Profile: The Organ-Building of Munetaka Yokota

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Photo: Kristen Cho

THE HISTORY OF THE ORGAN in broadest outline has it that the instrument, in a form much smaller than that of the massive models often found in churches, was invented in the Mediterranean world of the third century BCE. After the fall of Rome it was cultivated only in the Byzantine Empire, but was supposedly re-introduced into the West by means of a gift brought by a diplomatic mission from Constantinople to the Frankish court of Pippin the Great in 757. In this sense the organ's survival can be attributed to the East, however contested or illusory the divide between Occident and Orient may be.

There is thus an appealing symmetry in the fact that one of the greatest present-day masters of the revivified art of organ building as it flourished so

radiantly in northern Europe in the seventeenth and eighteenth centuries — a millennium after the arrival of those Byzantine ambassadors — comes from the Orient, far beyond Istanbul. It doesn't get much further East than Tokyo.

In 1966 the fourteen-year-old Munetaka Yokota took money received for Christmas — which his family observed not religiously but as a kind of cultural novelty — to a Tokyo record shop. The year before he had bought his very first LP with his own money in this shop, choosing a recording by Gustav Leonhardt of Bach's harpsichord concertos. On his return a year later, with the next familial disbursement in hand, he was disappointed to find that the shop did not have the next record in that series. "I had money in my hand and was intent on using it," says Yokota in his elegant and considered English. But another LP caught the young enthusiast's attention: one with the black filigree bordering motive of the same historically oriented Telefunken label on which those Bach concertos had been recorded. This other LP had been made in 1938 by Fritz Heitmann on an organ from 1706 in the Charlottenburg Castle chapel in Berlin. The only organ Yokota had previously heard live was the Wurlitzer in Tokyo's Mitsukoshi department store. He also recalls being fascinated by the pop organ sound of the '60s British band The Tornadoes and their chart-topping record *Telstar*. In most things Yokota tends to be, as he puts it, "ecumenical."

Records have a strange way of changing your life, and the Charlottenburg LP changed Yokota's. For almost the last forty years he has dedicated himself to making organs as beautiful as the one he heard as a schoolboy in Japan on that classic recording.

Yokota had become enthralled by a ghost. Like so many monuments of its kind, the Charlottenburg instrument had been destroyed in World War II. Now Yokota is just about to complete his latest organ, an attempt to bring it — or a version of it — back to life in Upstate New York, more than four decades after his serendipitous encounter with that vinyl ambassador of this complex European art in a Tokyo record shop.

The organ captured on that record had been commissioned by the Prussian King Frederick I. In the first years of the eighteenth century Frederick I, the grandfather of Frederick the Great, set about renovating one of his residences a few miles beyond the western edge of the still-small city of Berlin. The original palace in Charlottenburg dated from the late seventeenth century, but Frederick I expanded the building in an attempt to emulate the magnificence of Versailles, the model of architectural splendor for all European autocrats of the age. He installed a fabulous mirrored chamber filled with Chinese porcelain vases and figures in the new West Wing. Nearby was the famed Amber Room, one of

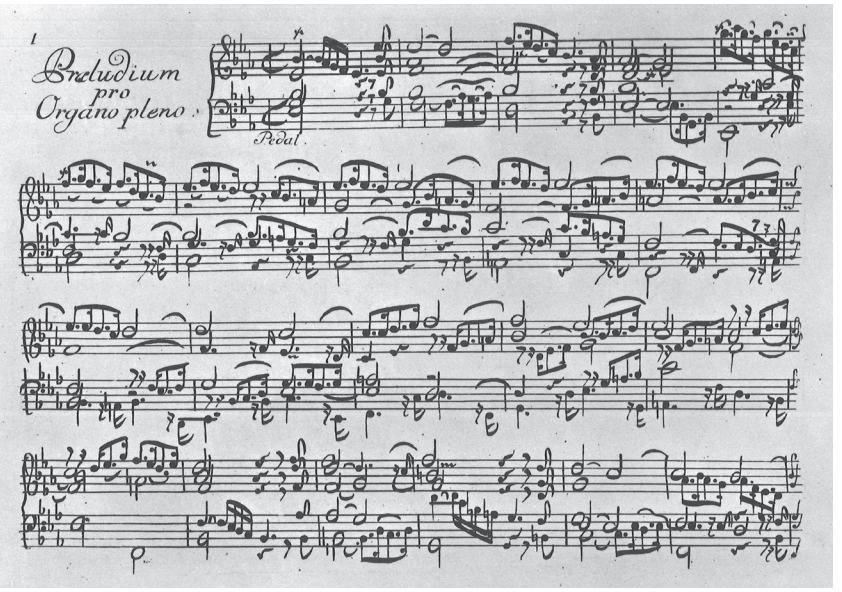
the wonders of the European Baroque blazingly paneled and decorated in that lustrous substance.[1] Adjacent to these marvelous interiors was the chapel, and Frederick deemed that it should have an organ of a quality commensurate with the treasures in the neighboring rooms.

In accordance with his ambition to accumulate the symbols of luxury, Frederick I hired the greatest organ builder of the period, the Hamburg master Arp Schnitger, who had exported instruments across Europe from St. Petersburg to Lisbon. Once finished, Schnitger's instrument for Charlottenburg had to be fitted into a cramped balcony, the main part of the organ tucked behind it and almost out of sight. But the Rückpositiv of the organ, as exuberantly decorated as the chapel itself, was placed on the rail of that balcony and spoke directly into the high, square space. As in the typical arrangement found in larger north German organs, the organist was hidden from the listeners below. But in Berlin these glinting tin pipes and their lavish gilded case had both an intimate and sublime quality: they were tantalizingly near to the auditors, but their music was devoid of signs of human agency, like a fabulous automaton, or a brilliantly executed musical clock.

In 1944, with the Allied bombing campaign against German cities long since underway, the Charlottenburg chapel organ was removed to the basement of another former royal residence, the Berlin City Palace in the center of Berlin. Badly damaged in the war, the City Palace was not completely destroyed, but a bomb did find its way into that very basement and obliterated the organ. It is little consolation that the instrument would have perished even if it had not been removed from Charlottenburg, since that palace was also hit, and the chapel consumed by flames. Only the recording, photographs, and carefully-made measurements of the pipes remained.

That first organ record purchased by Yokota presents music from J. S. Bach's *Clavierübung* III of 1739, a collection whose settings of the melodies of the Lutheran German Mass and Martin Luther's catechism hymns are framed by the monumental Prelude and Fugue in E-Flat Major, BWV 552. Yokota played nothing but that record over the next year, acquiring a pocket score so that he could study the music when out and about, in the subway, on a bus, in the car, walking the street. "It was," he says in his reflective manner, "a way of centering myself."

[1] The Amber Room was given to the Russian Czar Peter in 1716 by Frederick's art-hating son, disappeared in World War II, and has now been reinstalled in the Empress Catherine's Palace at Tsarskoye just outside St Petersburg.



Yokota was still taking piano lessons at the time, and knew of Bach's keyboard music — his inventions and fugues, and, of course, the harpsichord concertos that were on his first LP. But what he heard in the extraordinary music played on the Charlottenburg organ was "an expression of universal principles." For Yokota, organ building, like music, is not just about craftsmanship and the creation of sonic and visual beauty, but about larger issues still. He is not afraid of grand statements, but makes them without self-importance. He likes to laugh, especially at himself.

After playing the Charlottenburg disc innumerable times over the next twelve months, he began adding other Telefunken recordings of historic European organs to his collection. He came to the conviction that these "old organs sounded better than new ones." It wasn't that, as some have asserted, older instruments had improved with age, for he thinks this claim has often been made to excuse shoddy modern work. Rather, something about them registers as vitally different even to his unschooled ear. For all his subsequent training, research, examination of old organs, and the triumphs of his own organ-building projects, it is this intuitive response that still guides his craft, his artistic choices and the minute skill of his ears and hands.

Years later, after being named guest professor at the University of Gothenburg's newly founded Organ Art Center (GOArt), he put a facsimile of the first page of Bach's Prelude in E-flat on the door to his office, as a reminder to all who entered — including most especially himself — of Bach's

achievement, and of the highest calling of the organ arts. There is no music more uplifting in its mixture of magisterial pomp and graceful humor, its bracing excursions into virtuosic fugal territory, and the architectural grandeur that unites what would in lesser hands become a series of digressions: Bach's title page promises "refreshment of the spirit." There is a palpable sense of a higher musical purpose, indeed of higher purposes altogether, and this is what captured Yokota's imagination and has never let it go.

Descended from a family of bankers, Yokota enrolled in 1970 in Tokyo's Gakushūin University, where he received a degree in economics four years later. He was also an avid field hockey star with Olympic aspirations. But the love of the organ remained with him, and in the last two summers of his college career he become a shop assistant to Hiroshi Tsuji, a pioneering Japanese builder constructing organs inspired by European masterpieces. Yokota now saw that it was possible to make a career as an organ-builder, however uncertain the monetary rewards. He also knew that he could pursue a more faithful approach to capturing that old, elusive sound.

During Yokota's student years of the early '70s, students engaged in massive protests against Japan's conservative government, the Vietnam War, and imperialism more generally. Each day protesters thronged the entrance to Gakushūin University with its fine wrought-iron gates. Yokota participated in some of the demonstrations and was sympathetic to their causes. But he became disillusioned by the infighting of radical groups: "When I saw blood on the street beaten out of revolutionaries by other revolutionaries, I knew that I wanted to make my contribution to the extent that I could, on the small scale, with my own hands."

When Yokota realized that he wasn't quite Olympic material on the field hockey pitch, he resolved to become an organ builder. After graduating from college, he apprenticed full-time with Tsuji, as his college classmates went off to jobs earning three or four times his salary. He was not interested in making money: "The development of my skills was a deposit not into my bank account but into myself." Another crucial encounter was with the German organist, Harald Vogel, who came to Tokyo in 1973 to play concerts and give lectures about historic organs. In the midst of his three-year apprenticeship with Tsuji, Yokota went to Vogel's North German Organ Academy in the summer of 1976, where he heard for the first time in person one of Schnitger's great early works, the magnificent and newly restored instrument in the north German city of Stade.

In 1978 Yokota moved to Eugene, Oregon to work with John Brombaugh, a crucial figure in the North American engagement with historic European organs;

he has not lived in Japan since. After a year in Grand Rapids, Michigan, where he toyed with the idea of starting an organ workshop, he moved to California's Central Valley to become an "artist in residence" at California State University in Chico, where he lived from 1984 to 1990. This was Yokota's first time leading an organ project, and he approached it an utterly novel way: he showed up in a small college town alone, without a team of trained craftsmen and without materials, and attempted to make an ambitious instrument according to the highly evolved aesthetic and artisanal principles of Gottfried Silbermann, a colleague of J. S. Bach's. (Silbermann's most famous organ, in Dresden's recently reconstructed Frauenkirche, was also destroyed in World War II.)

When it comes to recruiting people for his organ-building projects, Yokota is endowed with a pied-piper-like charisma: in Chico, he found volunteers from both the student body and from the community, and trained them in the handcraft techniques of the early eighteenth century. Yokota's was a quixotic idea that reflected not only his exacting patience and highly refined aural and manual skills, but also a fantastical imagination, a true gift for teaching, and an astounding capacity for risk. Show up at an empty Manhattan lot and convince passers-by to build a skyscraper with you — that is something like what Yokota did in Chico. His commando approach to organ building yielded one of North America's great organs, even if the instrument, tucked to the side of the stage in the campus theatre and music building, still seeks a fitting architectural and acoustic home.

The pipes of Yokota's Silbermann-style organ were cast from lead reclaimed from spent bullets from the LAPD gun range. This was a wonderful, and highly practical, inversion of the dismal story of many historic organs (including Schnitger's), which had their façade pipes melted down into bullets by the Germans in World War I.

From California Yokota moved to the University of Gothenburg in Sweden, to embark on his largest scheme to date: a colossal Schnitger-style instrument like those built for the large Hanseatic cities. Important research into historical techniques was done at the university in conjunction with engineers and organ historians. This research could now be further refined by Yokota, working for the first time with a large team, including students, laid-off steel workers, and many other collaborators. These investigations led, for instance, to the casting of the pipe metal on sand, something that had not been done since the eighteenth century. All wooden surfaces were hand-planed, all iron parts made by a Swedish blacksmith. The result of this six-year effort was as expensive as it was beautiful. The minutiae of handcraft and what from a modern perspective could

be dismissed as excessive — unnecessary — labor produced a technological and sonic wonder. The sum of the individual acts of craftsmanship yielded a sound and an experience of music-making fundamentally different from those offered by factory-made organs.

These two instruments, one on the west coast of North America and the other on the west coast of Sweden, have secured Yokota's legacy. More recently he and an international team have finished a copy of an instrument by Adam Gottlob Casparini from 1776 in Vilnius, Lithuania, on the shores of Lake Ontario, for the Eastman School of Music in Rochester, New York. This Eastman organ demonstrates again Yokota's unlikely methods. "Still," he says, putting his skilled hands together a few inches in front of his eyes, "the Wall between Occident and Orient is always directly in front of me." I ask in what ways this barrier divides these two worlds. "In every way," he says, then agrees to give one example. "My Japanese aesthetic allows for, indeed demands, the co-existence of irregularities and imperfections in a work of art. That these tensions and differences are necessary and beautiful is one of the important things, I think, that fascinated me about the Charlottenburg organ when I first heard it."

Yokota is now in Ithaca, New York, listening to those competing voices on a nearly completed "fantasy reconstruction" of that very instrument. We speak in the final weeks of his attempt to bring back to life a sound that has traveled from Berlin to Tokyo, and now to somewhere in between.

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The organ — the shining apogee of technological advancement in the pre-industrial world — was more often likened to the human form than to a "Wondrous Machine," as it is styled in Henry Purcell's *Ode for St. Cecila's Day*. In such anthropomorphizing descriptions, the organ's keys were teeth, and the openings in the pipes where the sound was generated were mouths. Continuing the analogy, the bellows were lungs, to be filled by the bellows treader and made to sing by the movements of the organist. The trackers, and rollers (the mechanisms connecting the console to the wind chests on which the pipes were arrayed) were like nerves, tendons and muscles. The basic organ sound — the Principal stop — strove to match the quality of the human voice: a sonority mimicked more explicitly by the reedy *Vox humana*.

The sheer size of the instrument and the timbral range of the thousands of pipes housed within its case promised infinite variety. Hoping to impress readers with a glimpse of the sublime, many writers calculated the sonic permutations that the organ offered: an instrument with 40 registers could

generate 1,201,911,627,775 combinations, outnumbering even the fixed stars. Even though not all of these combinations were usable according to the dictates of either tradition or common sense, the possibilities were in effect endless.

The organ builder must form a persuasive whole from the disparate parts of this being. For Yokota this means that the organ will necessarily reflect, often in mysterious ways, the aspirations and attitudes — in a word, the personalities — of those who make it. He compares building with parenthood: "Organs are like children. You conceive of them, and nurture them, guide them, and struggle with them, love them and then let them go and be in the world." Yokota has four human children; the youngest is one year old and was born in Sweden. She is named Jula, after a lovely wooden stop on his Casparini replica for the Eastman School of Music. And, Yokota says, "It sounds beautiful in Japanese, English, and Swedish."

Jula will still be one year old when Yokota's organ for Cornell University is finished and dedicated in March 2011. It is an instrument on which her father has been working at least six days a week, often from early morning far into the evening. The Cornell organ project was hatched about ten years ago, but has long been a twinkle in Yokota's ear, since he first heard the model for it on the recording he bought in Tokyo more than four decades ago.

The concept for Yokota's latest project was brought to life soon after he had finished a chamber organ for the small concert hall at Cornell. The university had then allocated money for a much larger instrument to be placed in a neo-Gothic chapel from the 1950s. This was a space of modest, courtly proportions and ample acoustics. Annette Richards and I were sitting with Yokota in our kitchen discussing this project over dinner when Yokota suggested the Charlottenburg Palace organ as a model: here was an instrument that combined the North German seventeenth-century organ with aspects of the central German instruments of the early decades of the eighteenth century. It would be an instrument perfectly suited to the music of Buxtehude, but also that of Bach. We did not take much convincing to agree that this was an ideal organ for us. Skilled at discovering local resources both human and material, Yokota noticed a glass-fronted cabinet finished by local woodworker Chris Lowe. After examining the piece more closely Yokota pronounced, "this man can make the organ case." Never mind that the towering organ cabinet would dwarf the one that Yokota had noticed. Yokota seemed not to doubt that his newly-chosen cabinet maker would leap at the chance to play a crucial role in this project, and, indeed, Lowe accepted the challenge, hand-planing every surface and assembling the huge number of elements in a barn on the

Robert Barker, Cornell University Photography

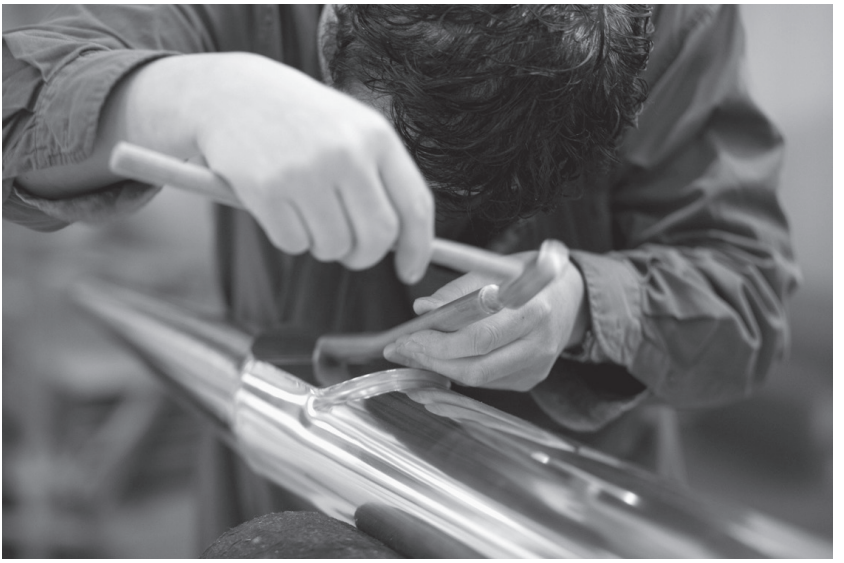
The organ in Anabel Taylor Chapel, Cornell University, under construction. Based on the Arp Schnitger organs at Charlottenburg Castle, Berlin and the St. Salvatorikirche, Clausthal Zellerfeld, the instrument was made by Munetaka Yokota with craftsmen at GOArt (Sweden), Parsons Pipe Organ Builders (NY), and CCSN Woodworking (NY). In the foreground, Christopher Lowe of CCSN Woodworking, the maker of the organ case.

outskirts of Ithaca.

Yokota insists that each part of the organ be made by hand, maintaining that this is not a hollow ideological position, but necessarily produces a more human result (and therefore a more beautiful one, both visually and aurally). Wood could be roughly milled, but the final carpentry on the case, including that on the ornate moldings, was all done with handsaws and planes. No sandpaper was used, and the joinery followed classic methods.

When Yokota arrived at the celebration for the completion of the case, on a wintry day in late March of 2008, he looked up at the frame rising to the rafters of the barn, and said with a laugh, "Oh. It's big." After installation, the German white oak case was fumed with ammonia, painted with several coats of linseed oil tinted red with *caput mortuum*, and then finally finished with a layer of beeswax.

The Cornell organ would be placed in the campus's Anabel Taylor Chapel, which matched the volume of Charlottenburg, but was rectangular in shape and had a conventional choir loft. Given this very different architectural context for the organ, exact replication gave way to "fantasy reconstruction."



Robert Barker, Cornell University Photography

Our case would be based on that of the beautiful Schnitger organ in the central German town of Clausthal-Zellerfeld, which Lowe and I visited in 2006. The specification of the Charlottenburg instrument would be fitted into this scheme, one more typical of Schnitger's work. The pipes and opulent console were to be made in Sweden at GOArt. The key action and bellows (to be powered by human treaders for all concerts) would be constructed by Parsons Pipe Organ Builders near Canandaigua, central New York, some sixty miles from Ithaca. Finally, in late 2009, Lowe and his assistant, Peter de Boer assembled the case in Anabel Taylor Chapel, and in January the pipes from Sweden and the bellows and windchests from Canandaigua arrived, along with Yokota's tools, from mandrels to Japanese saws.

If the organ is its maker's child, the responsibilities of parentage are daunting. It is not just that the sprawling construction must work: the bellows must supply sufficient wind to the pipes; the key action must not be too hard or too noisy; the instrument must hold up against the vagaries of harsh seasons; the tallest pipes must be made so that they withstand the inexorable pull of their own weight over centuries. The technological breadth of the organ, and therefore the technical knowledge of its maker, surpass those of any other instrument.

But most important is how the instrument sounds, and these musical qualities are much more difficult to define. The Cornell organ has thirty stops: it is a mid-sized instrument by the standards of the eighteenth century. The organ in the Wanamaker store in Philadelphia — said to be the largest active

Robert Barker, Cornell University Photography

organ in the world — has some 460 stops, but not a single one of these has the character nor demanded the skill to make as any in Charlottenburg or Cornell.

Yokota not only designed the Cornell organ, laying out the arrangement of the pipes and the internal workings of the instrument's construction and its external structure. He also directed the casting of the pipes. Since he was the driving force in the rediscovery of many of the pipe-making techniques used by builders such as Schnitger, his pipes typically sound convincing even when you pick them up from the shop table and blow into them. The Cornell organ has eighteen hundred pipes, ranging in size from sixteen feet long to a few inches; upon their arrival in Ithaca, they were sorted and arrayed in an orderly fashion — still in the long, low boxes they came in. Now Yokota had to make these pipes sound beautiful in their acoustic environment. He had to give the instrument musical life.

The level of skill and patience required to parent these parts toward unity is astounding. Each pipe must be made to sing beautifully, "to find its own character," as Yokota puts it. It must blend with its neighbors in the same stop, while asserting different attributes according to range, from bass through tenor and alto and up into the soprano. Each stop must in turn complement the others. The individual sounds must blend across the organ but also have texture and nuance, while retaining enough of both the expected and the individual. Finally the organ must be made to fit the room. Fuller combinations of stops must impress the listener but never overwhelm. The pipes are like a giant jigsaw

puzzle to be fitted together by the ear.

Designing the organ and overseeing the making of its parts is one thing, but shaping its personality must be the hardest task of all. "Voicing" is the most elusive and prized skill in organ making. The crucial aspect of this process is determining what organ builders call the "speech" of the pipe, metaphorical language that draws on the uniquely human ability for language. Each pipe must speak promptly, beginning with a consonant and then proceeding at just the right pace to a well-formed vowel. The voicer is a kind of elocution master, and he moulds the speech of his charges by blowing, often very hard, into each pipe to judge the quality of its diction. Adjustments are made by filing and scraping and lightly hammering at the mouth area of the pipe. The pipes are placed on a voicing chest which is a kind of temporary organ with a keyboard. On this apparatus a stop can be played and painstakingly brought into sonic balance with itself. Wearing a very modern headlight with a small, bright beam, Yokota looks over the top of his glasses at the mouth of the pipe like a dentist examining a patient. In his quick and careful hands the voicing tool works the mouth again and then the pipe is sounded several times and more adjustments are made. Eventually, he can then play through the stop on the voicing chest to get a broader sense of the sound across the range from low to high. Such intense labor must be lavished on each of the Cornell organ's nearly two thousand pipes.

Once the voicing is complete, the pipes are put onto the windchests up in the organ, and the organ builder must listen to them down below in the chapel, noting individuals that assert themselves too loudly or speak inelegantly, or somehow do not consort well with those around them. A seemingly endless series of refinements is required. After listening, often drinking tea or strong Swedish coffee, Yokota will make notes and then clamber again up into the organ to find the errant pipes that need still more attention.

When the pipes become too big to take in hand and put to the lips, guesswork is required. The largest 16' pipes in the façade of the Cornell organ belong to the pedal and are arranged in two towers to either side of the main case. Like all the other pipes visible to the eye they are made of gleaming tin, their stature and elegance a marvel to behold even from a great distance. Tall and heavy, but with thin walls, they are difficult to lift because they weigh a couple of hundred pounds but can easily be squashed or dented if pushed on too hard from the sides. After listening to these large pipes over several weeks, Yokota determined that the size of the mouth — the so-called "cut up" — had to be changed. Six strong people are required to move them. With helpers aloft, on

scaffolds and down below on the chapel floor, the pipes were safely removed. After undergoing solder surgery conducted in the ad hoc workshop set out in the chapel, the giant pipes were gingerly returned to place, having found their proper voice.

Such meticulous work, of course, could not be done without help. When Yokota arrived in Ithaca in the snows of January 2010, he already knew that he could rely on some help in installation from the employees of the Parsons company. The leading American organ firms of Paul Fritts & Co. in Tacoma, Washington and C. B. Fisk Inc. of Gloucester, Massachusetts also loaned out expert employees when their experience was required by Yokota. Chris Lowe was a vital resource throughout. But for so many of the myriad other tasks, including the most unrelenting of all — the voicing and the tuning of the organ — he needed assistants and he had none when he arrived. Yet they appeared, as if by magic, from the surroundings. Cornell students and staff, citizens of Ithaca and visitors heard about the organ or happened by the chapel, and would soon volunteer countless hours of help. As always for Yokota, the organ became a way to talk about physics, chemistry, politics, literature, the nature of sound and the meaning of life. The Cornell project would not have succeeded without the enthusiastic amateurs inspired by Yokota and his art.

At the first public concert for the Cornell organ in November, 2010, Yokota made a toast to the instrument and his amateur collaborators, thanking "all of the organ builders who helped me with this project. Many of you were new to organ building, but you each brought your personalities to the instrument, and these are unmistakable in its sound and beauty." Yokota views his craft as an exercise in discovering the potential in himself and in the people who work with him.

I asked him if he felt pressure about begetting a new version of the Charlottenburg organ, the one that begat him as an instrument maker. He smiled and laughed, as he does when faced with complicated questions. "That organ was exactly documented before being disassembled, and then destroyed in the war. The dimensions of the pipes and the size of the cut-ups were exactly measured. My job is to connect all those dots, all those numbers, to the present situation in this chapel at Cornell. But the poetic quality of the original organ was unmistakable to me on that old LP and still is. The spirit of that sound is what I am after and numbers alone cannot give you that." He looks up at the organ's gleaming façade, and what I see in his expression is not so much pride in his work, but continual astonishment that such a thing is possible.