに解放感を味わいました。サリヴァンとライトが歴史の彼方にいるのではなく、彼らが取り組んだ建築上の問題が今も続いているように思われたのです。ふたりがとても身近に感じられたのは感動的でした。

さらに最近、自分のスタジオでは「先行研究」を積極的に利用しています。ただし学生には、先行事例を「化石」ではなく生きた標本として扱い、解剖し、そこから脈々と続く建築上の問題を自分の問題として没頭し、とことん突き詰めてほしいと思っています。このように先行事例を研究した後に（通常これらとは関わりのない）設計課題を与えると、思いも寄らないような解釈が飛び出します。今、スタジオには予め、先進のソフトやハードを用意しています。でも学生には、それを利用してもいいが、私は技術についての相談や議論には応じない、応じるのはデザインについてだけだと言っています。

私が建築の仕事を始めた頃、故デトレフ・マーティンに「デヴィッド、君のプロジェクトは何だい?」と何度も聞かれました。最初はとまどいましたが、彼は具体的なプロジェクトではなく、私の本当のテーマを聞いていたのでした。今となってはありがたかったと思っています。質問の本当の意味がわかった今、その答えは「現在」の中には決してみつからないと気づきました。

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リサ｜皆の意見が見事に一致したようですね。私たちには最後のアナログ世代に属するという共通点がありますから、それも当然かもしれませんが。

「デジタル」についてはもはや語りつくした感がありますが、私たちの作品の底流には、建築をアナログに学んだ者に共通する身体的、物質的、官能的な何かがあります。建築と教育の現場における仕事に熱中する一方で自分が、自分たちが創造している、そしてこれから学生が創造するであろう世界の傍観者にすぎないと思える時があります。

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デヴィッド｜変化のペースがあまりにも速いので、私にもそう思えることがあります。でも私たち3人は罪のない傍観者（罪深い傍観者がいるかどうかはともかく）というわけではありません。

変化が速いと思えるのは、私たちが使うメディア（特にインターネット）が大きな理由でしょう。WWW（ワールド・ワイド・ウェブ）なるものにアクセスする「モザイク」なるものがあるらしいと聞いたのは、私が大学院に入学した年でした。最初にネットにアクセスした時のことは忘れられません。まるで新しい海に飛び込んだかのようでした。建築界の出来事を知るには、昔は本や雑誌に頼るしかなかなく、1990年代半ば頃、毎年雑誌で発表されるProgressive Architecture賞や、同僚が公表する新しいプロジェクトは大きな話題となりました。でも今は、アマチュアでもプロでも、プロジェクトをただちにネットで公開してしまいます。学生は建築やデザインの情報を、図書館ではなくSuckerpunchやDezeen、建築家のサイトなどから得ています。

ただし、変化は必ずしもデザイン文化に悪影響を及ぼすわけではありません。ブログやFacebookへの投稿は必ずしも権威はなく信頼もできませんが、不安定で騒々しい（ずっとそうだったかもしれませんが）今日の建築文化に近いと思います。建築学は電子メディアのおかげで衰退したと非難する人も中にはいますが、実は常に不安定であったのが明らかとなったのでないでしょうか。つまり、電子メディアが到来するまで建築文化は安定していたというのは、実際はフィクションだったのではないでしょうか。

リサが言うとおり、私たちは最後のアナログ世代で、完璧な線画や複雑な模型など美しい作品づくりへの執着を取り柄としています。大学1年生の時、18金ペン先の万年筆を使って物体の回転予想図を半透明ボンド紙に描くという（書き直しは禁止）、正気の沙汰とは思えないアンドリュー・ザゴのスケッチの授業で、マゾヒスティックな喜び（ストックホルム症候群?）を味わったのを思い出します。その執着心がなければ、学問や技術をデジタル世代に合わせて変えていくという意欲も生まれなかったでしょう。

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ヘザー｜私もそう思います。学生にとって特に大事なのは、現代のデザイン作品を集めて徹底的に研究し、これらが過去とどうつながっているか、そして将来どう発展させていくかをよく考えることです。どこまでそれができるかは、私たちの教師としての力量次第です。

結局、建築の「プロジェクト」を規定するのは各種のツールではない、というのが今回の結論のようですね。ツールはプロジェクトの方向性は変えても、軌跡にはあまり影響を及ぼしません。同じようなプロジェクトであれば同じような軌跡を描きます。現代の建築教育には、なぜそうなのかを明らかにし、それによってデザイン「プロジェクト」をめぐって実りある会話を活発化させるという可能性があると私には思えます。