



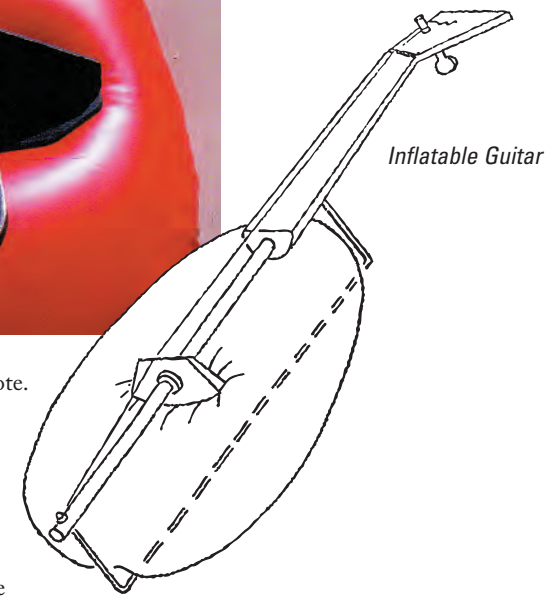
It is a little like being Amid Mad Scientists

François Baschet is grabbing at a pulley slung low over the dinner table, trying not to knock over sausages and wine glasses and salad. Food and kitchenware take up table space along with hammers, glass rods, unfinished wood planks, smashed clocks. There is no room for pulleys or swinging elbows, but he is single-minded. He is trying to open a bottle of wine. It is becoming clear to me, as a first-time dinner guest at the Baschet atelier, that nothing in this space is done in the conventional way. There is no room on the table for a bottle-opener, largely because Baschet's perpetually active brain has overrun every surface of the atelier/apartment. To create new space he resorts to strung cables from the ceiling that bounce over our heads, attached to a miscellany of implements

that function throughout dinner as corkscrews, can openers, etc. He is over 80 years old, and has lived in this same stonewalled cave apartment since the '30s; his face is lined by years of contentment; he smiles through grandfather teeth, with grandfather eyes, and laughs at the happy confusion of the table.

by Leah Hayes

The atelier itself is only part of the experience of meeting François Baschet, engineer and inventor of the Crystal, an instrument as complicated and beautiful as its designer. Along with his brother, Bernard Baschet, he has added to the history of instrument-making. Based on the principal of how sound is created by rubbing a wet finger on the side of a slick glass or crystal surface, the Baschets have worked for half their lives creating and improving their



Inflatable Guitar



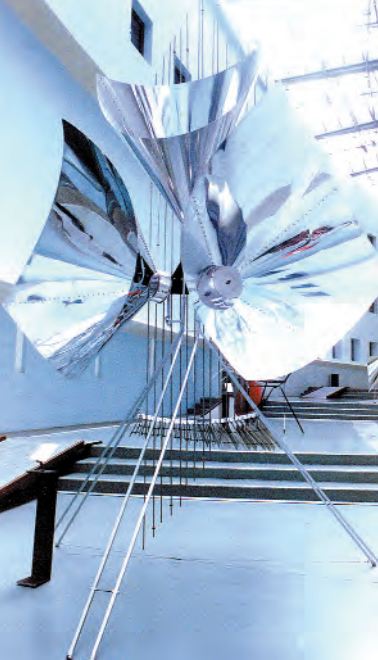
François & Bernard Baschet

massive acoustic invention. François is eager to lead me through the cluttered room and show me his history of creative production. There are instruments hanging from the ceiling, cellos and trumpets in pieces on shelves, barrels and saws and puzzling papers strewn everywhere. I'm shocked that I've not heard of this man, as he has seemingly produced an instrument unlike anything seen before. He explains this over dinner, between the swinging cables. Although invented almost three decades ago, the Crystal has remained largely in the background of the music landscape. While the later part of the 20th century witnessed the birth and growth (and glut) of electronic music-making, the field of acoustic instrument invention has dwindled to a small, eccentric group of devotees. The main musical explorations focused on synthesized, electronic sound (the saxophone is the last major acoustic instrument to be invented, before that the piano) and Baschet is one of the few who have pursued the acoustic field. And he is still creating; when we are finished eating he says he is putting finishing touches on an instrument he designed just yesterday. I haven't even seen the original

Crystal yet, which is kept in the basement studio, still played on and looked after by the Baschets since it's creation in the sixties. He is like a five-year-old at show-and-tell; he wants to play with his own designs. He takes me down to what he calls, "the inventing room." The thing itself is fantastic, giant, a John-Cage-meets-Edward-Scissorhands variation on the keyboard lined with thin, cylindrical crystal rods instead of keys. There are bellowing sheet-metal cones that rise from the keyboard and balance in front of the instrument like silver hanging ears. The strings of dangling metal wire that come off from the sides and from the inside of the cones themselves make it a most irregular and eccentric device to control, let alone make music with. It is an alarming sight, sitting shiny and cumbersome in the studio. There is a shallow bowl of water next to the "keys"; to produce sound your fingers need to be wet when you rub the crystal rods. He tells me that he himself does not know how to play the Crystal, but has taken another man under his wing over the years to teach him how to play.

"Making instruments has more to do with patience than anything else," he says, smiling. His octogenarian smile broadens as he scuttles up and down the stairs. "All I want now is to make people happy." I ask him which instrument is his favorite creation. "I've made many, you know. The first I made was an inflatable guitar, just a balloon for the drum and a neck with strings; it was so musicians wouldn't have to carry around such heavy cases all the time, it's crazy, those cases. But that was my first time inventing any musical instrument." François brings me back upstairs; the dinner table still covered in a tangle of bottle-opening cables and wine glasses and empty plates. He shows me a device sitting on a chair that looks like a shinier, mini-version of the mother instrument in the basement. He wets his fingertips and suddenly there is sound in the room—a soaring melodic wail. "It's not tuned yet. This is just the beginning; it is a newborn thing. I like this one the best, because I made it yesterday." The sound is somewhere between a siren and a muted trumpet blast. Then it sounds like an orchestra warming

up; then like a cello at its highest note. No recognizable notes at first—not because he isn't playing them, they are simply different notes than we are used to. There is indeed a scale—regular harmonic pitches when the crystals are played like a piano—but it is the eeriness of the sound that carries the music. The Crystal is an adaptable instrument; it can be played like a piano, an organ, a cello.... At times it feels as if you're lost in the back of the orchestra with the tympani section, in a space engulfed by crashes and echoing bass. Many albums using the Crystal have been made since the machine was introduced to the public (see discography), as well as hundreds of live performances and concerts since the late sixties. "In the electronic music field right now, there is...a problem," he says between howls coming from the crystal rods. "Who are we, what should we do? This is the question everyone is asking themselves with this kind of



music. But with us, with our studio here where we are creating sound with our hands, and exploring what sound means with our own hands; we know what we are. I am not against electronic music, because the world is big enough for both of us, you know? So, we have to have patience, which is as much a part of the process as building the device itself.”

The Baschets have worked throughout the last two decades with schoolchildren all over France, introducing them to the physics of sound and the history of music-making.

“The marriage of creativity and sound: this is what we are trying to teach people. We taught children how to use everyday things to make sound sculpture and I think this is what brings me the most happiness. The instrument itself is something, but it goes beyond the instrument. This will be copied by generations. There is this fad of electronic sound right now, but I will continue to teach people to make their own things, and to exist through their own work. That is the most important—it is what will shape the future. I think that people will come back around to using acoustic instruments. It will take time. But we have time; we are young.”

François Baschet knows that his instrument defies musical norms. It is not accessible to everyone; either in sound or playability, and it isn't necessarily beautiful in the way one might expect. But the Crystal is slowly becoming known to the music world after years of continual playing and education. François' contentment to live among his creations and invent new ways of making sound, without a large audience, is as remarkable as the bellowing cries that come from his instrument. François himself has stopped doing exhibitions, and now works closely on smaller instruments that mirror the Crystal's mechanics, but produce different sounds.

“When you work with sound, with movement, and public participation; everybody is going with you.” He says, as he begins to clear the table as much as it can be cleared.



The Crystal

The musical structure of the Crystal is based on that of a piano, ie. 88 notes in a western chromatic scale ascending from the left. The blue rods correspond to white keys, the clear to black. Sound is produced by drawing a wetted finger back and forth along the crystal rod, and pitch is determined by the length of threaded steel rod through which the resonance passes before being stopped on the nut. Amplification comes through the three cones—two carbon-fibre, and one metal. There is a damper on the metal cone which can be raised and lowered by a pedal to introduce or diminish metallic reverb in the sound. The fray of fibres off the bottom are to enhance harmonics, while the teared shaping of the cones is more for sculptural than acoustic concerns. Because the process of playing is one of drawing rather than tapping on the key, the Crystal is markedly less percussive than a piano: very quick staccato passages cannot be played, and the wider spacing of the rods diminishes reach to just under an octave. However, and in this respect closer to a bowed instrument, unlimited sustain can be achieved, and very sensitive variations in volume according to finger pressure on the rod.

There are some 12 Crystals being played around the world at present; in Japan, the US, and Europe.

Brief Exhibition History

1957 First public concert—Maison des Centraux, Paris;
1963 The Ed Sullivan Show; 1966 NYC Museum of Modern Art;
1970 The Osaka World's Fair; 1972 The Berlin Akademie der Kunste;
1983 The Barbican Centre, London;
1993 Kunst und Gewerbe Museum, Hamburg.

Select Discography

1963 *Les Structures Sonores*, 'Pièces Nouvelles' (Lasry), 'Marche' (Ouzounoff), 'Suite' (Lasry), 'Valse' (Ouzounoff);
1966 *Les Structures Sonores*, 'Chronophagie' (Lasry); 1972 *Stomu Yamash'ta*, 'Prison Song' (Henze), 'Seasons' (Takemitsu), 'Turris Campanarum Sonantium' (Maxwell Davies); 1972 *Orion* (Cathy Tardieu, Guy Bardot, Herve Remond), improvisation on themes by Piazzolla, Poulenc, Machado, Villa Lobos, Bartok, Bach; 1990 *La Vie de Marie*, poetry of Rainier Marie Rilke, as recited by Simon Valere, accompanied by Michel Deneuve.