architecture + process talks

### gehry talks:

architecture + process

With the completion of the celebrated Guggenheim Museum in Bilbao, Spain, architect Frank O. Gehry has entered the pantheon of twentieth-century masters. In this wholly unique new book, a condensed edition of the original volume of the same name, Gehry himself offers extensive and illuminating commentary on various aspects of the processes involved in developing his revolutionary designs, including his influences, clients, use of materials, and new technologies.

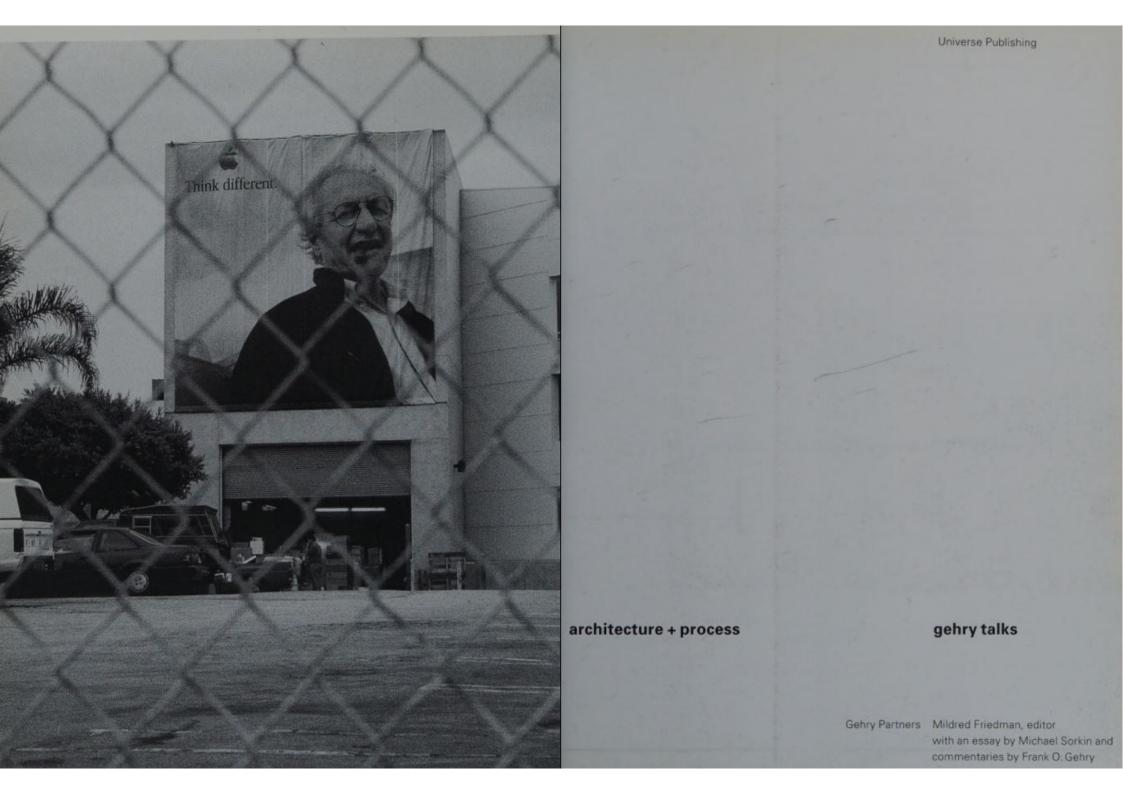
Gehry Talks: Architecture + Process documents all of his new work of this decade, tracing his evolution from a southern California architect known for his idiosyncratic use of materials and collaboration with local artists, to an international figure whose fluid, hitherto undreamt-of forms surge beyond the aesthetic and technical constraints of the twentieth century. From the titanium-wrapped curves of the Guggenheim Bilbao to the binocular facade of the Chiat-Day Headquarters in California, his innovative structural ideas evoke a sense of freedom and spontaneity while, at the same time, displaying the utmost control. Unbound by guidelines of symmetry or the grid's delineation, his structures spring forth, engaged in a seemingly limitless play of ideas-ever-changing in both the multitudinous combinations of shapes suggested by the form and the depth of the conceptual associations implied by the design. Fish and snake motifs birl upon his buildings' rippling surfaces, while light follows the asymmetrical trajectories of their metallic folds. Though controversial and daring, his works always possess an elegance that lends warmth and humane scope to each project, regardless of the level of innovation—as evinced in contexts as varying as the complicated, and unrealized, plan of the Lewis House in Lyndhurst, Ohio, or the clarity of the idea behind the Ustra office building in Hannover, Germany.

This generously illustrated presentation features twentyfour projects, including the Chiat-Day Headquarters in Venice,
California; the Team Disneyland Administration Building in
Anaheim, California; the Vitra Furniture Museum and
Factory in Weil am Rhein, Germany; and the Guggenheim
Museum in Bilbao, Spain. The book features insightful
essays by editor Mildred Friedman and architecture critic
Michael Sorkin, as well as photographs of buildings
that have been completed since the publication of the
original volume.



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gehry talks



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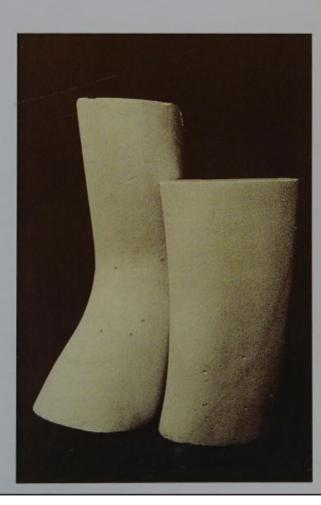
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All freehand sketches are by Frank O. Gehry

opposite: design process model of the Nationale-Nederlanden Building Prague, Czech Republic, 1992–1996

overleaf: sketch for the Walt Disney Concert Hall, Los Angeles, 1987-



Printed and bound in Italy

#### preface mildred friedman

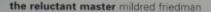
More than any other architect of his generation, Frank Gehry is an innovator whose vision reaches beyond the accepted aesthetic and technical constraints of twentieth-century architecture. His singular formal/philosophical stance developed slowly. In the late 1950s and 1960s—the earliest years of his practice—his work was well planned and handsome, and those who knew it regarded him as a genuine talent. But it wasn't until the 1970s that the box began to break apart, and by the end of that decade he had ventured into absolutely unknown territory with his own "dumb little house"—a small, pink Santa Monica bungalow. It became a laboratory in which it was possible to try anything, and he did. Since then, many barriers to self-expression have come down at his bidding. And in the years since 1989, "smart machines," and the people who operate them, have given him the long-hoped-for freedom to create ever more inventive ways to enclose space.

The means with which Gehry pursues new possibilities and processes have been the focus of my conversations with him over the last several years. From that series of engaging sessions we have extracted a distinctive, revealing body of commentaries by the architect. They form the essential substance of this book. In my introductory essay I examine the significance to his work of various clients, collaborators, and technologies that have greatly affected his practice over the past ten years. Michael Sorkin provides a perceptive view of Gehry's recent work, in which he includes a unique response to the character and quality of the architect's celebrated Guggenheim Museum in Bilbao. As Gehry's work is about gradual evolution—the development of a project as it takes shape through a long series of physical models—we have included a number of process models that demonstrate the architect's unique working method.

Where will Gehry go from here? I believe that although he denies it (maintaining that he wants to own a winery), he is only truly happy when he is challenged by complex architectural problems. More are certain to come his way.

construction of the Nationale-Nederlanden Building's rooftop sculpture, Medusa, made of mesh metal strips





To advertise perfection is beneath Gehry's love of imperfect humanity.

- PETER SCHJELDAHL, 1997

Frank Gehry's uncommonly inventive, eccentric architecture—unlike any other—challenges received wisdom. Consequently, his built works elicit diverse responses, both critical and quotidian. Some people are uncomfortable with the formal aspects of the work, and never get beyond them to examine the ways his buildings work; thus, in earlier days, he ruefully remarked that, "Being accepted isn't everything." But with the opening of the Guggenheim Museum in Bilbao he seems to have crossed an invisible line. International awareness and admiration of Gehry's work has subsequently taken on proportions known to very few architects (in Los Angeles, he's a reluctant "celebrity"), and now he spends about half his time traveling to far-flung project sites throughout the United States, Europe, and Asia. He is an inspiring father figure to many young Los Angeles practitioners, and although there is definitely not a FOG "school" as such, many aspiring designers train in his office, and he reqularly passes projects along to the courageous hopefuls who venture out on their own.

But success has not spoiled Frank Gehry; rather, it has given him the self-assurance he needed to persevere with his singular experiments with materials and form. He chooses materials both for their formal qualities and their associations. And while his decision to work with plywood, galvanized metal, lead, cardboard, and the much despised, ubiquitous chain-link fencing can be traced in part to the constraints of small budgets, more significant was his desire to demonstrate that chain link, despite its negative associations, can be a positive design element. The Santa Monica Place sign, embedded in veils of blue and white chain link, which covers the south facade of the mall's parking garage, is a daring demonstration of this concept, as is Gehry's notorious 1978 remodeling of his wood-framed Santa Monica house.

The seeds of much that was to come are in that small, pink California bungalow. For example, in the idiosyncratic form of the kitchen window, we see the first instance of implied motion in Gehry's architecture, in this case derived perhaps from cubism. Here too, the exposure of the house's original wood frame (a gesture that would later be mis-termed "deconstruction") is seen against the "in-process" new house layered around the old one. The recent renovation of the house—a controlled effort on Gehry's part to create a more comfortable, accommodating environment for his wife and grown children-lacks, by his own admission, the gentle madness of the original effort.2 Still, the house retains a monumental quality; it is a paean to individuality, perception, and creativity.

1 From Peter Schieldahl, \*Silver Dream Machine, \* Frieze, Nov/Dec detail of titanium cladding. 1997, 51

2 See Gehry's discussion of the remodeling, (p. 54).

Guggenheim Museum Bilbao, Spain, 1997

the Gehry House kitchen, Santa Monica, California, 1978





Over the years, as his project budgets have grown, Gehry's choice of materials has become more diverse and esoteric, as in Bilbao, where motion is realized in the building's fluttering titanium skin. For the American Center in Paris, Gehry's effort to be contextual was decisive in his choice of the limestone walls, quarried, appropriately, in France. "I love the stone of Paris, It's like the stucco of L.A.," he maintains. The Center's zinc roof is his homage to the Hôtel de Ville, and the canopy on the park side of the building conjures a melting mansard roof. Cast glass, a material new to Gehry, will be used to define the seating areas in the Condé Nast Cafeteria project in New York City. Kurt Forster asserts that, "At his best, Gehry manages to free his projects from typological constraints, enabling his buildings to assume shapes of unprecedented kind and configuration." In that regard, Gehry explains that "you can't redo old ideas. The only way to gain is to go forward and not look back. You can learn from the past, but you can't continue to be in the past."

All of Frank Gehry's adult years have been spent in Los Angeles (where he moved with his family from Toronto, at the age of sixteen), with only two short breaks: Harvard's Graduate School of Design, and a sojourn in Paris with the French firm of André Remondet. But it is Los Angeles—unique city of slender palms and smog-shrouded freeways—that spawned this rare imagination.

Gehry's early influences were the great southern California modernists—Raphael Soriano, Richard Neutra, and Harwell Harris. All three were at the top of their form in the 1950s when Gehry was studying at the University of Southern California. But the freewheeling nature of his attitude toward materials and form matured in the 1960s in concert with those of a group of Los Angeles artists, including Edward Moses, Robert Irwin, Billy Al Bengston, Chuck Arnoldi, Ron Davis, Larry Bell, Edward Ruscha, and Kenneth Price. As the beauty of California's extraordinary natural light is an essential element in the work of these artists, it is also a hallmark of Gehry's architecture. But these artists not only respond to southern California's natural environment. In addition, a play on the characteristic "L.A." vernacular is consistently present in their works, as it is in Gehry's. What he refers to as the "urban junkyard" of disparate styles inspired his breakthrough architecture, in which stucco, plywood, chain link, and

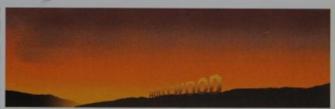
- 3 Cathleen McGuigan in Newsweek, 13 June 1994.
- 4 From Kurt W. Forster, "Architectural Choreography," in Frank O. Gehry: *The Complete Works* by Kurt W. Forster and Francesco Dal Co (New York: The Monacelli Press, 1998).
- 5 Unless otherwise noted, all quotations from Frank Gehry, staff members of Frank O. Gehry & Associates, and Gehry clients are taken from interviews with the

author in 1997 and 1998.

- 1 + 3: Dennis Keeley, freeway infrastructure, Los Angeles, 1996 gelatin-silver prints, courtesy the artist
- 2: Lewis Baltz, from The New Industrial Parks near Irvine, California, 1974 gelatin-silver print, courtesy the artist
- 4: Daniel J. Martinez, 4th Street Bridge, Los Angeles, 1998 gelatin-silver print, courtesy the artist
- 5: Roland Young No. 105, Century Freeway. Los Angeles, 1990 gelatin-silver print, courtesy the artist







corrugated metal reflect the context of his city. Beyond the materiality of the Los Angeles cityscape there is the myth and mystery of Hollywood. For although Gehry has never worked in the industry, many of his friends and clients are part of that world, and inevitably, in subtle ways, he responds to its presence, and expresses its influence in the exuberant cinematic movement that often animates his work.

In the 1980s, Gehry's horizons expanded, as did his awareness of artists outside of Los Angeles and his references to diverse environments. In New York, his friendships have evolved into memorable collaborations with Richard Serra, Claes Oldenburg, and Coosje van Bruggen. At the same time, his office walls are covered with magazine clippings and postcard images of great historic works by such masters as Claus Sluter, Gentile Bellini, and Constantin Brancusi, artists who inspire him and, in subtle ways, influence his architecture. Figuration, which began with Gehry's famously quirky fish fascination, is a growing aspect of his work. It is present in the dancing figures in Prague, the horse's head first found in the Lewis house and later realized in the DZ Bank on Berlin's Pariser Platz and, less specifically, in the organic baroquery characteristic of all the recent work.

As Gehry has gradually developed his own increasingly daring sculptural forms, his collaborations with artists have been fewer. However, his enthusiasm for old and new art has not diminished and occasionally he demonstrates his profound understanding of works of art in exhibition installations for the Los Angeles County Museum of Art, Los Angeles's Museum of Contemporary Art, and the Guggenheim museums. Exhibition projects and his

Ed Moses
Ranken and ½, 1992
oil on canvas
60 x 48 inches
courtesy LA Louver

Richard Serra
Torqued Ellipse I, 1996
Cor-ten steel
installation at The Geffen
Contemporary, Museum
of Contemporary Art,
Los Angeles, 1999
Dia Center for the Arts, New York

Edward Ruscha
Hollywood, 1968
silk-sceen print
17 1/2 x 44 inches
courtesy of the artist





design of furniture and lamps provide Gehry with something architecture cannot: instant gratification, quick nour-ishment—what he has called "fast food"—a diet he enjoys when its substance captures his imagination. Memorable early installations for the Los Angeles County Museum of Art included *The Avant-Garde in Russia*, 1910–1930, in 1980, and *German Expressionist Sculpture* in 1983.

For the Musée des Arts Décoratifs in Montreal, Gehry created an environment of ingeniously designed movable display cases in 1992. The cases are arrayed in a rather low-ceilinged area, presumably a temporary space in Moshe Safdie's Musée des Beaux-Arts de Montréal, in lieu of the decorative arts museum's hoped-for building of its own. Carefully crafted of plywood and thick plate glass, these remarkable vitrines, in a variety of sizes and surprising shapes, were designed to accommodate the museum's permanent collection, and Gehry has accomplished that charge with amazing verve.

In 1998 Gehry designed the Guggenheim's Art of the Motorcycle exhibition, an examination of the evolution of the bikes beloved by Thomas Krens (himself an "easy rider"), director of the Solomon R. Guggenheim Foundation in New York. One hundred of these amazing machines were shown chronologically on Frank Lloyd Wright's astonishingly transformed mirror-finished, stainless-steel-lined ramp. The most engaging elements of the exhibition were in two of the museum's side galleries. Bikes, as though in motion, were arranged on daunting hills whose ribbon-like black and white vinyl surfaces were laid over elegantly configured exposed wood under-structures that careened to challenging heights.

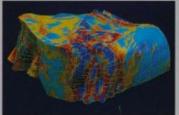
the office. In 1989 there were about twenty people in the Gehry office. There were two computers—one word processor and one in accounting. At that time Gehry worked with outside executive architects on major projects. That relationship, still standard practice in many firms today, often leads to misunderstandings, errors in construction, and increased costs. In Gehry's case, the most notorious example of the way in which the executive architect system can go wrong is found in the saga of the Walt Disney Concert Hall—a situation that, as they say, will live in infamy. Because Gehry's 1988 design for the Hall was complex and not thoroughly understood by the executive architect, the estimates generated from their work were astronomical and the project came to a grinding halt. Only the underground parking facility was constructed. While additional funds were being raised, radical changes in Gehry's office structure were underway as he realized that in-house technical expertise of a higher order than he had had in the past was essential to his growing practice. He turned to Jim Glymph, who joined the office on the condition that they would no longer split the work with outside executive architects, but would develop the essential in-house technical expertise that would permit them to develop projects from beginning to end. That is what Frank was looking for. And finally, by the summer of 1998, after ten years of Sturm und Drang, the realization of Disney Hall—designed and controlled in-house—was assured.

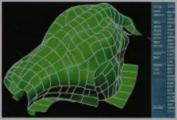
The first opportunity for Glymph to take charge of the whole process came along with the Barcelona fish for the Vila Olimpica, a hotel/commercial development commissioned for the 1992 summer Olympic Games, and created in collaboration with Bruce Graham of Skidmore Owings & Merrill's Chicago office. A steel sculptural element, 177

opposite: permanent collection installation in Gehry's plywood and glass vitrines. Musée des Arts Décoratifs de Montréal, 1992

The Art of the Motorcycle exhibition installation by Gehry Partners at the Solomon R. Guggenheim Museum, New York, 1998 6 Executive architects are responsible for construction documents. Their role places them between the designer and the contractor, and often, to the detriment of the designer, between the designer and the client.











7 From Charles Gandee, "Spanish Conquest," Voque, October 1997

Gehry's Barcelona fish sculpture, constructed of woven metal strips, commissioned for the Vila Olimpica, 1992 CATIA curvature analysis, Experience Music Project

CATIA model, conference center DZ Bank at Pariser Platz

CATIA cladding study. Telluride Residence

CATIA shaded surface study, Telluride Residence feet long and 115 feet high, the fish sits atop a retail court. The client was in a hurry, and the office had less than a year to have the project ready for the games. Glymph explains: "We were asking basic questions: what would the process be if you didn't divide projects up into the compartments that have evolved over the last half of the twentieth century? If you just tried to do what was necessary to get the job done, how would you conceive of carrying out the process?"

After looking at a variety of systems that couldn't do the job, Glymph found software created by Dassault Systèmes for the French aerospace industry. The answer was the CATIA (Computer Aided Three-Dimensional Interactive Application) program, designed to represent complex three-dimensional objects. Then the Gehry office found a collaborating contractor in Italy, Massimo Colomban's company Permasteelisa, which bought into the program. Together they made the Barcelona fish happen.

There is a lot of competition for CATIA now. "None of that existed when we started," Glymph points out. "Boeing got into CATIA after we made the Barcelona fish. (I like saying that.)" In the beginning, Dassault gave the architects a great deal of support, but when Boeing ordered a thousand stations, it all disappeared for a while, because with repetitive, mass-produced products, such as cars and planes, they get their money back. With one-of-a-kind buildings, it was a different story. But Bilbao changed everything, and Dassault now sees the potential in the development of new programs for architects. Nevertheless, architects eventually will develop their own software, and the Gehry team is already well on the way to doing just that.

Most schools teach and most architects use visualization or rendering computer programs. But because Jim Glymph wants to use the computer to get buildings built, there were no graphic rendering programs in the Gehry office for a long time. No pretty pictures. He wants a direct link to the craftsmen who are building the buildings. He explains, "It's the old image of the architect as master builder." Control is back where it belongs, he believes, in the hands of the architect from beginning to end. He points to Prague and Bilbao as projects where they've achieved this goal. Newer projects where this is happening are in the pre-casting of the concrete for the office buildings in Dusseldorf, the free-form metal on the Experience Music Project in Seattle, and the formed glass for Condé Nast in New York. In these projects they see the beginning of a new way of working, now tentatively termed the Architecture-Engineering-Construction Industry.

Most of the momentum in the development of new software is designed to serve the large conglomerates—Fleur, Bechtel, Takanaka—with staffs of thousands and few designers in sight. For small, independent designers to compete, new working methods have to be developed, such as video teleconferencing and applications sharing. Glymph maintains that, "If the big companies get there first, they will set the standards and we'll be back with the old divided process again—what Frank wanted to get away from." So, the Gehry office is attempting to set a model for small offices, and as the programs become more affordable, this could happen. At this point, with the computer, they can work out any bugs that may occur in construction, and they can accurately figure quantities and costs. Those abilities are changing the practice of architecture.

Richard Smith, a high-powered technical whiz who came to the office with the CATIA program, describes how an elevation was delineated before the computer. "The architects built a box that had a frosted glass window, and they set up an elevation. They'd shine a light from behind the box, which would cast a shadow on the frosted glass. Then they'd take tracing paper, trace the shadow, and they'd say, 'Well, that's our elevation.' I came in and asked, 'How do you know that the dimensions are right?' And they told me, 'Hey, Michelangelo did this. This is the way it's been done for centuries. Don't buck it.'"

That was then. Now the question is, how does Gehry fit into the new process? His working method hasn't changed because of the computer; however, it has made it easier for his collaborators to achieve many of his most eccentric forms. He still develops his ideas slowly, from sketches through a long series of physical models. "I sit and I watch and I move things. I move a wall, I move a piece of paper, I move something, and I look at it—and it evolves." The difference is in what happens next. A computer device digitizes the model information with absolute accuracy, and the Gehry office builds a virtual building in the computer.

Randy Jefferson, the third member of the Gehry office management triangle, joined the firm in 1992. His job is to make things happen smoothly and properly. His purpose, he explains, is "to create the important balance between excellence in design and excellence in technical development." He helps apply the office's technical systems to specific projects. Bringing all the players together, he solves problems. "If we don't know how to build it," he believes, "it's unlikely that others are going to figure it out." So in looking for people to work with—engineers, contractors, etc.— "we are after people who know how to think and who know how to use the computer as a tool. We're dealing with a very interesting corner of architecture where new thresholds are being defined with each project."

Jefferson believes that one of the fundamental differences between Gehry and many other architects is that "Frank cares more about his clients than all the rest put together. If there were not that caring, you'd just throw up your hands, because it's just a game. It's game-playing and ego. It's not that he doesn't have an ego. And then it gets down to another principle: It doesn't matter how good the architect is; in the end, the building is only as good as the client."

It is apparent that Gehry's most successful projects are the result of a lively interaction between the architect and his clients. If there is no interaction, there are no ideas. And as his process evolves slowly, there is time for relationships to grow, for exchanges to become natural and to the point. But sometimes the architect-client relationship fails and Gehry's interest wanes in the resulting work. For various reasons, Gehry has never visited the completed lowa Advanced Technology Laboratories at the University of lowa or the Herman Miller Manufacturing Facility and the Sirmai-Peterson residence, both in California. It is not that these projects are failures—Gehry believes that Sirmai-Peterson may be his best house yet—but he maintains that "making buildings is a personal thing. You create a relationship with people and if that changes, or the people change, the project is not so interesting. The building is a building, but it has lost its soul."

some clients. Jay Chiat was one of Gehry's most loyal clients. He commissioned several office projects and a vacation house in Telluride, which is still in the hopper. An advertising executive, Chiat met Gehry in the early 1980s when he was looking for a place to locate his company's offices (Chiat/Day) in the Los Angeles area. Having rejected conventional "square" spaces in office buildings as incompatible with the kind of creative work environment he wanted, he decided on a site in Venice, which, incidentally was owned by Frank Gehry and his associate, Greg Walsh. However, before they had progressed very far, toxic waste (coal tar) was discovered on the site. During the years it took to eliminate the harmful materials, Gehry designed a temporary office for the company in a nearby warehouse building on Hampton Drive.

That situation gave him an unexpected opportunity, similar to one he had had earlier with the Los Angeles Museum of Contemporary Art's Temporary Contemporary space: a huge, high-ceilinged, wood-framed warehouse that permitted free play for off-beat ideas. At Chiat/Day the most memorable element was a larger version of the headless/tailless fish form Gehry had first created for his 1986 Walker Art Center retrospective exhibition. The scale change allowed it to become a 54-foot-long communal room in which Gehry's friend, the psychiatrist Milton Wexler, often held conferences. Later, Dr. Wexler wrote:

The conference center Frank created for the Chiat/Day temporary office interior was nothing but a whale. Inside this lovely curved space, a huge conference table allowed for all kinds of informal meetings. The sound was perfect. In some strange way, one could almost feel that this was a marvelous environment in which to give birth to great ideas. In the belly of a whale, one felt enclosed, nurtured, protected, prompted to play, to experiment, to break out of the commonplace.

Gehry also successfully designed Chiat/Day's Toronto office interior and made an unrealized attempt in New York. When Chiat/Day's Venice Headquarters building was in process in 1989, Claes Oldenburg and Coosje van Bruggen designed the incredible binocular conference rooms that are the central element in the building's tripartite







design process model for Jay Chiat's house, Telluride, Colorado, 1998

interiors of the Chiat/Day Temporary Offices, Venice, California, 1986–1988

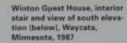
facade. The binoculars, together with Gehry's "boat" form on one side and copper-clad "trees" on the other, have created an unforgettable Main Street landmark.

During the years of his long friendship with Chiat, Gehry has been the recipient of an incredible number of prestigious awards: The Pritzker Prize, the Wolf Foundation Prize, the Praemium Imperiale, the Dorothy and Lillian Gish Award, and the National Medal of the Arts, along with innumerable other significant honors. Thus, Chiat recently quipped, "because Frank is accepting all these awards, he's going to peak too soon. By the time he's ninety, he will have had it. If they call him up and want to give him an award, he should say, 'No, I'm sorry, I can't do February. If you'll do this in April....'" In a more serious vein, Chiat continued, "I think he has incredible instincts that he translates into impulsive gestures, and because his instincts are so good and his intuition is so honed, the results are perfect." He relates, for example, that Gehry conceived the Chiat/Day Main Street head-quarters building in his very first sketch for it on a restaurant tablecloth in Santa Monica. "When we left the restaurant someone asked, 'Do you have the tablecloth?' I said no, we've got to go back and get it. I retrieved the tablecloth, and it is the building." (Although finding the finished building, "getting it right," in this very early sketch seems to contradict the long evolutionary process that Gehry works through on every project—in fact, both phenomena are true.)

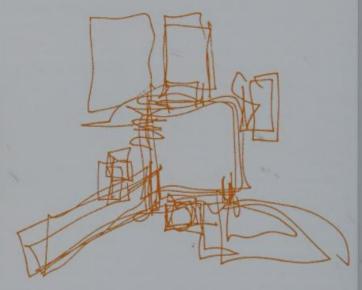
In the 1960s, Penny and Mike Winton moved into an elegant suburban house near Minneapolis that had been designed in 1952 by Philip Johnson, in his early Miesian manner. As their five children began to marry and have their own families in the early 1980s, the Wintons realized that they didn't have enough room for family visits in the main house, and they asked Johnson to design a guest house. At the time he begged off, maintaining he was too busy, but he agreed to call them with suggestions. Nine months went by with no call. Then on 16 May 1982 the Wintons opened the New York Times Magazine to an article by Joseph Morgenstern, and they agreed, "This is it!" The article was all they knew about Frank Gehry.







sketch for the pinwheel plan, Winton Guest House, 1985





Disney Ice, Anaheim, California, 1993-1996

opposite: Available Light, choreography by Lucinda Childs, set by Frank Gehry, was performed at the opening of the Temporary Contemporary, Museum of Contemporary Art, Los Angeles, 1983

- 8 See Gehry's assessment of the ice rink (p. 180), which is somewhat at odds with that of Eisner.
- 9 See Mildred Friedman, "Fast Food," in *The Architecture of* Frank Gehry (Minneapolis, New York: Walker Art Center/Rizzoli, 1986), 101–104.

Mike Winton remembers that soon after their Sunday epiphany, they visited the early houses Gehry had designed in Venice and the Aerospace Museum addition in Los Angeles's Exposition Park, which had just been finished. "But Loyola Law School was the one that really blew us away—Penny and I were hooked." They were drawn to the work for several reasons. There was "such self-confidence, he didn't have to borrow, and there was so much wit." They didn't give Gehry a rigid program. Primarily, they wanted the house to be amusing and welcoming to children, so that they would want to keep coming to visit grandma and grandpa. During the process, Mike repeatedly told Gehry they couldn't afford it. Almost four years went by, and Mike kept saying, "Frank, I have to wait until my ship comes in." Then one day Gehry came in, looked at Mike and said, "Mike, your friends tell me your ship is in."

Penny remembers, "We had a budget of, I think, \$450,000, something like that. And at that time, we were his first 'luxury' client. When we got to the bathrooms, he wanted to do them in marble or stone, and I kept saying, 'Uh...let's have some plywood.' And on the staircase, when he came through during construction and saw the inner workings of the staircase up to the little room, I said, I really love seeing that; I don't want to shut it off behind wallboard, and he said, 'Don't do this to me. I'm trying to live down my reputation as a junk architect.'"

That unlikely beginning resulted in one of Gehry's most significant projects. Seen across the gently sloping site from the vantage of the Johnson house, the windowless west facades of the Winton guest house appear

as a collection of singular forms clad in limestone, brick, sheet metal, and Finnish plywood. The iconic pin-wheel plan and its four interconnected structures constitute an expressive work that prefigures the sculptural character of many designs to follow.

Michael Eisner met Gehry not as Disney's CEO, but as a hockey enthusiast. Both families play and they found each other at a hockey rink. Eisner was aware of Gehry's work in the chain-link era, and had admired his progress for many years. Their first project together was the Entertainment Center for Euro-Disney (now called Disneyland Paris), a complex proj-



ect that left Gehry less than satisfied. They later went on to the ice rink and Disneyland Headquarters, both in Anaheim, California.

Eisner admires Gehry's work because he finds it "aggressive, challenging, and risky." The ice rink is Eisner's favorite Gehry building. Its voluptuous biomorphic exterior, which Eisner describes as a woman lying on her back, is sheathed in corrugated anodized aluminum. The interior practice rink for Anaheim's Mighty Ducks is lined with laminated wood beams—warm and welcoming—"reflecting Gehry's love of hockey." Eisner believes that "it's simple and great."

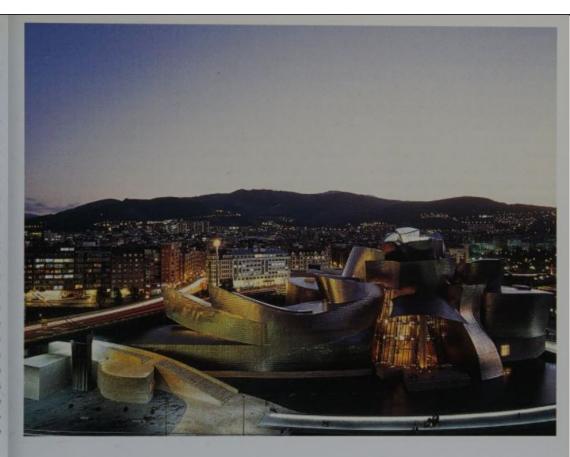
One of Gehry's most supportive Los Angeles clients is Richard Koshalek, the former director of the Museum of Contemporary Art and the Temporary Contemporary (now The Geffen Contemporary), L.A.'s guerrilla museum, in the heart of Little Tokyo. In 1983, Koshalek invited the choreographer Lucinda Childs to create an inaugural dance work for the TC, and he commissioned Gehry to design the set and composer John Adams, the music. Titled Available Light, this work was performed on a double platform seen from three sides, surrounded by a scrim of chain link.<sup>9</sup> It was an astonishing success, and soon after, Gehry was commissioned to renovate the warehouse. The tiny budget for the remodeling was raised through the sale of prints donated by eight artists. Designated "temporary," while the museum by Arata Isozaki was under construction, this simple, industrial structure continues to house many of MOCA's most important exhibitions, and its entry and street facade are currently being revised in order to better accommodate future exhibition and performing arts projects. Koshalek believes that the building's most successful quality is its informality, its accessibility; it is as close as a museum

can come to the environment of an artist's studio. Thus, the widely accepted ideal of the clean white neutral space is one that Gehry has proven inadequate in all of his subsequent museum projects.

Koshalek later chaired the committee that selected Gehry as the architect for the Walt Disney Concert Hall. When the project ran into fiscal difficulties, MOCA mounted an exhibition of drawings and models for the Hall to demonstrate the significant role it could play in the cultural life of the city and the downtown neighborhood in which the museum and the new Hall are primary players.

Gehry's most celebrated museum commission to date is the Guggenheim Museum Bilbao in Spain's northern-most Basque city. And consequently, Thomas Krens is currently Gehry's most widely known client. The project began in 1991 when Krens invited Gehry to visit an old warehouse building the Basques were proposing for the museum. Neither believed the building would work as the site for a museum, and they agreed that a central city location along the Nervión River would be ideal. Three firms were then invited to participate in a competition for the design of the building: Coop-Himmelblau, Arata Isozaki, and Frank O. Gehry & Associates. The jury included Basque government officials, a Spanish museum director, and a curator; Heinrich Klotz, director of the German Architecture Museum in Frankfurt, was referee.

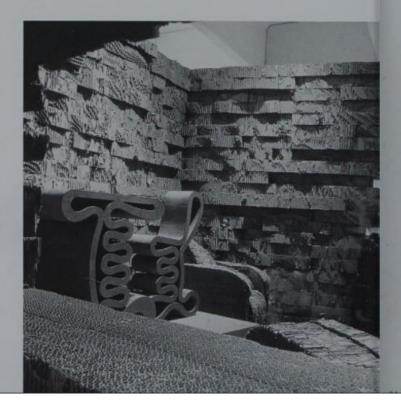
The selection of Gehry was the beginning of a six-year collaboration between Gehry and perhaps his most hands-on client. Krens asserts that, "Great architecture is not just a question of pure genius per se; it's a function of opportunity." The program was simple: 300,000 square feet, of which 150,000 would be exhibition space. "The building had to embrace an existing bridge over the river, and be equally hospitable to a 200-ton Richard Serra sculpture and a Picasso drawing." Krens wanted an atrium plan. He believes that Wright's New York Guggenheim works well and he wanted a building in which the atrium would always provide a point of orientation, and not be simply an entrance hall. Krens suggested that "the dominant model for the atrium should be a cathedral such as Chartres." Gehry began with three other metaphors: Fritz Lang's film *Metropolis*, Brancusi's Paris studio, and a rock quarry in Indiana. He eventually discarded the image of the rock quarry. Krens believes that Gehry has "a greater faith in process than any other architect. The thing about Bilbao is the surprise of it." Entering the lobby is truly an exhilarating experience: "Walking into [its] main atrium is like tossing your cap in the air." <sup>10</sup> After the atrium and the 450-foot-long gallery, the last things one expects to see are what Gehry calls the "stodgy" galleries. But these classical spaces are perfectly suited to works from the Guggenheim's early-twentieth-century



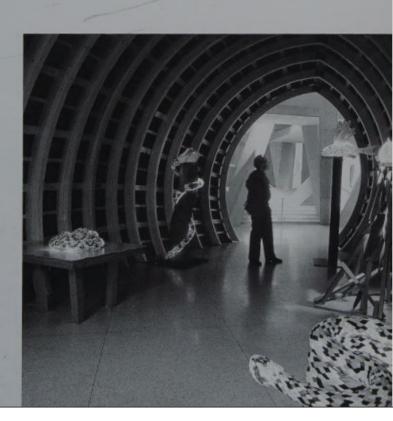
10 J. Carter Brown, in a letter to Ada Louise Huxtable, 9 March 1998 opposite: view of the Guggenheim Museum Bilbao seen from across the Nervion River, 1997 collection, which will often be shown there. Herbert Muschamp, writing about the museum for the New York Times Magazine, concludes: "Critics don't have to say 'yes, but'; it's all right to say something's really good. You don't have to qualify it."

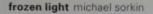
Gehry's remarkable building, together with the long overlooked city's first subway system, designed by the English architect Norman Foster, Santiago Calatrava's pedestrian bridge and planned airport, and the music hall by Federico Soriano and Dolores Palacios, plus several other proposed projects, promise a brighter future for this revitalized Basque city. If the Bilbao experience, in all of its manifestations, proves a success, it could make believers of the most skeptical among us. In its example, we sense the possibility that significant architecture and brilliant planning can change both the face and the spirit of the world's oft-neglected cities.

The 1986 Walker Art Center exhibition, *The Architecture of Frank Gehry*, was a celebration of twenty-five years of work by this American original, then not widely known outside the inner circles of new architecture. That exhibition experience (four years in the making) was my trial-by-fire introduction to Gehry's singular working method. For the Walker exhibition he created five full-scale elements using lead, copper, cardboard, plywood, and Finnish plywood. These structures demonstrated various ways he uses materials and, at the same time, housed drawings, photographs, and models of his realized projects. Thus, while seeing the exhibition, the viewer was also experiencing a full-size Gehry space. His ability to inform, by making it possible for the observer to interact with the exhibition, provided a vital link to the meaning inherent in the works on view. To demonstrate how architecture happens—how an idea goes from Gehry's initial sketch to a realized project—was attempted there and is our purpose here, where we take up his story post 1986.



installation views of Walker Art
Center's 1986 exhibition, The
Architecture of Frank Gehry.
The cardboard enclosure was
created for Gehry's cardboard
furniture, Easy Edges, 1972,
and Experimental Edges, 1980.
A lead-scaled, wood fish
(opposite) contained Gehry's
fish and snake lamps, which
were designed in the early 1980s





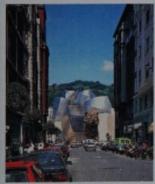


In front of Frank Gehry's Guggenheim Museum in Bilbao stands an enormous Jeff Koons topiary puppy. Supported by a complex but unseen armature and enabled by a fiendish system for watering and fertilizing, the floral dog dominates the museum's foreground. I wanted to hate that puppy but found myself charmed...sort of: once the irony was scraped off, beneath lay treacle. Thus laid bare, no longer an appropriation of kitsch, I was able to see the huge dog as pure kitsch—charming, goofy.

Architects I know who had the pleasure of visiting the Guggenheim while it was under construction raved about the beauties of its intricate armature, the rising, cross-braced snakes of steel. Gehry often talks about inspiration drawn from construction sites, buildings that are at their best half done. Part of this is just the modernist aesthetic with its tooth for the forms of engineering and construction. But it also comes from a view that the unfinished version has a special innocence, clarity, authenticity, and authority. Like the childhood of the sketch, the worry is that elaboration and growth inevitably equal loss.

It is one of the many successes of the Guggenheim that it has not simply survived its transformation but that in maturity it has only added density while retaining the vigor, kinks, and visual charm of its skeleton. In the kinetic atrium and in the picturesque tower framed beyond the preexisting bridge—the skeletal armature is both revealed and employed, and the exuberance and complexity of the work-in-progress is retained.

For the foregrounded Koons, though, the armature remains invisible, the dog beneath the skin. Illusionistic, it depends on this invisibility, the backgrounding of its means of support. The dependence of the fuzzy pup on its concealed skeleton is ironical. The Guggenheim—equally histrionic—engages the same problematic as the pup: the elaborate unseen structure required to support the complex family of curved forms. But there's no irony. And this is something that can be said about Gehry's work from the beginning: nothing is concealed, no jokes are made, no self-consciousness is exhibited, no meta-meanings are inscribed.



opposite: atrium of the Guggenheim Museum Bilbao,

on the entry plaza the topiary puppy, by the artist Jeff Koons, welcomes visitors to the Guggenheim Museum Bilbao

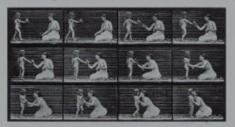
The Koons puppy is a cartoon. Cartooning idealizes a subject by drawing out some essence. Cartooning is an intermediary state, a subject becomes condensed and malleable. The cartoon prepares a subject for irony, kitsch, or critique. In the case of the Koons, the essentialized pup, stripped of detail and inflated to enormity, opens up a kind of metakitsch, a gigantic hyperbanality. It's this disproportion that gives the work its meaning.

Gehry also makes cartoons, forms full of pared depiction. The mimetic reading is both irresistible, totally legit, and unavoidable. This engages both the obvious sources (all those fish) and a certain incitement to ferret out the metaphor. I've read, among others, a description in which Disney Hall is compared to a flower. It never struck me thus: I am reminded rather of those dancing hippopotami in Disney's *Fantasia*, improbably light of foot. And the building is ineffable in similar wise. Curvy, twisted renditions of shapes that approach familiar platonic forms but

that—like cartoon houses—bulge with the energy of (incipient) animation. The building is both beautiful and incredibly apt to its patron.

The invention of the movies was transformative for architecture, paralleling and informing the invention of the idea of space. A medium that allows the continuous depiction of space, the movies goaded architecture into a new sense of flow, creating an idea of the palpability—the physics—of the space. Space was no longer just a byproduct of the order of events. Animated, the rush of space could be expected to have an effect on the material conditions through which it passed. Film was able, for the first time, to capture the blur of speed much the way we—slow to process our own environment—perceive it. Interest in such distortion through attenuation has something of a history, originating in our ability to cross the landscape at increasing speeds—the view from the train or the car. (Remember all those stretched buildings in the sixties "responding" to the view from the road!)

The film conceit is useful to architecture both for its ability to capture the effects of space and for its store of techniques. I'm thinking of the basic technology of filmmaking, the decomposition of a continuous kinetic activity into a series of static frames, the stills that undergird the motion. This is an uncanny metaphor for architecture, for something that is constructed via a sequence of precisely measured stabilities to produce something that finds its





ultimate legibility in motion. Nothing more clearly encapsulates architecture's relationship to the the idea of motion than the photographs of Eadweard Muybridge. Here the idea is not to create motion but to stop it, to decompose and deconstruct it, to add precisely the necessary stasis to open motion to analysis and, ultimately, to reconstitution.

Which brings us back to cartooning. An animated cartoon is a kind of *gesamtkunstwerk* that, like its cathedral forebears, requires the precisely coordinated assembly of a huge number of individually produced, static elements in order to construct a singularity. A single cartoon cel, then, somehow contains the implication of its successors, the idea that motion, being physical, can be created from its particles. The most revealing and intimate moment in animated cartoons is that familiar image of Wile E. Coyote who, having just barreled over a cliff, takes a few moments to discover that he is running through thin air, looks down, and only then plummets to earth.

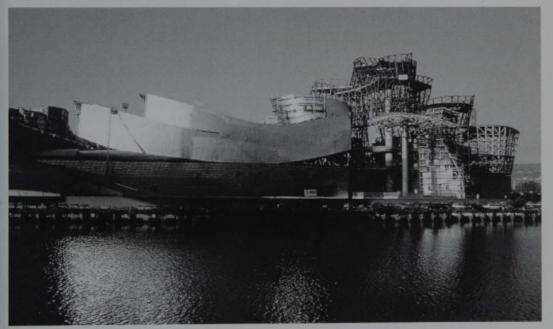
The hapless Coyote suggests the idea that physics is also psychical, that there is a moment of ambiguous intersection between gravity and the unconscious, which is true as well for architecture. In Gehry's practice, much weight is put on the sketch, on the spontaneity of impulse and on an essence of ineffable character to which all obeisance must be paid. For Gehry (like Disney), the next step is an inversion. The sketch, which defies

Eadweard Muybridge Woman and Child, c. 1877. (plate 465 of the Pennsylvania Plates) Victoria & Albert Museum, London, Great Britain

Cliffhanger Chuck Jones © 1980, Warner Bros. opposite: view from the north of the Guggenheim Museum Bilbao, under construction, 1996 conventional geometrical organization, must be translated into a system of precise coordinates and known structural properties, all of which depend on an undergirding Euclideanism. The forms are derived after the fact.

This act suggests a constant tension—constant relationship—between a system of familiar Platonic solids and a set of spontaneous forms that riff but do not ape this set of familiars, much as Mickey resembles a mouse but looks like no mouse we've ever seen. The fantasy is thus inversely symmetrical with the sketch that distorts the unfolding reality it both exaggerates and simplifies. The Disney project is also a distortion, a cartoon that inflates the unseen ideal form: those shapes in Disney Hall are both dancing flowers or hippos but also dancing not-cubes and not-rectangles, distorted away from the familiar but not so far as to cease affinity.

In an interesting insight, Zaha Hadid recently described her early motivation to paint as somehow anticipating the availability of Form-Z, the current Mac-based solid modeling program of choice. The observation is canny in begging the question of animation. If the current architectural avant-garde—indubitably sourced in Gehry's work—has a shared obsession, it's with the motility of architecture. The conceit, not of frozen music but of frozen motion, surely informs a myriad of fantasies of tipping facades and rotating masses, a simulation of instability that has been the hallmark of so much recent work.







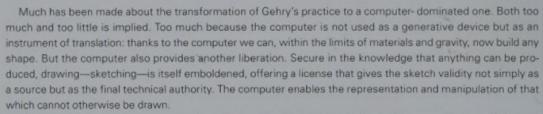












The current trend in supercomputers is to the massively parallel. Largely out of favor are the incredibly powerful single processors of older machines and in their place hundreds of microprocessors linked together do the job. Tasks are not performed sequentially but divided and their components are solved separately and simultaneously. In many ways, this approach is similar to that of the traditional, precomputer, handicraft animation studio. To produce the images necessary to inhabit the hundreds of thousands of film frames in a full-blown animated movie, cadres of artists labor for months or years to break down the sequence of animation in the freeze-frame of individual cels and then draw and paint them one by one.

Gehry's use of the computer enables the same process to take place, only backwards. Although the entire object is crunched at once, what is produced is a single model of an extremely complex form, which only the intelligence of the computer can be said to comprehend in its all-at-once. To the observer, the central model can















a project's gradual evolution, from basic wood blocks (opposite) to indications of materials and sculptural form, is demonstrated in this exemplary series of design process models for the unrealized Samsung Museum of Modern Art, in Seoul, Korea, 1995



only be constructed by observing the building through a self-propelled animation of every aspect of it, decomposing it into infinite "frozen" views.

For those actually designing the building in its detailed particulars and for those constructing it, the all-at-once is decomposed into a conventional series of working drawings. Although this is likely to change before too long, buildings are still constructed from paper plans, from individual drawings of each and every part to be assembled. However, there is a portion of the process in which the intermediary of a drawing can be obviated, particularly in a case like the mechanical cutting of the doubly curved stone skin at Bilbao, where there was direct communication between the design computer and the machines that milled the stone to shape. There's an interesting gap between the extreme fragility of the sketch and the intense particularity of the construction documents, all of which is negotiated within the computer, that begs interesting questions about the ultimate availability of architectural "expert systems." If one thinks of the computer as no more than a sophisticated pencil, there's no issue. If it has the potential to be more....

It is in this sense that Bilbao might also be described as an intermediary triumph and a harbinger of both greater freedom and license for the computer as architectural generator. Many have described the building as the first of the twenty-first century, although I prefer to think of it as the apotheosis of our own. For Gehry, the computer is a tool, not a partner—an instrument for catching the curve, not for inventing it. His design process also includes repetitive physical modeling in which the computer (in concert with laser measuring devices) becomes a notational partner. Gehry's work, full of genius, does not beg any fundamental questions for art. It is simply beautiful in the old-fashioned way and there is no doubt as to who the artist is.

The technology used in Gehry's office—the Dassault system—is, in fact, a machine for realizing curves, and this obsession with a "naturalistic" curvilinearity is also the culmination of an inquiry that dates back at least to Horta, Sullivan, and Gaudi; is carried on by Aalto (with whom Gehry claims special affinity); and rationalized by Bucky and the plastic Corbusier. For all of these, the mimetic drive is to recruit nature as both collaborator and source. Gehry advances the argument both by his cartooning tactics—rounding off, bloating of forms to create an image of friendliness—and by his pursuit of the limpidity of the "natural," freely drawn curve, with its legato elegance and its suggestion that nature is simply another perceptual system producing its own private styles of distortion.

Louis Kahn asked the brick what it wanted to be and the brick confided that it was an arch. This sense of volition is the gift of functionalism to materials. Frank Gehry's creative breakthrough has long been associated with his craftsman (in the Sears, Roebuck sense) phase. After long association with artists, Gehry turned from the depersonalized architecture of the corporate world, with its abstract, immaterial air, to an architecture with which he was in direct emotional contact, the sort of building you almost imagine yourself able to hand-build, certainly to fully understand. For Gehry, this was an autodidactic architecture, an architecture of renewal. The funky work put an end to a functionalist lineage by refiguring the authority of materials, by offering alternative answers to the question of the inner desires of a two by four.

This was also the moment in which the Gehry persona, the bleeding-hearted Canadian nebbish, also began to be thoroughly mythologized, a phenomenon in which the dissembling Gehry has always artfully collaborated. Indeed, in the Woody Allen culture of wearing one's neurosis on one's sleeve, this was architecture's privilege: to reveal itself, to spill its guts. Like his contemporaries Peter Eisenman (who famously used to claim to have, in the manner of Pascal's wager, both a Jungian and a Freudian shrink) or John Hejduk, the element of autobiography was returned to architecture. That Gehry's breakthrough project was a transformation of his own house is surely significant.

Most accounts of Gehry's turn to the chain-link and corrugated palette devolve on the cheap and ordinary nature of the materials. But I would suggest that the roots of the style derive not from tight-fistedness, but control. Control, to begin, is a question of knowledge, and these works were in a medium the newly independent practitioner could most knowledgeably and efficiently undertake. The turn to the computer as a shape-maker is also a moment of conflation between liberation and control. Gehry's use of materials, in whatever register,

is never eccentric. Sheet titanium, as desirous as a brick, wants to be a skin, needs to be laid on the eccentric curves in plates.

So much of art nowadays is forged in the techniques of observation, displaced onto the register of criticism. To this the computer offers an interesting parallel. Like the dislocation of technique in a criticism-driven art, the computer engenders a subtle shift in the process of creation. The conceptual character of a building's prior imaginative existence—given the truly amazing modeling possibilities of computers—means that it can be observed, for the first time, in a simulacrum of the continuities of reality. The computer becomes a means of cinematizing architecture without building and may (though this is a question for another time) harbinger its eventual annihilation.

Gehry's celebrated aedicular strategy, the collage of one-room buildings to create house ensembles, also embodies a form of control. Here, the idea is to produce a transcendental diagram. A conventional tactic for getting into an architectural program is to produce a bubble diagram in which, like those Muybridge photos, a totality is reduced to a series of manageable components. The Taylorized style of mainstream modernism saw this decomposition as a physical convenience, a means of organizing circulation, hierarchy, and dimension. For Gehry, the dispersal has a more physical aura, a means not of producing hierarchy but autonomy, the instrument of what might be called architectural citizenship.

The fragmentation of Gehry's buildings takes quite a bit of interpretive heat. These building colonies have been described as either psychical or social comments on the fragmentations of modern culture (although critics have also taken the tack that what's embodied is more an idea of the singularity of the individual). Either way, the burden of representation that this tactic of subdivision bears is clearly hermeneutic and not intentional. The fragmentation clarifies by exposing its programmatic parts and is, in this sense, a very modernist gambit. However, where traditional modernists color-coded pipes and ducts or argued for literal transparency, Gehry structures his work on a different idea of visibility. The sense of boundedness this sometimes inspires (Mike Davis has chastized Gehry's urban work as overly defensive) does not, I think, stem from a sense of hostility to the exterior world but a devotion to the individuality of the architectural object.



While the formal lineage for Gehry's fragmenting strategy surely remembers the forms of villages and small towns—whether the rooftop collection of the Wosk penthouse, the pavilionated Simon House, the Winton Guest House, the Loyola Campus, or the truly amazing and (alas) unbuilt Lewis House—there's another aspect of consequence: tinyness, a conflation of difference and diminutiveness. The history of the little building is an unwritten chapter in the development of architecture but an important one. Certainly, some of the current interest in the question stems from the revival of theory of the past twenty years, in revisiting the idea of the "primitive hut," the

putative origin point of architecture. There's something biological about all this: the idea of growth via cellular division. Gehry's projects, as they become increasingly sophisticated, seem progressively to embrace this metaphor.

This having been said, I prefer to see Gehry's aedicular tendency as more of an auto-analytical organ, a means by which he has reinvented his architecture. It's instructive to look through his artistic prehistory, his eight years before the mast at Hideo Sasaki, Pereira & Luckman, Victor Gruen Associates, and André Remondet. Search as one does for hints of things to come, there's little to recommend itself as the harbinger of genius. Acceptable corporate design, always decent, never especially innovative, is the order of those days. The only hint of the future lies in Gehry's long experience with the shopping mall. The paradigmatic mall is binucleated like the family, mama and papa anchors holding up opposite ends of an enclosed family room around which cluster the lesser shops, the children of the arrangement. This mall parti informs many of Gehry's works, from his first big independent project—the actual mall in Santa Monica—through the Loyola Campus, and culminating, after a long voyage, with

Bilbao, its specialty spaces deployed around a central "atrium" that organizes the functions that surround it.

The autonomous courtyard is a spectacularly useful architectural device because it can effectively cut loose the surrounding elements to develop their own autonomy. The courtyard, in its voidedness, offers a take-up space, a distributor that cedes the orbiting elements enough slack to develop in an informal system, expanding unconstrained by a hemming figural space that demands that their own geometries be subservient. Strange and eccentric shapes can nose into a flexible central figure that permits them the room to retain their own eccentric integrity.

Gehry speaks frequently of his friendship with and admiration of artists. This influence is literal—an indebtedness for representational courage to Oldenburg, an affinity for curvature to Serra—but what's probably most important is the influence of anxiety. It was art (and Los Angeles) that saved Gehry from the seemingly inescapable consequences of universalism. It may also be from this cadre that Gehry acquired the comforting (and historic) notion that politics can inhere in avant-gardism.

Gehry went to school at the height of the influence of modernism (including time served in the planning program at that Kremlin of modernist-think, Harvard's Graduate School of Design), when certain truths were held to be self-evident. The first of these was the need for generic solutions to architectural problems, for systems rather than objects. And the second was a version of minimalism—functionalism—that singular mix of liberalism and Taylorism with its creepy fantasy of mass subjectivity.

Somewhere inside, Frank was bridling at this. Conscience-full product of a Jewish-Canadian, liberal environment, he wanted to help. But inside, the fish of creativity was wiggling to be free. And here the metaphor may be important. Looking back at that Proustian carp alive in the tub, one reads not just animation but imprisonment, circumscribed desire: fish gotta swim, after all, and in the tub they don't get far. And what object can be said to be less vested with its own desires than the carp become part of that grey lump of gefilte fish (however tasty, not what the fish wants to be). Like a Chinese painting of a fish in which a stroke suffices to animate the shape, Gehry reanimates. He sees the orthodox formal vocabulary of most architecture as lifeless and gets to work, not with the production of an alternative system, an accidental incursion from left field produced not by surrealistic trickery nor a single imaginative leap, but with the breath of new life injected into old forms.

The revision starts slowly at the Davis House, in which the box undergoes a mild, sight-line-generated skewing to produce (along with the skewed wing of Asplund's Snellman House) one of the most seminal twists in the history of architecture. With his own house, Gehry extends his palette of distortions to strategies of decomposition and second skin. Here, the box is not simply distorted geometrically, it's stripped bare. Gehry dances down the line of essence, inquiring how much can be removed and reconfigured before the house disappears. The crummy material palette is, to be sure, a part of this, but there's nothing in the materials Gehry introduces that really stands outside the standard-issue materiality of stick-built homes with their two-by-four construction, chain-link back fences, and asphalted drives—a large part of the point. The box has been broken and this new energy parallels Gehry's own escape from the box of corporate practice to a circumstance in which his newly confident and increasingly articulate desires are able to directly imprint his work, to make something new from the old familiars.

Having demystified the box via distortion and dematerialization, Gehry is ready to move on to ensemble, to the ways in which uses, not simply forms, go together. The city is the ultimate architectural ensemble and Gehry's urbanism is, at the end of the day, fundamentally respectful of the accumulated conventions of the historic. While the forms may be wild, the strategies of situation are both calm and precise. Bilbao, for example, is brilliant not just in its siting but in the way in which it resolves the primary issue of the Bilbao riverfront, the dramatic sectional drop from the main grade of the town to the river bank. Disney Hall, for all its crazed neo-baroquisms, produces an acropolis in friendly collaboration with its dreary predecessors on Bunker Hill. Santa Monica Place skillfully separates automotive and pedestrian access, a mall that both contains its own anchors and anchors Santa Monica's 3rd Street pedestrian shopping street, which existed only as an idea at the time of the mall's building.

The bringing together of pieces in peaceable assembly is the most urgent creative agenda of Gehry's breakout. Although his architecture is relentlessly alleged to incorporate the genius loci of Los Angeles as one of its



most fundamental inspirations, the reading is too often distorted by an identification of the city with tackiness and ephemerality—the shake, rattle, and roll of quakes and slides—and with a general celebration of the city's transient veneer. Slighted in this interpretation are certain sounder elements, especially a history of local place-making. The film studio complexes, endearing shopping centers like the Farmers Market, bungalow courts, and especially the small pedestrian cul-de-sacs, such as the Crossroads of the World, are clear prototypes for the likes of Edgemar, one of Gehry's most successful ensembles.

As with any village, the crucial questions are about the limits of inclusion in community, the tolerable degrees of difference, and the nature of the public or shared spaces. For Gehry, difference is embodied in shape and material, secondarily in use. Elements express their individuality by standing free, an attitude that both de-inscribes

previous page: site model of the Loyola Law School campus, Los Angeles, 1981

Ron Davis Studio/Residence, Malibu, California, 1972 veils of chain link create a screen/sign that identifies the parking structure at Santa Monica Place, 1980



them and that, in offering the possibility of a comprehensive, cubistic view of the element, makes the individual piece more comprehensible as such, vesting it with a kind of citizenship via the autonomy of (perceptual) wholeness.

Naturally, there's a problem with treating forms as citizens inasmuch as formalism always risks superseding the desires of users. But—with our most artistic architect—the user's desire is necessarily to inhabit Gehry's own sense of expression, largely mooting the point, except at its periphery where collective spaces are defined, in their edges, as the residue of individual assembly. And here is the innovation. Although Gehry's collective spaces have carefully nuanced scale and detail, they are seldom recoverable as figures. This is genius, this noumenous creation of a public realm that is drawn out of the private, described in detail only by the individual spaces that define it.

The Guggenheim Bilbao is the Weisman Museum rotated through 180 degrees. One side of the arc is occupied with the convulsive geometry of the stainless-steel facade, the other with rectangular boxes of masonry. Bilbao gives a "functional" logic to this geometrical opposition by creating two different kinds of spaces: geometrical, stone-clad, for "historic" modern art, and free-form, titanium-swaddled for contemporary work. Although there's nothing philosophically necessary in this distinction, it works very well, if only in the sense that all the work in the museum is beautifully housed. The only dysfunctional space is the largest, the huge loft room on the ground floor. Here, the issue is not architectural but the curatorial insistence of trying to display puny-seeming two-dimensional works on its 450-foot-long walls, which inevitably leaves the art diminished.

Frank Gehry's work has remarkable command of direction, something—as opposed to orientation—intrinsic and internal. This begins with an acute sense of front and back. In many earlier projects, the two-ness was the outgrowth of a sense of the role of building in the urban fabric, between the faces of public and private, a condition recursively explored within the working arrangements of the grouping itself. Of course, any architecture that wants to move begs the question of direction. If the classic modernist building embraced the metaphor of the ship, sailing along its long axis, Gehry has managed to disperse this sense of movement, to make a more general condition of animation. And here the metaphor of the flower grows again. The idea is the opposite of Muybridge's and seeks not to observe by retardation but by acceleration, in the kinds of time-lapse photography that, by speeding up the succession of images, makes the opening of a flower or the construction of a building freshly accessible.

Although the blooming and the building might fairly be said to proceed to certain ends, what Gehry, in his most recent work, has captured is not the directed motion but the stationary dynamism of a flame. The evanescence of the reflective facades of the Weisman Museum and the Guggenheim achieve the feeling of motion, not by the conceit of stop-time, like the Kobe fish or Vitra, but via literal animation. This fantasmagoria of moving light is not projected on a simple screen, like minimalist mirrored facades that try to garner meaning from sun and clouds, but on a surface that is itself complex. Bilbao surely marks the mature phase of Gehry's cubist sensibility, in which he returns cubist two-dimensional depictions of three-dimensional space to the actual realm of volume. It is a masterpiece.

opposite: the Frederick R. Weisman Museum, University of Minnesota, Minneapolis, 1993

overleaf: the Guggenheim Museum Bilbao, seen from across the Nervión River, 1997





frank gehry



then and now. As I came up through the ranks, Raphael Soriano was my model. Then I got excited about Japan, because my teachers at the University of Southern California had all come back from Japan at the time—and it really fit in Southern California. We got a pretty heavy dose of tatami mats, post-and-beam, and woodcraft structures. For me, it was in scale with what I could understand at the time. If you gave me a big building, I couldn't understand it. The all-time hero of that period for me was Harwell Harris. I knew him. I used to visit him in his studio. He practiced near downtown, up on a hillside on Mount Washington. I visited every month. Then I met Schindler. I was very taken with Schindler.





then Neutra. I couldn't relate to him, but he liked me. I took my thesis project to his studio to show him; he said nice things and took a lot of time with me.

I was anti-Corbusier and all those people until I went to Harvard, and then I met a lot of them. But I didn't understand Corb. I had to go to Europe—see the Romanesque churches, go to La Tourette and Ronchamp—then I understood. Then I started into Frank Lloyd Wright—looking at it. That's what I used to do on weekends. When I came back from Harvard, I was driving across the country with my first wife and daughters, and I wanted to go to Taliesin West. I went to Taliesin and the flag was up, which meant that Wright was there. I was excited. I drove up, and they wanted a dollar each for us to go in, and I said, "No way." I was furious. I was a Socialist, and that offended me. So I didn't go in. I was always sorry.

When I was sixteen I attended a lecture at the University of Toronto, and a wonderful man from Finland showed a chair. I remembered the lecture and later realized that the man was Alvar Aalto. I loved him. I loved the lecture. Then in 1972 Berta (Mrs. Gehry) and I went to Finland, and we visited Aalto's studio. They let us sit in his office for two hours. They let me sit in his chair. But I never met him. Then, years later, a lady came to my office. She looked familiar, but I didn't know who she was. She talked to me for an hour before I realized.

opposite: Gehry in his office, 1999

Rudolf M. Schindler Schindler/Chase House, 1921–1922 West Hollywood, California

Richard Neutra Lovell House, 1927–1929 Los Angeles, California

Craig Ellwood Palevsky House, 1970 Palm Springs, California

Alvar Aalto
Paimio Chair, 1931
molded and bent birch plywood
The Museum of Modern Art,
New York, gift of
Edgar Kaufmann, Jr.





 The chair in question was the Paimio (1931), named for the town and the tuberculosis sanitarium designed by Aalto (1929– 1933). The character of its birch bent and laminated plywood construction undoubtedly had a lasting, if subliminal, influence on Gehry.



I said, "You're Mrs. Aalto, He is my hero." What Aalto did for architecture is what I also like about Hans Scharoun. It's the touch, it's the humanity of it. Wright had that, too. I think Corb had it, but in a different way.

Painting and sculpture in-

fluence my work. For instance, when I had the Bellini picture with the Madonna and Child, I originally thought of it as the Madonna-and-Child strategy for architecture. You see a lot of big buildings with a lot of little buildings, little pavilions in front. I attribute that to the Madonna and Child composition. When I was doing some of the planning work for the Reichmans, for the Madison Square Garden proposal, I dragged out that Bellini picture and showed it to them. I showed it to the wrong people. I showed it to devout Jews, and they didn't want to hear about Christ. And I knew that. I told them, "I'm not trying to sell you Christianity, believe me, but there is a visual strategy that is built into the Judeo-Christian world that is Madonna and Child." I went back to the Bellini and fastened on the folds of the drapery. You see that kind of motion in Giotto, too. A lot of that folding interests me. I was looking for movement earlier. and found it in the fish. The fish solidified my understanding of how to make architecture move. The fish form that I designed for the Walker exhibition-I cut off the tail, cut off the head, cut off everything, and you still got a sense of movement-was really powerful for me. To have been able to build that was really important. Then I made a bigger one for Jay Chiat's Hampton Drive temporary offices [1986-1988]. The scale changed there. I made it more of a room, a communal room. I think my ideas are derived more from painting than sculpture. But I'm all over the place. You know, whenever I go to a museum I fall in love with something-Botticelli's Primavera, for example—but each time I see it differently from the last time. Today I would look at the fabrics. And I would see it architecturally, whereas I never saw it that way before. When I drive I'm listening to Proust now. I read Proust thirty years ago. I slogged through it; I wasn't ready. Now I just go nuts. I play it over and over. When he describes the town, when he describes the room. when he describes the hills, the sky. Now I'm listening to Trollope-The Warden and Barchester County. I hadn't





read much of that earlier, but now I hear the descriptions of the sail. At that moment, the sail luffs—flutters. And of the parties, and they're architectural for me. I'm ready when it flutters, it has a beautiful quality that was caught to hear it. I respond to where I am and what I'm doing at in the seventeenth century by Dutch painters such as the time. You know you're given a problem, it has a con-the van de Veldes. But I didn't have the guts to do it. So text, it has a budget, it has people, and you start work- everything is tight in Disney Hall. Later, when I saw ing with it. Then I draw from things that are appropriate Sluter, it was luffing all over the place; it was very much that I relate to. Had I seen Claus Sluter [the fourteenth-like Greek drapery. It gave me courage. century Flemish sculptor) ten or fifteen years ago, it probably wouldn't have resonated.

about movement. I got into sails and the luffing of the to him. I learned a lot from Robert Irwin. I used to love sails. When you're sailing, the wind catches the sail and meeting with him. I miss meeting with him. I miss our it's very tight, and it's a beautiful shape. Then, as you times together. Even though I didn't understand half the turn, the wind is coming at you when you're going for- things he was saying, the intensity and the passion ward—the wind is actually coming at an angle. When were really exciting to be around. Claes Oldenburg and



A number of artist friends have influenced my work. Ed Moses was a big influence on my life. He was some-When I was working on Disney Hall I got excited body I learned a lot from, talked to a lot, I'm indebted you turn into the wind slightly, the wind is on both sides Coosie van Bruggen are important to me. Claes is shy and difficult to get to know on his own. I think he's brilliant. Coosje talks more, and she is catalytic to a conversation between us. Claes's work is about the figure, basically. When he did the binoculars, and he got that rolling surface and it was easy to build, I got excited.2 But I didn't necessarily take that idea from him, because I was looking at Sluter, I was looking at Vermeer, I was looking at Bellini, and at Greek sculpture. I try things on, like I used to when I was a kid. I do it all the time. I get to know it. I assimilate it, and then it comes out some other wav-translated.

> I don't talk about influences when I give lectures, because my work doesn't look as good as Sluter, or Bellini, or Vermeer. Their work is better than my regurgitations of it. That's why I say I try it on, I assimilate it, and then it comes out some other way. No one would ever say, "Oh! Sluter." when they see my work.

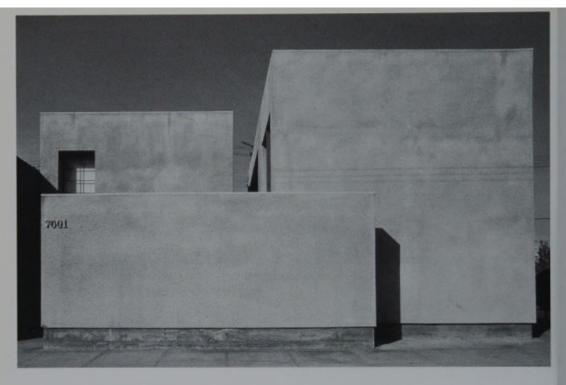
opposite left: Giovanni Bellini (1430-1516) Madonna and Child, oil on panel Galleria Borghese, Rome, Italy

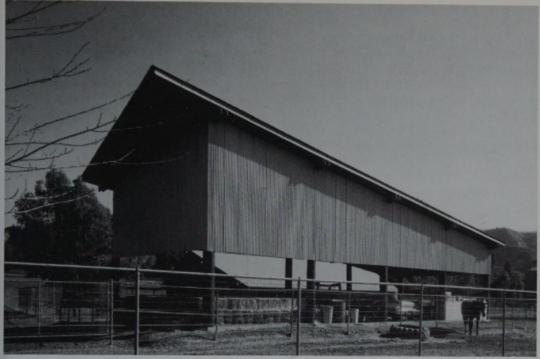
Claus Sluter (d. 1406) Mourner from the Tomb of Philip the Bold alabaster, 161/2 inches high Cleveland Museum of Art purchase from the J.H. Wade Fund; bequest of Leonard C. Hanna

opposite right: elements from design process models of the unrealized Peter Lewis Residence, 1985-1995

Claes Oldenburg in one of the two binocular conference rooms, Chiat/Day Main Street Headquarters, Venice, California, 1991

2 Oldenburg's binoculars, initially created for the Venice. Italy Il Corso del Caltello project (1984), were re-created by Claes Oldenburg, Coosje van Bruggen, and Frank Gehry for the Chiat/Day Headquarters building in Venice, California.





Danziger Studio/Residence, Hollywood, California, 1964

O'Neill Hay Barn, San Juan Capistrano, California, 1968

materials and methods. They teach materials and kind of approval for the particular plaster spraying promake the enclosure and what do you make it with?

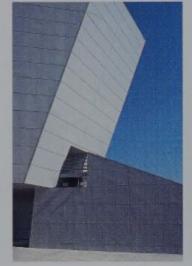
methods in architecture school, as a separate course. cess I wanted to use. The building department didn't I'm a craftsman. I took woodcraft classes when I was want us to do it. I've forgotten why. I remember they a kid, but I wasn't the greatest at it. My father had a fur-said, "Why don't you just do things the normal way?" I niture factory, and I used to help him. It seems to me was conscious from about the time I was working on that when you're doing architecture, you're building. Danziger that you had to think of the finished building. something out of something. There are the social is- So it became how you took the energy of the idea sues, there's context, and then there's how do you through the process and ended with a building that had feeling, genuine passion. The Danziger building had to From the very beginning I've been worried about the be plaster. And I wanted a raw, rough texture. I was translation of ideas through the many people involved in looking at Kahn a lot, but I was also looking at Corb. the process of making a building. They frequently drain Whatever was in my consciousness, I loved raw rough the strength and power out of an idea. In my early attempts, such as the Danziger building, we ran into trouble call it "tunnel mix." It was underneath the freeways. at the building department, because it needed some. Under the freeways they'd spray it on. So I asked the bought land, and he came to me. I made the site model,

plastering contractor to do it, and they said they couldn't; and started to play with perspective. I made it so that they didn't know how.

I told him what I was looking for. He said it sounded cause I had done the hay barn for Donna O'Neill with a great, and if I wanted to use his garage to experiment tipped-up roof. And he loved that. It was my first metal on, he wouldn't mind. I found out what the equipment building after the hay barn. I said, "This is interesting for for tunnel mix was. I went to the U-Haul and rented it, me, because I can now make a very tough sculptural mixed the plaster, and did it myself. I sprayed it on the shape." The wall and the roof became the same mategarage, and it was beautiful! Then I brought the con-rial, and we could do it in metal. That's when I started tractor down, showed him the equipment, showed him using corrugated metal. the walls, and that's how the Danziger building was made. Since then-not because of me-you can only get tunnel mix! It's a totally perverse world.

When the sculptor Ron Davis wanted a studio, he

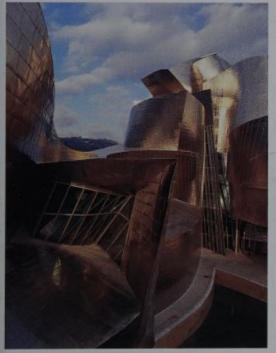
it fit the site, so that the site and the building became An artist friend was building a little studio in Venice. a sculptural entity. I remember tipping the roof up, bemetal cladding has been a hallmark of Gehry's architecture since the late 1960s, from corrugated metal to lead-coated copper to the more esoteric titanium of Bilbao











opposite: entry detail, California Aerospace Museum, Los Angeles, 1984

University of Toledo Center for the Visual Arts, 1992

detail, Frederick R. Weisman Museum, University of Minnesota, Minneapolis, 1993

facade detail, Der Neue Zollhof, Dusseldorf, Germany 1999 detail of the titanium-clad facade, Guggenheim Museum Bilbao, 1997

I used metal to make three-dimensional objects. I explored metal: how it dealt with the light in Boston on the 360 Building, and in Toledo, where I used lead copper. The lead copper in Toledo is just beautiful. It does beautiful things with the light. The first time I used the metal pillow surface was on the Aerospace Museum. The big metal piece that hangs out is pillowed. I started out to do it otherwise, but I realized that you couldn't control it flat. Flat was a fetish, and everybody was doing that. I found out that I could use metal if I didn't worry about it being flat; I could do it cheaper. It was intuitive. I just went with it. I liked it. Then when I saw it on the building, I loved it. I used it again on Irvine. And then at Herman Miller I used it even thinner. Bilbao is a lot thinner because it's titanium. You couldn't use it the same thickness as the others-wouldn't be able to afford it. We prefer titanium because it's stronger; it's an element, a pure element, and it doesn't oxidize. It stays the same forever. They give a hundred-year guarantee!

I'm interested in Pop Art. However, that's not what moves my work, even though it is often misunderstood as that. When I was using chain link, people thought that was what I was doing. But it wasn't. The chain link for me was about denial. There was so much chain link being absorbed by the culture, and there was so much denial about it. I couldn't believe it. That's the populism in my work, as opposed to the art. What's wrong with chain link? I hate it, too, but can we make it beautiful? I said, "Maybe, if you make it beautiful, if you're going to use it in huge quantities, you can use it beautifully."

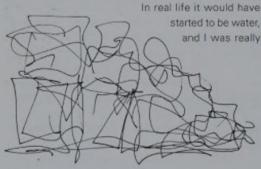
sculpture as architecture. My early work was rectilinear because you take baby steps.

I guess the work has become a kind of sculpture as architecture. It started with the Barcelona fish. And that was again intuitive. Why did I draw the fish in the first place? I did it because of the postmodern game. I said, "Okay, if you're going to go back, fish are three hundred thousand years before man, so why don't you go back to fish?" So I started drawing fish. And then they started to have a life of their own. I started to really look at fish. I began going to the library and looking at pictures of all the fish that were there, learning how the scales work. I looked at fish in ponds—the sense of movement fascinated me. The Greeks did it, and Rodin did it. I'm a strict modernist in the sense of believing in purity, that you shouldn't decorate. And yet buildings need decoration,

human scale, in my opinion. They can't just be faceless movement. It's liquid. things. That's how some modernism failed, When it was missing was human scale.

rid of, and still get the sense of movement."

to now the unbuilt Korean museum is the farthest out my opinion; in a way, it is baroque. I've gotten. It's water. I was trying to make it water. I was trying to make a waterfall in Korea, because the the new office. Our office structure and working method most beautiful parts of Korea are nature. The man-made





because they need scaling elements. They need to be excited when they stopped it. But it's another sense of

Then Jay Chiat's Telluride house goes the next step, started getting used by the developers, it became face- which is indeterminacy-you don't know what the less. It became a language that self-destructed. What forms are. In other words, every time you look at it, it's going to be different. The models are ephemeral, and The wood fish I made for the GFT people in Italy was it's like ripping a piece of paper. The ripped edge can be hokey, because it had a funny tail and fins. But when beautiful. But you can't make architecture do that. I you stood beside it and you didn't get involved with the think I'm starting to explore that seriously in Jay's details, you had a sense of movement. That's when I did house. That indeterminacy that you get when you're not the fish for the Walker show. I said, "Okay, the tail and certain what it is. The Ron Davis house is a clear trapefins are hokey, so let's cut off the head, let's cut off the zoidal shape. You can read it, and you can remember it. how do you get that into the final form? Water and crin-Even now I don't know where I'm going with it. Up kled-up paper; they're just another form of decoration in

have changed a lot in the past ten years: staffing, compart is terrible there. So I was trying to relate to nature puters, clients. It all has to do with people. Earlier, I could in Korea, and in the middle I was trying to make a wa- not get experienced managers and systems experts terfall. And I got close. There are a few places there (the Randy Jeffersons and Jim Glymphs of the world) to where it works. I was getting close in a material way. work with me, because they could be paid better in In real life it would have other places where there was more predictability for started to be water, them in their work and in their lives. People who worked and I was really here in the mid-1980s would freak out when I would redesign something, because that meant their bonus was out the window (if the client wasn't paying). That was the period when I ran into technical problems. We couldn't do working drawings for large projects; we had to farm

> When Jim Glymph joined us (in 1989) I pointed out that we drew curves like those on the Vitra Museum using descriptive geometry. I said, "I want to go into more complex shapes now." He said, "That's no problem; we'll do it with the computer." He went to the aerospace industry and had meetings and discussions about it. From those we got the CATIA program and several new people, including the computer expert Richard Smith.

> Jim developed the computer thing slowly, and that was expensive. But he does make it work for us. That's how we controlled the costs of Bilbao, and how we can do those curves now. Consequently, we have a lot of freedom. I can play with shapes. When I create the curved shapes on all the little models, we have a gadget that digitizes them. It's becoming quicker and quicker. With our new equipment, shapes can be transferred to







sketch for the unrealized Samsung Museum of Modern Art, Seoul, Korea, 1995

CATIA shaded surface study. Telluride Residence, 1998

three views of the office taken in February, 1999

the computer in fifteen minutes, and now we know how and then he works with the contractors. Randy is difmuch it's going to cost per square foot to build those ferent. He knows how to organize the projects. So beshapes, because we've had the necessary experience. tween them, it's a miracle. We're the only firm in the Now we can budget jobs in the earliest design phases. world doing what we're doing, and I think we're on the Also, we know that if we use flat materials it's relatively verge of revolutionizing the way architecture is praccheap; when we use single curved materials it's a little ticed. Jim is starting to write software that other people more expensive; and it's most expensive when we warp will be able to use. I told them to go ahead and do it. materials. So we can rationalize all these shapes in the They're meeting with the lawyers and the accountants. computer and make a judgment about the quantity of live provided them with all the legal stuff. And I don't each shape to be used. It's not possible to know this by even understand it. You know it's not for me to do that. looking at the completed building. The most important They're doing it. I'm going to stick to my thing. If they thing is that the computer gives us a tool we can use to make a lot of money, that's fine. I may become the Bill communicate with the contractors.

Because we can figure the cost, the subcontractors wouldn't push into, because we're afraid to do it! But lead it. Nobody else does it yet. But they will. there's a lot more flexibility out there than we realized.

though he had heard me.

When I saw it, I couldn't believe it. Jim figures it all out, You know you can afford it.

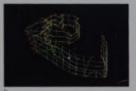
Gates of architecture!

The new computer and management system allows are starting to trust us. We have a whole group of peo- us to unite all the players—the contractor, the engineer, ple who know we mean it. At first, when they saw it, the architect—with one modeling system, It's the masthey thought we were crazy, and they said, "The client's ter builder principle. I think it makes the architect more not going to let you do it anyway, so why should we take the parent and the contractor more the child-the reit seriously?" Now they believe in it, and they want to be verse of the twentieth-century system. It's interesting part of it. We have a large group of contractors in Europe because you wouldn't think that would happen with and America who will work with us now. In the last few something as technical as the computer but, in fact, it years we've been pushing the frontiers that we normally has. And you wouldn't think an office like ours would

In Europe there's a person called the metteur who When Bilbao came in we needed a great manager. takes off the quantities of a building. We don't need him Jim Glymph was here, but he isn't managerial. He's a any more. The computer does that in an instant. So as technical genius. I thought we should look in the office we are designing the building, we have an instant metand see if there was anybody we could grow into the teur that takes off as we go. Consequently, I'm designposition, but I said, "What I'd really like is Randy Jeffer- ing with specific conditions and I don't go out of bounds. son." (I had been working with Randy on a house. He Because you know, when you design without knowing was Managing Partner of Langdon-Wilson, a big firm in the boundaries, you find a form and you become enamdowntown L.A.) Randy came by three days later, as ored with it. It crystallizes. It's a fixed image. It's really hard once it's a fixed image to go back and cut, cut, cut. Jim Glymph and Randy Jefferson have made the But if you're cutting as you go, you don't get fixed until computer work for us. Bilbao looks like my drawings. you know you can do it. When you're fixed, you're fixed,

Since we discovered the CATIA software program project designers. I need to have help, I can't do it all we've worked with Dassault Systèmes in France, who myself. I've learned over the years how to assign work, makes it. In the last few years they've been working how to get them going. Each person you work with is on making the system fit our way of working. So they different, a different personality. They're not cookie cutnow have a new enhanced CATIA that they're going to ters. If you try to make them the same, you destroy the install here, which backs us up even more and allows us dynamics of it. So it's more fun for me to play with their to control the architectural processes to within seven strengths and weaknesses. When I'm working on a















decimal points of accuracy. That's what I like about it. They're tuned in to understanding that this can change the way architecture is practiced and can make new buildings possible-more exciting sculptural shapes in the landscape instead of just plain boxes. So they're excited about that. I told them that I'm going to be perverse now and start doing boxes.

Bernard Charles, the President of Dassault Systèmes, has said that the way we're working has changed their way of thinking about their system, which is now having an impact on the way planes are designed. We're actually helping them in the aircraft and automobile industries.



the CATIA process demonstrated in a series of images of the Guggenheim Museum Bilbao

bernard charles: There are many reasons we're interested in Gehry. is doing, the kind of architecture, the emotion he puts into it, when you look at it, you realize it hasn't been done before. Whether you like it or not is irrelevant. There is artistic power in the shapes. It's like the body. Today, what is new is not only that, it is the fact that he tries to be affordable. Planes and cars have a different logic to measure. For a plane, the measure a shape, and if it's going to be ex-

is the cost of flying the plane. So it's related to the serodynamics For one: When you see what Frank constraint and all those kinds of things. But in Frank's case, when he decided to use a certain type of steel he said. "This is the material I want." He is basically creating a shape, but he also has in mind the material he wants. He is saying to us, "Help me make sure that when tell the computer, "Allow me this I am going to create those shapes, degree of freedom for what I I can still use this material." At the end of the day, he has made

tremely costly to produce because it's too expensive to bend, or because you have to stretch it, he is not going to be able to make it.

The computer is programmed in such a way that it knows what stainless steel can do. It knows what titanium can do, or what some other metal can do. You can even can do with the material before it breaks," and the computer will tell of paper? you, "Oh, be careful here; you are

going too far. This material will not resist or will not be akay for this shape." So you get interactive feedback. I believe no matter what shapes Frank can think of, with this process we can represent them. The dream that I have is to create the reality before it exists. And the other point is, as we all live in four dimensions-space and time-why should we restrict ourselves to working on a piece

- a CATIA engineer tracing model for digital input
- b digitized points form basis for 3D computer model
- c surface model is created from digitized points
- d shaded surface model is created
- e CNC fabricated milled model is made to verify accuracy of 3D computer model
- f primary structure for building is created
- g secondary structure is created
- h cladding pattern and 2D drawings are created from 3D computer model
- i finished building





seconds he makes something look real. They're differing. They're my key designers right now. ent, so I work differently with each of them.

Edwin is younger and he'll jump off a cliff without women in the office. Women in architecture schools He has been here eleven or twelve years now, and he's why. I talk about it in the office. not afraid of me. He's respectful, but he's not overly respectful. He has his own mind. Craig Webb was at bright, and very good. Eva Sobesky, who has been with Princeton. Craig is older, more experienced. When he us for a long time, is very bright and is working out really draws something, it looks real. It's a trap for me some- well. And then there is Michelle Kaufmann, who is worktimes; because he's so facile the project looks resolved, ing on Condé Nast and the Coca Cola Museum. Now we Edwin does not have the technical background, so when have five or six very promising women who can handle he draws an idea it is not resolved. When Craig does it project management and design, I am encouraged. And it's buildable all of a sudden, and real; he'll take my I think a lot of it happens because of Berta, because sketches and play with them. Craig is overly respectful. Berta does her anthropological stuff in the office. She



project with Craig Webb, it's different from when I'm of me. He always thinks everything is going to go wrong. working on a project with Edwin Chan. If I give Edwin He's one of those guys who is sure that people aren't Chan a little sketch, he'll take it to the moon. By the time going to like something, or the budget is going to come I get there, he's doubled the budget. And he doesn't in too high and the project's not going to get done. He's care. He says, "Don't bother me with that kind of stuff," kind of a gloom-and-doom guy. Whereas Edwin's always Craig Webb, on the other hand, is so facile that in thirty up, always optimistic, always looking up, always smil-

knowing it, and he tends to push things, which I love, are about fifty-fifty to men now. When I was a student it because it pushes me. He was trained at Harvard. At the was about ten percent. Now I see a lot of women with beginning he was very quiet and never talked, but now real talent, raw talent, good talent. And you don't see he talks, and if he doesn't like something, he says so. them coming up in other offices, and I've wondered

Eisenman sent me Rachel Allen, who is very, very

helps them. The women go to Berta, and talk to her. So recent model (we make many as a project evolves) Paul I think I see hope.

contractors and architectural practice. The American But I know that this is not an arbitrary effort. You did this legal system, the insurance system, and the tradition of for reasons I don't understand." So he invited me to exthe architect-client-contractor relationship are based on plain it to him, and I did. That's what happens more or less a bunch of phony assumptions. After the architect de- in every client confrontation. They think I'm doing four difsigns the building and does the drawings, he rises from ferent schemes. "I like the first one, the second one, I the floor five feet and becomes the holier-than-thou ar- liked the third one—now you're doing it again?" So they biter between the client and the contractor. That's the think you're pulling the carpet out. Some clients don't unassumption of the old system. What really happens is derstand the process. What I'm telling them is, "I'm that the contractor goes to the owner and says, "If you bringing you into my process. Watch it, get involved, unstraighten this wall out, I can save you a million dollars," derstand that I'm not stopping here." When I present this and the client says, "Wow!" And sometimes he does it. to them I explain where I'm going in words that human The contractors, because of their relationship to the beings can understand. I don't know where I'm going. I money, become parental in the equation, and the archi-just explain the issues. Is it better not to do that? Is it bettect becomes the child—the creative one. "Here comes ter to come in at the end, and say, "This is it?" If the client the creative one again; watch out."

The computer changes the system. We show the client buys in, you're home contractor the computer system and we show him a free, because then no matwall, built like the most difficult piece of the design. We ter what happens the client also give him a disk that says "give this to the stone- will go along with you. My cutter. We want 1,700 pieces of stone double curved, success has been that, and 800,000 single curved, and 800,000 flat of this size." it makes for better buildings. And the stonecutter says, "Oh, that's not a problem." He takes a look and says, "Flat is one dollar, single curve" of the economy and the demand for construction. That's is two dollars, double curve is ten dollars," multiply that why we have to change the way architecture is pracby the areas we give him, and he is happy. In fact we're ticed, because architects take the blame for the mardoing a lot of the contractor's work. They're happy. They ket's ups and downs. If things go up and there's inflasmile. They like it. Now the problem is the insurance tion, and you're working on a building, then the client companies. This being a system of legal responsibility, will blame the architect. He's got to blame somebody, the lawyers say, "Wait a minute, you're opening your- and so the architects are at fault. That's why this system self to all kinds of lawsuits." And the insurance com- that we're using is a lot clearer, because we can tell pany says, "Wait a minute, you're doing something dif-them, "Okay, you want to take 10 percent out? This is ferent. We don't know how to insure this if you're going what you get-a box-for 10 percent less. You can have to take more responsibility." So it's complicated. But this building with architecture, but if you don't want it, we're doing it anyway. We have insurance, but the cogs don't quite fit yet.

clients. I haven't been doing much developer work in America, because American developers are afraid of all the complications. But we're doing buildings in Germany for developers. The European client is more sophisticated than the American. It's tradition-the European tradition for architecture.

Working with the clients for the Experience Music Project in Seattle has been fascinating. Looking at a Allen said, "I don't know how you got from there to here.3 I don't like here because it's not like what I liked. doesn't feel married to the project, you're dead. If the



Architects are at the mercy of all the ups and downs

3 Paul Allen, co-founder of Microsoft, is the client for the EMP, and one of Seattle's most beneficent citizens.

Craig Webb, Edwin Chan, Frank Gehry in conversation with their design teams, May 1999

design process model of the Experience Music Project, Seattle, Washington, 1995

choice. And we tell them before it's too late.

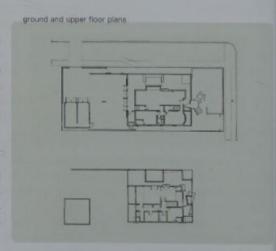
ally start asking for extras and jack up the price. That's hated or laughed at, was the magic. what they usually do. But we are so accurate with the of accuracy. It's that clean. It's really precise.

bitious. He made the fish in Barcelona and later the skin guage. I just didn't have enough money to do it. on Bilbao. He's a curtain wall expert. Jim Glymph and he struck up a good relationship, and we converted him to CATIA. We talk to each other by modern. He's starting a plant over here, so he may start doing more of our work. He is building the Condé Nast cafeteria in New York. He'll put it on a boat, no problem. He'll build all the titanium, everything that has shape to it that has to be prefabricated. And it's cheaper to have him do it and ship it in than to do it in New York. The problem occurs when it has to be put together. That's where we get hurt in the millions. He will put it together, but we have to hire people in New York to stand by. They won't do anything. They'll just stand there and get paid for watching.

changing our house. I'm kind of a realist. I don't hold anything that precious. Life is life, and we need to move on. The only thing I had trouble with was our housechanging it. I mean, that was a real scare, because whatever I did the first go-around couldn't be quantified.

take away the architecture and build it yourself." The couldn't be talked about. I couldn't say, "This is what I building is all set. We just don't want our name on it. You was trying to do, and this is what I did." I started out to have an efficient building and it functions; you have a do something, and then I followed the end of my nose. The influences were from Joseph Cornell to Ed Moses Now, most architects pretend that there's no prob- to Bob Rauschenberg. I gathered up the visual knowllem and they get the client "a little bit pregnant," and edge to make the moves I did. When Arthur Drexler 4 then it's too late, and then they get blamed, and the profession gets blamed for being a bunch of flakes. When was a joke. Berta told me afterward that he asked if the you get a bid from a contractor, you can tell with our syspeeling paint was intentional. That's what was strong tem whether or not it's an accurate bid if the drawings about it. What he was laughing about was what made it. are complete. You have a legal document. If somebody You were never sure what was intentional and what bids \$100 million on a job, and it's going to cost them wasn't. It looked in process. You weren't sure whether \$120 million, if the drawings are very complete, he loses I meant it or not. There was something magical about \$20 million. If the drawings aren't complete, he can re- the house. And I knew that the thing a lot of people

Now twenty years have passed. Sami's grown up. computer that they don't have any wiggle room, be- When I did the first one, only Alejo was here; then came cause we give them quantities, to seven decimal points Sami. I decided on a nice room for Alejo and a nice room for Sami, and I started to do that, and it unraveled. 5 1 But still, when they bid, instead of saying "it's going couldn't be what I was twenty years earlier. I couldn't. to cost \$10 to build this," they can say \$20, and you I wanted the lap pool, and I wanted to make the garage can't really prove they're wrong. But there are some a guesthouse for my daughters. So I started doing it, contractors we trust, for example, Massimo Colomban's and I lost the old house! So it's caught in the middle, It's company Permasteelisa, in Treviso, Italy. Colomban is an a hybrid. And I know I lost the old one. I know this isn't engineer in his forties. He bought the company that built as good. The new house is every bit as comfortable as the Sydney Opera House. He builds curtain walls for the old one, more comfortable. But it lost that edge, I I.M. Pei, for Norman Foster, all over the world. He's am- could catch that freshness again with this new lan-





- 4 Arthur Drexler was Director of the Department of Architecture and Design at The Museum of Modern Art in New York from 1956 to 1987
- 5 Gehry has two sons, Alejo and Sami, with his wife Berta, and two daughters, Brins and Leslie, from his first marriage.

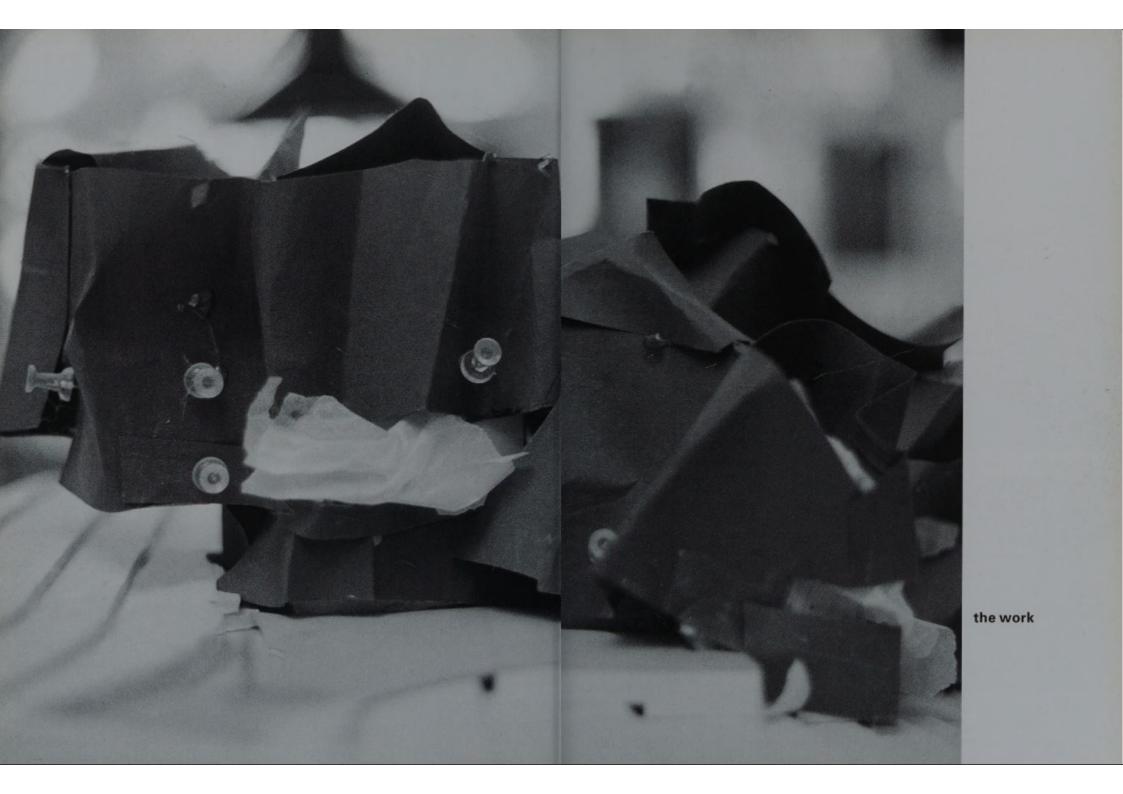
front entrance of the original Gehry House, 1978

west facade of the renovated Gehry House, Santa Monica, California, 1992

the north façade of the renovated Gehry House with partial view of the garden and the kitchen window, 1992







# chiat/day main street headquarters 1985-1991

Venice, California

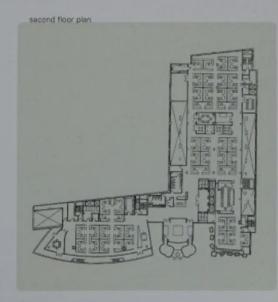
I owned the property where the project now stands. Fred Weisman, Greg Walsh, and I bought it together as partners. We were going to convert the old Gas Company building into a museum, and then build studios for artists and commercial properties to pay for it. The people we bought it from owned the property on either side, and when they saw our plan they wanted to go in with us. So they were going to include their property in this thing, and we were going to do the whole thing as one piece. But the Coastal Commission and the Venice community turned down our plan. They didn't want artists' studios. They wanted low-cost housing. It was a movement in Venice and Santa Monica led by Tom Hayden. We were really shot down by the community, really abused. It was absurd. So when we lost that, Fred lost interest; he didn't want to do it. So we sold the Gas Company building. We were left with an L-shaped parcel, and we now had it for free, because what we sold the building for paid for the rest. So now Fred, Greg, and I were partners on a piece of property, and the Coastal Commission wouldn't let us do anything with it. I wanted to build small shops. Everything we came in with got killed. It was high profile stuff, and they were out to get us. We couldn't sell it. Fred wanted to take it over, and I didn't want to give it up. It was the only thing I owned that was worth anything. He suggested that I should buy it from him. I had to come up with the money, so I traded all my art for the land.

During that time I was doing the Wosk House (1982–1984), and Miriam invited us to the Hollywood Bowl to hear the Israel Philharmonic. She had a friend with her, Jay Chiat, whom I had never met. We talked, and he told me that he was looking for land. He wanted to move his offices. He said he wanted to build, and he was looking for an architect; would I consider doing it? I said, "Sure." I asked him where in Venice he was looking. It didn't occur to me to tell him about my property. Because he asked me to do a building, I felt, "I can't hustle him to sell my land." I thought, that's too much. So I said, "Call me when you get a piece of land, and I'll go look at it with you." So a few weeks passed and he called me, and he said, "You know, the realtor tells me you own a prime piece of land, and it's perfect for what we want. Why didn't you tell me?" I said, "Because..." Anyway, long story short, he bought it from Greg and me.

By now, the political climate had changed and we were able to go ahead with a building. When they started digging, they discovered toxic waste, and it delayed everything for more than two years.

We started with a three-piece structure, and I was working very hard designing each piece as a separate element. I had sketched ideas of what it would be, but they





were just vague sketches. I had designed brick turrets. I had an idea for a brick castle with turrets in the middle. I had the two sides pretty well started, then Jay got impatient and said, "What are you going to do in the middle?" I had a little box with a pin cushion stuck on it that looked like a train coming out at you. He said, "You're not going to do that, are you?" I said, "No." I had the little binoculars of Claes Oldenburg on my desk, the red ones that we'd used in the Venice performance piece, *Il Corso del Coltello*, in 1984. Jay kept pushing me and they were within reach. I took them and put them there. I said, "Okay, it's something like this." He said, "Would he do it?" I asked, "What do you mean, would he do it?" He said, "Would Claes do it?" I said, "I don't think so. They are very fussy about context, so I don't know."

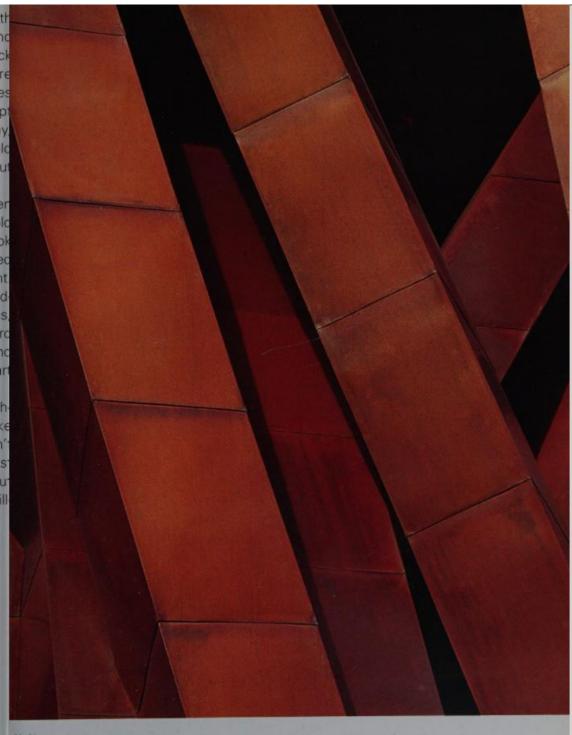
We had been working together on Camp Good Times, and Claes and Coosje had been juxtaposing objects, and the binoculars were something we'd worked on together. I told Claes what happened, and I said, "I'll understand if you don't want to do it, but just look at it." So we sent all the pictures to Claes and Coosje, and they loved it. Then they started working on it, and made it beautiful. I got into it as part of the building. It seemed so right I helped them with the construction of it, how to do it, and got it built as part of the building. At that time there were many symposiums about art and architecture collaborations, and nobody was really doing anything. So this looked pretty interesting to me. I had heard the public artist Siah Armajani talking about how artists are always in the background, and I thought it would be interesting to see what would happen if an artist were really a part of the building process.

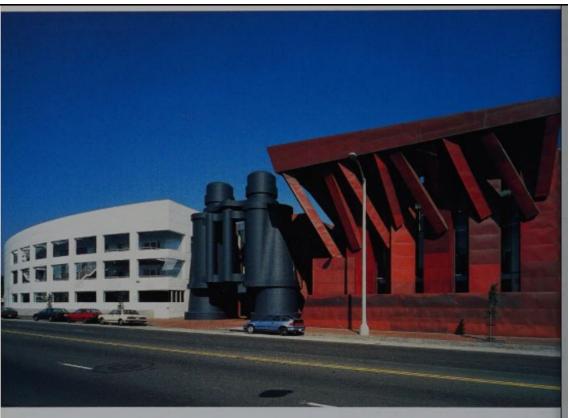
We had all the interiors designed by ten artists. We had Kenny Price doing the bathrooms and Billy Al Bengston doing the carpets. It was going to be a major thing. Mike
Kelly did two conference rooms. But Jay had to cut back, and he told me, "Look, I can't
do it." So the interiors are not what they were going to be. They straightened up and just
shriveled up. That happens a lot. We've tried a couple of things with artists since, but
none has worked out. The client has to want to do it. It's an expensive thing. Jay was will
ing. He was a great client.

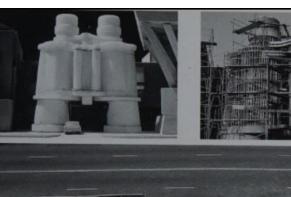
6 Fred Weisman, now deceased, was a well-known art collector and long time Gehry client; Greg Welsh is an architect who practiced with Gehry for many years.

7 Camp Good Times, an unrealized project, was a collaboration between Claes Oldenburg, Coosje van Bruggen, and Frank Gehry for a summer camp for children with cancer, to be located in the Santa Monica hills. previous page: detail of the binocular façade

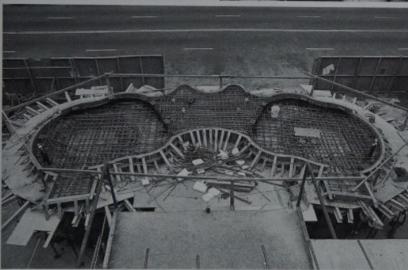
opposite: copper clad-columns and beams on the Main Street façade











The 75,000-square-foot, three-story office building has three levels of parking below grade, entered through the Oldenburg/van Bruggen binoculars, which are also the main entrance to the building's ground floor. The binoculars, which contain conference rooms on two levels, are the building's central element, surrounded on one side by a curved stucco screen facade and on the other by copper-clad columns and tilted beams. Both exterior walls are designed to provide shade from the afternoon sun. The interior office spaces are lined with built-in plywood work areas.

opposite: entrance facade on Main Street

binocular design process models and binoculars under construction client: Chiat/Day Advertising

project principals: Frank O, Gehry, design partner David Denton, project partner C, Gregory Walsh, project design Claes Oldenburg, Coosje van Bruggen, binocular design Craig Webb, Clive Wilkinson, project architects

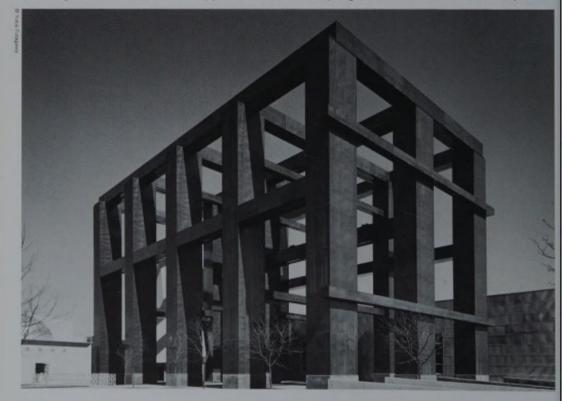
**project team:** Alan Au, Gerhard Auernhammer, Perry Blake, Thomas Duley, Anne Greenwald, Robert Hale, Victoria Jenkins, Alex Mecom

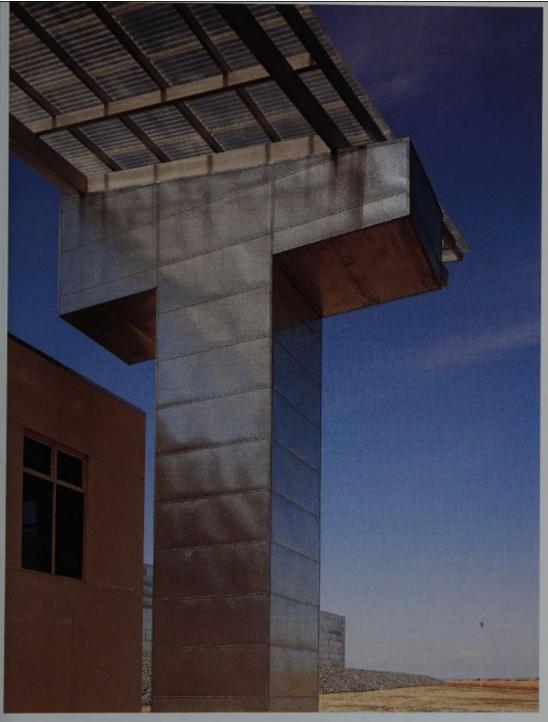
# herman miller, inc. western regional manufacturing and distribution facility 1987–1989

Rocklin, California

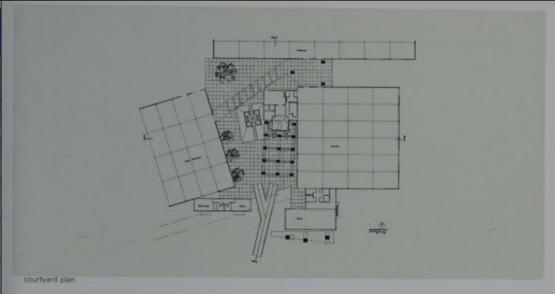
A long time ago, Max and D.J. DePree interviewed and hired us.® They asked us to associate with a local architect, which we did, and we liked them. We went through studies to do the ultimate assembly line computerized factory. We had a lot of meetings and we were working on a factory with a manufacturing system. Then, all of a sudden they decided that was not what they were going to do; they were going to build more of a warehouse facility. They were going to have production, but it was going to be assembly rather than major production, and they wanted "people places." §

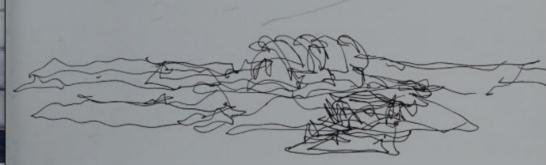
They made a big deal about the people places. But in all the buildings they showed us, the people places never were built because they ran out of money. The reason they ran out of money was that the architects would spend so much on the high-tech skin of the factory that the people places were cut. So I was determined to do both. And that's when I called Stanley Tigerman and invited him to design a little theater, a simple building. With that and the copper-clad, trellislike pergola, we created an urban place.











Herman Miller's western plant is located near Sacramento, on a 156-acre site. Separate warehouse, assembly, and processing buildings, each about 100,000 square feet, are sheathed in flat galvanized steel siding and are functionally indeterminate to accommodate changing needs. In addition there is a 14,000-square-foot common space topped by a copper-clad pergola—a gathering place for employees that includes kitchen, lunchroom, meeting areas, and an audio-visual room designed by Stanley Tigerman. Tigerman's small neoclassical, silver-domed building sits in the public piazza—an odd though friendly neighbor to Gehry's dramatic volumes arranged along a rock-covered berm.



pages 64-65: view of the copper-clad pergola and detail of the galvanized steel-clad arcade

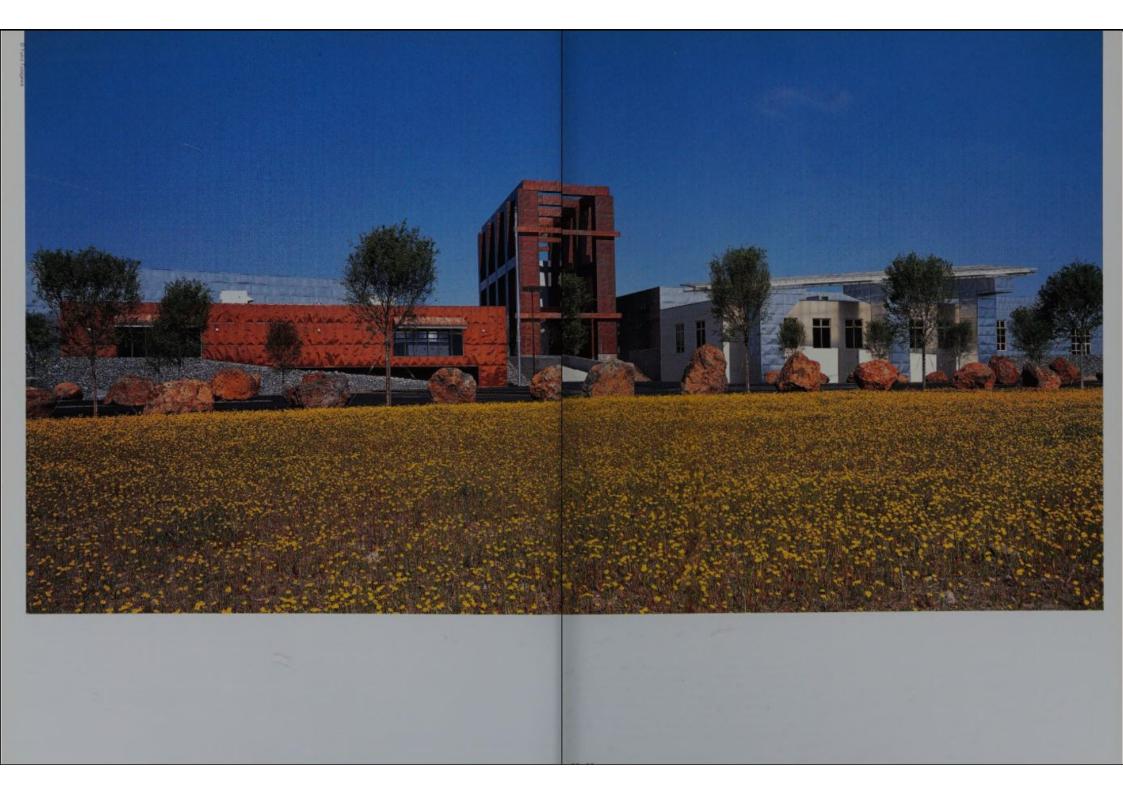
opposite: steel-clad arcade

opposite bottom: view of employee cafeteria within pergola 8 DePree family members were the owners and officers of the Herman Miller company in its early, most creative years.

9 The company uses the Scanlon Plan, which involves a number of humanistic programs for its employees, and a share in company profits. client: Herman Miller, Inc.

project principals: Frank O. Gehry, design partner Robert Hale, project partner Sharon Williams, project architect Tom Buresh, project designer

project team: Edwin Chan, Susan Narduli, Patricia Owen, Berthold Penkhues, Caroll Stockard



## team disneyland administration building 1987-1996

Anaheim, California

I love it from the freeway. Eight hundred feet of green stainless steel. We didn't do the inside except the stairway and the elevators. The challenge was to acknowledge the character of the client without succumbing to Disney cuteness.<sup>10</sup>

They didn't want to build it because it wasn't an income producer. It was just for their offices. So they didn't want to spend the money on back-of-house offices. They didn't need it as they were renting space all over the place. But the pressure on them to consolidate became pretty big. They delayed it for three or four years. Finally they said, "Go," and we built it for sixty dollars a square foot. It was very cheap. I don't think you could ever do it again. But it's a very efficient building.

The building was to be the most efficient building we could make. They gave me the freeway location. I really questioned being there, because they're building a second gate, and I thought that was the first place on the freeway where you could look into the site, and if we had been there, I would have opened a path and made a big deal about the second gate. But they didn't do that. So then I decided to make a freeway building that you would see going sixty miles an hour. It moves with you, and there's some sound with the cowcatcher base on the freeway side. On the other side, the building is open to Disneyland.

I was just starting to make curving shapes then. And at the point we were doing it, we thought Disney Hall wasn't going to be built. Just as Disney Hall folded, we were redesigning that exterior, so it was normal to use those shapes. That's why it's such a shame that they did nothing on the inside. The shapes came out beautifully. I love them.

A drawing of Goofy was blown up and laid onto an elevation of the stairwell. It's on different pieces of the pre-cast stair, so it appears to be segmented. We did the elevators, too, and they're a variety of exotic marbles. Then from then on they wouldn't let us do anything inside. They did the same thing to Arata Isozaki in Florida. It is the same program. They didn't let him do the interiors either.

from then on they wouldn't let us do anything inside. They did the same thing to Arata Isozaki in Florida. It is the same program. They didn't let him do the interiors either.

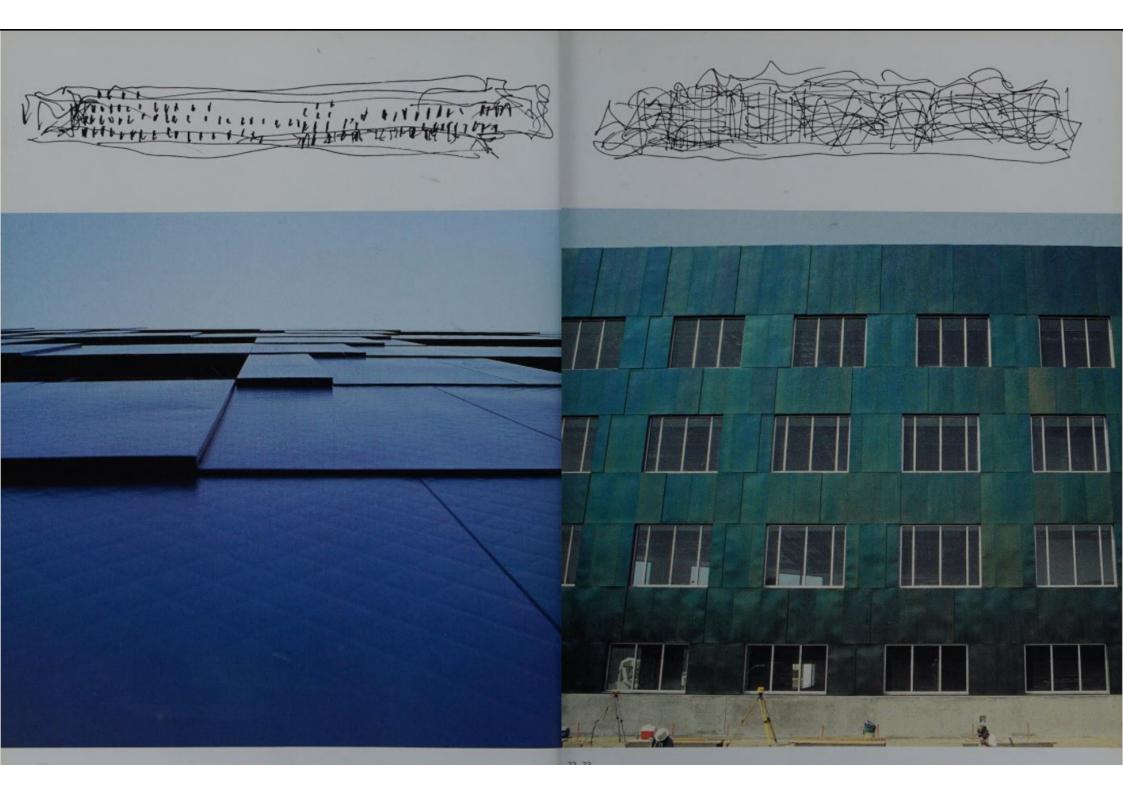


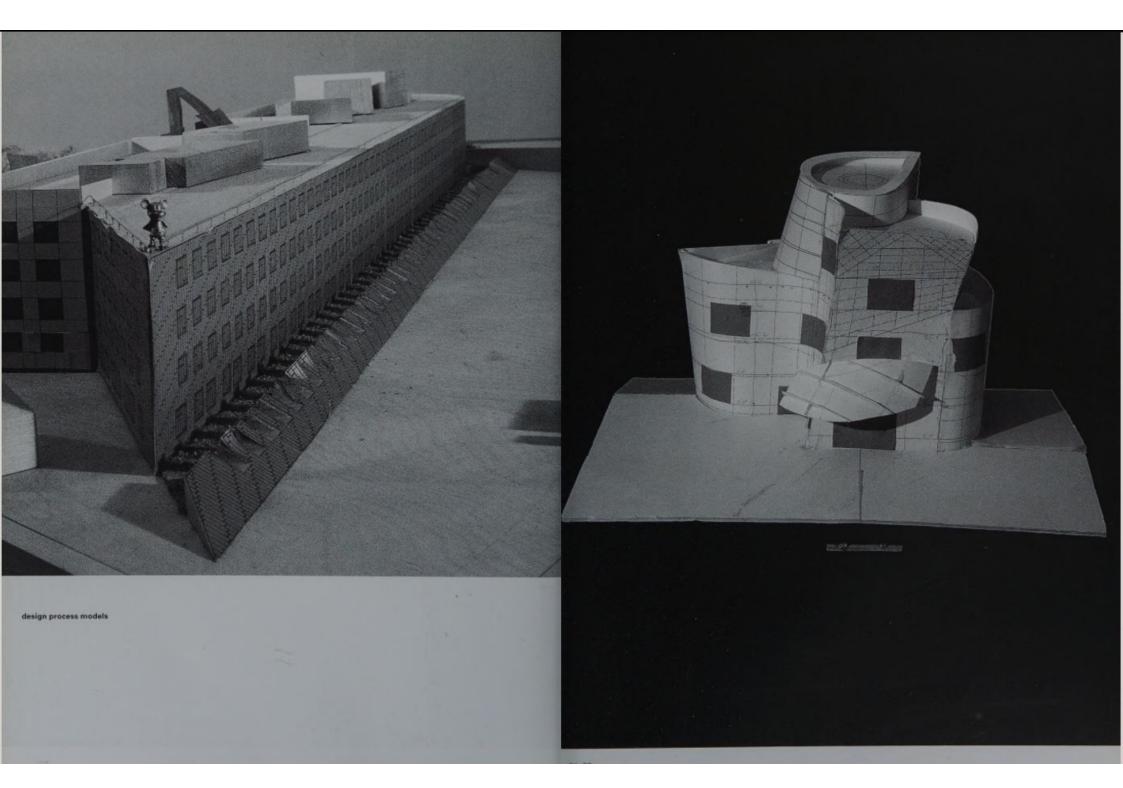


ground floor plan 10 From Architecture, July 1996.

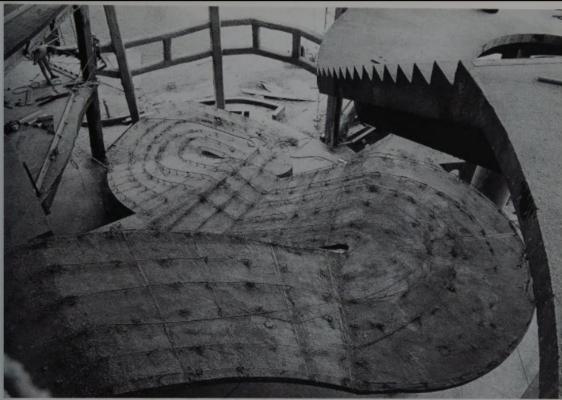
entry facade on the park side, painted stucco

quilted stainless-steel panels









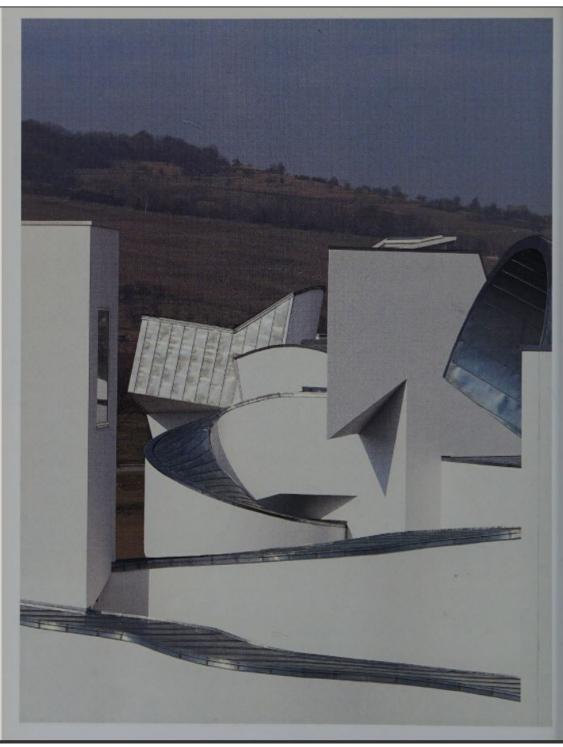
opposite: view of the lobby stairway with segmented painted image of Goofy

lobby stairway under construction

client: Disney Development Company

project principals: Frank O. Gehry, design partner Randy Jefferson, project partner Bruce Biesman-Simons, project architect Edwin Chan, project designer

project team: Kevin Daly, Jonathan Davis, Jim Dayton, David Gastrau, Robert Hale, Patricia McCaul, Michael Resnic, Todd Spiegel, Randall Stout, Lisa Towning, C. Gregory Walsh, Tim Williams



### vitra furniture museum and factory 1987–1989

Weil am Rhein, Germany

For several years, Rolf Fehlbaum (CEO of Vitra) wrote asking me to design a chair for him. I never answered him, because I didn't know how to go to Switzerland and design a chair. So I just put the letters in my "To Do" file. Over time they piled up. Then I got a call from Claes Oldenburg and Coosje van Bruggen; they were doing a sculpture for him. And they asked me to come and meet him, because they liked him, and they thought we'd get along, and I should do a chair for him. I told Claes that for me to do a chair I'd need to set up a little shop and have all my stuff, and I can't do it. Anyway, I was in New York once having dinner with Claes and Coosje, and they snuck in Fehlbaum. We met, and then he asked me to do the chair and I told him the same thing. It's like all these shows and things, I just say, "Yes, yes, maybe someday," and then I never do it. Later, Claes and Coosje and I were in Milan, doing a class at the Polytechnique. Claes was installing the *Tool-Gate* and I went with them up to Vitra.

I got to know Rolf a little bit, and then several months passed and he called me. He said he was going to build a furniture museum. The *Tool-Gate* was a present for his father's birthday, and the museum was going to be a present for his mother. It was a tiny little workshop kind of museum he had in mind for exhibits of special chairs. He only had 200 chairs in the collection when we started. He thought he needed one room for a rotating collection, and then he'd have a room where he'd hold interior systems symposiums, so he wanted two galleries.

I told him I couldn't do it from Los Angeles because the project was too small, and the fees would be outlandish for him—I thought he should get a local architect. He said, "We're going to build a big factory with it." I said, "Well, if you can see your way clear to letting me design the whole thing. The factory can be just a box, but it would work." He liked that idea, so we did the factory.

He had a lot of pleasure with the design of the museum, and it became exuberant. He felt that people going into the factory would be shortchanged if they didn't

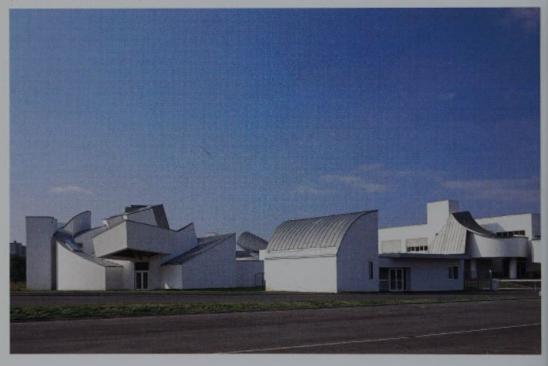
have a nice entrance. So the sculptural entrances to the factory started to happen, and I started playing with something that I was interested in, which was the urban quality that I could create out in the field, the urban quality between the museum and those entrances.

I was also interested in the play between my building and Nicholas Grimshaw's earlier high-tech



factory, and I didn't want to preempt Grimshaw's high-techness. I thought it was good that he maintained that, and that I should either go way out forward or, well, I didn't have the money to go way out forward with the factory, so I just cut big holes in the walls, and it looked like an old-fashioned factory. When it was built, the factory part looked like it was there before Grimshaw's.

Many years later Rolf asked me to do the next factory, and I suggested Alvaro Siza do it, which he did. (That was after Zaha Hadid's firehouse was built.) And Siza, without telling anybody, did a brick factory, so his looks like it was done before mine. He was consciously doing it without saying it to us. It really works. When you go there you think, Siza, Gehry, and then Grimshaw.







view of museum's main entrance

opposite: installation views

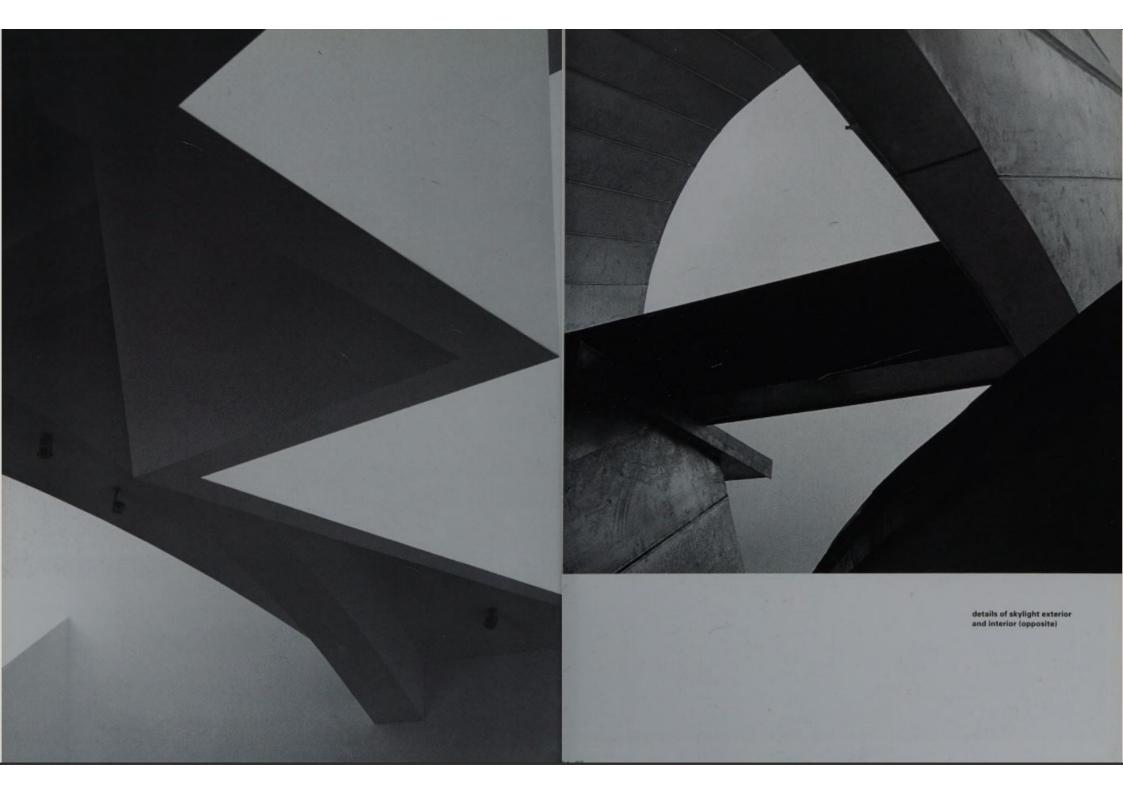
previous page: roofscape (left) and the factory (right) Located in a rural area just across the border from Basel, Gehry's Vitra Museum and an adjacent factory are his first realized European projects. The museum is a unique work of art whose stunning, light-filled spaces serve a growing collection of industrially produced chairs and an expanding exhibition program. Undoubtedly inspired by two nearby landmarks, Rudolf Steiner's Goetheanum and Le Corbusier's Ronchamp pilgrimage chapel, Gehry has created a series of white plaster galleries, each with a distinctive spatial character. The building's white exterior is plaster over masonry with zinc roof panels.

client: Rolf Fehlbaum, Vitra International, Ltd.

project principals: Frank O. Gehry, design partner Robert Hale, project partner C. Gregory Walsh, project designer Berthold Penkhues and Liza Hansen, project architects

project team: Christopher Joseph Bonura, Edwin Chan





### vitra international headquarters 1988-1994

Birsfelden, Switzerland

This is a place not only for administrative offices, it is also for people who come to see furniture displays. Rolf Fehlbaum also wanted us to explore what the office of the future might be.

I did a lot of research on the office of the future, agonized about it, and gathered information. One day I was walking through the offices in the factory building we designed for Vitra, and I happened on a little room. I looked in; it was just beautiful, it was elegant—a table and a few things on the wall. I said, "You know, Rolf, with all this stuff about what an office should be, look, here's a guy who lives in his office; it's comfortable; there's something nice about it." And Rolf started laughing. It was Charles Eames's own office."

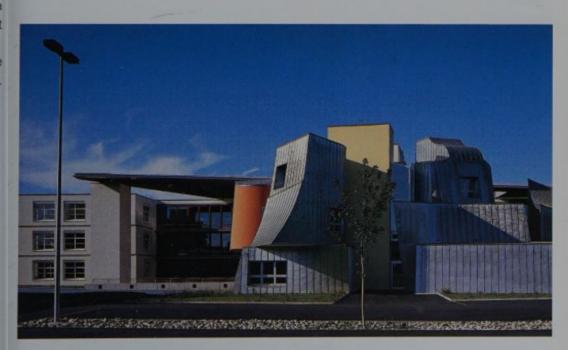
So I had to make an office building and a conference center. I made the conference center with a café. The entry building was the sculpture. The office building was much simpler. That way the clients who came wouldn't say, "Well, look, your furniture looks great in this funny sculptural thing, but we have ordinary buildings." We didn't want to do that. So we made a bar building, and the sculpture sits in it, is kind of embraced by it, and the master plan has to have another bar building eventually. Then we made a basement, and the basement offended me there, so I opened it up and he rented out the basement, and it made a big difference in the economics of the building for him.

We've never done a chair for him. I don't know why. You can't trust me. I really love the Vitra Headquarters Building. I've painted the asphalt blue in front of the entrance. I call it the company swimming pool.

11 Vitra has manufactured Earnes furniture in parinership with Herman Miller for many years, after Ray Earnes's death the company purchased the contents of the Earneses' Venice office, including Charles's office furnishings. The Earneses' archives were left to the Library of Congress.

opposite: view of villa (right) and office (left)















Robert Hale, project partner
Vince Snyder, project designer/architect

project team: James Glymph, Liza Hansen, Peter Locke, Eva Sobesky, David Stein, Randall Stout, Laurence Tighe, Dane Twichell, Brian Yoo Just outside of Basel, Vitra's 62,000-square-foot headquarters building is Gebry's addition to a planned development that includes two earlier structures. The headquarters office block includes areas in which demonstrations of new products take place, both traditional office furnishings and so-called office landscapes. The sculptural half of the building, called "the villa," is designed to fit comfortably with the homes nearby. The structural materials are similar to those at the Vitra Museum, and the two parts of the building are tied together via an undulating metal roof.

conference rooms

opposite: villa exterior detail



## bentwood furniture 1989-1992



I loved doing the bentwood furniture—having the little shop and playing with it. But nobody wants to do that now. Marshall Cogan, who was running Knoll then, did. When he came to ask me to do the furniture, he said, "We'd like you to design a chair for Knoll," and I said, "It's really nice of you." But I said, "It's not going to happen." Then he

said, "Why?" I said, "Well, the only way I can work is if I have a little shop and I can go there on my coffee break and I can play for an hour, and I do it every day, and at the end of two weeks you have something." He said, "Okay, rent the space, do it." Within six weeks I had the idea.

Cross Check is not the best chair. 14 I did one like it that's better, without the solid seat. But they never built it because I finished it a week after production started, and they wouldn't add it. I did a bunch of others. Lots of better ones. The principle of all of this was bushel baskets. The idea of making a table out of baskets was not very sensible, but they insisted I have a table, so I made one.

Making furniture is about production techniques. I always have to invent the whole production process, as I did for the cardboard furniture. For Knoll, too, we had to invent the whole thing. And once it got started, none of what we wanted to do passed all the rules and standards. Some of it was practical and some of it wasn't. But my sense was that we were going to make a big sheet of plywood as wide as this room, and bend it into the desired shape, and then run it through a slicer that would make the pieces, so it could be mass-produced. But that's not how they did it. They made the strips on molds, as we made the perimeters, and you had to make one at a time. That's why when you order them, it takes forever to get them, and that's why they're so expensive. There were 120 prototypes, resulting in six chairs and the table. While we were developing the chairs, Knoll was sold to Westinghouse. So we were then part of Westinghouse. It was like going from an artist's studio to the army overnight.

I want to do furniture again, but it's expensive, and most companies won't spend the money. I work a lot like Eames did. I develop prototypes and somebody has to pay for that.

opposite: pillow form studies for bentwood chairs, 1989 14. The chair names are derived from moves in ice hockey, Gehry's favorite name.



























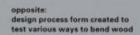




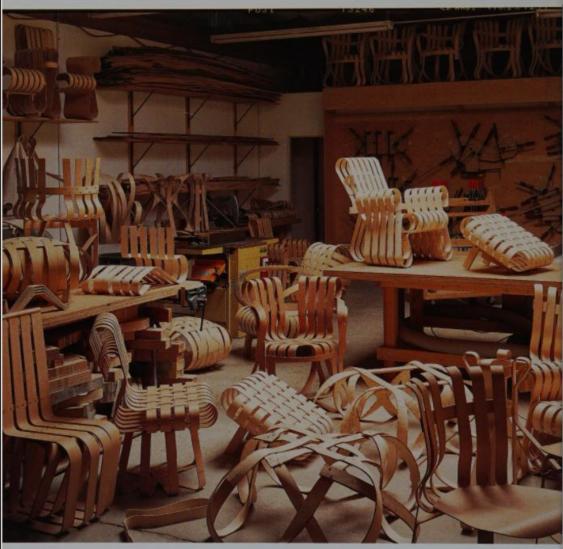


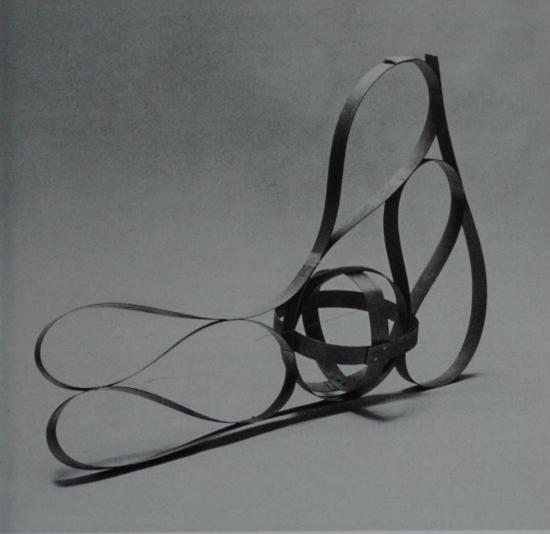
inspired by the lightness and flexibility of the humble bushel basket, prototypes for the bentwood chairs were developed over a two and one-half year period, 1989–1992

chairs illustated in color are in production: Power Play with Offside, Cross Check, Hat Trick, and High Sticking









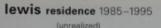
client: Knoll

project principal: Frank O. Gehry, partner/design

project team: Tom MacMichael, Daniel Sachs

prototype chairs in the Gehry workshop, 1990

opposite: experimental chair form, 1989



Lyndhurst, Ohio

I gave a talk in Cleveland in 1985. Two weeks later, Peter Lewis called me. He said, "I've been thinking about you a lot since you gave your talk. I was in the audience, and I was very moved by it. I bought an old house near a golf course. Would you consider remodeling it? I don't know how much I want to spend, maybe a million or two." At that time, that was a sizable amount for us and I didn't have many clients. So I flew back to Cleveland and met with him, and he showed me the house, and we wandered around it, and I stayed at his place, and he was very nice. He had an ex-wife who was at dinner that night. She was obviously the "art" one. She knew who and what I was. I said, "I'd be interested in doing it; we'll think about it, then we'll make a proposal."

I did a lot of studies for the remodeling. Peter kept adding things to the program. "Oh, I need a this" and "Oh, I need a that," and "I need a ten-car garage instead of...," and eventually the critical mass of the program overwhelmed the existing house. So less and less of it was left, and finally we said to each other, "Why are we doing this?" He made the big decision to knock it down and I made a plan for the whole thing. I made a big fish pavilion looking over the golf course. It would have been all right. It probably would have gone somewhere like the Winton House.

Every time I would go to make a presentation, he'd have a film crew. On one of his birthdays he flew back the models, and he invited the governor of Ohio and many other guests to a big party. I had to make the presentation of his house to this party, which was bizarre! But I treated it like entertainment. We made a big theatrical model that filled the room—a huge foam model. A few days later, Peter showed the design to the golf club; they objected. I was told that to build this house would be a fight with the community, and he just didn't have an interest in doing that, so he abandoned the house.

Sometime later, Lewis asked me to design a new house. He wrote to me saying "I want to do it," and "This is the most important thing in my life, and I dream of this house." So I started just playing with it. Every time I put it down, I'd get some new ideas that I'd want to play with. The program changed every week. He would fly in for meetings every once in a while. I didn't work on it, and he realized I wasn't working on it. I didn't bill him. I just waited, and worked on other stuff. Then he'd have people call me to say that he really meant it, and he wrote letters to me, and finally, I had lunch with him one day, and I said the house was up to fifteen or twenty million dollars. I said, "Peter, this is stupid. You don't live like this. Why don't you just build a little five million dollar house." I said, "I can really get into that, and you can give the





















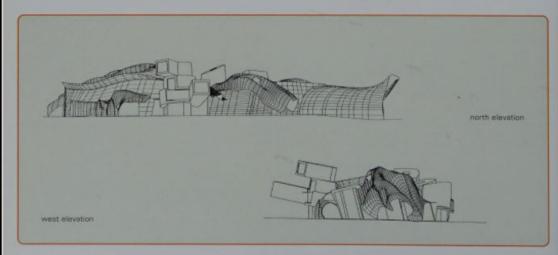


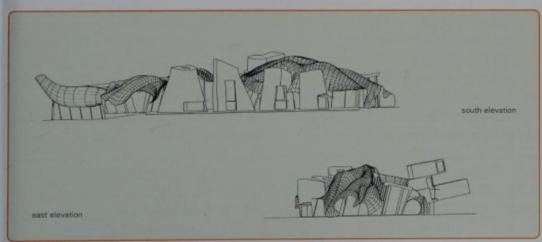


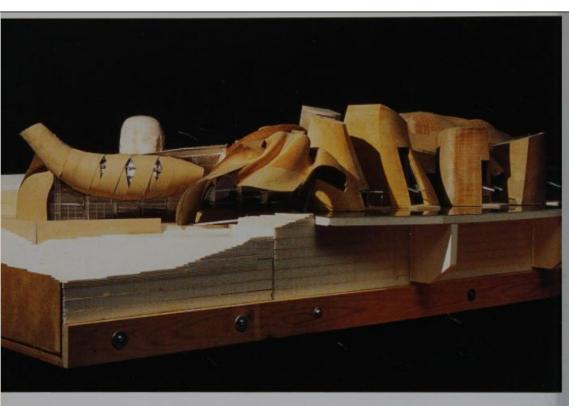




rest of the money to charity." Then he put his son Jonathan in charge, and I said, "Peter, Jonathan doesn't know..." "Oh yes, he knows how I want to live, and we're getting serious now." So Jonathan comes in, and demands a five million dollar sound system. Then he puts a five million dollar security system in. And then he needs a tunnel from his bedroom to get out to the hills in case he's attacked-rich guys do that. They have a safe room that's locked, which they can go into from their bedroom closet, where their clothes are. They go into the closet, and they lock a door, and they're in a concrete bunker, safe, with a whole separate communications system that gives them a direct line to the cops, to tell them that they're under siege. Then he needed storage for art, and he needed a curator for the art he was going to have in this little museum which is a 2,000-square-foot room. He has a curator, a director, a library. All of this started to build up. So the house has gone up to sixty or sixty-five million. That took it from 18,000 square feet to 42,000 square feet. He just kept adding guestrooms. Peter has grandchildren, the house is too small, he needs this, he needs that, a pavilion. I had Philip Johnson in there doing a guesthouse. Frank Stella was going to do a guest thing. Richard Serra did the snake piece that's in Bilbao as the driveway.







page 96: final design model, 1995

view from southwest of Lewis Residence final design model, February 1995

from left: staff rooms in fish; kitchen in curved element; four "sentinels": dining, living, study, and master bedroom opposite: ground floor plan

upper level plan with third and fourth circular floors above

Peter came to L.A., he had dinner with me one night, and he said, "How much is the house costing now?" I said, "It's sixty million, and going t up. He said "How much does Bill Gates's house cost?" I said, "I don't know: I read fifty million in the paper." He said, "Well, we're okay, then." So then the guys and I met in the office, and we decided to add twenty million, because I thought it was ridiculous, and I thought we didn't really have costs, because we never got a chance to price it out. I was afraid of him as a client. He didn't really understand what we were doing. And you know, if you think about it, it was 42,000 square feet, one-eighth of Bilbao, and we were building Bilbao for a hundred million, and this was eighty million, so you know something was wrong. All the things Jonathan added were electronic and mechanized, and very expensive. There was six million for Oriental rugs. So Peter said, "Stop the house. I don't want any part of it." said, "Great."

I don't know who got him back in. Anyway, a few weeks passed, he calls me back and says, "If you cut that budget in half, I'll do it." So that led to a twenty-six million dollar cost. I wanted to conclude it, so I did it. I think in the end we would have built it for less than twenty million, but you couldn't tell him that in case we couldn't deliver. I called and told him we had it. He came over for an hour and looked at it. He said it was great, was all smiles, said, "Let's go," Then his son came to the office to work with us for three weeks. He started to list the things that weren't in the twenty-six million. He was trying to fill it back up. There were no Orientals, there were no this and that. And he told Peter we were scamming him and Peter came and we had a terrible meeting. Later Peter called me from his plane, and he said, "I have a solution for all of this. I'm going to build the Philip Johnson piece and the garage with the fish, and put the swimming pool in the garage." I said, "Peter, I wouldn't do that. But you go ahead and do it. You've got the design. Do it. I can't do that." So then he fussed around about it, and then he called me and said he'd like to have some remembrance of all this, some models, drawings. I said, "Sure. What do you want? Come out and pick it. There are models all over the place." I said, "Peter, you name the date when you want them, and I'm ready. I have the drawings and models for you." I said, "I'll make a special one; give me a couple of weeks. I'll do a small



model you can hang on the wall, because I don't know where you're going to put the big stuff." And I said, "I'll pay for it; no charge." And he was happy with that. I had a dinner party for him in L.A., and invited Tom Krens. Krens came, because by now Peter was on the Guggenheim Board and I was working there.

Then the next call came from him. He said, "I'm about to give a bunch of money to Case Western to do a business school. The president told me I could select the architect, and I select you." I said, "Are you involved with it?" He said, "No. I won't be involved. I'm just giving money."

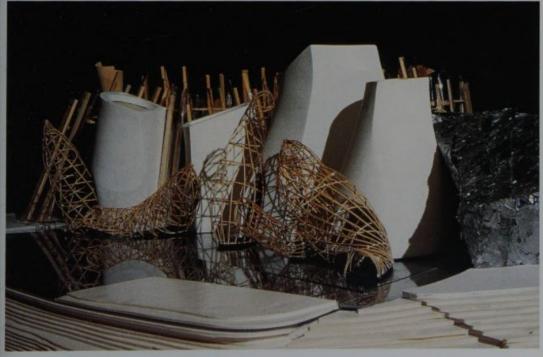
I have alleged that the Lewis house was the most important thing in my life, and that it gave me the equivalent of a MacArthur Grant, and ideas for Bilbao.

design process model of conservatory with fish as bath and dressing area

opposite: design process model; garage and fish guest room/staff quarters, November 1994

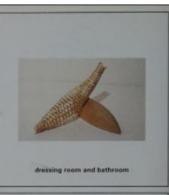
design process model; early version of sentinels, April 1994























opposite:
dining room with glass fish porch
dining room with glass fish porch
version of sentinels,
October 1993

Overleaf:
design process waxed felt
model of conservatory,
February 1995

design process waxed felt model of conservatory at pool, February 1995

conservatory roof; final design model of computer-milled layers of paper and resin, February 1995











The unrealized Lewis residence was a fascinating ten-year saga involving an idiosyncratic client who challenged the world's most daring architect to create the world's most astonishing house. Its final 22,000-square-foot design included a kitchen, dining room, living room, entry hall, two master bedrooms, a study, a conservatory, and an enclosed lap pool. Philip Johnson designed one guest house. In addition there were staff quarters and a five-car garage. The house was to be located on a nine-acre wooded site that included a complex landscape design and outdoor sculptures. This project provided Gehry with an opportunity to pursue ideas close to pure form, in a way rarely available to architects. In its various incarnations the seeds of projects undertaken simultaneously and of several to come can be found in the long series of drawings and models that record the evolution of this most unusual, exuberant project.

final design model of horse's head entry hall and gallery, 1995

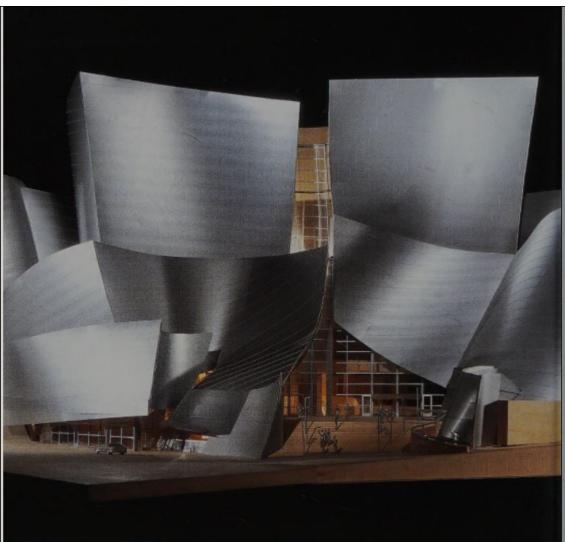
opposite: final design model; views from southwest and northeast, February 1995 client: Peter B. Lewis

project pricipals: Frank O. Gehry, design pertner
James Glymph, project pertner
Craig Webb, Susan Desko, Vince Snyder, project designers
Terry Bell, George Metzger, Laurence Tighe, project architects

project team: Rich Barrett, Karl Blette, Naomi Ehrenpreis, John Goldsmith, Michael Jobes, Michael Mantzoris, Jay Park, David Redy, Philip Rowe, Eva Sobesky, Kevin Sutherland, Tensho Takemori, Robert Thibodeau, Lisa Towning, Dane Twichell, Scott Uriu, Jeff Wauer, Kristin Woehl, Nora Wolin, Brian Yoo

collaborating architect: Philip Johnson Architects

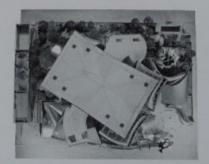
artists: Richard Serra, Larry Bell, Maggie Cheswick-Jencks



detail of final design model showing main entrance at Grand Avenue and 1st Street.

aerial view, final design model

overleaf: construction view



# walt disney concert hall 1987-

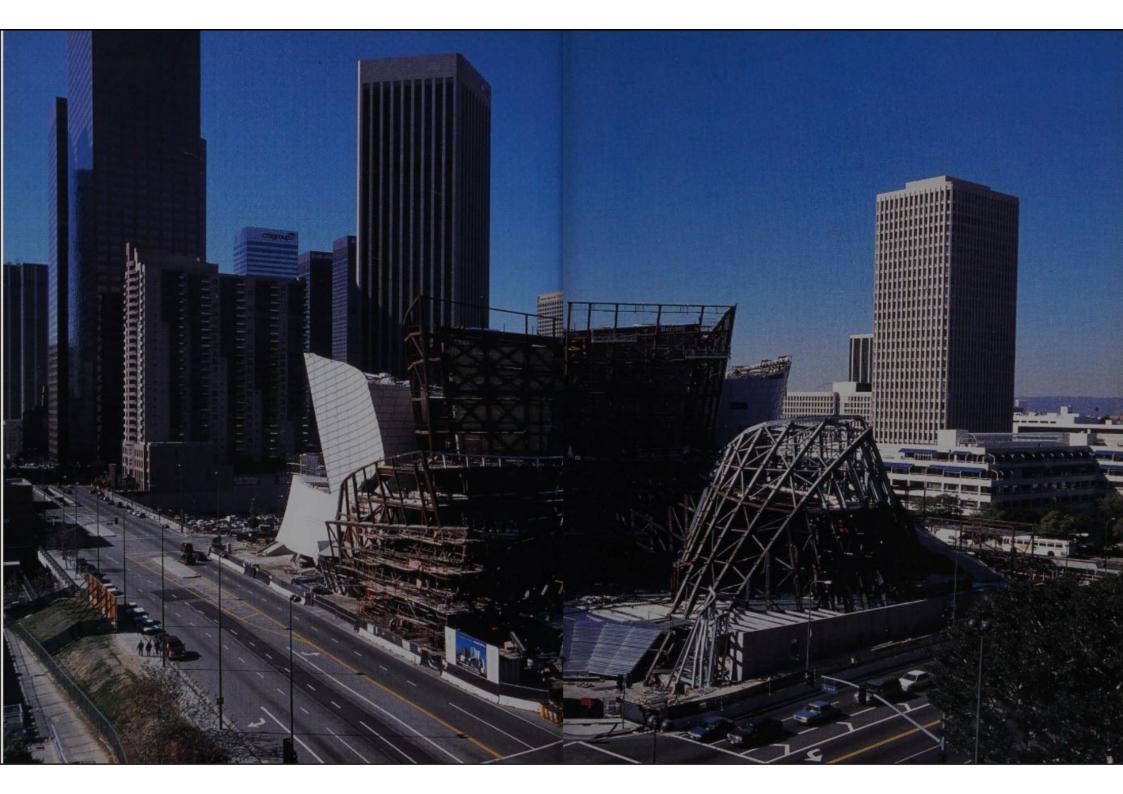
Los Angeles, California

People say the Concertgebouw in Amsterdam is the best hall for music. Well, if you sit in the back, it is. If you sit under the balcony, it isn't. If you sit behind the orchestra, where 700 people sit, it's a different experience. But it has the cachet of years of great conductors making recordings there. Boston Symphony Hall is a shoebox. If you sit in the front twelve rows in the orchestra, you can't hear a thing. The only place you hear well is up in the balcony in the cheap seats, because there's enough reverb time. It is the best in certain places. So what I'm saying is, the beauty is in the ear of the beholder. It varies and a lot depends on the conductor. The musical result is affected if the orchestra is good that day. If the orchestra is balanced, if the brass section isn't too loud because you have a bunch of high-powered trumpeters whose lungs need to be exercised, if there's a particularly inspired bass section in the music and there's a bass response to the whole—there are all kinds of factors.

Ernest Fleischmann [former Executive Director of the Los Angeles Philharmonic Association] said, "I want the Berlin Philharmonic; that's what I want." If you follow the acoustics, there are some similarities that the acoustical criteria create. The seating is prescribed, because there's a certain size for the orchestra, and there are fixed sight lines. If you decide to make a surround hall, then you end up with a hall that's very close to Berlin. Surround hall means you have audience in front, on the side, and behind. A surround hall allows you to make the room 110 feet instead of 70 feet long. Then the acoustical requirements make you do this kind of stuff on the top, off to the side, so that the sound reflects. You get a lot of similarities by following the rules of the game. It's not that I copied Hans Scharoun. It's that the game was the same, and the client asked for the same diagram.

I can show you a lot of halls that I didn't do. One that Kevin Roche did, and I've seen halls that Hugh Hardy has done, and I've seen halls that others have done, and mine looks as though it's in the gene pool. But the genes do not define stylistic relationships as much as acoustical relationships. They create similarities. It's kind of inevitable. If you follow the same criteria, you end up with a similar language and the halls start to look alike.

Ernest used to talk about the Scharoun building, and I'd seen pictures of it but I'd never been in it. Before I won the competition I went to Berlin on my own, and I went to the Scharoun building where I met Scharoun's assistant. I had dinner with him, and we talked a lot about what he did. He built the chamber hall after the concert hall was completed. So I went to a concert in the Scharoun building and then I went to a concert in the chamber hall, and I realized that the chamber hall didn't work. The magic that Scharoun had didn't translate. I think it's in your fingertips. It's not a conscious thing. I think you create that intuitively. It has to do with yourself and your people. And



Scharoun had that. It's a wonderful place to be because the place puts people together and makes it easy. It's hard to be alone in Berlin. I went to five concerts alone in Berlin, and every time I went to a concert, I met people. If you were a single woman and went to a concert in Berlin, you wouldn't feel awkward meeting people. I felt very com-



fortable being alone. I understood what it was like. I went to the bar, I had a drink, I went to the bookstore, I ran into people. You bumped into people. And when you went into the hall it was like that, and it made the connection to the orchestra, and I never left that place without having met someone, had a drink with them—interesting people—and felt welcome. So then you go to the library by Scharoun, and it's exactly the same. People sitting around, kids sitting around, and it's easy to meet people. You walk in as a stranger; the building allows and engenders and encourages, in some miraculous way, a kind of interaction.

Originally Disney Hall was to be stone. Then the client saw the American Center, which wasn't sealed and not maintained, and the stone got dirty, so everybody was worried about it. They thought I didn't know what I was doing. They were all out to get me here because I'm the local guy, and they think I'm "chain-linking." So they started a barrage coming at me. Finally I said, "I don't care if it's toothpicks. If you really want me to look at it in metal, I'll do it." So I just took two weeks off, and designed it in metal, and they all love it now. It saved ten million dollars, so they're all happy, and I like it better.

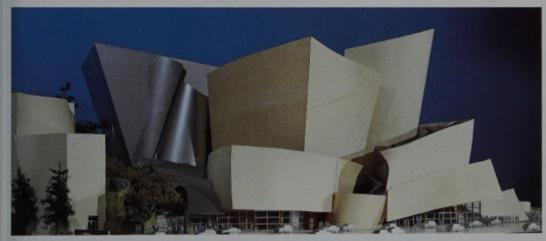
We went with the shiny finish for the Weisman Museum because of the light in Minneapolis. It finally dawned on me that that wasn't going to work. We couldn't use it in L.A. It would look like a big refrigerator. At Bard College and in L.A. titanium won't work because they don't do the same thing as Bilbao with the light. In Bilbao on a gray day the titanium turns golden. But it doesn't here. Except for El Niño, it doesn't rain here often. Mostly you get sunny days, and the stainless steel that we're thinking of becomes white in the sun, so we're going to explore that.

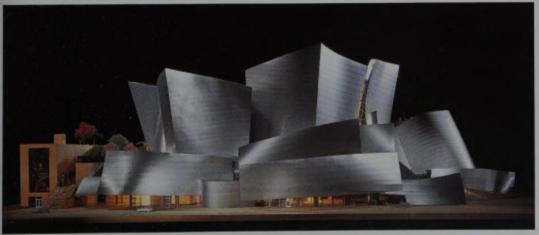
The reason metal is nice is that it will be a very big contrast with the existing hall and with the museum across the street. I'm happy with it. It also allowed me to refine some of the forms and play with them. It made it more exciting because now it's a new project. In the old scheme, it always looked like the building hit Grand Avenue and got flattened slightly, and I could never make it three-dimensional. When I flipped

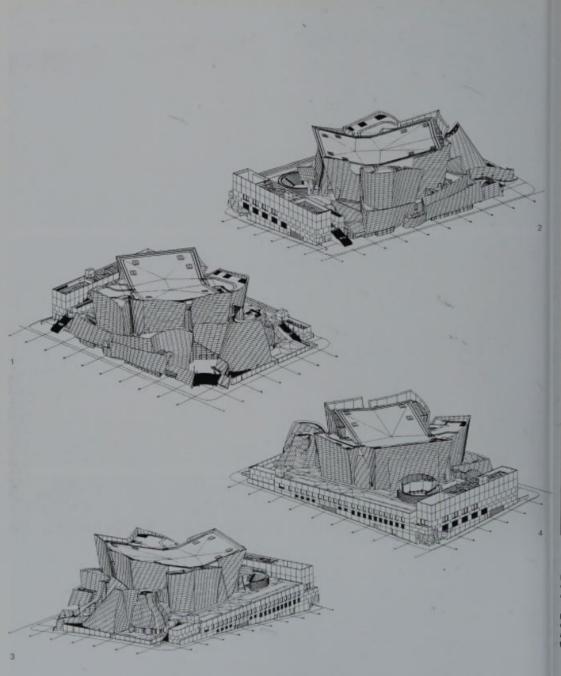
those, it worked somehow. I don't know why. So that's why we're changing it. I want to use white marble. There's the stainless and the white. We're not going to make the metal like Bilbao. It's going to be thick, so it's not going to pillow. It's going to be smooth. There are going to be cut joints. Tight, like airplanes.





















page 114: competition model, top design process model, bottom

page 115: design process models, top and center final design model, bottoom CATIA shaded surface models:

the exterior of the Founders' Room (upper right)

the Founders' Room with the exterior wall transparent and the Room ceiling (bottom right) shell of the interior wall visible (upper left)

the Founders' Room ceiling, looking up (middle) model showing isolated ceiling section (bottom left)

close up view of the Founders'





large-scale design process model with modelmaker at work

final design model of concert hall interior

opposite: variations on the concert hall interior in a series of thirty design process models overleaf: final design model of pipe organ



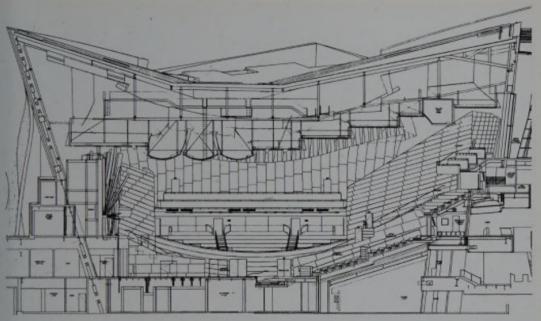


This most controversial of all Gehry projects, the Walt Disney Concert Hall will become the permanent home of the Los Angeles Philharmonic Orchestra. Located on Bunker Hill adjacent to the Dorothy Chandler Music Pavilion and across Grand Avenue from the Museum of Contemporary Art, this important addition to the city's cultural life will bring renewed vitality to this historically significant neighborhood.

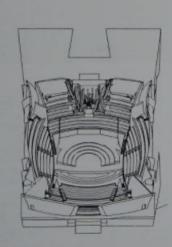
renewed vitality to this historically significant neighborhood.

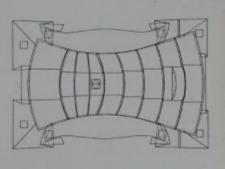
The 2,293-seat hall is lined with wood seating blocks and sail-like ceiling elements. A huge pipe organ will fall the rear stage. The hall will have natural light via skylights and a large window opposite the stage. An underground parking lot for 2,500 cars is already in place. Much of the site is devoted to gardens that will be accessible from all areas of the building.





concert half longitudinal section concert half axonometric looking south concert half reflected ceiling plan





















client: Walt Disney Concert Hall Committee

project principals: Frank O. Gehry, design partner James Glymph, project partner Vano Hantunians, project manager Craig Webb and Michael Maltzan, project designers Terry Bell and Craig Webb, project architects

CATIA modeling: Nick Easton, Gary Lundberg, Bruce Shepard, Rick Smith, Kristen Woehl

project team: Andrew Alper, Suren Ambartsumyan, Larik
Ararat, Kamran Ardalan, Herwig Baumgartner, Pejman Berjis,
Rick Black, Kirk Blaschke, Tomaso Bradshaw, Earle Briggs,
John Carter, Padraic Cassidy, William Childers, Rebeca Cotera,
Jonathan Davis, Jim Dayton, Denise Disney, Jon Drezner, Jeff
Guga, David Hardie, James Jackson, Victoria Jenkins, Michael
Jobes, Michael Kempf, Gregory Kromhout, Naomi Langer,
Jacquine Lorange, Gerhard Mayer, Alex Meconi, Emilio Melgazo,
George Metzger, Brent Miller, Julianna Morais, Rosemary
Morris, Mathias Mortenson, Gaston Nogues, David Pakshong,
Michael Resnic, David Rodriguez, Christopher Samuelian,

Michael J. Sant, Robert Seelenbacher, Michael Sedlacek, Matthias Seufert, Tadao Shimizu, Eva Sobesky, Randall Stout, Thomas Swanson, John Sziechta, Tensho Takernori, Larry Tighe, Hiroshi Tokumaru, Jose Catriel Tulian, Dane Twichell, William Ullman, Monica Valtierra-Day, Yu-Wen Wang, Eric Wegerbauer, Gretchen Werner, Adam Wheeler, Tim Williams, Brian Yoo, Brian Zamora

posite:

design process model of a fountain, dedicated to Lillian B. Disney, the wife of Walt Disney, who was the instigator and primary funder of the Disney Hall project

concert hall under construction, top and bottom

detail views of final design models, center

#### university of toledo center for the visual arts 1990-1992

Toledo, Ohio

The Center for the Visual Arts was part of the Toledo Museum of Art, which has three large porches with Greek-style pediments. It's a beautiful white marble building. The Center was in the basement. There were several choices for the site. You could put a separate building outside, across the road, or somewhere else. After spending time with the people, I realized the value of the students being in the same building with the art. It's a great art department. I thought if the Center is separated, the kids will go to their cars and leave, and they'll never go in the museum. They'll always say, "Well, some day I'll go in there." So I argued that it had to be connected, and prevailed.

We decided to connect with a student art gallery that would take you into the bottom. The theater is in there at the lower level, and there is a foyer where they have art shows, and so we thought they should have people come through the student gallery that could also be the entrance. I made this very compact.

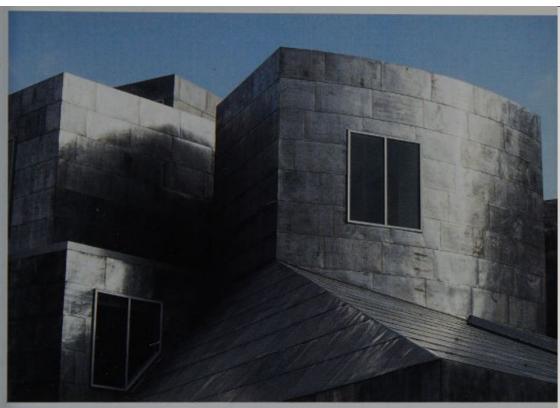
You couldn't add a white marble piece; it would destroy the existing building, and anyway, we couldn't afford marble. So we used lead-coated copper, and we made three kinds of shapes, very tightly compacted. The marble building is in the trees, and in front of it is a Marc di Suvero sculpture. The new building looks like another sculpture beside it—a big one.

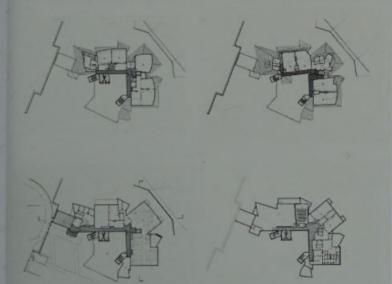
bird's-eye view, below

opposite: exterior detail

The new art school has a linear L-shape that creates a courtyard adjacent to the existing Toledo Museum of Art building. It is physically connected to the museum through a student art gallery. The three-story building has an iridescent lead-coated copper skin and green-tinted windows that contrast with the white marble of the Beaux-Arts museum, and relate to the green patina of its copper roof. Skylights bring natural light to the studios and classrooms on the upper floors. Lecture halls and photography studios are in the basement. Two glass-enclosed stair towers form the ends of the glass-enclosed corridor surrounding the courtyard.







second level plan third level plan

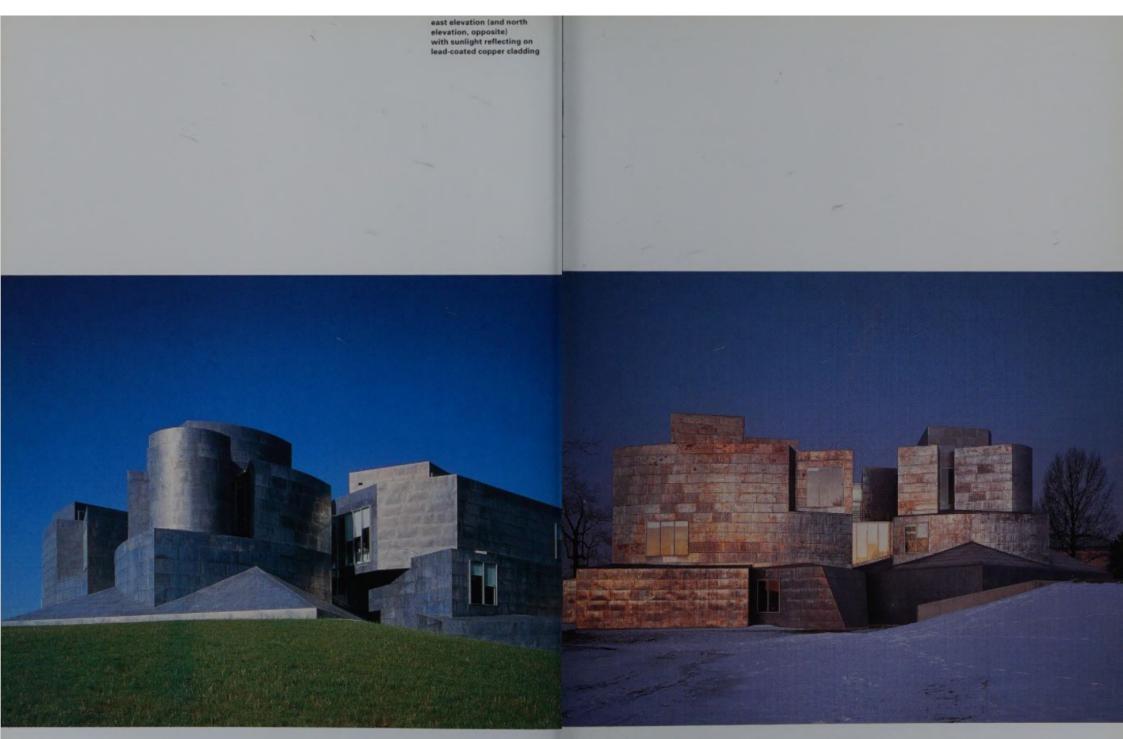
office design/foundations print making office drawing lounge painting

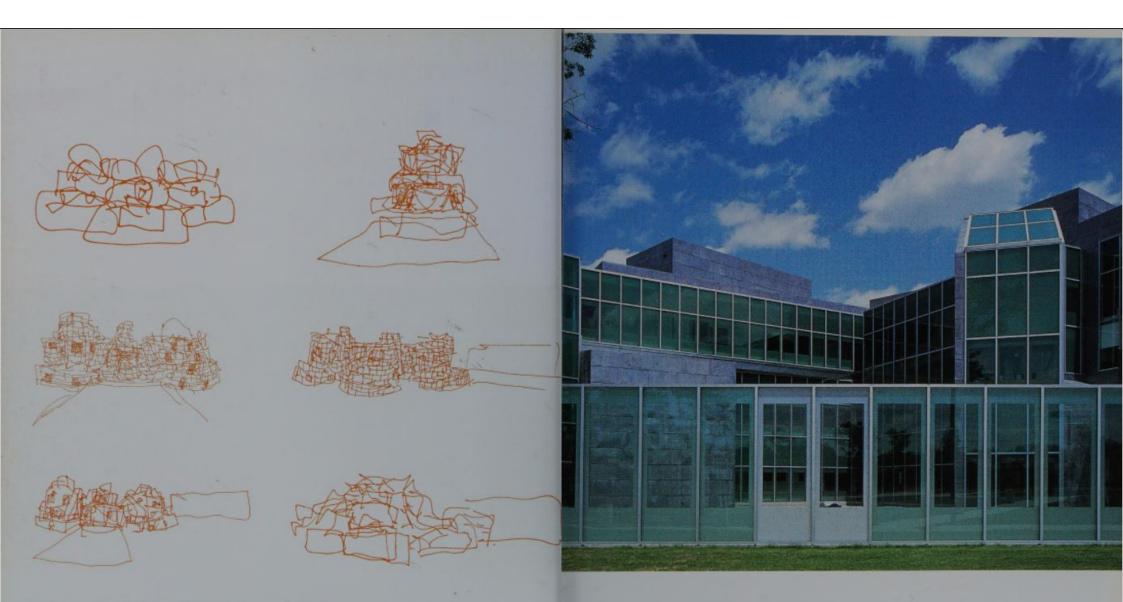
ground level plan

entry student gallery conference administration library art supply lobby sculpture court basement level plan

lobby mechanical room art history lecture art education photography







client: The Toledo Museum of Art

project principals: Frank O. Gehry, design partner James Glymph, David Denton, project partners Peter Locke, Randall Stout, project architects C. Gregory Walsh, Michael Maltzan, project designers

**project team:** Andres Alper, Jon Drezner, Michael Resnic, Tami Wedekind

opposite: view from the north of glass wall surrounding open courtyard

#### frederick r. Weisman museum 1990-1993

Minneapolis, Minnesota

By the time of the Weisman Museum, we could no longer use lead copper outside, so I went to stainless. I'd seen a number of Ellsworth Kelly's sandblasted stainless sculptures, and I loved them because they looked like suede. I was going to use it on the Weisman. We made mockups, and put them on the site. And then the worst thing happened: when they put the salt on the road for the snow, it pocked the surface, and the metal developed rust spots. So the university said, "You can't use it because of the rust spots." I was devastated.

A few days later I was taking my son Sami to hockey camp, and we went to see the sandblasted mockup; it was raining and the metal looked dull—it just looked dead. I had had a shiny stainless mockup made also, but I was worried about it because I thought, you can't do a shiny stainless-steel building. A week later, I went back to pick up Sami and we stayed all day in Minneapolis to look at the site and at the shiny stainless sample. It was one of those days that went gray and sunny. Sami said to me, "Papa, you've got to go for it." I just needed that little push. I knew that what he was saying was right. I'll never forget, he said, "Papa, go for it."

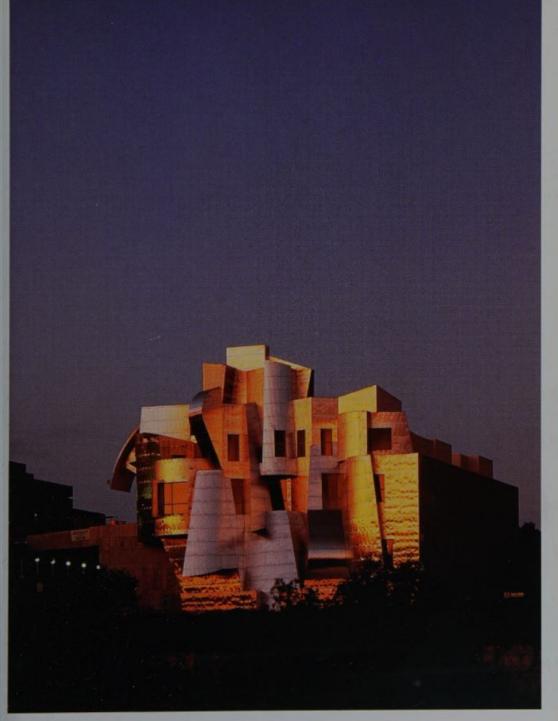
To develop the lighting scheme we built a mockup at the Santa Monica Airport and we worked with PHA Lighting Design; they make custom fixtures. This is the way you do it. You've got to get to the fixture people. At the Weisman we made a shelf, and we projected light up on the ceiling to get ambient light, and then we had track lighting in addition. When the Weisman was built, they didn't use the fixture that we had designed. They bought another off-the-shelf fixture. When their fixture is lighted, it makes the panel above brighter than the panel below. It destroys the wall, because you look at the bright panel, so they just turn it off.

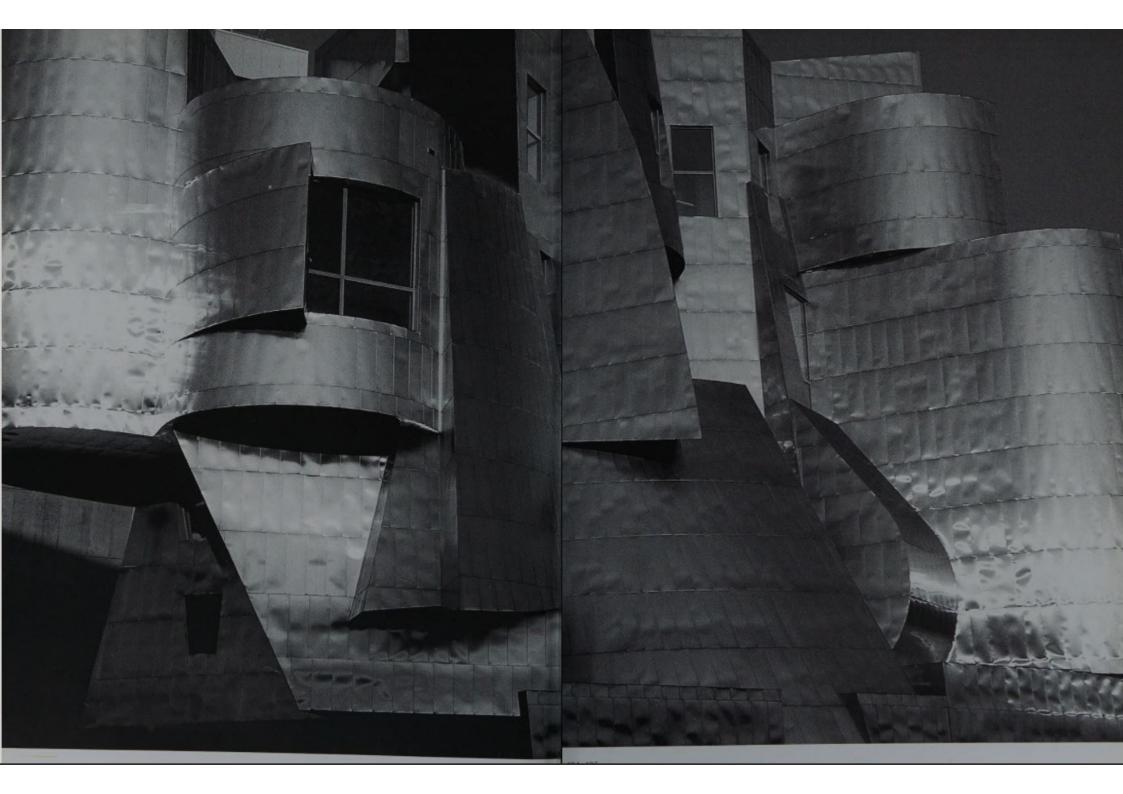
Critics of the building say that it turns its back on the campus's central mall. It now embraces the bridge and beckons to the east campus. But we designed it so that it has two faces, and they just left the second one out. This will be corrected when the addition they've asked us to think about is appended to the east side of the building.

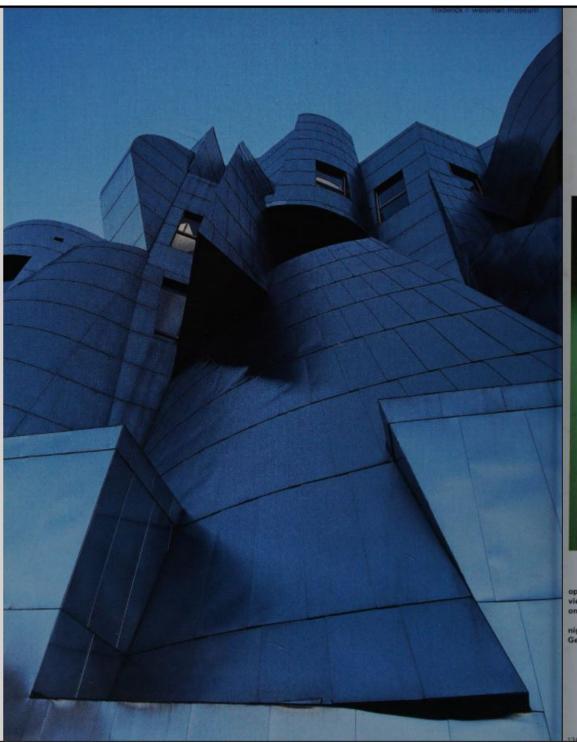


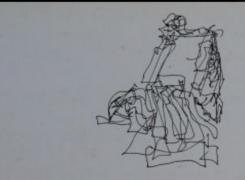
longitudinal section through the galleries

opposite:











opposite: view of stainless-steel cladding on west façade

night view with installation of Gehry fish lamp overleaf: detail of west façade

client: University of Minnesota Art and Teaching Museum

project principals: Frank O. Gehry, design partner Robert Hale, project partner Victoria Jenkins, Matt Fineout, project architects Edwin Chan, project designer

project team: David Gastrau, Richard Rosa

## goldstein sud housing 1991-1996

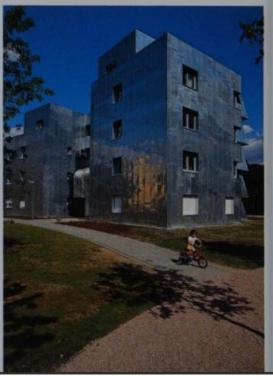
Frankfurt, Germany

That's how I started—doing social housing—when I was a kid. There are lots of social housing projects in my portfolio. They are projects that were never built.

I don't believe there is a chance to create credible social housing in America at this time. We used to have FHA, and I did a lot of work on FHA projects when I was young. If I always felt a responsibility; I felt that we should all be trying to do that kind of housing, and that you could bring good architecture to that kind of housing. That was a fantasy that few people shared. FHA's bureaucracy overlays were designed to eliminate architecture. Today there's no real social housing legislation in America. There hasn't been the kind of drive necessary to make it happen. In Germany there is, although it's not perfect there.



Goldstein Sud includes 162 housing units, a parking area, a social center, and small neighborhood shops. It is located between a greenbelt and a public park, and is the last housing to be built in an area that includes a number of social housing developments. Floor plans vary according to their relationship to the site's amenities—schools, sports facilities, etc.—and to solar orientation. The units are from three to five stories in Ushaped configurations. Stucco walls are painted in vivid warm colors, and the trapezoidal balconies, entry canopies, stair towers, and other small buildings are zinc clad.



Germany has created a public corporation that has its own profit center. It has to meet criteria as though it's a private business, and it's empowered to make deals in acquiring land, hiring architects, and building social housing. They have many sites around Frankfurt. We were invited to workshops in Frankfurt to create competitive schemes for social housing. Six architects were brought together for three days, given a site, and each was asked to do a scheme and present it. At the end of that exercise the corporation would choose the scheme to be built. I won a competition to do a thousand units of housing in Frankfurt. It's a project called Bon Amis. It's still on the books. We're still supposed to do it, but they're not doing it yet. Because we'd won that rather large competition, they gave us Goldstein, a smaller one, in the meantime.

They are very sophisticated and they are very art-wise. We had to stick to a budget. The housing is completely subsidized. We were there for the opening. People had already moved in, and we had a big party. I met with all the people, and paraded through the town. They seemed happy. I should go back.



15 The FHA (Federal Housing Administration) was established in 1934. It was an agency that provided long-term loans at low interest rates in order to encourage and stabilize home ownership in the United States. In 1965 it became part of HUD (Housing and Urban Development).

opposite: zinc-clad housing unit

final design site model

client: Nassauische Heimstatte

project principals: Frank O. Gehry, design partner James Glymph, project partner Randall Stout, project designer/architect Michael Maltzan, project designer Tomaso Bradshaw, job captain

project team: Jonathan Davis, David Denton, Mara Dworsky, Robert Hale, Michael Resnic, Matthias Seufert, Eva Sobesky, Hiroshi Tokumaru, Tim Williams

# guggenheim museum bilbao 1991-1997

Bilbao, Spain

We've designed a number of gateway buildings: Weisman, Prague, Iowa, and more. But it's not by intent; it's coincidence. Even the Seattle project has the monorail going through it, just as the bridge goes into Bilbao.

Tom Krens talked about the Wright atrium a lot. 16 I realized Frank Lloyd Wright wasn't interested in the kind of art I'm interested in, and he ignored it. So he created a building that was antithetical to the art. I said to Krens, I don't think the building has to be that antagonistic to the art. But he thought the atrium should be a contentious piece, and should provoke artists. So that's what I picked up on. If you look at the first iterations, it's boxy and square, like a quarry, and I saw the walls as shelves where you could hang the work. Tom said, "Do something else. Take it on. Make it better than Wright. Make a great space, and we'll deal with it, and then let's review it."

There are gestures in my sketches. How do you get them built? I was able to build them with the computer, with material I would never have tried before. You'll see the relationship to my sketches in Bilbao. This is the first time I've gotten it. And once you taste blood, you're not going to give up. I don't know where it can go. How wiggly can you get and still make a building?

I used to be a symmetrical freak and a grid freak. I used to follow grids and then I started to think and I realized that those were chains, that Frank Lloyd Wright was chained to the 30-60 grid, and there was no freedom in it for him, and that grids are an obsession, a crutch. You don't need that if you can create spaces and forms and shapes. That's what artists do, and they don't have grids and crutches, they just do it.

The Winton house plan is a kind of pinwheel form. It came into focus again on the Lewis house, when I started plunking down forms, and then I realized that the plan of the Lewis house was very unusual. When you drew the plan, it was weird. I had never seen anything like it. Then I carried those ideas into Bilbao, and when I drew the plan of Bilbao I was so happy, because I realized that it was a beautiful thing. I'd never seen anything like it except in those buildings. It just evolved. I didn't consciously do it, but it intuitively evolved.

It's a very long way from one room, what I used to call the "white canvas," to Bilbao. I enjoy the complexity of a big project, trying to organize it. It's different from one room, but I think the one-room idea gave me the beginning of a way to break down the scale of big things. Scale is a struggle. How do you make a big monolithic building that's humane? I try to fit into the city. In Bilbao I took on the bridge, the river, the road, and then tried to make a building that was scaled to the nineteenth-century city.

Then I said to myself, "Artists have trouble with scale in the city because the city is such a large scale. No one ever commissions artists to make sixty-story sculptures.

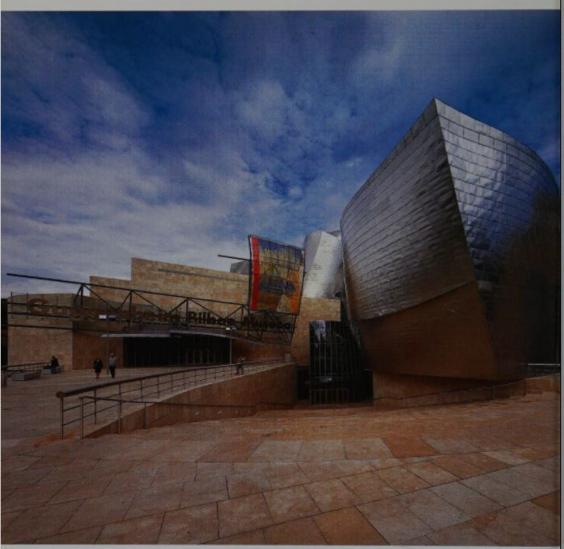


16 This reference is to the atrium of Frank Lloyd Wright's Solomon R. Guggenheim Museum building on Fifth Avenue in Manhattan.

view of the museum seen from surrounding hillside randy jefferson: In Bilbao we set up a series of riules, but the rules weren't derived because of limitations of the computer; they were derived to control costs. Going into the project, we knew that we had an extremely tough budget. It's easy for a budget to slip from \$300 to \$400 a squere foot. So we began Bilbao with some very important ground rules as to how we were going to develop the complex shapes and maintain control of the budget.

The titanium surface on Bilbao is about 0.38 millimeters. It's not a whole lot thicker than several pieces of paper. Each sheet is approximately two feet by three feet and the joint is a traditional locked seam that has been used with copper for decades. What's beautiful about it—on a very windy day you actually see the titanium sheets flutter. The pressure across the aurface creates alternating positive and negative pressures. The wind pressure

pushes and pulls on the surface. You can see a pillowing that is a product of the thinness of the metal and the system of connecting it to the wall construction. The edges are very stiff because of the locked seam, and there's a clip that sits in the fold to hold the titanium on the wall.



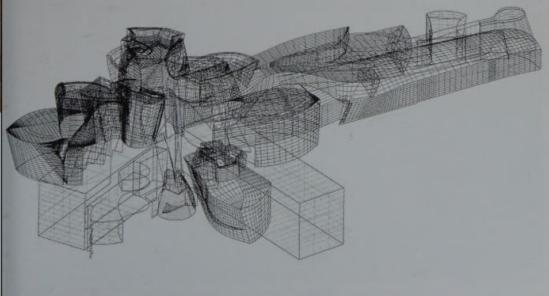
descending steps lead to the museum's main entrance

opposite: CATIA study and until one of them makes a sixty-story sculpture, their works will not stand beside the Empire State Building and mean anything." I thought, if you could metaphorically create a city that would allow them to play, that might work. Then I realized that this was an opportunity to make something in the tradition of the great metaphorical cities. And that's what led to what's there, using the ramps and the stairs as a kind of metaphorical city—a metropolis.

One thing is certain: artists want to be in an important place. Go back to my Walker (Art Center) show, when it came to MOCA (Museum of Contemporary Art, Los Angeles). I said "Put it in the TC" (Temporary Contemporary), and you said "No way." And you were right. If I'd gone to the TC, the building would have marginalized me. Not only that, but it was the contrast between Isozaki and me that was interesting. The artists are very positive about Bilbao. I've gotten a lot of letters. It was Tom Krens's idea to have galleries for living artists different from galleries for dead artists. In the end it was a pretty good strategy.

Lighting is always a difficult, complex problem. So in Bilbao we said, "Okay, we'll put the lights in and never move them." We wanted to wash the walls with light, so we put the fixtures every twelve feet, and they are never changed.

I love to go back to Bilbao. They're all part of my family now.





design process model (1992-1993)



design model (1992-1993)



final design model (1994)



final design model (1994)

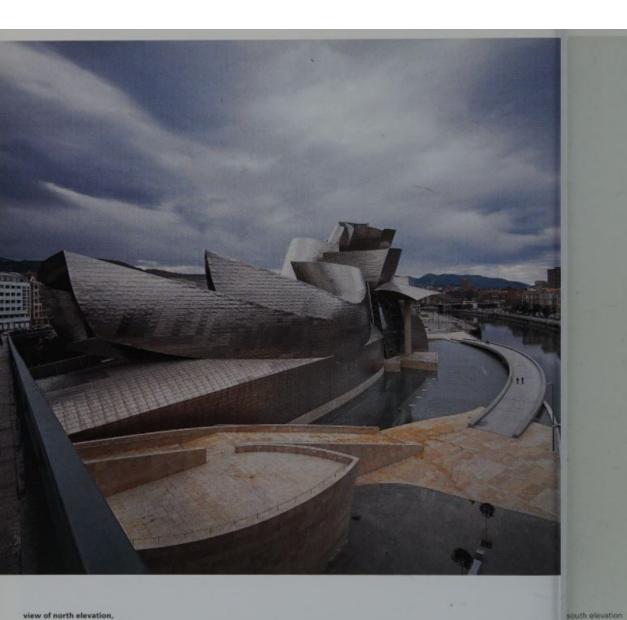


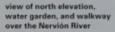
final design model (1994)

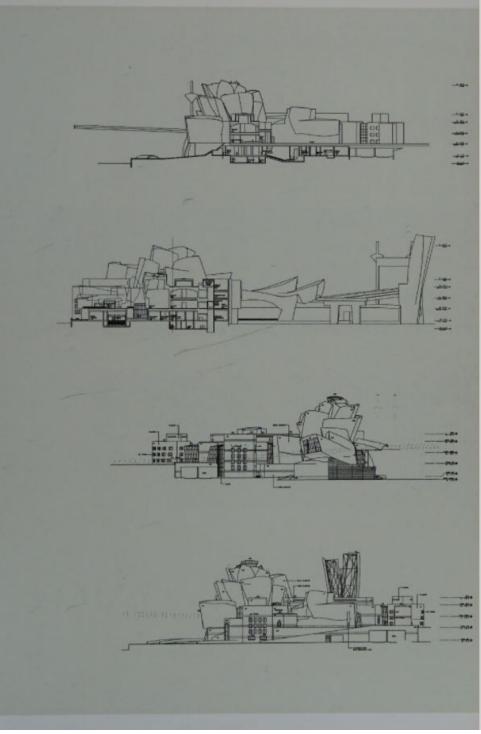


design process model (1992-1993)





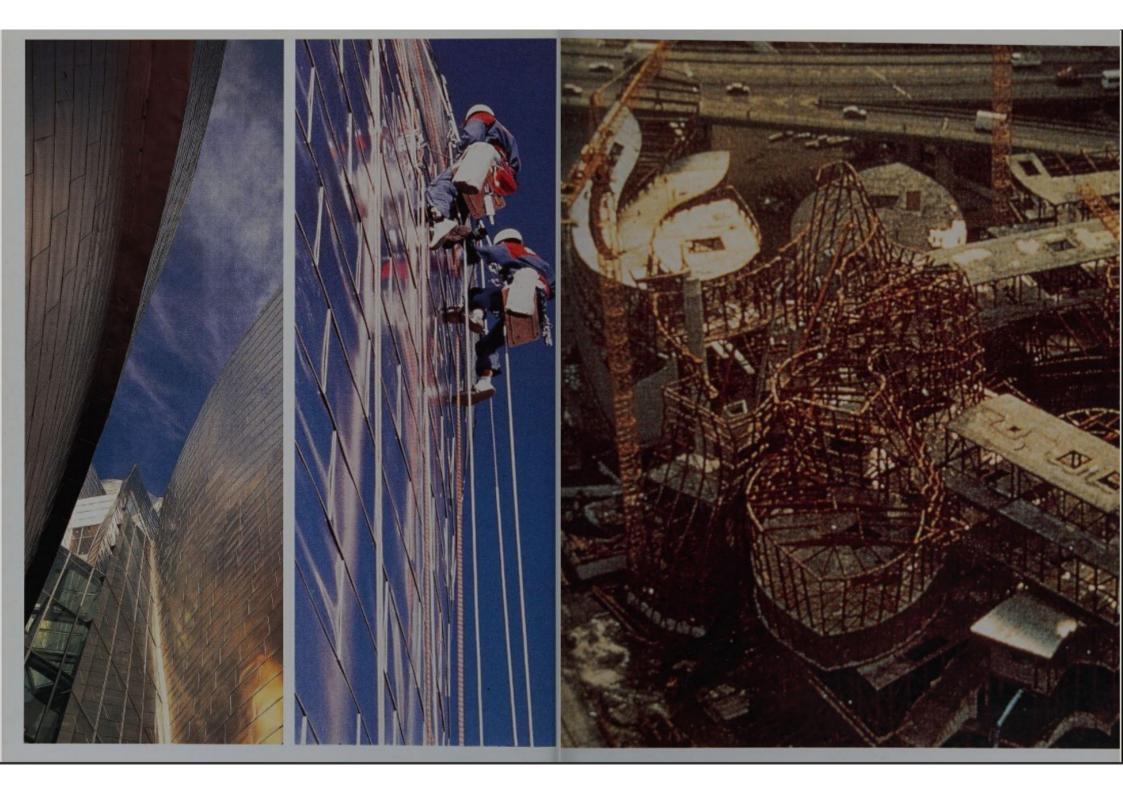




north elevation

east elevation

west elevation







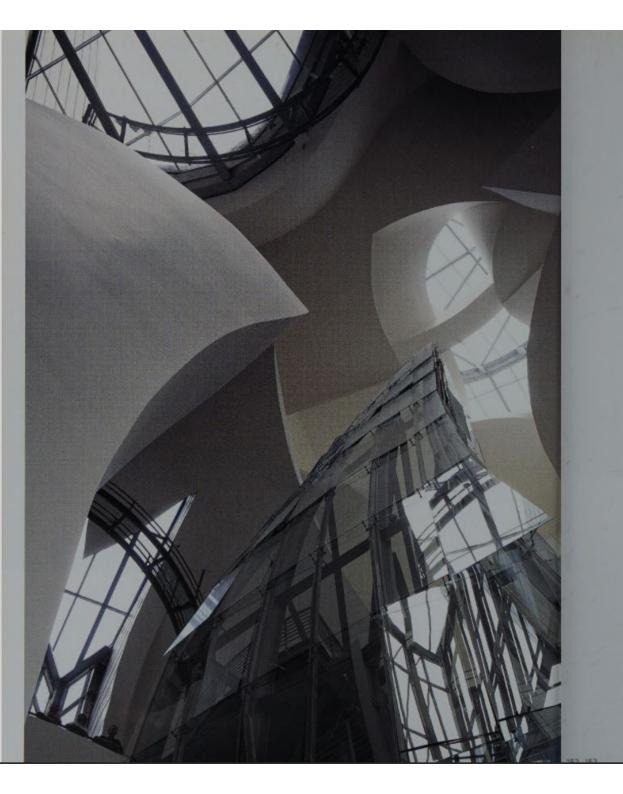


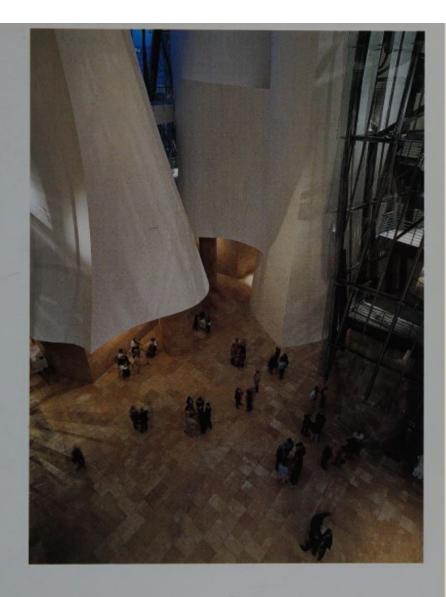
page 148: two views of the titanium cladding

page 149: steel framework under construction

opposite top: installation of works by Richard Serra for a 1999 exhibition

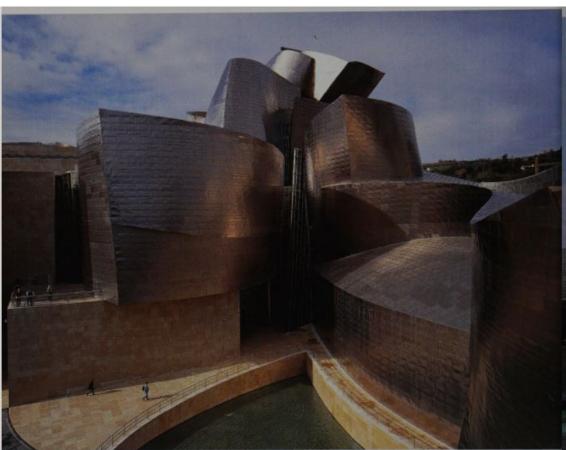
opposite bottom: installation of the exhibition Robert Rauschenberg: A Retrospective, 1998 installation of the *Art of the Motorcycle* exhibition at the
Guggenheim Museum Bilbao,
1999

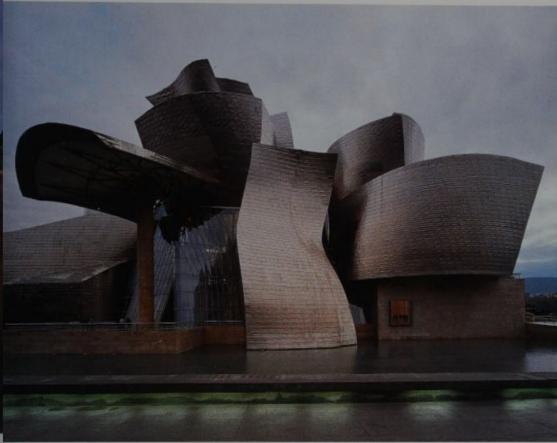




opposite: partial view of atrium skylights

view from above of 164-foot-tall atrium





partial view of east elevation

partial view of north elevation

overleaf: night view of north elevation

A collaboration between the Basque Country Administration, which owns and funds the project, and the Solomon R. Guggenheim Foundation, which operates the museum and provides the basic art collection. the museum is part of an ambitious redevelopment plan for this area of the Nervion River. The 297,000-square-foot museum incorporates an existing bridge that connects the nineteenth-century city to outlying districts. The central atrium rises 164 feet above the river and is flooded with light through its sculptural skylights. The exterior rectangular building elements are covered in limestone; the curvilinear forms are sheathed in Douglas Hanson, project architect titanium. The office area exterior is vivid blue stucco. The galleries correspond to the directions of the exterior: rectilinear spaces house traditional modernist works from the Guggenheim collection, while the asymmetrical galleries with curving walls are devoted to commissioned works and temporary exhibitions.

client: Solomon R. Guggenheim Foundation Consorcio Del Proyecto Guggenheim Bilbao

project principals: Frank O. Gehry, design partner Randy Jefferson, project partner Vano Haritunians, project manager Edwin Chan, project designer

project team: Rich Barrett, Karl Blette, Tomaso Bradshaw, Matt Fineout, Robert Hale, Dave Hardie, Michael Hootman, Grzegorz Kosmal, Naomi Langer, Mehran Mashayekh, Chris Mercier, Brent Miller, David Reddy, Marc Salette, Bruce Shepard, Rick Smith, Eva Sobesky, Derek Soltes, Todd Spiegel, Jeff Wauer, Kristin Woehl



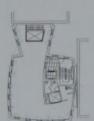
üstra office building 1995–2001 Hannover, Germany

The nine-story, 21,000-square-foot office building for Üstra Hannover Public Transportation is one of a series of new towers to be constructed in a historic district adjacent to open parkland. Peter Ruthenburg, who ran the bus stop program, was hired to do other projects, including this office building. (Gehry was one of ten architects invited to create a bus stop for Hannover, as a prologue to the city's Expo 2000.) The bus company has a tiny corner lot next to a square; it's close to a main tram stop.

They started with a straight low-rise box. Ruthenburg wondered if we could do something with it. Everything I did looked very complicated and contrived. I looked at the relationship of the site to the square and I realized that this site was really important. So then I started playing with it, and finally twisted it, and that was that. As the building rises it twists in the direction of the open park area. The exterior is stainless steel. We're looking at a scratchy surface finish. The only problem I have with the scratchy stuff is that it gets close to David Smith, and I don't want to trivialize what he did. And also, it's a little bit glitzy when the light hits it. It's the kind of building where the simpler it is the better.

In Germany all the windows in high-rise buildings must open. That's why you see all these double facades now: glass on the outside and the inside. In the Hannover building the interior window opens by sliding it into a wall pocket. We did it in Prague too. There's a draft in between the two layers that lets air in. They have a system in which they can leave the draft open, or closed. If it gets cold, they can take the hot air in with little fans that take the air in and out. The people generate more heat than the building needs. In the winter they need heat only in the morning and at night.

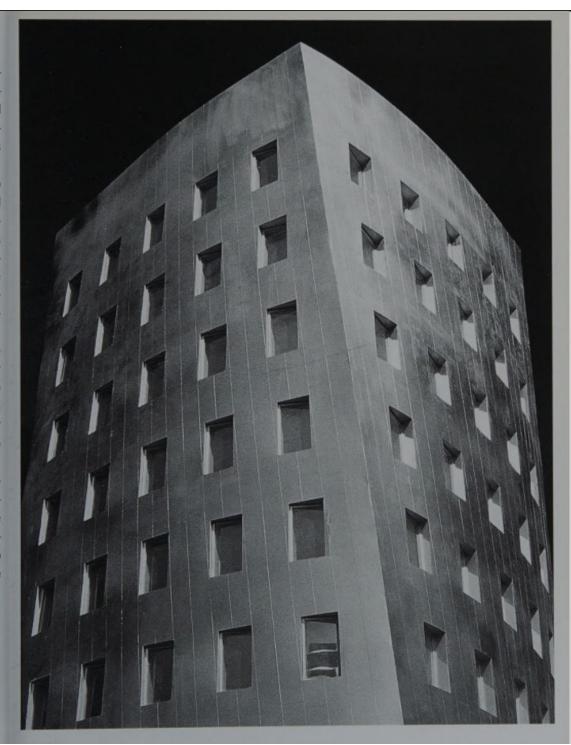
By law, German buildings are not air-conditioned. The hotels may have air conditioning, but not the office buildings. Most American high-rise buildings use air conditioning and the windows don't open. In most American developer office buildings the distance from the windows to the core is 40 feet. In European office buildings the distance is 20 feet. They want everybody close to a window that opens. They're into fresh air. That's why European office buildings are slim and ours are chunky. It's the floor-area-ratio difference that makes our system cheaper.





ground level plan

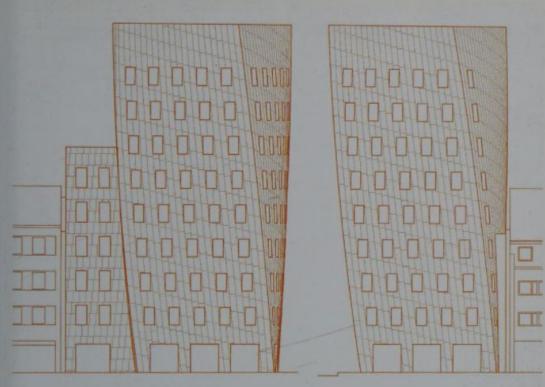
opposite: detail of final design model











east elevation

north elevation

opposite top: views of final design model and stainless-steel cladding study

bottom: finished building, 2001 client: Ustra Hannover Public Transportation

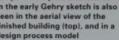
project principals: Frank O. Gehry, design pertner Randy Jefferson, project partner Eva Sobesky, Randall Stout, Laurence Tighe, project architects Edwin Chan and Michael Maltzan, project designers

project team: Rich Barrett, Jeff Guga, Ana Henton, John Jennings, Michelle Kaufmann, Naomi Langer, Colby Mayes, Ernest Ross Miller, Kyle Moss, Daniel Pohrte, Jonathan Rothstein, Beat Schenk, Susan Son, Tensho Takemori



the pinwheel plan determined in the early Gehry sketch is also seen in the aerial view of the finished building (top), and in a design process model

two views of the EMR exterior and reflecting pool



## elektrizitatswerk minden-ravensberg gmbh [emr] communication & technology center 1992-1995

Bad Oeynhausen, Germany

I don't know what a green project is! But I do believe in applying energy conservation technologies if they're viable. In the EMR building it was a consideration because these people are selling energy, and they wanted to demonstrate their ability to do this. So I said to them, "Look, I'm not an expert in this, and I'm not sure what's economically viable and what's wrong and right." When the AIA discovered solar energy and green buildings, all of a sudden the whole bloody AIA was doing so-called energysaving buildings. They became judgmental and "green."

I was suspicious of the whole thing. But the head of the company is a very nice guy, and I said, "Why don't you bring your people here?" He said, "I'll do better. There's an institute in Frankfurt that is leading this thing for the Green Party. They are the state of the art for Germany. I'll bring them to L.A. and we'll have a symposium. We'll work

> together for a week, we'll discuss all the options so you can learn all about the state of the art." So I met with those four men for one whole week, with my guys. The young kids are always interested. At the end of the

> > week, I realized that Native Americans were way ahead of them.

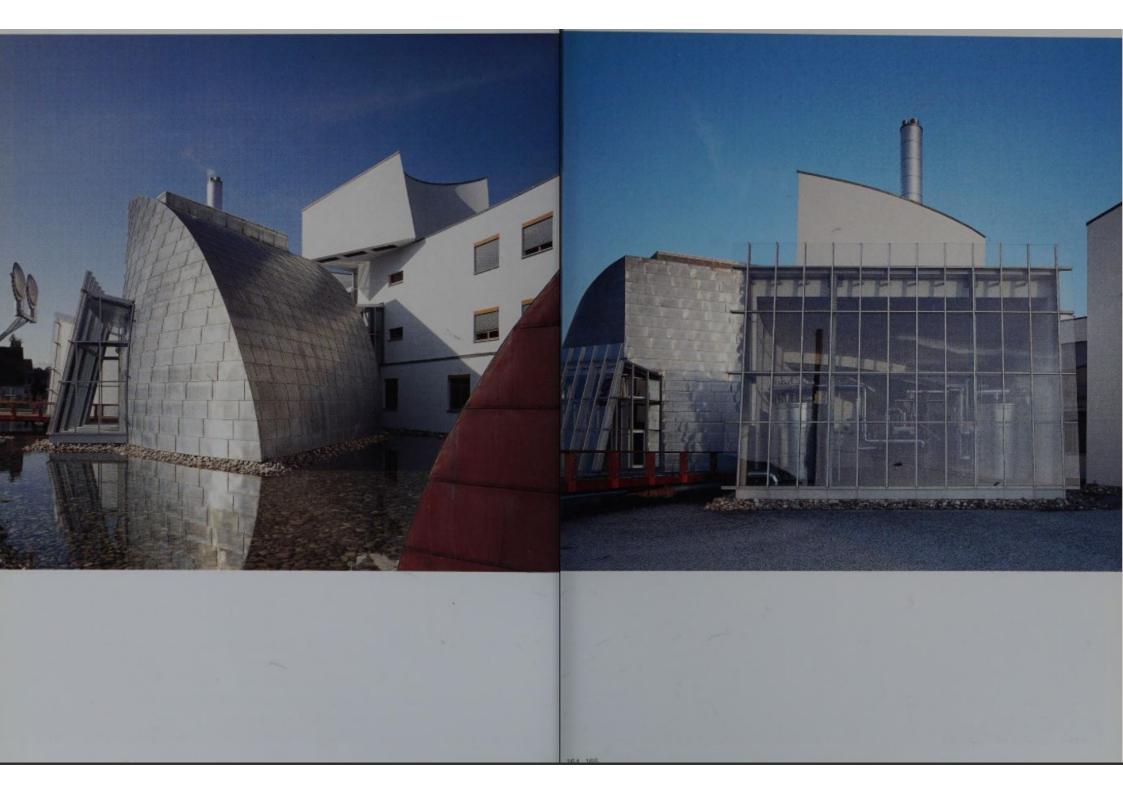
Heat exchange only works in a residence, not in an office building, because office buildings aren't used at night. If you gather heat during the day to use at night, and

there's nobody there at night, you can't use it. There was only one place in the EMR building where they worked around the clock, the control section on the left-hand side. It has a heat exchange. It retains heat gathered from cells

in the windows; at night the cells are opened and heat is released.

I said to them, "Why don't we have a bunch of bicycles out in front, and we'll just have people in the community come by when they want to do their exercises. They'll sit





on the bicycles and generate a little power, and it will run the building." Craig Hodgetts and Ming Fung designed an exhibition for the building that demonstrates a number of ideas about energy and energy conservation and they put two bicycles inside.

For air-conditioning, which is needed only a week or two of the year, we pop a skylight that's right at the top of the roof, and it takes the hot air out. It works like a dream. Native Americans did that, too. I've been doing that for years. The Schnabel house has such a skylight. You push a button to open it and it takes the hot air out. It saves energy, and when you turn your air-conditioning on, finally, when you have to, you don't have to leave it on for a very long time.

The solar stuff works for hot water. It works for pools, but it's expensive. We couldn't use wind, as there is almost no wind there. So after a week of being with these experts, we didn't learn that much. On the ceiling of the auditorium, I used voltaic cells. I used them because I had a glass roof, and the voltaic cells created a trellis effect, so you didn't get direct sunlight. You have the cracks between the voltaic cells that let light in, and that works.

Cal Tech has developed a thin metal skin that's a voltaic cell. It will store energy. With it, the sun will create electrical energy. The whole skin of a building could be a voltaic cell. To make it, they weave strips of metal, like a fabric. I think you could do it in any metal.

opposite: detail of ventilation duct detail of main entrance rear elevation

The EMR Communication and Technology Center is a 46,000-square-foot Gehry pinwheel plan, located along an entry road to the town of Bad Oeynhausen, in a district of domestically scaled warehouse buildings. Garden areas are at the north and west sides of the building. The network control center governs regional power distribution. In addition, the building includes an exhibition hall, a conference center, dining area, and an office wing. All are accessible from a two-story skylit interior street. The exterior is a combination of stucco, glass, zinc, and copper on a reinforced concrete structure.

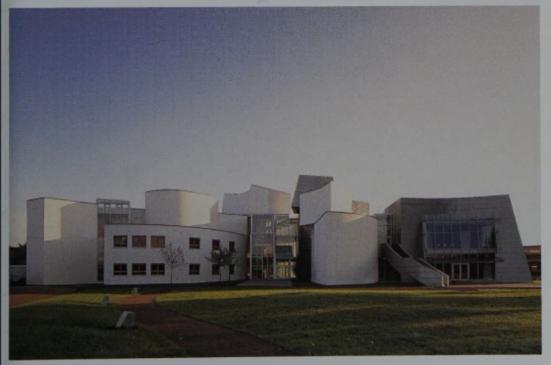
client: Elektrizitatswerk Minden-Ravensberg GMBH

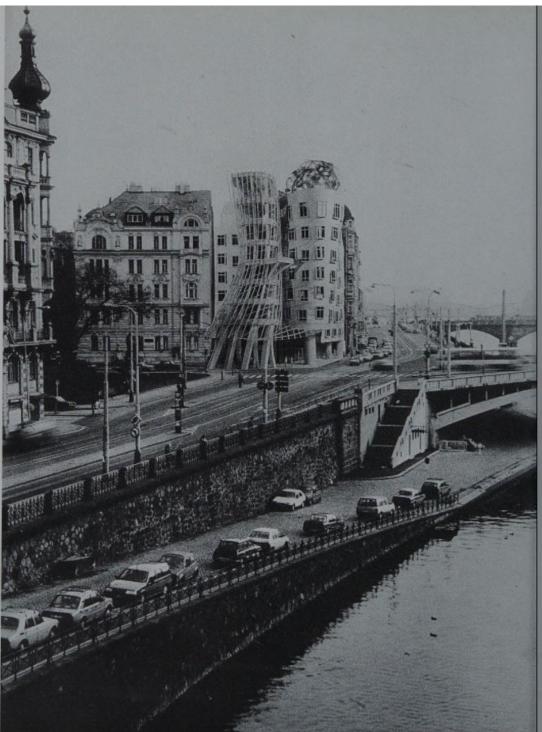
project principals: Frank O. Gehry, design pariner
Jim Glymph, project pariner
Randall Stout, project architect
Randall Stout, Vince Snyder, Michael Maltzan, project designers

project team: Tomaso Bradshaw, Jonathan Davis, Matthias Seufert, Todd Spiegel, Hiroshi Tokumaru, Laurence Tighe, Tim Williams









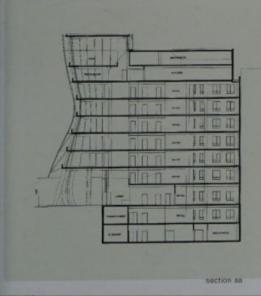
#### nationale-nederlanden building 1992-1996

Prague, Czech Republic

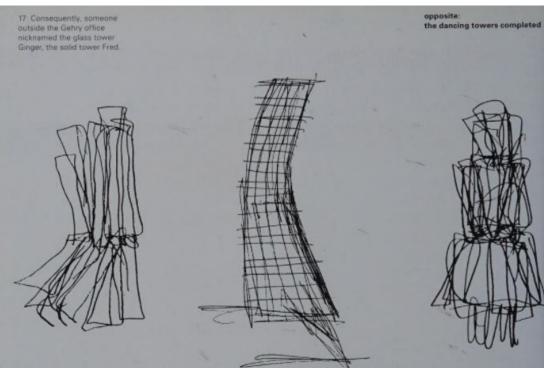
I can't be an entirely different person when I work abroad. You bring your baggage with you. But my intention is to be part of each place. My effort is to work contextually, but not to pander to tradition. I have other principles: living in my time instead of in the past; interpreting what I see and how I fit. I don't consciously take Los Angeles with me. Maybe I do. I take me with me, whatever that is. I think Bilbao relates to there, and Prague relates to there. I wouldn't have done those buildings in Los Angeles.

I spent about ten days in Prague before I started really designing. I went over three times. I had a collaborative architect in Prague, Vladimir Milunic. He knew the ropes. My perception was that in Prague they designed the old buildings with implied towers. They put little caps on top of them and gave them each a hat. That was interesting to me. That was a clue. The other was that in the nineteenth century, the windows and other elements had details that gave a certain texture to the buildings. Even though they looked like they were stone all the buildings were colored plaster. I picked up clues from the plaster, and from whatever I saw.

My building was on a square piece of land on a street next to a river and a bridge. Vlado told me that the city really wanted to aim the street toward the bridge, and they asked if I would do something with the building to project out so that the body language would be there. He negotiated with the city to do that. The developer liked the idea because it gave him a little extra area for the floor plate, which was very small. It's not an economical developer building because of its small floor plate.



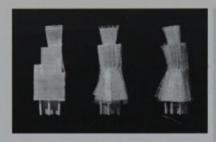
opposite: collaged process photos of the building in context; it is referred to as "Fred and Ginger" by the people of Prague

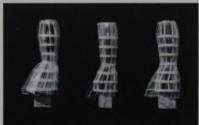


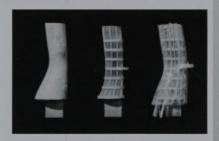
The collaboration with Vladimir Milunic was easy, because when I first met him, and they asked me to do the job, I said, "Look, it's too small for a collaboration; don't do that to this guy." And Milunic said to me, "I want you to do it." I said, "Wanting me to do it means I'm going to do it." He said, "I want you to." I started working, and Milunic led me through the city. He talked me through a lot of ideas. I said, "Well, for me, Prague has implied towers, and that is the language of the waterfront." And I thought we should use the implied towers. I thought we should make one tower that turns the corner, to take us into the plaza, and then another tower that fronts on the plaza that also pushes the street out. Milunic agreed with that, and he got it approved. He was very helpful to me in explaining the urban issues that the city was involved with, that they worried about. He didn't get involved with the shapes.

The first Prague model had two towers that were square. One projected out. Then I blended them. Then I decided to make one glass. The first model looked like a woman's dress, and the Czechs made fun of me.<sup>17</sup> They're very proud—they consider themselves to be Europe's intellectuals, especially because of Vaclav Havel, their poet President. Milunic spent four years in prison with Havel. They were cellmates. They are really close friends. They understand "abstraction" and they hate postmodernism. When they saw the dress they thought it was postmodernism, and they gave me lectures about abstraction. Even Havel did. They didn't understand where I was going.

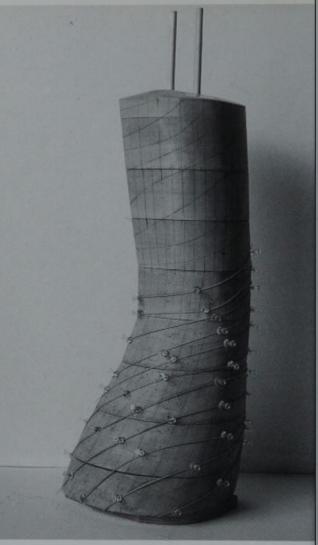












design process models of the evolving glass tower form that were shaped by hand and then used as the basis for the CATIA model

I was struggling with the window breakup in the adjacent nineteenth-century buildings that became higher floor to floor. I had two more floors to deal with than were in the existing buildings. If I had just kept the windows flat, you would have read them as two more floors. I worried about that, because it would have been abrupt. So I thought, how can I make blurry edges so you don't realize that there are more floors? I started making the model, and I started to push the windows up and down. I pushed one up to the top of the ceiling and one down to the floor. Then I built it on the model, and the texture of it fit in, so I knew it was all right. Then I drew the lines to add another layer of texture. That's something I'd never done. I got self-conscious about it after I drew the lines, and I thought, "Well, this is stupid; it's kind of a pastiche—you can't do that." Then I straightened out all of the lines, and they didn't look good. So in the end I said, "Well, my instinct was right, and I don't know why."

The approach to architecture should be like science, with breakthroughs that create new information, not the repetition of old ideas. For example, we've developed new windows in Prague, in the Berlin bank project, and in Dusseldorf. I decided the windows were like hanging framed pictures on the wall. Instead of being part of the skin, the window is articulated, it tilts, has a presence. I worked very hard trying to devise a window that looked like it was attacking the form instead of eating it away. I thought of it like a swarm of bees coming at a wall.

The module is for one office to have one window. But they didn't do that. They left it, and it really looks good. I wouldn't have thought it would look good, but it really works. The nice thing is that the glass tower is the conference room on every floor, and each one is a different shape because of the dimensions. It's quite interesting.

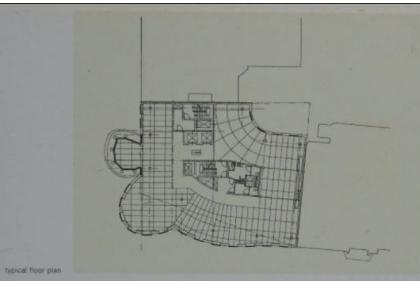
I tried to break down the scale in Prague so it would work with the nineteenth cen-

tury. There it's almost seamless. On one side you come along and you don't realize it's a new building. We maintained the height line. The old buildings have five floors, and mine has seven, so I couldn't just go straight across. That's why I bumped the windows up and down—to blur the difference. Because it's a commercial office building they needed more floors. Five is nine-teenth-century floor-to-ceiling, and seven

There was a public referendum on the building before it was built. If you build a dumb, ordi-

nary building, everybody expects that. As soon as somebody does something unexpected everybody gets angry. Nevertheless, we won—fifty-eight to forty-two.





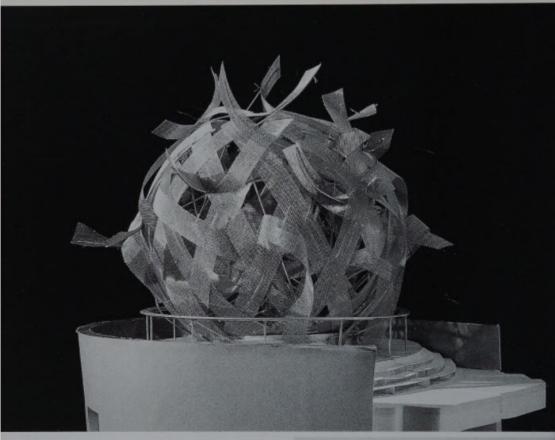


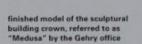




opposite: detail of windows on river façade

steel framework for the glass tower under construction and detail of the completed glass tower (right)





right and opposite: the sculpture under construction







Prague's historic district has long been a broad mix of epic styles carefully watched over by the city's preservationist community. The Nationale-Nederlanden Building's site, at a crucial corner along the Vttava River, was a challenging context for Gehry's dancing towers. Guided through the local political scene by Vladimir Milunic, his collaborative architect, Gehry was able to create a joyous landmark carefully aligned with its nineteenth-century neighbors. The glass-enclosed tower is pinched in at its waist to allow residents of the adjacent building a view across the river. The 62,800-square-foot building projects toward the bridge at its corner. The glass tower forms a covered colonnade and a canopy over the main entrance. The ground floor has a cafe and several commercial spaces. A roof-level restaurant tops the six office floors. The dome atop the enclosed tower is formed of steel mesh strips.

the relationship to neighboring buildings is evident in this photograph showing the arrangement of windows and the sculptural crowns on both buildings

client: Nationale-Nederlanden/International Netherlands Group

project principals: Frank O. Gehry, design partner Jim Glymph, project partner

Marc Salette, project architect Edwin Chan, project designer

project team: Douglas Giesey, Masis Mesropian, Eva Sobesky, Thomas Stallman, Lisa Towning, Philip Rowe, Kristin Woehl disney ice 1993-1995 Anaheim, California

The interior is better than the exterior. It's a reversal of my usual problem. I put the money there, because I knew I was going to be skating there! A couple of times a year I go there and we have practices. I love the hockey players. They're kids.

I wanted the interior to be like the wooden rinks were in Canada when I was a kid. Most of the hockey players come from Canada, and we've talked about that over time. They all wish they had that kind of rink. I wanted to please them, to make a place that was nice for them. When we started talking about the project and said we wanted to use a wood interior, everybody said, "You can't afford it." It's more expensive than the rinks are now. Most new rinks are just metal Butler buildings with exposed insulation.<sup>18</sup>

It was fun to do. There are things I might have done differently. I could have put windows in where the ceiling comes down to the seats in the middle and then, where it comes down on the outside wall there should have been a skylight. But the worry is that if you let natural light in, it melts the ice. And because I didn't do any of that, they can keep the ice at a very good temperature, and all the skaters love it. It's the best ice in California. The pros love skating there.

This community ice center has a dual function: it is the practice rink of the NHL's Anaheim Mighty Ducks, and it is a neighborhood rink serving youth hockey programs. The double curve of the anodized aluminum roof reflects the two wood-clad interior shells; they are divided by a central lobby that includes a snack bar, skate rental area, and an equipment shop.







18 Butler buildings are preengineered steel or wood-framed structures. opposite: palm trees form a witty ring around this southern California ice rink

exposed Glu-lam beams curve above the ice rink

detail of building façade of anodized aluminum client: Disney Development Corporation

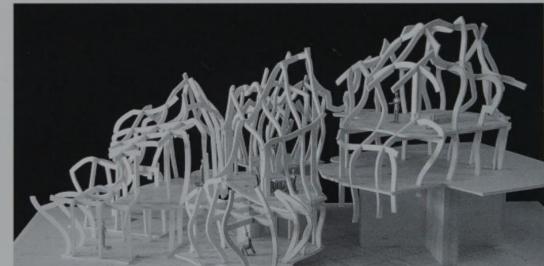
Michael Maltzen, project designer

project principals: Frank O. Gehry, design partner Randy Jefferson, project pertner Tomaso Bradshaw, project architect

project team: Stefan Helwig, Gaston Mogues, Mok Wai Wan











## telluride residence 1995-

Telluride, Colorado

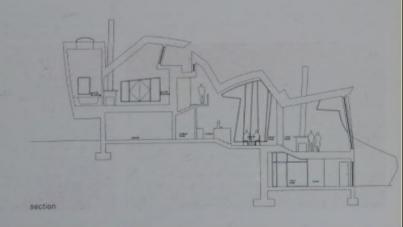
This is the third house we've designed for Jay Chiat. I don't know if he's going to build it. It's very similar to the plan of the Sirmai-Peterson house. Jay changed sites because the last one had controls that conventionalized the house. Although we made a nice house within the rules, he didn't like it. He was offended by it. So he bought thirty-five acres, and the new house sits in the middle; the next guy is in the middle of his thirty-five acres, and they don't see each other. One neighbor, Dick Ebersol, head of NBC Sports, just hearing the description of Jay's house, sold his lot. He thought it should be a log cabin.

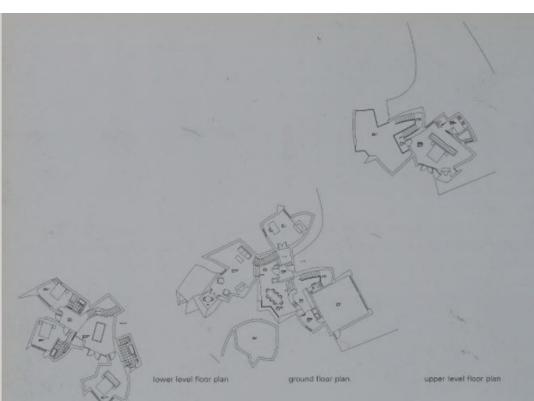
The house steps down the hill. Our inspiration was Duchamp's painting. There is a bedroom and a den for Jay, a living and a dining room, a garage and a mudroom, two kids' bedrooms, and one guest bedroom. It will have a concrete foundation, the frame of the building will be very sculptural, and it will be covered with black copper, which is a roofing material. It's a very animated roof with holes punched in it, which seems appropriate for snow country.

At some point you create unusual spaces when you get very deep folds in the envelope. That's what we're struggling with in Telluride. You can find ways to do it. The other thing is the difference between the inside and the outside. That's very interesting, if you don't rigidly adhere to the idea that the inside and the outside have to reflect each other, like the religion of architecture says it has to—although it never did in the good stuff, anyway. I've been bashed for that a little bit.

19 Marcel Duchamp's Nude Descending a Staircase, 1912

opposite: design process models, structural study model, and shaded surface CATIA studies





rachel allen: The first models are simply a series of wooden blocks that we cut up according to could and as efficient, and then the program requirements and floor-to-floor heights; they form the basic program skeleton. We always start there. This program is really simple. It's a threebedroom house with a guest house don't see us. Edwin Chan, the and a den. We started stacking blocks up to try to develop a plan that responded to the site, as it slopes very steeply.

edwin chan: The cubist windows are just a way to see how simple we can make it. I don't think the windows are completely resolved yet. We wanted to see if we could start from the language of Frank's house, instead of the language from the Korean museum, and maybe there's a way to take it to another level. I love the fact that it's a real house. I love the fact that it's out there,

that's great.

In May we revised the scheme. We tried to straighten out the building a little bit. The purpose of that exercise was to help us establish some kind of cost model, a better understanding of what it means to build in the mountains, so that we can proceed with it. Unfortunately, it hasn't really helped us that much. The question is that nobody really knows what it means to and it looks like a mountain; I think build the type of building that we designed in Telluride.

We started the model by

getting the blocks as tight as we

started wrapping them with paper

to make the sculptural shapes.

It's miles from anything else, so

house, and more important, they

project designer, once said that

it until you know who's looking.

They might want to see it!

you don't see anybody else's

After we got this model where we liked it, we digitized it and scanned it into the computer, and used CATIA to jump scale and build it. It was really exciting when it first happened. The roof is house, with the timber and the black copper. It's actually very common on Korean temples and sometimes on Japanese temples. I don't know how they do it. you don't know if you have to hide. Dipping a copper sheet into an ammonium nitrate bath causes a chemical reaction with the metal. It's actually a molecular change

The interior is very simple. It's

ever it's appropriate. One of the

fantasies we've talked about is

to create a colorful interior that is

very soft, in contrast to the exte-

rior. We want to play with fabric,

or maybe leather, so that when

you come out of the cold, you'd

be in a very colorful, soft, warm

interior. That was part of the

fantasy.

looks like clay. It will be terrific against the snow. The house will be like a big boulder. The grating is a departure from Frank's projecting prisms. It will have cubist windows.

that is permanent. Over time it

This design walks a fine line drywall with exposed wood wherbetween naturalistic forms and architectonic, highly geometric forms. It's an idea that we started that we see this as an opportunity playing with in Korea.

model pieces line the walls of the Telluride work area



client: Jay Chiat

project principals: Frank O. Gehry, design partner Randy Jefferson, project partner

Edwin Chan, project designer

project team: Rachel Allen, Kamran Ardalan, Rich Barrett,

David Nam

Years ago, when I designed Vitra, a man in the advertising business, Thomas Rempen, came to the opening and asked me to design a building in Dusseldorf on the river. For some reason, I didn't respond positively to him. So he asked for another recommendation, and I recommended Zaha Hadid. So they hired Zaha, and they worked with her for four or five years. She did one of her best buildings ever for them. But they didn't build it. It was too difficult.

Rempen kept in touch with me during that five-year period, and

he had another job for us to do about three years into it; over time I grew to like him. I'd gone to Dusseldorf a few times to meet with him on another project in the harbor. Then he called and asked if I was going to be in Germany, and could I come by. So I went, and he told me that they couldn't do the Zaha building, and that he had written to her and told her they couldn't do it. There was a new part-

nership, and they were going to build the building for half the budget. He didn't think that she could turn around and build a building for half the budget on that site and feel good about it. He didn't want to put her through that, so he asked if we would do it. I said, "Well, I don't want to come in and take over Zaha's job." And he said, "Well, we need a building, and you're our first choice, but if you don't do it we'll go else-

where." It was a great project, and they had already written

Zaha a letter terminating her. I thought, we need the work. So I took it. It's three spec office buildings—one metal, one plaster, one brick—with a very tight budget.

It's financially very successful. I was trying to fit into the urban pattern, and leave the riverfront open so that the people behind would have a view through to the river. All the buildings being built there so far have been built as

a wall against the river. So all the people behind are being walled off from the river. We decided not to do that. These are spec office buildings. Our client Rempen's offices are going in the middle one. He has an advertising agency. When we started out he only needed one floor, and now he needs the whole building. In that length of time, he's expanded. Because there are three buildings they were leased quickly. When you rent space in one big building, you have to share the identity. In this case, the smaller users could have an identifiable piece of a smaller building. It's a good idea, and it worked. It's anti-Rockefeller Center. This represents the new world we're in. There's more individuality. It's about democracy.



opposite: design process models

construction of mirror finish stainless-steel wall



randy jefferson: The three office of Styrofoam that are 2.4 meters expensive than constructing a flat final site model showing buildings are along the edge of the Rhine River. The wall of the center building has a surface whose shape is much like that of folds of hanging fabric. This undulating wall is clad in polished the concrete. The products of this stainless steel, with pre-cast concrete creating the complex shape. For the first time we're using

wide by 3.4 meters high, by .6 or .9 meters thick, to create the shape of the building full-scale in Styrofoam. These pieces of Styrofoam become the forms for construction process are pre-cast concrete panels that have the exact shape of the design model computer data to mill large blocks transcribed into real life through computer data. They fit together perfectly. This system is more

wall using wood forms, but the contractor is able to recycle the Styrofoam, and the pre-cast concrete pieces fit exactly, even though they're complex in shape. relationship of the three buildings to the river

opposite: detail views of finished buildings

**CATIA** study

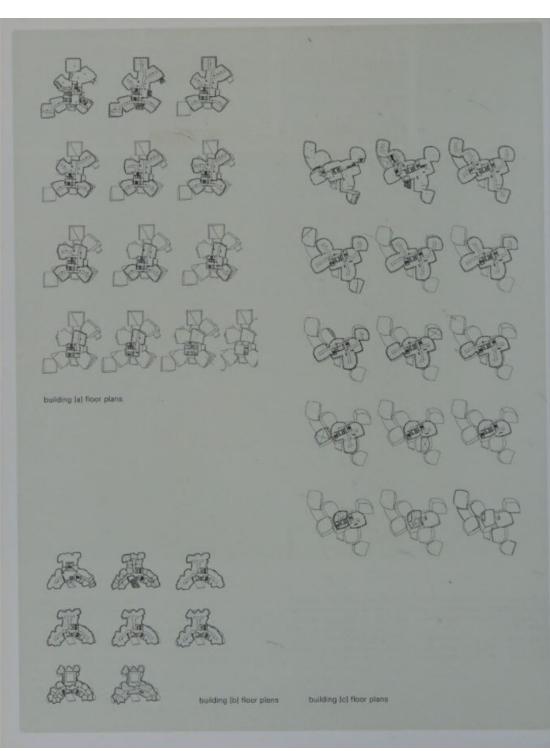


















This harbor-front site along the Rhine in downtown Dusseldorf is part of a broad-based rehabilitation effort intended to provide a public amenity for the city, consisting primarily of art and media agencies among land-scaped open spaces. The three buildings encompass 300,000 square feet of commercial office space. The central building is clad in metal, the east tower in plaster, and the west tower in brick. Identical operable windows are used on all three buildings, giving them a visible relationship.

laser-cut models generated from CATIA data

















client: Kunst-und-Medienzentrum Rheinhafen GmbH

project principals: Frank O. Gehry, design partner
Randy Jefferson, project partner
Craig Webb, project designer
Terry Bell, Tomaso Bradshaw, project architects
Brent Miller, Lisa Towning, Kristin Woehl, project coordinators

project team: Jim Dayton, John Goldsmith, Jeff Guga, Michael Jobes, Naomi Langer, Joerg Ruegemer, Charles Sanchez, Bruce Shepard, Rick Smith, Eva Sobesky, Tensho Takemori, Laurence Tighe, Scott Uriu, Flora Vara, Jeff Wauer

the prefabricated concrete wall panels of the stainless-steel building are made from individually shaped Styrofoam molds that are cut by machines working directly from CATIA data

detail of stainless building showing angled windows in the façade

## experience music project [emp] 1995-2000

Seattle, Washington

I'm still interested in objects in a field, like villages, but I don't see that idea rigidly applied. I think you can see it in the Experience Music Project, where I started out with separate blocks that the client, Paul Allen, liked. That's the village. If you look at the first models, I was making it more coherent. He didn't like it. He liked the models where I broke it down. I did too, actually. And when I broke it apart, I liked what was going on. I didn't achieve it in that model. Essentially, the building is a one-room warehouse with exhibits inside, and that makes it difficult to break down.

My working process is an evolution, like watching paint dry. This is where I get in trouble with misconceptions about how I work. Nobody realizes that I cut it off at the working drawings and stop. During the front end it evolves. And I tell everybody in advance, "Look, I'm starting here," I show them all the models from the last project. I say, "You look at it, you do it, you listen. I get input, I regurgitate, I move-that's it." I asked Paul Allen why he came to me, what did he want; he said, "swoopy." So my first thought was, "God, he must have been looking at the Bilbao project." I asked him if he'd seen the Bilbao project, and he said no, he'd not seen it. So I asked, "What did you see?" He said, "Well, I don't know," He couldn't tell me. So I said, "Well, the next time you're in my office, would you come in and look at the models, and tell me what swoopy means to you." So he walked all around the office, and he saw the horse's head (in the DZ Bank project), and he said, "That's swoopy." I said, "I'm very delighted

craig webb: Through the process, we've had disparate elements. chunks of individual buildings. Then we did a model that wove the materials together, which we liked a whole lot, but Paul Allen didn't like it. So we agreed to go back to the individual pieces with individual colors. We're looking at creating overlapping glass strips on the exterior. The glass is like Prague and Bilbao, It won't be visible inside. It's flowing over the top of the metal pieces.

We've always wanted to by to weave the individual pieces back together, and the glass is accomplishing that.

It becomes a kind of decorative element, which is something that's bothering a lot of people. It is definitely another layer of skin, but it's not keeping the water out. It's the next layer up. And we're using it for signage. We're looking at using colored glass to mediate between the different colors in

the building, and then we're going fan all the way through the whole to light it at night so that it blurs and creates some kind of movement on the surface.

We're creating pipes, which are going to run the length of the building. They're like guitar strings. A lot of people think it looks like the neck of a guitar, with the frets on it. Frank took the guitar neck and said, "Make a bunch of these " We made a whole bunch of wood slats, and they fanned out so there was a big piece, and it started to undulate, like music. He was trying to get the building to look like music, because of the way it was undulating. So we're going back to that.

You enter the building through a glass key, which we call the "jelly jar." It is a glass weather vestibule. The building has two orientations. The front door faces the amusement park. Parking is on the side, and so a lot of people

are going to come in the other door-which is the second entry-go through this interior street space, and go to the lobby. There is a bookstore, with two shop windows that can be looked into from outside. A visitor can go into the shop without going into the museum. That's true of the restaurant also. We're just starting to develop the casework and the retail specs. Then there's a metal wall that goes all the way through: It's weaving all the

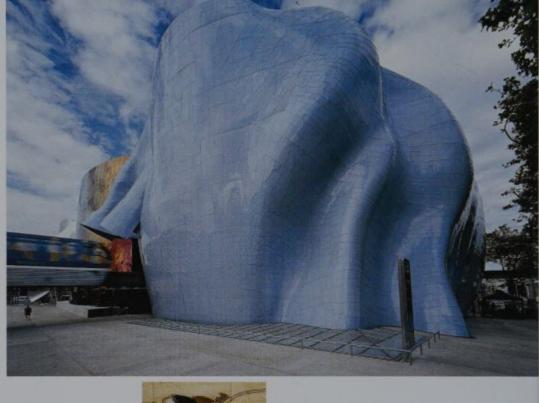
materials together in a way that's not happening outside. The metal will be the same as the outside. It will probably be perforated for acoustics. There is a café on two levels, which will also have a lot of performances going on. There's a small stage above and a bigger stage below. There's a curved wood canopy over the top of the bar, it's rock-and-roll! It's a real restaurant. We just started

working with the man who is going

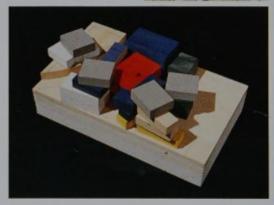
to operate it. There's a small stage for a singer and two or three other musicians. It's a huge restaurant. It will seat about 250 on the first level.

The second building entry is for tour groups-school children and so forth. In a room called the Electric Library they're going to have interactive computer stations where visitors can query the EMP's database. They're trying to work up a system in which you'll be given a set of open architectural

finished building and early design process models









that you think that's swoopy and that's where you want me to go, because that's the farthest-out I've been, and that's about where I am, so I'd like to take off from there." So then we made models.

I wanted to do something colorful because of the guitars. I immersed myself in the folklore of Jimi Hendrix, and his music.20 But I told them up front, "This isn't my thing. I listen to Haydn." I'm not a stodgy guy, but I said, "When it comes to this stuff, I'm a pure dilettante." I said, "I'm going to have to get educated." Craig Webb plays the guitar and Jim Glymph plays the quitar. They know all that stuff, so they brought it all to me, all the books and the records, and I listened. I asked Paul Allen if I could use that kind of music for inspiration, and he said, "Yes, that would be wonderful." So those first models were blue and green and we did a whole series of them. Some were too swoopy, some were not swoopy enough, one was just right.

I found a weird way of communicating with him about swoopy, and we made fun of it, and I'd joke with him about swoopy. He's very shy. I thought it was very endearing actually. I thought it was wonderful. He criticized some of the things, and then I made a model that had the broken pieces—the yellow and the black and the blue thing. I showed it to him, and he said, "Oh my God." And I thought he hated it. I don't know whether he loved it. But he's funny. He sees things at a presentation when it's too late to change anything. I was presenting the project at the Seattle Center, and that's when he came to see it, when I was presenting it. What could he do? But apparently, he loved it. He approved it. I told him what I thought was wrong with it. I said I thought it looked like broken crockery, it really was too fragmented. I said, "The

headphones, called near-phones. They don't cover your ears. When you walk in front of an exhibit you hear the sound, if you walk away, it's gone. You'll also have a hand-held device that is going to read either bar codes or some other device on the exhibit cases. You will be able to swipe a wand across it that will cue an audio sound track. There's another button on that device to store a particular exhibit. You will be able to go to the Electric Library and

to use it for performances, so it

Domain, the special effects house

that did the film Titanic, is creating

a multimedia show. There's going

a platform and probably a big sur-

round screen and other pop-down

screens. Paul Allen wants to be able to give people the experience of being a performer on the stage. There's a part on northwest music, there's a part that's more general

rock-and-roll, and different eras,

to be a pre-show area, and then

will be for big concerts. Digital

put it into the computer; it will open the database at that point so looking at covering it in mirrored that you can get deeper into the

There are two classrooms underneath, and a 200-seat auditorium for film series and lectures. There is coat-check, ticketing, and an orientation space where you get your hardware. The music interactive exhibit is called Sound Lab. There is another element that's somewhat similar to the

horse's head in Berlin, We're stainless steel so that you can walk under it and around it, and everything animates. Below there are going to be

plasma flat-screen video displays that will give you information about ticketing and programs. There will be a whole series of ticketing options, so you can decide to go to a movie or go to a concert or go here or there. Sky Church is an area we're not doing. The

terminology comes from Jimi Hendrix. He had an idea of a thing he called Sky Church, which was a communal space where people would come together and make music, get together and communi cate. So they've picked that up as the name for the space. In the normal museum day it will be an entry space, sort of a greeting space that you will come into and go from there into the other parts. of the exhibit. They're also going

20 The building is dedicated to the memory of the Seattle-born rock musician. Paul Allen was inspired by Jimi Hendrix's creativity, and he hopes that the EMP will provide inspirational experiences. to its visitors.

and rap. There's one exhibit that's called Here and Now, which is supposed to be the most contemporary music. They're going to try to pull it in on a very frequent

rock-and-roll and some roots, so

going to go forward into hip-hop

there's a bit of blues. They're also

opposite finished building, 2000







basic idea is here, and I want to study the materials. I want to study the terrazzo, I want to study the metals, I want to see what we can do on the budget."

If you look at that first model, it had metal slivers all over it, and broken wires. But he said, "What are you going to do with that?" I said, "No, no, don't worry. This is how I work." I said, "I just throw the idea on, and now I'm going to figure out what to do with it." And I worked hard trying to integrate the thing, and we got somewhere. It was really beautiful. I started to use the metal in a painterly way, where it started to move through. It wasn't all one piece. There was gold and silver threading together. The thing got messier on top, the metal became bigger moves. I was really happy. I think it would have been better than Bilbao. It was on its way. Then he called and came in, and he said, "Whoa! This isn't about what I approved. This is messy." I said, "Well, rock-and-roll is messy." He said, "Well, this is what I approved. I don't know about that." He was very upset. I said, "Look, Paul, you're paying for it. I'm willing to go back to square one, but it will take time. You've got to articulate what you don't like." And he was pretty clear about what he didn't like. He liked the separate pieces; he could understand them diagrammatically. I said "Look, I'll go back and revisit the whole thing," So I did. I dove into this thing. It was a new language, and I got with it, and I started to make inroads. I like where it's going; I'm really proud of it."

EMP has several materials, stainless and painted metal. The stainless is in three finishes: shiny with a purple haze, which is like Jimi Hendrix, the angel hair, which has a little texture; and the gold. The red is painted metal, and the blue is painted metal, and the red will fade. We did that on purpose, so the red will look like an old truck, a faded old red truck. I believe it's going to be wonderful.

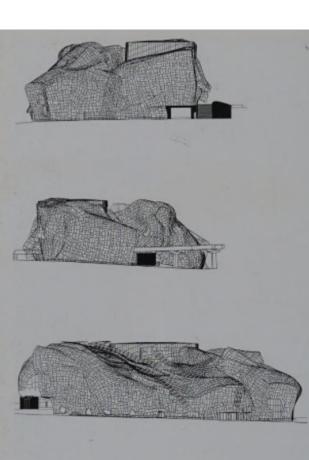
opposite: finished sound lab demonstration area

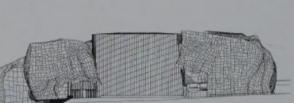
sketch and series of design process models of the sound lab demonstration area











opposite: final design models

north elevation

south elevation

east elevation

west elevation

client: Experience Music Project

project principals: Frank O. Gehry, design partner
Jim Glymph, project partner
Craig Webb, design architect
Terry Bell, George Metzger, Laurence Tighe, project architects

CATIA modeling: Douglas Glenn, Bruce Shepard, Rick Smith

project team: Kenneth Ahn, Kamran Ardalan, Rich Barrett, Herwig Baumgartner, Elisabeth Beasley, Anna Helena Berge, Kirk Blaschke, Karl Blette, Rebeca Cotera, Jon Drezner, Jeff Guga, David Hardie, Leigh Jerrard, Michael Jobes, Naomi Langer, Gary Lundberg, Yannina Manjarres-Weeks, Kevin Marrero, Brent Miller, Gaston Nogues, David Pakshong, Douglas Pierson, Steven Pliam, Daniel Pohrte, Paolo Sant'Ambrogio, Christopher Seals, Dennis Sheldon, Tadao Shimizu, Eva Sobesky, Randall Stout, Tensho Takemori, Lisa Towning, Scott Uriu, Jeffrey Wauer, Adam Wheeler

















randy jefferson: If you have a piece of paper or a sheet of metal, and you bend it into a cylinder or you bend it into a cone, that's fairly simple, because you don't have to stretch it. But to make a piece of metal conform to the shape of a surface that is complex in the sense of a sphere, the sheet of metal must be stretched. The conference hall shape in the atrium of the Berlin project is clad with stretched stainless steel, two millimeters thick. The pieces

forming the shape are approximately two by four meters, though some are smaller than that. In this project we're using the computer data as the source of information from which the manufacturer can stretch the metal. We've been fortunate to find contractors in Germany who are building the hulls of ships with thick steel plates and fiberglass hulls, such as those for the twelve-meter boats built for the America's Cup races.

## dz bank at pariser platz 1995-2001

Berlin, Germany

The horse's head for the Pariser Platz mixed-use building, part commercial, part residential, came from the Peter Lewis house. The reason it got to Berlin is that we came up with a plan for the atrium with the conference center in the middle—an obvious scheme. A lot of architects have done that. It's not a very original strategy, but it's a comforting thing, a nice strategy. I started to play with the space, and I realized I couldn't solve it in time for the competition. I had this beautiful horse-head shape here and it worked, so I adapted it and said, "We'll change it later, they're not going to like it, but at least it's a finished thing and it will look finished." So we put it in and they loved it, and we won the competition. I stuck with it and refined it, because I loved it, too. I think that Claus Sluter was a big influence there.

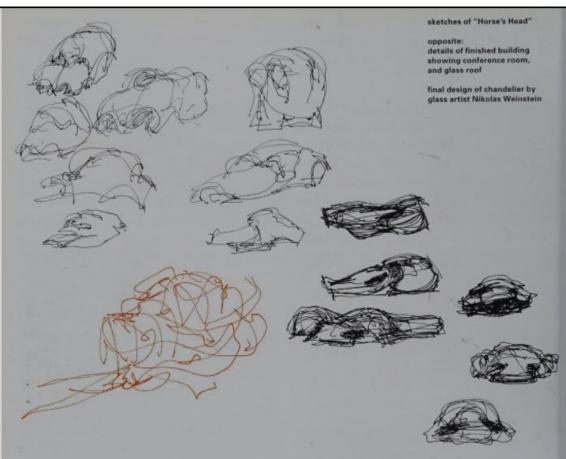
The exterior of the building is limestone to echo the Brandenburg Gate. The stone is four inches thick because the Gate's stone is also very gutsy. They want to link all

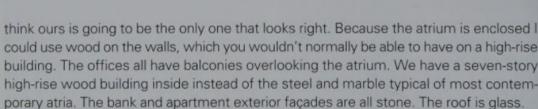
the buildings on Pariser Platz, so we said, "Okay, if you really want to do that, just make the building of thick stone." The bank guys loved it, although it has cost them a lot of money to do it. The scale of the moves I made on the façade of this building relates to Pariser Platz. The other new projects on the square, which are trying to be copies of the nineteenth-century buildings that used to be there, look pastichey, and they miss the point; they didn't learn. There is a hodgepodge of those buildings next to the Brandenburg, but I



detail of finished building showing conference room and glass roof

opposite: studies of conference room referred to as "The Horse's Head" by the Gehry office





Several years ago I met the structural engineer Jorg Schlaich, who I think is the best structural engineer alive. He does very thin web, lacy glass roofs. I'd seen one, and I asked him if he'd work with us on this. He taught us that we could make many different shapes. We didn't have to do it the way everybody else does it. He gave me lots of leeway.

The building has a basement, below street level, and we made a courtyard down there too. We had to separate it, because it's a cafeteria. They call it a casino. That's where the employee restaurant is. They didn't want the noise coming up, so we put the same kind of glass roof on that, and we cut paths through it. The paths come to







the stainless-steel-clad horse's head, which is a conference area. Underneath it is a theater for movies. This facility will also be rented out.

The apartments are really nice. There's an almond-shaped atrium on the apartment side that goes up through the whole building. The elevator is glass enclosed.

Both sides of the building are joined to other buildings. One side is the American Embassy; the other side was Albert Speer's studio. Speer's bunker was under the site. When they dug down to it they found a dining room table with food and dirty dishes on it, and a few things knocked over. It looked like somebody had just run out of there. When the Germans discovered it, they destroyed it in fifteen minutes. There was no architectural historical review board that came in and said, "You have to save this place." Actually, when they started scraping the grounds, there were bombs, live bombs on the site. They bumped into one, so they cordoned off the area and got the bomb squad in. They got them out, they did it all, cleaned it out, they left, and a few hours later they bumped into another one and they were back!

The bank is really an adventuresome client. We've connected really well with them, and they've made it clear that they really want me to see it through my way. We won the competition with the horse's head, and then we talked to them about it, and they liked it, so we didn't change it. We made it better, because it was something we'd appropriated from somewhere else—which I don't do that often. I don't think I've ever done it. I loved the shape. So I changed it.

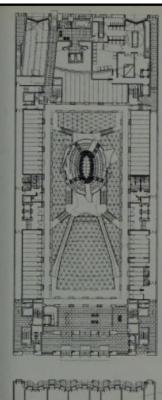
Gemini wants to make a limited edition of the models.<sup>21</sup> When I made the fish lamps, I felt good doing it. I never thought of them as sculptures, competing with Richard or Claes. I was into the material thing of the glowing color core and the fish images. Crossing the line between architecture and sculpture is something that's been difficult for me.

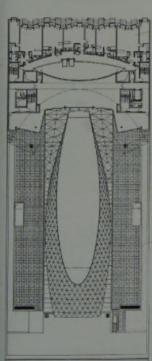


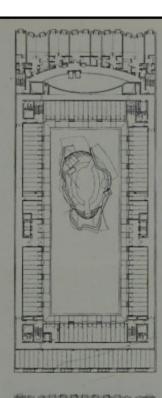
opposite'
top left to bottom right:
ground level plan
second level plan
fourth level plan
sixth level plan
seventh level plan
roof plan

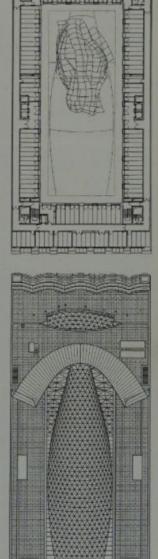
# design process model of roof structure

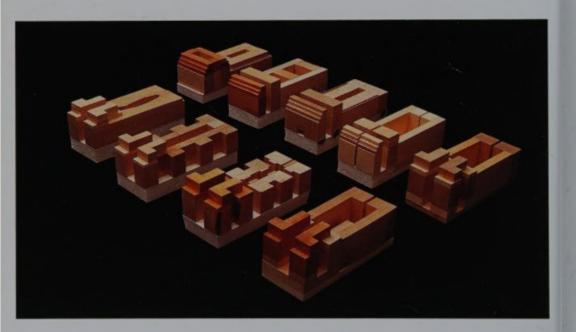
21 Gemini is a pioneering printmaking workshop in Los Angeles where many artists have come to explore the possibilities of traditional as well as technologically innovative printmaking processes.











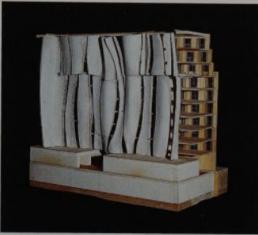


opposite: design process model and details of the housing area facade Pariser Platz houses the five-story Berlin headquarters of DZ Bank, which faces onto Pariser Platz and the Brandenburg Gate; some thirty-nine apartments, rising to ten stories, are located on the south side of the building. The façades are clad in buff-colored limestone, as is the Brandenburg Gate. The 200,000-square-foot building's large atrium has a curved glass ceiling and floor and contains the main conference hall, whose stainless-steel horse-head-shaped form appears to float within the deep space of the interior. The residential part of the building has a smaller atrium that provides natural light for both sides of each apartment.

client: Hines Grundstucksentwicklung GmbH DZ Immobilien Management GmbH

project principals: Frank O. Gehry, design partner Randy Jefferson, project partner Craig Webb, project designer Marc Salette and Tensho Takemori, project architects

CATIA modeling: Bruce Shepard, Rick Smith

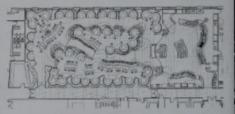




project team: Kirk Blaschke, Nida Chesonis, Tom Cody, Jim Dayton, John Goldsmith, Jeff Guga, Leigh Jerrard, Michael Jobes, George Metzger, Jorg Ruegemer, Tadao Shimizu, Eva Sobesky, Laurence Tighe, Scott Uriu

### condé nast cafeteria 1996–2000 New York City

The whole project started because the client, Si Newhouse, is very interested in architecture. His wife, Victoria Newhouse, is an architectural historian. Condé Nast's offices will use the entire new office building that was designed by the New York firm Fox and Fowle. The publishers asked us



to design all the interiors, but it wasn't a job I wanted. However, we accepted the cafeteria project. It was a very ample budget, and when you have clients truly interested in architecture, who want to do something special, you start pushing it.

We decided to go with the scale of the fourteen-foot-high room. I tried a lot of schemes, which broke the room down into smaller pieces, but in the end I liked the proportion of the room as one big space. I decided to make privacy implied by using glass walls like curtains, curtain shapes that seem to be blowing in the wind. We made an island in the center that is surrounded by glass curtains that are really beautiful shapes. What makes them beautiful is that each shape is different. It would be easy to make a repetitive shape, but that would be another thing. So each shape is different, and you have to consider how to mold each shape. Normally they would mold glass like that over stainless steel. With the computer you'd make a stainless-steel mold, then slump the glass onto it. Each mold would cost \$20,000 or \$30,000. That would have blown the budget. So we started doing research with the glass people, and we found a way to do it with a fakir-like bed of nails that adjusts to various shapes, like the children's toy. (You've seen those toys with movable pins; you put it on your face and it makes an impression in the shape of your face.) The glass panels are being fabricated like that. We expected that maybe ten percent of the glass pieces were pushed too far, and we would have to change them and be a little more conservative. We were expecting that, but that hasn't happened yet. They engineered the ten most complicated pieces, and they say they're okay.



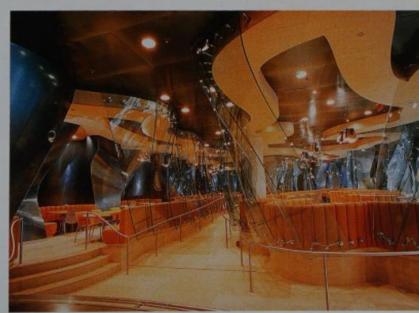


above: floor plan



finished interior





The rest of the space is blue titanium. I was looking at pictures of Giotto's Arena Chapel. Well, when you're in a room that's enclosed, you think of sky-"How do I get some sky in here?" And the light blue does something nice. There are a few windows on one side, but that's all. So we've got to get light in, and the blue titanium suggested sky, and it was new, it was something I hadn't used, and everybody liked it, it's beautiful. It's on all the walls and the ceiling. And it's perforated because of the acoustical requirements of a cafeteria. We didn't want the room to be live.

There are some private dining rooms as well. They are very special molded glass and wood. I'm trying to design a chair and a light fixture for those rooms. The tables are made of Brazilian granite.





The 260-seat Condé Nast cafeteria is intended to provide employees with a convenient lunchtime dining and meeting facility. It includes a main dining area, a servery, and four private dining rooms. In the main dining room, booths that accommodate four to six people are distributed along the perimeter walls that are clad in perforated blue titanium panels with acoustic backing. Additional booths are located on a raised platform that is enclosed within curved glass panels in the center of the main dining area. Freestanding tables and chairs, to be designed by Frank O. Gehry & Associates, will be distributed throughout the main dining area. The

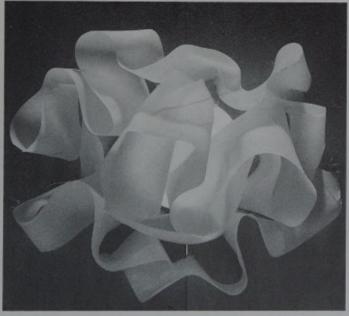
servery, which is adjacent to the main dining area, has stainless-steel countertops, blue titanium walls and canopies, and ash veneer floor and ceiling. The walls, floors, and ceilings of the four private dining rooms are ash-veneer plywood. Curved glass panels articulate the east wall of each room. Three of these rooms have movable partitions, allowing them to be transformed into a variety of spatial configurations for special occasions.

edwin chan: The booths in the cafeteria will have a quilted naugahyde finish. The shapes evolved from some of the exploration that we started in Bilbao. There, we were able to create shapes from Frank's sketches. In order to make the dining room acoustically absorbent, we have to make the titanium perforated. It The floor is wood as is the base will be in pieces, so you will see lines as well as perforations. The

glass-enclosed island will provide the right kind of intimacy, and at the same time you'll be able to see all of the activities going on around the island. The glass curves are like figures; like people, because of the exaggeration of the forms. They have a lightness and sense of movement. of the glass island. It's the ash that we used in Bilbao. There will be four private dining rooms apart from the main cafeteria area.

Those floors will be carpeted. Ash wood walls will be on one side. and on the window side there will be formed glass similar to the glass in the cafeteria; however, this glass will be translucent rather than clear.





design process models

design process model of chandelier for private dining room

client: Condé Nast Publications, Inc.

project principals: Frank O. Gehry, design partner Randy Jefferson, project partner Edwin Chan, project designer Christopher Mercier and Michelle Kaufmann, project architects Leigh Jerrard, job captain

computer modeling: Douglas Glenn, Julian Mayes, Bruce Shepard, Rick Smith, Kristin Woehl

project team: Kamran Ardalan, David Nam

### bard college center for the performing arts 1997-

Annandale-on-Hudson, New York

Leon Botstein, musicologist, conductor, head of Bard College, is the client. This project started in a funny way. There's a gallery in Sun Valley that has a fancy art show and a party on New Year's Eve, and everybody who lives in Sun Valley comes to it. They asked me to be in the show. They said they would pay for my family to come to Sun Valley and spend a week. We went, and while we were there, I rented the hockey rink for two sessions, private sessions with the kids. We were looking for a pickup game, so we let the word out that we had the rink. A man came and asked if he could play with us. He said he was captain of the hockey team when he was at Yale. A lot of people came. We had a really fun game.

Then they all came to that New Year's thing. And the guy who played hockey for Yale saw my work for the first time, and there were some books of my work there. I didn't pay much attention. A few weeks passed after I got back to L.A., and one day he called and said, "I'm a trustee of Bard College, and I'd like you to come there and talk to us about a project, a student union, a small student union." I went to meet them. Berta went with me. They picked us up in a car and drove us up there, and we had lunch with Leon. He said he really didn't want me to do a student union, it was too small a project, and he really wanted to build a small concert hall. There was no competition or anything. He just said, "I want you to do this."

He had done his homework—he was ready. He said, "If you don't do it, I won't do it." So we accepted, of course; it was a beautiful project. There were several site options. We liked the site that was in an old section of campus, with the administration building and several others. If you built a concert hall or a little performing arts thing, it would make a village of it, and it would be kind of beautiful. So we proposed that, and he didn't like it. He liked the idea of it, but he said that's not what he was doing this for. He explained that there were pedagogical issues, and that he wanted the building to relate to the art school, the dance school, and the theater school—to the existing arts facilities. He said, "While it makes sense as a village, that's not what







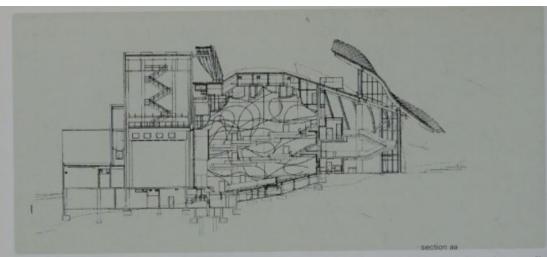






opposite: new site panorama

sketch of hall interior; design process model of hall exterior; final model of hall exterior; structural study model of hall; construction of hall interior This 60,000-square-foot hall will provide performance space for opera, dance, drama, and music. The multipurpose auditorium will have a full fly system for opera and drama, a wood concert shell, and forestage lift for symphonic music. The house will have an orchestra section and two balconies, a wood ceiling, and concrete walls and floors. The entry façade will be stainless steel; the other façades will be plaster.



we're here for." And he said, "I have to think about it in terms of how it's going to fit into the curriculum." So he made it go near the existing arts buildings.

You couldn't argue with him, even though architecturally it didn't make good sense. That's come back to haunt him now, because the neighbors are objecting to where we're putting it, because they can see it from a wildlife trail. They mind seeing it because it's not a tree. It's near another industrial looking building, which is sitting in the trees. So that led to making it a facade, just dealing with the foyer, and letting the back be more industrial. We thought that would help us with the budget. But Leon wants to be able to put a hundred or so musicians on the stage. If he did a modest concert hall for sixty musicians, the volume of the room could be smaller. If you go to a bigger volume it ups the cost.

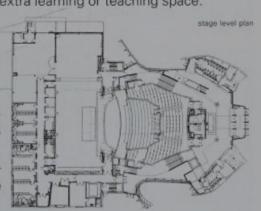
And then he brought in the director Joanne Akalitis one day, and she said, "This doesn't function as a theater; it's not going to work." I said, "Well, we were designing a concert hall, what do you mean?" Well, he started talking to her about it as a theater. So we found things out suddenly. It makes sense for a school to have a dual-purpose hall. But it makes no sense architecturally. Sound problems create added costs. Then there's a fly gallery, and then there's a full orchestra pit for opera. Joanne is going to make operas with Leon. Anyway, it will be an experimental place like no other. And it will be okay for dance; it will work like the Joyce Theater. It can be reconfigured for small productions too.

It's modest. If you straightened all that stuff out, if you made a box out of this whole thing, you'd save about a million and a-half dollars, less than ten percent of the total cost. But that always is the case. The "decoration" I call it, whatever we do as architects, is usually less than ten percent of the building. For Disney Hall it's ten to twelve percent, Bilbao it's ten percent.

The materials are as cheap as we can build it. The main box of the building is concrete, and it will be exposed both outside and inside. The floor of the auditorium is concrete. So we added wood on the ceiling; the panels are acoustically molded. The balconies are wood and the acoustical shell, where the orchestra sits, is wood. That will make it pleasant. But it's not expensive. It's not fancy.

All of the back stage, from the proscenium to the back, is all just matter-of-fact, as simple as you can make it, probably plaster. I wanted concrete block like the other buildings, but it was too expensive, so it's going to be plaster. The roof and the foyer and the surround of the hall are stainless steel. The U-shaped foyer surrounds the concert hall, so you walk around the balconies to go into the concert hall. It was easy to make an interesting shape in the foyer, because you don't have the acoustical issues there. And we made what I called a handkerchief over the entrance. It's probably the only decorative piece on it. The front part of it is a canopy. The back part goes up and houses a skylight, which brings light into the foyer. And the idea is that the foyer becomes an amphitheater, an outdoor amphitheater, with steps going down through the entry. The foyer can be used as a stage in the summer for meetings and discussions with students, and it gives them just a little extra learning or teaching space.

Because it sits in the trees, and it's all green and wonderful, we're able to use stainless steel, which is cold and maybe forbidding in other places. We think that because of the environment, it's going to look okay. In fact, we tried titanium, which is warm, and it started to look funny. It looks overdone. It becomes decorative in the trees, for some reason. Anyway, that's our perception. So using stainless steel is a little tougher look in the setting.

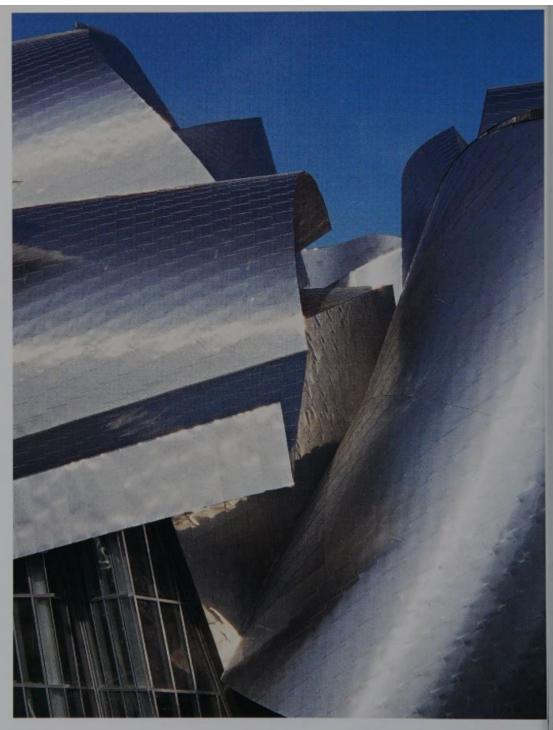


client: Bard College

project principals: Frank O. Gehry, design partner Randy Jefferson, project partner Craig Webb, project designer John Bowers, project architect.

CATIA modeling: David Blackburn, Julian Mayes

project team: Kirk Blaschke, Nida Chesonis, Matt Fineout, Sean Gale, Jeff Guga, John Murphey, David Pakshong, Yanan Par, Lynn Pilon, David Rodriguez, Tadao Shimizu, Jose Catriel Tulian, Mok Wai Wan, Yannina Manjarres-Weeks, Adam Wheeler, Brad Winkeliohn



# the weatherhead school of management at case western reserve university 1997-2002

Cleveland, Ohio

Case Western is the legacy of the Peter Lewis house. When he decided not to build it, he gave fifty million dollars to the Guggenheim, and he gave fifteen million dollars to Case Western, and hired me as the architect. Peter said he did both of those things because of the house. He has since given another nine million dollars to Case. Our building is going to cost thirty-five million, so they need to raise an additional eleven million.

Peter has a relationship with Case, because he hires their graduates, and he also lectures at the business school. That is one of his true loves, and where he's truly expert. So he has a very strong relationship with that school. Since Lewis is giving most of the money, it's all set in motion. It's part of the Weatherhead School, and Al Weatherhead is there, and so it will be called the Peter B. Lewis Campus of the Weatherhead School of Management.

I think the building is one of the best things we've done, because it's circumstantial. We worked hard trying to get a flowing quality in the metal on the Korean museum project, and we got pretty close. When that project died, and Case ended up with a high part and a low part, I was able to use that idea again. But because I'd worked it all out on Korea, I was able to take a leap forward from Korea.

As in every other project, in our basic analysis we studied the classrooms, the offices, and the needs. It's a graduate school of business. We have tons of models showing a great deal of the furniture, the layouts, and everything. This is an important process. There's a model of each office with the furniture in it, and there are models of all the different classroom types with all their configurations—oval, square, etc. As I start manipulating the shapes, the scale of the shapes is related to the clarity of all the research. It allows you a lot of freedom for expression (expressionist architecture, I call it), to be able to manipulate those forms. Because of the computer, we know the quantities we can afford. Some of the models look very voluptuous and wayout. They're overblown, they are not economically feasible, but they do relate to the programs. Then, slowly, you start. If you were writing a treatise, you would write too

much, and then pare it away. It's the same with these buildings. You pare away the stuff and get down to the essence of it. And because we have the computer monitoring it, we know what the economic essence is, and all we have to do is correlate that with the visual essence. And when you finish, it all fits. It's like a Swiss watch. But it looks like you just threw it up in the air and it lands. That's what I like the most, to maintain spontaneity while responding to specific needs.



















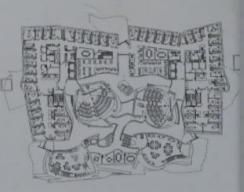


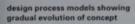






lower classroom level



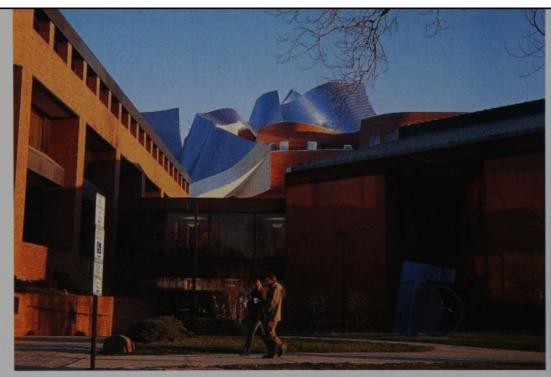


page 218: building exterior

page 219: the stone walls of Glen Canyon, Arizona were inspirational to Gehry as he developed the Weatherhead design







The classrooms are placed all around the building with a maximum of interaction between students and faculty. In the middle area, we doubled up the classrooms. We've piled them on top of each other, and that leaves bumps in the middle. The reason we've put that in the middle is that our building is the first building on campus that's overscale, because the president took away some of the land and made us go a story higher. We had to up the density because they were running out of land and they had to preserve land, and the next batch of buildings was going to have to be at this higher density. Unfortunately, we were the first one. When you do an expressive building, and you're bigger than the guys next door, you look overpowering. So we took the wedding-cake strategy of pushing the high part into the middle, so there's a transition. That led to those bumps, and the classrooms piled up in those bumps. There's a bump that has two classrooms in it, and there's a space between the walls that's like a crevasse. It's kind of like Glen Canyon, Arizona, but it's more studied than that. I haven't gone to that naturalistic thing yet. Maybe that's the next step. (Jay's Telluride house starts the process. It looks like rocks. I think nature is a good model for us.)

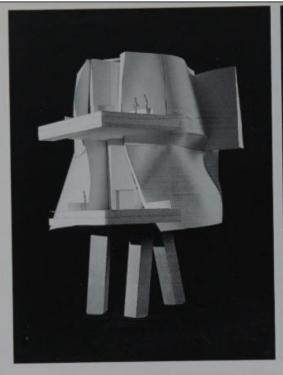
The outside will be brick for the base building, if we can afford it (we're struggling), with an option for brick and plaster. We prefer brick because the rest of the campus is brick, and the brick has some shape to it, too. We started out with solid, four-square brick. But as the roof was formed, the steel part, we started to blend the brick pieces

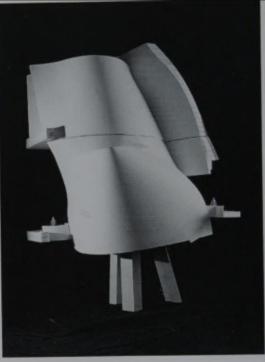


into it sculpturally. We build big models to check costs and form.

This 143,000-square-foot building will house the Weatherhead School of Management. Exterior materials will be either titanium or stainless steel panels, hand-set brick, and glass. The highly sculptural, metal-clad exterior surfaces will face away from the campus toward the street. Exterior brick surfaces will face toward the campus and neighboring buildings. At the points where the metal panels and the brick meet, the brick will pitch inward in a slight curve in response to the metal.

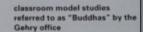
The interior of the building will be plaster. The walls of the communal spaces within the interior will be highly sculptural. As these walls rise toward the roof of the building, they will play off one another and respond to one another, creating a series of dramatic, narrow, ravinelike interior spaces. Skylights will allow slivers of natural light to filter down through these spaces. The ground floor of the interior is dominated by two freestanding, sculptural shells (called "Buddhas" in house) that rise toward the roof of the building and rest atop large sculptural columns. Two lecture rooms are located within each of these shells. Communal spaces, including a library, meeting areas, and lounges occupy the remainder of the ground floor. Additional classrooms are located on the basement level, in a semicircular arrangement. Administrative areas, offices, and meeting areas for professors and their staffs are located on the upper floors along the periphery of the building.





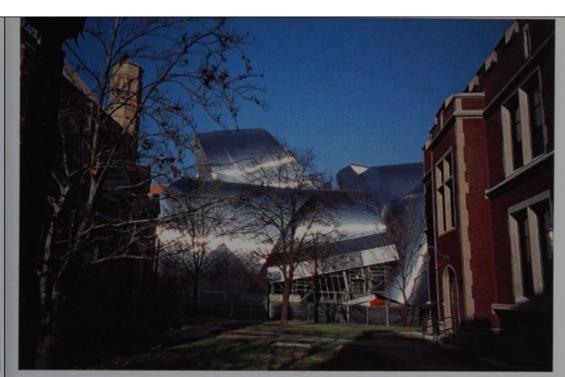






large-scale study models of interiors

pages 222, 223, and opposite: building under construction



client: Case Western Reserve University Al Weatherhead School of Business

project principals: Frank O. Gehry, design partner Jim Glymph, project partner Edwin Chan and Douglas Hanson, project designers Gerhard Mayer, project architect

CATIA modeling: Julian Mayes, Brian Papke, Rick Smith

project team: Rachel Allen, Thomas Balaban, Steven Brabson, Henry Brawner, Heather Duncan, Matt Fineout, Bryan Flores, Jason Luk, Christopher Mazzier, Frank Medrano, Robyn Morgenstern, Yanan Par, Jonathon Rothstein, Marc Salette, Frank Sheng, Derek Soltes, Friedrich Tuczek, Frank Weeks

# ray & maria stata center at the massachusetts institute of technology 1998-

Cambridge, Massachusetts

This MIT project is essentially a huge office building to be named for two donors, so the building has to have two identities. One section is for artificial intelligence—robots—and the other is for the philosophical group of the linguist Noam Chomsky.

What excites me about the project is dealing with the scientists. Also, it's a piece of MIT that has historical significance. It is the replacement for Building 20, which the scientists loved because it was like a warehouse; they could do anything to it. The users want that to happen again, and I want that to happen. The university set up criteria to prevent that from happening again because they say that the building is only on loan to these departments, and twenty years later somebody else may be there.

Anyway, it's going to be fun to work through. How to attach it to the MIT system, how to solve the problems of the scientists, how to deal with the quadrangle of MIT in a way that represents a different way to look at it than the stodgy old way. They have this thing called the "Idea of the Infinite Corridor." All of their buildings are connected underground; you can move internally through the whole campus. There aren't very many distinguished buildings on that campus. They want this one to be special.

Before they hired me, I predicted they'd all want what they had, and that's exactly what they said in the first meeting. They said, "How do you break out of what we're used to?" We said, "Well, you try things; you start things." They said, "Like how?" So that's when we said, "Let's try a number of ways to organize the staff offices and the shared spaces." And we did, and got them involved. Some of them hated it and they sent us e-mail. Some of the ideas really bothered them.

One lady was all over me at one of the meetings saying you can't do this and you can't do that. I said to her, "If you think I'm here to take you out of your banal office, which is poorly lit, poorly furnished, has poor acoustics, and poor natural light—if you think I'm here to take you out of that in order to put you into something that really works, with user-friendly furniture, nice light, and a better relationship to your staff and your colleagues—if you think I'm here to do that, you're crazy. I wouldn't do that to you." Finally, she laughed.

Anyway, I'm not making fun of them, because that's human nature, and I would do a lot of the same thing. I told them that. I said, "When it comes to buying clothes I go to Brooks Brothers because I don't want to deal with it. So I understand that assumption. But it's not about fashion. It's about breaking out of your security blanket."

I sent them down to the Rouse Company (a 1974 Gehry project in Columbia, Maryland) before they hired us. I said, "This is a long shot for me. I haven't been there in



rachel allen: We've made a circular diagram for the clients. Blue represents the underground service tunnel system that the students use at MIT to get around in the winter; red represents public access, and yellow represents the inter-users circulation. We also have a quarter-inch model of the same scheme. We're going to build the whole building at that scale right away so that we can study it from the inside out before we start shaping the building.

It's a dollhouse thing. The clients love that because they can understand what's happening. They are surprised at the box shape, but they don't believe that it's really going to be a box. They know better. We tell them that it's not going to be a box for long. There are four departments that and divided into two main categories. The Laboratory of Computer Science is the higher tower, and the lower tower, which is connected to an existing building, is the Artificial Intelligence Lab.

which has all the robots. The Linguistics Department is connected to the Computer Science Department, through the notion that computer language is a language in the first place.

We've lifted up the grade about twenty feet and put a main lobby on the campus side. When we lifted the grade we created a plaze area for the students. The lower quadrant is public, and the upper terrace is a more private

sort of Philosophy Garden for the scientists. All the colored blocks represent different conference rooms for the different departments. And the red block is the calfe. It's a quiet dining terrace. All the common areas for the different departments are grouped around the terrace. The circulation between the two towers is connected through and around the public pieces at the terrace level. There is also an education center, which will be in the later phase. It will have classrooms and a cafe.

A small amphitheater will be an outdoor classroom. We thought that the amoking professors would like that, because they could smoke and teach at the same time. But the amphitheater is another way of transitioning from grade up onto the plaza.

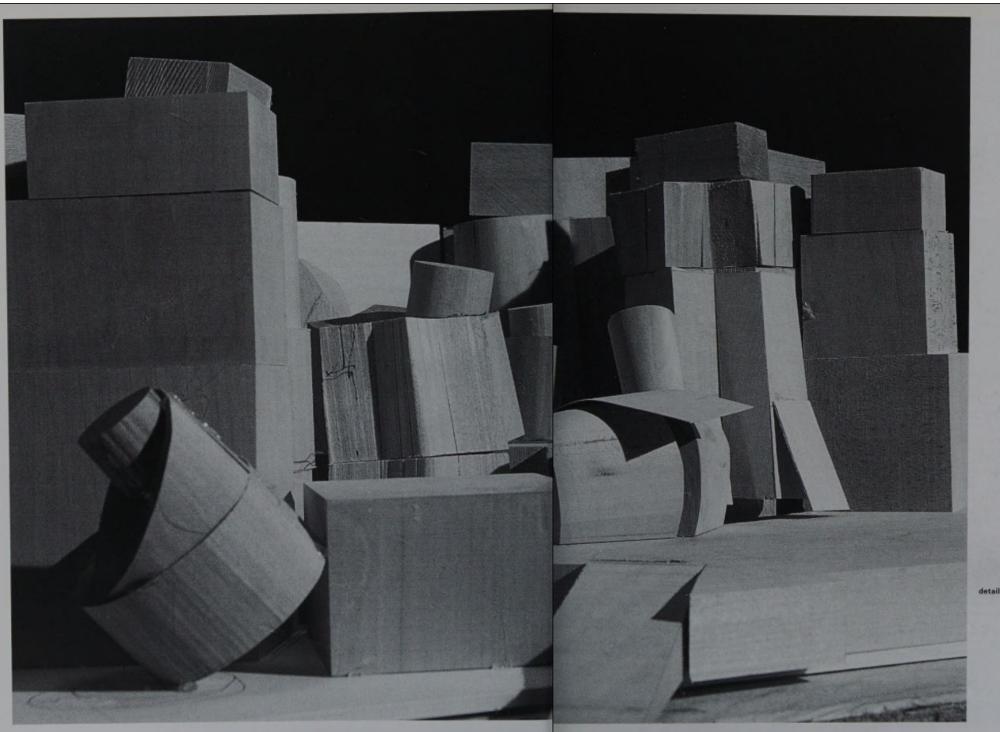
We haven't selected materials yet, but the thinking is that on the north side of the building, because the light is more diffuse, we can let in more of it without disturbing the computers.

Computer glare is a big issue on this project, because all the labs are filled with screens. So we're thinking we can open up the north side with a curtain wall, and close up the south with punch windows so we can control the light. We're thinking in terms of light tracks, skylights that are skinny cuts in the building that will bring light down through the middle. They don't really want huge atrium spaces. They're engineers, so

everything has to be useful. The cracks are a way of bringing in light without wasting a lot of space.

agrit without wasting a lot of space. The warehouse has the same program as the towers, a mixture of office and lab space. But it has a higher floor-to-floor ratio, because the labs have special height requirements. For example, there is a lab called the Leg Lab, where they build artificial limbs that are self-locomoting robots. They worked on the one that wont to Mars. They store all the old

robots—they hang them up. Rob Brooks, who runs the robot program proposed making the building emotional. He thought of the whole building as an experiment, as a robot, and so he suggested that maybe the building should blush or cry or, you know, express what's going on within it samehow. He also wants to build robot window washers for us in case we have areas of the building that a person can't get to.



detail of wood-block model

years. I don't know what it's like now; I don't know if they like it or if they're using it, or if they've kept it intact." But I said, "That's the last time I did a project like this. In that project, we were very inventive; we invented lighting and all kinds of things that hadn't been done in that arena at that point. So my suggestion to you is, rather than interview me, go down there and talk to them, and ask them how it is. If I do the building, I'm going to start there, and I'm going to try to create an environment for the future." They went, and they came back ecstatic. They loved it! They talked to all the people, and the people told them how it works, and they're very proud of it, and it's flexible, and it does all the things we planned for it.





We made interior models in the preschematic phase. We showed them in order to get a reaction. They are very loosely based on the program, and they are kind of experimental. We learned a lot by doing it, because some of them got better reactions than others. We brought them all and showed them to the client committee, which consisted of professors from several disciplines. The schemes are all based on

different cultures, different human part. They didn't identify with that or animal cultures. We started with a Japanese house that had sliding screens. We told them that we were talking about flexibility, and in the Japanese traditional house you can open up all the doors and have a big public room, or you can divide them up so that no one knows what anyone else is doing. They hated it. It was too much decision making, too many choices, too much neatness required on everyone's

at all. The scheme that did get a positive reaction was the grangutan village. They would live in little nests in the trees. Each person would have one. And then they would come down onto the Savarmah in the daytime, and work collectively. That made a lot of sense to them. There's a division in their lives between the private inward routine and the collective

lab work that they do in big

People don't understand the importance of the involvement of the client, which is huge. That was not true of beaux arts architecture at all, but it is very true of Frank's architecture. It's important for people to understand that these things don't happen by magic; they happen because the client wants them to: it's not an accident.

The 324,000-square-foot Stata Complex will house the Laboratory for Computer Science, the Artificial Intelligence Laboratory, the Laboratory for Information and Decision Systems, and the Linguistics and Philosophy Department. In addition, the program for the Stata Complex includes an auditorium and four major classrooms that will serve the Electrical Engineering and Computer Science departments, as well as common areas for the research community. Currently, the Stata Complex also includes a service facility, new locker rooms, assignable space, and a

by Frank O. Gehry & Associates that addresses the future development of the Northeast Sector of the main MIT campus. Future phases anticipate the creation of a Teaching and Learning Center, and the expansion of Building 68 that houses the Biology Department. The basic articulation

of the major program sectors is driven by two fundamental requirements that are not easily reconciled. The goal of the Stata Complex is to be connected to the rest of the MIT campus, but the most fundamental components of the project must also be separated from the campus, specifically from the Infinite Corridor (the underground corridor that connects all of the campus buildings). Therefore, two distinct circulation patterns will be developed and organized in parallel, one public (for undergraduate students) and one private (for researchers).

The design of the research spaces is being developed around the con-The Stata Complex is the first phase of a new Master Plan designed cept of neighborhoods. In the Stata Complex, these neighborhoods will expand vertically as well as horizontally and thus they become architectural spaces. The typical floor layout will be based on flexibility principals, with modular office wings that are L-shaped and U-shaped located around flexible laboratory space. The central neighborhood







above and opposite: design process models showing the building's development

page 227: final design model

lounge will mediate the various independent spaces and will become the connector between the neighborhoods. From the lounge, one will be able to overlook one's own neighborhood and to look up to the neigh-

The massing of the Stata Complex involves two towers sitting on a wide base. These three elements meet on the roof of the base between the towers, which is the heart of the Stata Complex. It will feature public and private terraces and gardens. The towers are articulated as wings, and they open to the heart of the complex and cradle it. This winglike articulation of the towers allows the differentiation of the lab and department identities without creating actual barriers between them.

client: Massachusetts Institute of Technology

project principals: Frank O. Gehry, design partner Jim Glymph, project partner Craig Webb, project designer Marc Salette, project architect

project team: Rachel Allen, Anna Helena Berge, Christopher Barbee, Herwig Baumgartner, Tomaso Bradshaw, Dari Iron, Michael Kempf, Andrew Matt, Clifford Minnick, Robyn Morgenstern, David Plotkin, Robert Seelenbacher, Dennis Sheldon, Derek Sola, Steven Traeger, Brian Zamora



frank o. gehry

#### one-man exhibitions

Frank Gehry: Unique Fish Lamps, Larry Gagosian Gallery, Los Angeles, California, 21 March-14 April 1984

Frank Gehry Recent Drawings, Ballenford Architectural Books, Toronto, Canada, 15 October 30 November 1984

Frank Gehry: Fish and Snake Lamps, Metro Pictures, New York, New York, November-December 1984

Frank O. Gehry: Recent Projects, Gallery MA, Tokyo, Japan, October-November 1985

Frank O. Gehry: Castello di Rivoli, Turin, Italy, March-May 1986

Frank O. Gehry: New Cardboard Furniture, Hoffman/Borman Gallery, Los Angeles, California, February-March 1988

The Architecture of Frank Gehry, this retrospective was organized by Walker Art Center, Minneapolis, Minnesota.

20 September-30 November 1986. The exhibition traveled to Contemporary Art Museum, Houston,

Texas, Art Gallery at Harbourfront, Toronto, Canada, High Museum of Art, Atlanta, Georgia, Museum of Contemporary Art,

Los Angeles, California, and Whitney Museum of American Art, New York, New York The Work of Frank Gehry, Galerie für Architektur und Raum, Berlin, West Germany, 1989

Frank O. Gehry, Architekturmuseum in Basel, Switzerland, September 1989

Frank O. Gehry: Sketches of Recent Projects, The Art Store Gallery, Los Angeles, California, October-November, 1989

Frank O. Gehry, Center of Contemporary Art, Warsaw, Poland, May-June 1990

Frank O. Gehry, deSingel Museum, Antwerp, Belgium, September-November 1990

Frank O. Gehry: The Architect's Sketchbook and Contemporary Design, The Getty Center, Santa Monica, California. September 1990-January 1991

Frank O. Gehry, Centraal Museum, Utrecht, The Netherlands, November 1990

Frank O. Gehry, Arkitektur Museet, Stockholm, Sweden, November 1990-January 1991

Frank O. Gehry (furniture and lamps), b.d. Madrid Gallery, Madrid, Spain, December 1990. The exhibition traveled to Barcelona at the Madrid Gallery, January 1991

Frank O. Gehry, Projets en Europe, Centre Georges Pompidou, Paris, France, March-June 1991

Frank O. Gehry, Dansk Arkitekturcenter, Kobenhavn, Denmark, March 1991

Frank O. Gehry, Can Reekum Museum, Apeldoorn, The Netherlands, June-September 1991

Frank Gehry: New Bentwood Furniture Designs, Musée des Arts Décoratifs de Montréal, Montréal, Canada, 1992

Frank O. Gehry: New Bentwood Furniture Designs, St. Louis Art Museum, St. Louis, Missouri,

15 December 1992-14 February 1993

Frank O. Gehry, Vitra Design Museum, Weil am Rhein, Germany, 1994

Frank O. Gehry, University of Virginia, 7 April-15 May 1994. Exhibition in conjunction with the Thomas Jefferson Medal of Architecture.

Frank Gehry: European Projects, Aedes Gallerie und Arkitecturforum, Berlin, Germany, September-October 1994 Frank Gehry: Innovation in Furniture Design 1969 to the Present, The Wetsman Gallery of 20th Century Decorative Art. Birmingham, Michigan, 9 September-15 October 1994

Frank Gehry: A Study, Gagosian Gallery, Los Angeles, California, 18 March-1 May 1999

Frank Gehry Architect, Solomon R. Guggenheim Museum, New York, New York, May 18-August 26, 2001. The Exhibition traveled to Guggenheim Museum Bilbao, Bilbao, Spain, October 29, 2001-April 21, 2002

## selected exhibition designs

For the Los Angeles County Museum of Art, Los Angeles, California:

Art Treasures of Japan, 1965

Assyrian Reliefs, 1966

Billy Al Bengston Retrospective, 1968

Treasures of Tutankhamen, 1978

Avant-Garde of Russia, 1910-1930, 1980

Seventeen Artists in the Sixties, 1981

German Expressionist Sculpture, 1983

Degenerate Art, 1994

Exiles & Emigrés, 1997

Art of the Motorcycle, The Solomon R. Guggenheim Museum, New York, New York, 1998.

Art of the Motorcycle, The Solomon R. Guggenheim Museum Bilbao, 1999-2000

Art of the Motorcycle, The Solomon R. Guggenheim Las Vegas, 2001

early design process model detail, Venice Gateway

#### awards, fellowships, and honorary degrees

Fellow, American Institute of Architects, 1974

Arnold W. Brunner Memorial Prize in Architecture, American Academy of Arts and Letters, 1977.

Fellow, American Academy of Arts and Letters, 1987

Honorary Doctorate of Visual Arts, California Institute of the Arts, 1987

Honorary Doctorate of Fine Arts, Rhode Island School of Design, 1987

Pritzker Architecture Prize, Hyatt Foundation, 1989

Trustee, American Academy in Rome, 1989

Honorary Doctorate of Engineering, Technical University of Nova Scotia, 1989

Honorary Doctorate of Fine Arts, Otis Art Institute, 1989

Fellow, American Academy of Arts and Sciences, 1991

Wolf Prize in Art, Wolf Foundation, 1992

Praemium Imperiale Award, Japan Art Association, 1992

Honorary Doctorate of Humanities, Occidental College, 1993

Dorothy and Lillian Gish Prize, Dorothy and Lillian Gish Prize Trust, 1994

Academician, National Academy of Design, 1994

Honorary Consul, Bilbao, Spain, 1997

Honorary Doctorate of Architecture, Southern California Institute of Architecture, 1997

Friedrich Kiesler Prize, Friedrich Kiesler Foundation, 1998

Honorary Academician, Royal Academy of Arts, 1998

Gold Medal, Royal Architectural Institute of Canada, 1998

Chancellor of the City of Bilbao, Spain, 1998

National Medal of the Arts, National Endowment for the Arts, 1998

Honorary Doctor of Law, University of Toronto, 1998

AIA Gold Medal, American Institute of Architects, 1999

Honorary Doctorate, University of Southern California, 2000

Honorary Doctorate, Yale University, 2000

Honorary Doctorate, Harvard University, 2000

RIBA Gold Medal, Royal Institude of British Architects, 2000

European Prize for Architecture, European Foundation for Culture, 2002

In addition, Mr. Gehry has received more than one hundred awards from the American Institute of Architects to honor outstanding architectural design.

#### major publications

Arnell, Peter and Ted Bickford, Frank Gehry, Buildings and Projects (New York: Rizzoli International Publications, 1985). Friedman, Mildred (ed.), The Architecture of Frank Gehry (New York: Rizzoli International Publications, 1986).

Marquez, Cecilia F.(ed.), "Frank O. Gehry," El Croquis 45,

El Croquis Editorial, Madrid, October/November 1990.

Frank Gehry: New Bentwood Furniture Designs, The Montreal Museum of Decorative Arts, 1992.

Futugawa, Yukio, "Frank O. Gehry," GA Architect 10, EDITA Tokyo Company, Ltd., Tokyo, 1993.

Marquez, Cecilia F. (ed.), "Frank O. Gehry: 1991-1995."

El Croquis 74/75, El Croquis Editorial, Madrid, December 1995.

Van Bruggen, Coosje, Frank O. Gehry, Guggenheim Museum Bilbao

(New York: The Solomon R. Guggenheim Foundation, 1997).

Dal Co, Francesco and Kurt W. Forster, Frank O. Gehry, The Complete Works (New York: The Monacelli Press, 1998).

Bechtler, Cristina (ed.), Art and Architecture in Discussion:

Frank O. Gehry/Kurt W. Forster (Cantz Verlag, 1999).

Ragheb, J. Fiona (ed.), Frank Gehry, Architect (New York: Guggenheim Museum Publications, 2001).

DZ Bank at Pariser Platz. design process model of "The Horse's Head"

## acknowledgments

This is the second time I have had the opportunity to work on a book with Frank Gehry. The first was the catalogue for his Walker Art Center exhibition in 1986. The current adventure was inspired by his "new office," which since 1986 has grown exponentially in size, technology, and expertise. The most significant change has been the addition of his two partners. Jim Glymph and Randy Jefferson, who have made Gehry's wildest architectural dreams come true. I thank them for talking with me about the new office methodology. Many staff members have been extremely generous with their time and knowledge, including Edwin Chan, Craig Webb, Rachel Allen, and Tomaso Bradshaw.

This book could not have happened without the wisdom and efforts of Keith Mendenhall, who is responsible for the Gehry archive-photographic and written-and who has provided all of the essential documentation for the projects in this volume. Equally crucial in this endeavor has been Tracey Shiffman, who has designed this book with great skill and collaborated with Frank's office in organizing and selecting all of its visual material; she deserves endless admiration and thanks. My thanks and respect as well to Michael Sorkin for his witty, insightful essay. Chris Herrlinger, Frank Gehry's assistant, has arranged my trips to Los Angeles, and helped make the schedule work. Keith Mendenhall has been ably assisted by Laura Stella. We are indebted to the many photographers who have provided images for this book, particular recognition is due Leslie Brenner, Josh White, and Whit Preston. David Morton and Solveig Williams of Rizzoli Publications have lent support from the start, and I thank them for their patience and encouragement.

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Mildred Friedman



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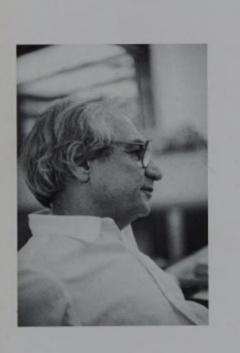
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