

Yesterday's News

From the pages of the *Harvard Alumni Bulletin* and *Harvard Magazine*

1915 Undergraduate clubs pledge not to elect freshmen, in an effort to ensure that first-years adjust to Harvard social life by forming friendships in the dormitories. The *Bulletin* notes: "At most American colleges the 'rushing' of freshmen by rival fraternities is an evil clearly recognized and deplored. Harvard has never suffered from precisely this affliction."

1925 The faculty, "whether out of consideration for the eyesight of the students or for the greater enlightenment of their minds," delay the start of exams on January 24 from 9 A.M. to 10 so students may view the total eclipse of the sun.

1930 The nearly finished indoor athletic building contains a swimming pool financed by donors Aquaticus Anonymous and Alumnus Aquaticus, both later revealed to be Arthur W. Stevens '97.

1935 President Conant proposes that the College drop its Latin requirement—even for those wishing to graduate with an A.B.

1945 The School of Public Health is running a special two-month course on parasitology, tropical medicine, sanitation, epidemiology, and related subjects for 60 naval medical officers who are scheduled for island rehabilitation duty in the Pacific.

1975 Radcliffe president Matina S. Horner joins the board of directors of Time Inc., saying she accepted the position only when she felt confident she was not being taken on merely as a token woman.

1985 After 67 years of loose affiliation with the College, all nine final clubs have chosen to return to completely independent status, rather than comply with official pressure to open their membership to women. The decision ends their access to Harvard's phone system, low-cost steam heat, and mailing lists.

Architecture as Liberal Art

Building an undergraduate design program

AT THE START of their undergraduate architecture lab this fall, Mark Mulligan and Michael Smith gave their students an assignment that seemed like something out of a high-school shop class: take two pieces of wood, and make a joint. But before the students sat down to plan their projects, Mulligan and Smith had lectured on subjects ranging from the physical properties of the material to the cultural legacy of Japanese wood joinery, revealing the depth that even such a modest project could contain. By the end of the week, students had moved to the woodshop in the basement of Gund Hall to build the plans they'd sketched, fulfilling for the first time the hands-on component promised in the course's title—HAA179x: "Construction Lab." Soon, the principles of design and history they had learned earlier met with a very different understanding of what's possible in a world with gravity and human error. "They draw and think up these things" that can be quite intricate, says Smith, a lecturer in architecture. "But then they're presented with the material, and the whole world changes."

These three streams—history and theory, design imagination, and the physical act of making—are the central components of the undergraduate track in architecture studies, a joint program from the Graduate School of Design (GSD) and the Faculty of Arts and Sciences' (FAS) department of history of art and architecture. It took years of planning on both sides—including "literally two years of meetings"—to get the program off the ground in the fall of 2012, explains Noyes professor of architectural theory K. Michael Hays, the GSD's associate dean for academic affairs. The first students in the track, housed within the art-history concentration, graduated last spring.

The GSD-FAS collaboration represents what Hays calls "a new band of knowledge"

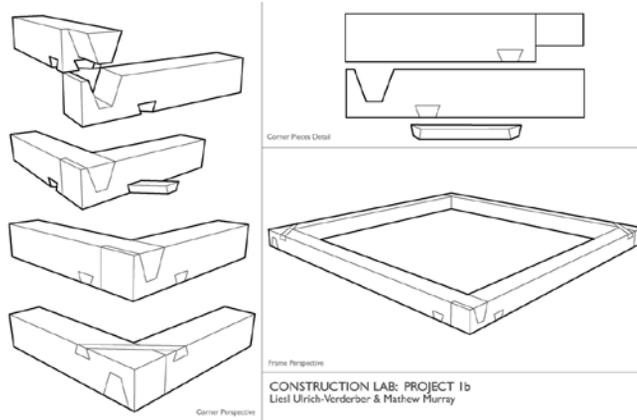


Illustration by Mark Steele

for the College, offering undergraduates the first real chance to take advantage of the GSD's offerings. Yet those involved in the program's creation harbor an even bigger ambition—to make the case that design thinking, beginning with architecture in particular, is an invaluable form of liberal-arts inquiry. “The study of architecture, in a broad sense, is a study of culture itself, and in some ways is a mode of knowledge,” says Hays, one of the GSD's leading boosters of the new track. To illustrate, he points to a student in one of the first classes, who switched from her original concentration in philosophy. “She told me, ‘I came here knowing that I could think. I didn't know that I could make things, and I certainly didn't know I could think *by making things.*’”

In Mulligan and Smith's construction lab, the professors like to remind students of these possibilities for deeper thinking and engagement, even as they focus on the technical problems at hand. Mulligan, an associate professor in practice of architecture, explains that students need to remember that joints do more than just hold two pieces together. They can express a sense of rigidity and solidity on one hand, or lightness and even tenuousness on the other. “People don't think of technology courses as being focused on beauty or aesthetics,” he says. “But that's actually where everything intersects.”

These connections among design, aesthetics, and technology is a central component of the studio, a type of project-based course that traditionally lies at the core of architectural pedagogy. At Harvard, the new track asks undergraduates to complete a two-course sequence of design-oriented intensives. The courses are housed in a dedicated classroom on the top floor of Gund, refurbished with a grant from the Harvard Initiative for Learning and Teaching. With a 3-D printer and a series of highly connected monitors, projection surfaces, and motion sensors, the room serves as a lab for teaching, using the students as guinea pigs to discover how technology can enhance studio instruction. These are important questions, Hays argues, because “studio learning is not vocational learning, but is actually a way of producing knowl-



A wood joint that Liesl Ulrich-Verderber '15 and Mathew Murray '16 designed during the first weeks of the construction lab.

edge that's different from, but equal to, textual knowledge and reading and writing.”

New concentrators begin with “Transformations,” a studio that focuses on “the development of a common language”—of surface, frame, volume, and composite—according to Zaneta Hong, a lecturer in landscape architecture who taught the course for the past two years. Like Mulligan and Smith, she begins the semester with the simplest of transformations: folding a piece of paper in half. From there, students learn technical skills like digital modeling and laser cutting, and incorporate new materials like Plexiglas™ during the semester. What they never get in this first studio is an assignment to design what most people think of as *architecture*—a structure to be inhabited, on a site, with a specific use or “program.” Even the final project remains abstract, the only guideline being to “transform” paper, museum board, and Plexiglas™, within the constraints of a five-by-five-inch model. “The luxury to be able to focus solely on the design aspects is a good thing to do for a little while,” says Angie Jo '16, who took

Transformations last spring. “I never could have expected that you could get so much conversation, so much thought and creative iterations, out of such a small seed.”

The second required studio, “Connections,” introduces students to more real-world concepts of scale and interactions. Hong will teach the studio this spring; she plans to move students along through different levels of intervention: beginning with the artifact, moving on to the assembly and construction of an actual space, and finishing with a consideration of the urban and even global scale.

Though Connections will present students with the kinds of problems central to more traditional architecture studios, Hong says that both courses in the sequence are hard to compare to the core, graduate-level studio courses offered at the GSD—which meet for 12 hours each week, twice the time commitment of Connections—or in undergraduate professional programs approved by the National Architectural Accrediting Board. The latter tend to be intensive, five-year plans of study: Cornell's B.Arch. program includes 10 semesters of studio. Harvard's new track requires far fewer studio courses, even, than similar nonprofessional undergraduate programs (whose graduates, like Harvard's, must later earn master's degrees in order to practice as an architect). At the University of Virginia, where Hong used to teach, the “preprofessional” concentration within the four-year B.S. in architecture degree requires four “foundational studios” and an additional three “research studios.” (Hays says he hopes to eventually offer a third studio, but it would remain an optional, senior-year “capstone” for interested students.) But the track's pair of studios are two elements in a general education that could hardly be considered intensively preprofessional. Rather, Hong says, they're meant to establish students' baseline interests in architecture, landscape architecture, or urban planning.

Students' interests have already created an appetite for more intensive design learning, creating both opportunities and tensions as the track keeps one foot firmly planted in the College's liberal-arts tradi-

tion. Beyond studios, students fill in their track requirements with other courses in both art history and the GSD. During the past two years, several new offerings have been created to accommodate them, including an architectural history and theory tutorial in FAS, and an undergraduate-only section within a standard GSD course (“Buildings, Texts, and Contexts I,” taught by Hays and professor of architectural history Erika Naginski).

Mulligan and Smith’s Construction Lab, first offered in the fall of 2013, extends a seven-week intensive boot camp for students entering the GSD’s master’s of architecture program. Mulligan recently served as faculty administrator of that program; he knows the kind of skills that entering graduate students have, and has translated that knowledge to the undergraduate level. The course feels intentionally unprogrammed: assign-

ments ask students to think about concepts like equilibrium and inhabitable space in ways that are often more sculptural or technical than overtly architectural. “The best thing we can do,” he explains, “is to try to prepare them, their way of learning and their way of being self-critical, without necessarily engaging directly in conventional architectural projects—like, design a shelter of some kind.”

Students say their dual identities as art historians and potential budding architects have offered a unique and unexpect-



Katherine Ingersoll '15 and Samia Kayyali '15 work on the construction lab's final project in the GSD's wood shop.

ed opportunity. Several have taken part in their department’s annual sophomore-excursion course, which included a trip to Amsterdam last spring. Thomas professor of the history of art and architecture Joseph Koerner, the director of undergraduate studies within the department, says that having students with studio architecture experience has deepened conversations in more traditional classes. “The study of art is very much enhanced by seeing people around

Sustainability Steps

Last September, the presidents of Harvard and Stanford, Drew Faust and John L. Hennessy, wrote a joint op-ed in the *Huffington Post* that outlined “What Universities Can Do About Climate Change.” Highlighting their institutions’ “wealth of intellectual resources across fields” and overall convening power, they argued that universities must pursue “powerful long-term solutions.” In the months following, several significant campus initiatives have begun to sketch the shape of those efforts at Harvard.

In October, the University unveiled an ambitious five-year sustainability plan, setting out commitments in five core areas: energy and emissions, campus operations, nature and ecosystems, health and well-being, and culture and learning. As Faust wrote in September, universities are large employers with significant physical plants, so they must “walk the walk” by “piloting and modeling effective operational practices.” Harvard’s new plan builds on existing commitments to reduce greenhouse-gas emissions 30 percent from a 2006 baseline by 2016 (including any additional emissions from new facilities). The new plan adds promises to reduce waste per capita 50 percent by 2020 and create action plans on issues like transportation and resilience in the face of challenges like sea-level rise and extreme weather events. (For a more detailed report, see harvardmag.com/sustainability-14.)

Beyond such local commitments, Faust and Hennessy noted the far more significant contributions to progress that university-based research will make. To that end, on November 7, the newly inaugurated Harvard Center for Green Buildings and Cities hosted its first annual challenge conference. Based at the Graduate School of Design, the center seeks design-based solu-

tions that, as the center’s founding director Ali Malkawi put it, will help “fundamentally shift the ways humans use energy in the long term.” The conference, which featured presentations from architects, scientists, and politicians, was intended to help set the center’s future research agenda. (For a complete report, see harvardmag.com/greencities-14.)

Even as these developments proceeded, campus debates continued to highlight the one area where Faust and her Stanford counterpart have differed in their responses to climate change: divestment of endowment holdings in fossil-fuel companies. In May, Stanford announced its divestment from coal-mining companies (though *not* from fossil-fuel companies overall). At Harvard, the fall saw continued back and forth between Faust and the Harvard Corporation and campus groups advocating for divestment. Harvard Faculty for Divestment, which first sent an open letter calling for divestment last April, had more than 200 colleagues signed on by November, more than double the initial number (see “Divestment Discussions,” November–December 2014, page 35). On October 17, its leaders held a private discussion with Faust and William F. Lee, the Corporation’s senior fellow; a week later, the group held its first public event, an open forum that featured presentations on the scientific and economic arguments for divestment. (For a detailed report, see harvardmag.com/divestment-14.)

Meanwhile, student activism has gained intensity. On November 18, seven students from the Law School and the College, acting as the Harvard Climate Justice Coalition, filed a lawsuit against the University in Suffolk County Superior Court. The 11-page complaint—which names the Corporation, Harvard Management Company, and then-Massachusetts attorney general Martha M. Coakley as defendants—claims that continued investment in fossil-fuel companies represents a “mismanagement of charitable funds” and a violation of Harvard’s 1650 charter.

you participating in the kinds of constructive thinking and making that [exist] in the works” a course might tackle, he explains. Outside class, some have even found a home in a new building on campus that marries their interests in the study of art and the practice of architecture—the Harvard Art Museums, designed by Pritzker Prize-winner Renzo Piano. Four of the 18 student tour guides whom the museum hired this fall are affiliated with the architecture track; they say they like the challenge of learning to talk about the building’s architecture to an audience that may not have thought seriously about design before. Angie Jo, who had considered art school before coming to Harvard, says she decided to become a student guide because learning to

speak authoritatively about design, and make the case for its importance to a general audience, will be an important part of her future as an architect.

Jo hopes to apply to architecture school, and acknowledges that the track’s interdisciplinary nature has provided fewer opportunities for projects to include in an

application portfolio. But the upside of the concentration’s lighter studio requirement is “vastly more time to contextualize it all.” She has begun to focus her studies on the ethical and social aspects of design practice. The Harvard program, she says, “feels very much like architecture *studies* to me, rather than architecture or design.”

The study of architecture, from Hays’s perspective, has relevance to the wider student body in much the same way that the study of literature does. Perhaps the best case for his argument is the number of nonconcentrators who have enrolled in the architecture track’s design courses. Enrollment was limited to concentrators when Transformations and the Construction Lab were first offered, but enrollment has essentially doubled since that restriction disappeared. This semester, Mulligan and Smith have students from East Asian studies, film, and applied math in their course. Gianina Yumul ’16, a member of the architecture-studies track who came to Harvard



John Wang '16 and Angie Jo '16, at left, present a component of the cast arch they built in the construction lab to teaching assistant Alex Timmer and course head Mark Mulligan, far right.

MICHAEL SMITH

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intending to study astrophysics, says she appreciates the course's almost accidentally interdisciplinary nature. She speaks enthusiastically about working in groups with a student from applied math: "He has this other language that, when applied to architecture, produces something really beautiful and unexpected." His professors say they hope influence can also flow in reverse: that the spatial awareness of architecture will give this student new tools with which he can better understand math.

For Hays, that kind of cross-disciplinary connection is an exemplar of what his dream of linking the GSD and the College could spark. Though the program currently focuses on architecture, he hopes it will be expanded to a stand-alone concentration, still jointly administered with the art history department, that could encompass the different kinds of design that play significant roles in today's world, including graphic and industrial design and urban studies (already, FAS's 2013-4 annual report hints at the possible creation of an interdisciplinary secondary field in urban studies). Several GSD professors noted

that, in their ideal world, the track would attract students beyond those headed for design school—just as literature concentrators don't all become professors, and engineering concentrators don't all become licensed engineers. Instead, the program's graduates could become poli-

cymakers with an informed understanding of the built environment, or engineers with a sense for the aesthetic choices inherent in all their decisions. As Hong puts it, "Design has no boundaries. It permeates through any kind of profession."

~STEPHANIE GARLOCK

The Campaign Computes

AS IT PROCEEDED during the fall semester, The Harvard Campaign featured a penultimate school's launch (medicine); another galvanizing gift (computer sciences); and interesting evidence of the effects of smaller-scale philanthropy across the University, from undergraduate teacher-preparation training to a prospective College performing-arts program.

"The World Is Waiting"

HARVARD MEDICAL SCHOOL (HMS) unveiled its \$750-million campaign under that theme during a dinner in Boston on Novem-

ber 13. Dean Jeffrey Flier, the keynote speaker, recounted his own progress as a young researcher probing diabetes—his talk neatly encompassing school goals of educating leaders in science and medicine, discovering the causes of disease, and fostering change to improve human health.

In an earlier interview, Flier fleshed out those items on the wish list:

- **Education:** \$150 million to effect curriculum reform (an overhaul is to be introduced next year, with changes in pedagogy and accompanying physical renovations over time) and underwrite financial aid and fellowships.

- **Research:** \$500 million. "If you look at the budget of Harvard Medical School and what the people we employ do," the dean

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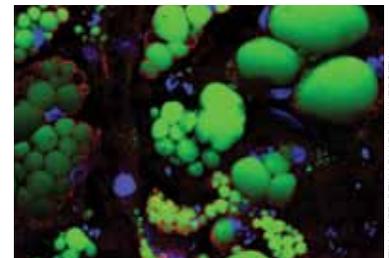
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Anti-obesity Drugs?

Using a supply of human fat that was created by using stem cells, Chad Cowan, associate professor of stem cell and regenerative biology, has identified two compounds that convert white fat of the kind that accumulates around waistlines into metabolically active brown fat, which burns calories by releasing them as heat. The research could lead to a pill to fight obesity.

harvardmag.com/brownfat-15