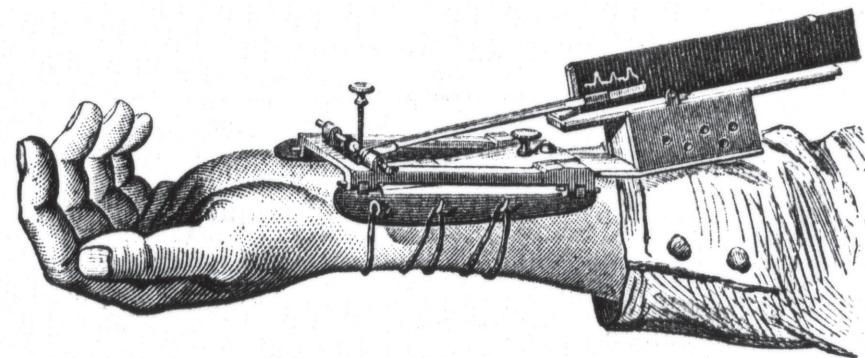


Early circulatory experiment from the laboratory of Angelo Mosso, late 19th century

DARIO ROBLETO

THE BOUNDARY OF LIFE IS QUIETLY CROSSED



AUGUST 16, 2014–JANUARY 4, 2015

THE MENIL COLLECTION

DARIO ROBLETO

THE BOUNDARY OF LIFE IS QUIETLY CROSSED

Commissioned by the Menil Collection and the
University of Houston Cynthia Woods Mitchell Center for the Arts

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THE BOUNDARY OF LIFE IS QUIETLY CROSSED

Houston-based artist Dario Robleto (b. San Antonio, TX, 1972) has had over 30 solo exhibitions since 1997, most recently at the Des Moines Art Center (2011), Museum of Contemporary Art, Denver (2011), and New Orleans Museum of Art (2012). In 2008, the Frances Young Tang Teaching Museum and Art Gallery at Skidmore College, Saratoga Springs, NY, mounted a 10-year retrospective exhibition of his work titled *Alloy of Love*, which was accompanied by a major monograph and traveled to the Frye Art Museum in Seattle. Robleto has participated in a number of notable group exhibitions, including *The Record/Contemporary Art and Vinyl*, Nasher Museum of Art at Duke University, Durham, NC (2011); *Old, Weird, America*, Contemporary Arts Museum Houston (2008); *Human/Nature: Artists Respond to a Changing Planet*, Museum of Contemporary Art, San Diego (2008); and the 2004 Whitney Biennial.

“The Pulse Armed With a Pen: Earliest Human Heartbeat (As Sound Wave)” by Patrick Feaster.
All other liner notes by Dario Robleto.

Dario Robleto: The Boundary of Life is Quietly Crossed is curated by Michelle White.

This exhibition was commissioned and developed in a joint residency with the Menil Collection and the Cynthia Woods Mitchell Center for the Arts, University of Houston. It is generously supported by Chinhui and Eddie Allen; Robert J. Card, MD, and Karol Kreymmer; Jereann and Holland Chaney; Allison and David Ayers; The Brown Foundation; Brad and Leslie Bucher; Anne and Jack Moriniere; Bridget and Patrick Wade; and the City of Houston.

Developed through a joint research residency supported by the Menil Collection and the University of Houston Cynthia Woods Mitchell Center for the Arts, *Dario Robleto: The Boundary of Life is Quietly Crossed* is a site-specific project realized by Houston-based artist Dario Robleto (b. 1972). Presenting new sculptural work alongside objects from the museum’s holdings, it weaves together a diverse collection of sounds, ideas, personal narratives, and scientific and technological research to link two remarkable undertakings that took place in the United States in the 1960s: the space race and the development of the artificial heart. The largely unexplored history of the human heartbeat, from the earliest attempts to transcribe a pulse to recent developments in the fabrication of the “beatless” heart, is a major component of Robleto’s inquiry, and a series of historical audio recordings of the heart serves as the point of departure for this publication. Designed as “liner notes” of the kind typically found tucked in an album sleeve, each entry explores the scientific and human narrative behind the sound of a particular heartbeat. Robleto’s goal is to challenge and augment the way in which the scientific and medical worlds understand the emotional ramifications of their role in perpetually extending the physical and theoretical boundaries of life.

The exhibition is accompanied by a series of public talks and research projects that serve as an extension of the work on view. The list of participants is composed of a group of thinkers, scholars, and scientists, all of whom not only had an important role in the artist’s research and formulation of this project but also have made significant contributions to larger conversations about how technology has changed our understanding of the boundary of life. Speakers include Patrick Feaster, a historian of early sound media who has collaborated with Robleto in resurrecting the first recordings of the human pulse; and Mimi Swartz, author and an executive editor of *Texas Monthly*, who will be speaking about the history of the artificial human heart and the pioneering work of Dr. “Bud” Frazier in Houston. During the run of the exhibition, Dr. Jose L. Contreras-Vidal, a professor of engineering at the University of Hous-

ton and head of the school's Brain-Machine Interface Systems Team, will be collecting data at the Menil as a component of his neurological work. Visitors can participate in Dr. Contreras-Vidal's research by donning a cap that traces the action of neural circuits while they spend time looking at art. The goal is to study how aesthetic stimulation is linked to emotions by examining patterns in the brain. Like Robleto's larger project, it offers an avenue to think about the relationship between human experience and biology. Or, to put it another way, to find the place where the poetic (the realm of the artist) intersects with science.

It's appropriate that the city of Houston, home of NASA and the Medical Center, is the site of this exhibition. The remarkable technological advancements made by both communities in the 1960s, specifically through government-sponsored initiatives, link the journey to create an artificial heart to the race to put a man on the moon. Fascinated by this convergence, the artist continued to discover connections between the two histories over the course of his research. For instance, while he was working in the Menil archives, Robleto came across obscure footage for a never-completed 1960s documentary by Roberto Rossellini titled *Science*. Created while the famous director was in residence at Rice University under the patronage of John and Dominique de Menil, the 16mm film includes shots taken at NASA and of pumping cardiac machines, the latter of which is included in this presentation.

The story of Ann Druyan, who went on to work on the 1980s television series *Cosmos: A Personal Voyage* and its 2014 sequel *Cosmos: A Spacetime Odyssey*, is at the conceptual core of the narrative Robleto is establishing about this intersection. In 1977, she became the creative director of the Golden Record, which was installed on the side of the *Voyager 1* and *2* space probes. Druyan worked with astronomer Carl Sagan to collect sounds, voices, and images with the hope that an extraterrestrial intelligence might someday come across—and understand—this portrait of Earth. In learning about the history of the LP, Robleto discovered that what sounded like static when played back was actually the electrical signals of Druyan's heartbeat and brainwaves: EKG and EEG recordings. Further, they were made as she was falling in love with Sagan, whom she soon married. This was a remarkable idea to the artist, and in September 2013, as *Voyager 1* exited our solar bubble and entered interstellar space, he reflected that “a human mind and heartbeat in love [was] lunging toward an ‘after-

life’ in a region of space and time that no art or religion had ever accounted for.” Here was life at the very boundary of understanding.

The inclusion of Druyan's heartbeat and brainwaves on the Golden Record reflects the human desire to connect with and to apprehend the unknown, whether inside the body or in faraway galaxies. Robleto meditates on this yearning in the largest piece he created for this presentation, *Things Placed In the Sea, Become the Sea*, 2013–14. The deep sea is one of the least understood regions of the planet and, to the artist, both space and our own biology are equally beguiling frontiers. To illustrate these parallels, he has brought together a variety of materials related to man's exploration of these biologic, cosmic, and aquatic terrains. Here, seashells and sea urchin spines mingle with images of *Sputnik* and the Liotta-Cooley artificial heart. Newspaper articles, culled from the Associated Press and the *New York Times*, discuss space probes that have lost their connections with Earth and the scientific teams that continue to wait for their signals, for a sign of life. Melted vinyl records—a unique medium Robleto has long explored as a symbolic distillation of sound—salvaged from the ocean floor are incorporated into the work as well. Like the Golden Record, they are fossilized sounds emerging from the depths of human understanding.

Since John and Dominique de Menil asked Andy Warhol to “Raid the Icebox” in 1968 by digging into storage at the Museum of Art at the Rhode Island School of Design to create an exhibition, the Menil has encouraged artists to use the permanent collection as a medium. Robert Gober, Otabenga Jones & Associates, and Vik Muniz are just a few of the artists who have used the museum's art objects and archives to support their own artistic visions. Robleto's work continues this tradition, and in a sweeping gesture, he takes it a step further by involving the medical and scientific worlds. In the contemporary landscape, art is evermore being put into a dynamic dialogue with non-art communities, an important social turn that brings the unique perspective of the visual artist to bear on other fields, allowing for a richer exchange of ideas. It is in this spirit that Robleto explores, interrogates, augments, and interacts with science and medicine to trace the boundaries of life and the emotional ramifications when those limits are transgressed.

— Michelle White, Curator

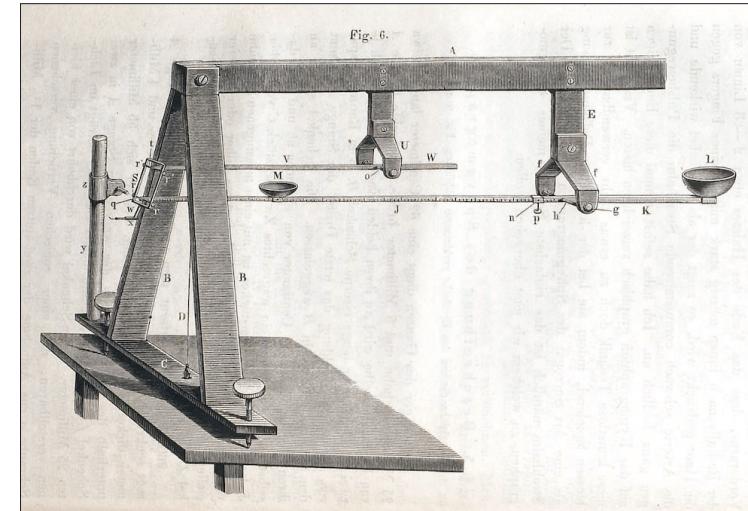
THE PULSE ARMED WITH A PEN:

EARLIEST HUMAN PULSE
(ONE PARTNER SEEING THE OTHER'S),
1854



The desire of one partner to know, hear, or feel the other's heart is such a simple but fundamental human hunger. In medicine there are references to changes in pulse and heart rate due to heartbreak dating back thousands of years, and the phenomenon must certainly extend back before recorded history. One could argue that the driving force behind a great deal of the literature, music, and art created throughout history has been a craving to know the depths of a partner's heart. Part of our fascination, explored through art, religion, and eventually science, has been the mystery of its movements, which were thought to be mystical, ephemeral, unrepeatable, and forever hidden from our view.

A forgotten but dramatic chapter to this human quest was added at 3:00 p.m. on September 20, 1854, when German physiologist Karl Vierordt recorded a "pulse picture" of his wife Pauline, becoming the first human to see his partner's pulse, and hence heartbeat, as movement in real time. Less than a year earlier, he had introduced his sphygmograph, or "pulse writer," which for the first time allowed scientists to convert the movements of the heart into a visible form that could be permanently written on a medium. Using the same premise as a modern day blood pressure device, Vierordt devised a way for a pulsing artery to activate a lever attached to a stylus for inscription on a moving piece of paper blackened with particles of soot, producing a white-on-black curvilinear tracing. This was a radical breakthrough, as the ability to detect, record, and visualize the inner workings of a still-beating human heart seemed well beyond the reach of science.



In a beautiful coincidence, practicalities accidentally produced a poetic moment of astounding fragility. Driven to make adaptations to his device because he could not find a stylus that was gentle and responsive enough (other attempts ripped the paper), Vierordt turned to the most delicate things he could find: a human hair and soot from a candle flame. So the first time one partner gazed upon the movement of the other's heart, it was traced by a single human hair in the residue of a flame that burned and was extinguished 161 years ago. Modern technology now allows us to listen in on Frau Vierordt's pulse as a new form of intimacy is revealed to the world.



(Top:) Vierordt's sphygmograph or "pulse writer." (Above:) Pauline Vierordt's "pulse picture."

THE PULSE ARMED WITH A PEN:

EARLIEST-BORN HUMAN PULSE
EVER RECORDED
(BORN 1783, RECORDED 1854)

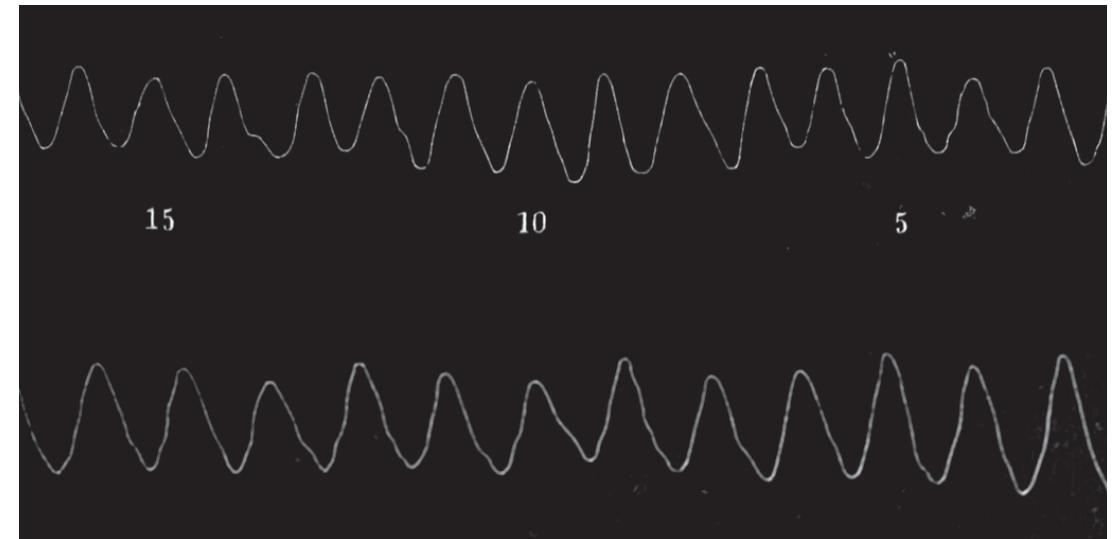


In 1853, Karl Vierordt made the startling breakthrough of being the first scientist to give visual form to the movements of the human pulse. After establishing a satisfactory working model of his sphygmograph by running numerous tests on himself, producing the world's first "pulse self-portraits," Karl Vierordt recorded as many varieties of human pulses as possible. Vierordt's records at the Physiological Institute of the University of Tübingen illustrate his methodical and wide-ranging efforts. His records are filled with the pulse tracings of colleagues, patients, visiting professors, and many an unwitting medical student or intern. It is thanks to his thoroughness in variety, and an element of chance, that we have one of the most unexpected ways to think about our links to time and history: a pulse tracing of a heart born in the 18th century.

The little we know about the patient is that his name was Johann Hahn, he was 71 years old, suffering from pulmonary emphysema, and he had a pulse rate of 64. On June 19, 1854, Vierordt was able to record 45 pulses from Hahn's slowing heart, affected by brittle lungs, before he stopped the sphygmograph, making this the earliest-born heart a pulse was ever recorded from. Time would take its final toll on Hahn's body and mind only 9 months later, but these few seconds of etchings in soot of his still-living pulse—45 feeble, rippling waves of a heart that had given him roughly two and a half billion beats already—would immortalize him in a way that the etchings on a gravestone never could.

Although Vierordt's work remains largely unknown, and Hahn was a random test subject available to Vierordt in the hospital, they had both unknowingly given the world a new

way of stretching our imaginations about time and the thresholds of the evidence of life. Hahn's frail heart, captured for a few moments nearing its final beats, would have first thumped to life in his mother's womb in 1783, just as the first human attempt at flight with an air balloon was causing a sensation in France, and just as the American Revolutionary War was coming to a close on the other side of the Atlantic. In an impossibly fragile form of survival and remembrance, in this tracing of Hahn's heart, locked away in silence for 161 years, lies the only visual evidence of the movement of a pulse and heart born in the 18th century, frozen and preserved in the residue of a candle flame that burned in the 19th century, mostly forgotten about in the 20th century, and now audible for the first time in the 21st century. Determining time's march through its effect on materials is rarely as beautiful as witnessing—and now for the first time listening to—the last weakened but determined tracings of the pulses of an 18th century heart as it meanders through the trails of dusty smoke.



"Pulse picture" of Johann Hahn.

THE PULSE ARMED WITH A PEN:

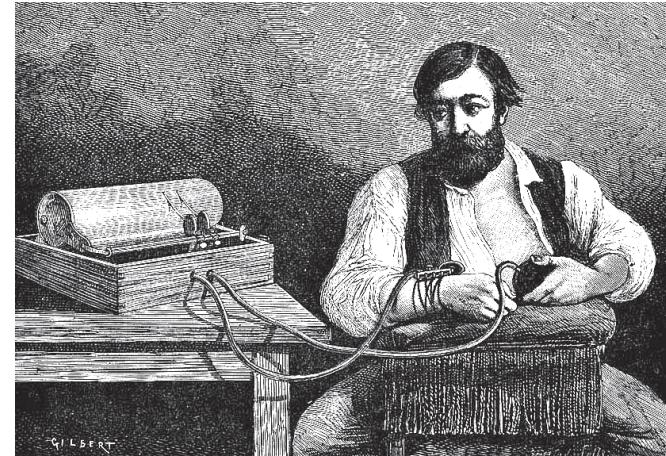
EARLIEST HUMAN HEARTBEAT
(AS SOUND WAVE),
1865



In 1865, Étienne-Jules Marey became the first person in history to record the sound of a beating human heart, even though he was actually trying to do something quite different.

Marey was no stranger to the creation of “pulse pictures.” Several years before, he had improved Karl Vierordt’s sphygmograph by simplifying its design and reducing the weight of its lever to make it more sensitive. Vierordt’s goal had been to measure the height and spacing of pulses, so he had regarded anything but a neat, simple curve as either a distraction (at best) or a distortion (at worst). By contrast, Marey found himself intrigued by the complex shapes assumed by the recorded pulse, which he saw as comprising a new and “natural” form of writing full of meaningful details that human observers only needed to learn to decipher.

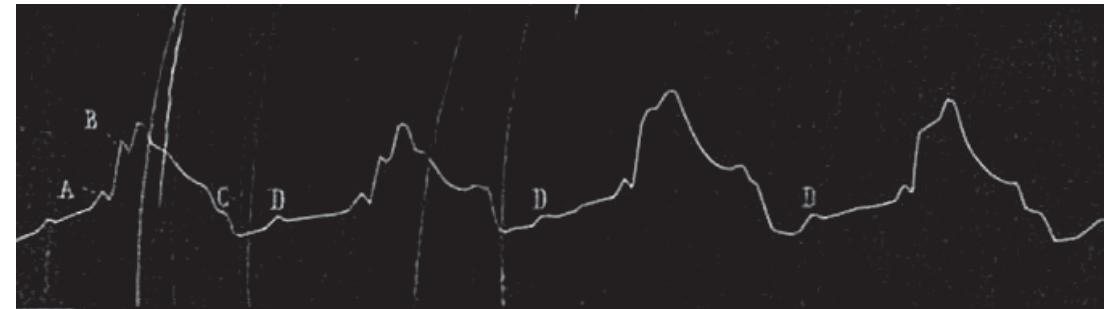
But the sphygmograph recorded the arterial pulse, and Marey wanted to get closer to the human heart itself—to capture its own movements just as directly as he could feel them by holding his fingers against a person’s chest. In order to do this, he turned to a type of stethoscope recently invented by Rudolph Koenig in which an inflated “lens” consisting of two membranes was placed against the chest and conveyed the sound of the heartbeat to a rubber listening tube (although Koenig also suggested using his invention for listening to speech and piano music). Marey filled the “lens” of Koenig’s stethoscope with water instead of air, and he attached it to a recording device rather than a listening tube, but the principle was the same: the signal being picked up in both cases was the *sound of the heart*. Marey’s “cardiograph,” or heart-writer, recorded the sounds



of the human heart just as the phonograph of Édouard-Léon Scott de Martinville recorded the sounds of the human voice.

And yet Marey ultimately wanted to record the way the heart *felt* and not the way the heart *sounded*. With that in mind, he soon substituted a wooden capsule and an ivory knob with a spring for the stethoscope

“lens” in his cardiograph. He never claimed to have recorded heart sounds, and histories of cardiography have generally identified Karl Hürthle as the first person to succeed in recording the vibrations of heart sounds on paper, in 1892, with the aid of a microphone. However, it seems Marey had inadvertently done the same thing decades earlier, enabling audiences today to listen stethoscopically to the familiar lub-dub of a human heart beating in the year 1865.



(Top:) E. J. Marey’s cardiograph or “heart-writer.” (Above:) Human heartbeat as sound wave.

THE PULSE ARMED WITH A PEN:

HUMAN CEREBRAL PULSE
(REFLECTING ON LOVE),
1882



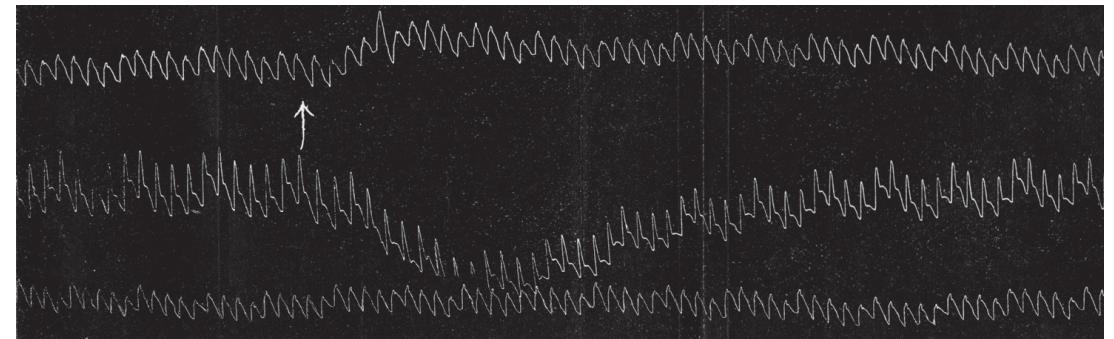
In the 1870s, Italian physiologist Angelo Mosso became the first person to develop a technique and devices to record the relationship between increased blood flow to the brain and mental activity, or what he called the “cerebral pulse.” His search was no less than a quest to find *the materiality of consciousness*. This was quite a radical pursuit at the time, and the physical sciences for the most part had avoided the question, unsure that it was possible to quantify this, or turn it material, and reticent to investigate what was commonly thought to be the immaterial and ephemeral province of the soul (and thus, of religion).

To search for the physical basis of the emotional experiences of life, he began a series of brilliant experiments measuring the “cerebral pulse” on patients who had, through injury, exposed sections of their brains. One of his most profound tests was in the early 1880s with an injured construction worker named Luigi Cane. After asking a series of mathematical questions to measure the blood flow to the brain during intellectual reasoning, he suddenly told Cane about the impression his wife had made on him the first time he saw her. The recording machine immediately registered a dramatic increase in blood flow to the brain, flooding the regions that produce emotions. But what makes this wave even more intriguing is that Cane did not respond to Mosso but remained silent and still in his chair. Perhaps Cane thought it impolite of Mosso to comment or he was embarrassed by the remark. Maybe instinctual passions of love and protectiveness were suddenly provoked into being. Maybe some of the hundreds of feelings, thoughts, and sensory impressions that might arise in such a situation flowed through Cane’s brain, heart, and mind to be transcribed through Mosso’s recorder into a rare new



language of emotional experience. This forgotten moment of Mosso recording Cane and his emotions forms an unexpected visual and audio history of the heartbeat as one partner reflects on another.

In a world that had historically looked to art and religion to explain why the heart moves at all, Mosso’s tracings represented a revolutionary new way to visualize passion. Now, for the first time, we are able to hear the earliest recording of the human pulse as the brain and heart reflect on the complexities of love.



(Top:) Luigi Cane. (Above:) Cane’s cerebral pulse tracing.

THE PULSE ARMED WITH A PEN:

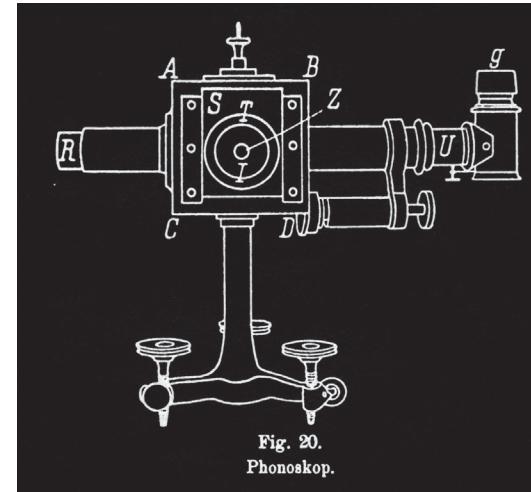
EARLIEST FETAL HEARTBEAT
(REGISTERED BY A SOAP BUBBLE),
1908



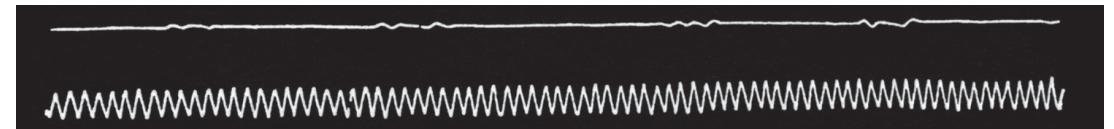
Through most of scientific history the problem of recording the heart as movement, sound, or electrical impulse has been one of sensitivity. Because of the incredibly small amounts of energy produced by heart sounds, and the frequency with which they occurred, no machine was yet sensitive enough to capture and preserve them. Not until the mid to late 19th century were devices finally constructed to give some visual form to this constant movement. The problem of isolating, recording, and deciphering detail from the adult heartbeat was difficult enough due to the weak vibrations emanating through the chest wall, but trying to register the fetal heartbeat, through the womb and abdomen wall, was a challenge scientists had largely avoided. A different type of machine—one that was more sensitive—would need to be invented if life in its first eager beats in the womb were ever to be recorded.

A brilliant solution to this problem of sensitivity was presented in 1908 by the German physiologist Otto Weiss with the introduction of his “phonoscope.” His device detected the tiny vibrations of the fetal heartbeat *by use of a soap bubble*, a membrane of such delicacy that it far exceeded any microphone of the era. Its sensitivity was such that even nearby whispers in the room could be detected through the bubble. Rarely does such a common material experience—one we all probably have memories of as being a marvel in our youth yet now a disregarded phenomena with age—find such an unexpected and once again wondrous use: the soap bubble as sensor of newly formed life.

Weiss’ phonoscope used large iron panels bolted to the wall to force the mother’s body still as she squeezed into it. She then firmly placed her stomach against a funnel-shaped



tube within the iron panels, which was protruding out to the phonoscope. Then the tiny heartbeats, as sound waves, began their journey through the tube to the expectant bubble at the center of the device. To record this action, Weiss had placed a silvered glass thread, thinner than a single hair, at a right angle inside the bubble with one end of the glass thread attached to a holder to keep it in position. The glass filament had to be thin and light enough that the movement of the soap membrane could actually influence it. As the soap film’s membrane absorbed the sound waves and beat in unison with the heartbeat, it transferred its movements to the glass thread, and like a pebble tossed in a pond, the thread absorbed the ripples into its form. The phonoscope was cleverly designed to allow focused light into the device, projecting it onto the rippling glass thread. The casted shadow of this thread was then projected onto photosensitive paper, held in a darkened box, producing a photograph of the movements of this undulating line. Like the tiny heart they represent, and even with the several magnitudes of improvement in sensitivity that a single bubble allowed, the miniscule bumps and waves formed in the glass filament seem reticent and unsure of themselves. The resulting image and sound is a wave unlike any other: life announced as a whisper.



(Top:) Otto Weiss’ “Phonoscope.” (Above:) Fetal heartbeat tracing (top) and tuning fork time signature.

**THE PULSE ARMED WITH A PEN:
FIRST HUMAN HEARTBEATS & BRAINWAVES
EXITING SOLAR SYSTEM (IN LOVE),
1977**



In 1977 NASA launched *Voyagers 1* and 2 as part of its “Grand Tour” initiative to explore the outer planets of the Solar System. Once completed, both *Voyagers* would eventually exit the Solar System by breaking free of the gravitational pull of the sun.

Realizing the symbolism, and even poetics of such an occasion, NASA asked Astronomer Carl Sagan to lead a team to design an “interstellar message” to be placed on board as an act of goodwill greetings meant for any possible intelligence that ever wandered upon it. But on a more poetic level, it was a scientific attempt to build an ark that would potentially be our planet’s last remnant of our existence. The goal was a billion-year life span, and the medium was a gold-plated, copper LP record—what came to be known as “The Golden Record.” Embedded in its grooves is a small group of scientists’, writers’, and artists’ humble attempts to account for the vast complexity of Earth’s history through language, images, music, and sounds of the natural world, all in the space limitations of two sides of a record.

Among the gems the team included on the record is, in my mind, the most poignant recording of all: the compressed brainwaves and heartbeat recordings of a 27-year-old woman who had just fallen in love. In a moment of real creativity and vision, Ann Druyan, the creative director of the Record, who only a few days before had professed her love to Carl while working on the record (and he to her which also marked their engagement), had the imagination to wonder, what if an advanced alien technology could somehow take the audible recordings of the electrical signatures of her heart and mind and *decipher the meaning of a human thought*. It was a real testament to the team that they decided it

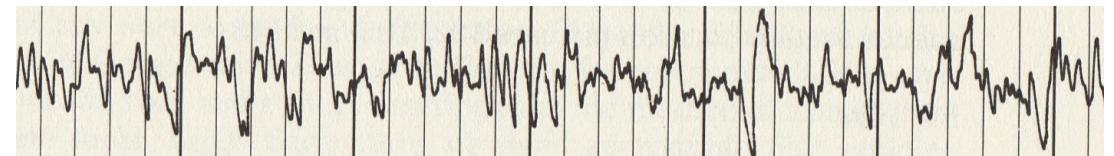


was worth a shot—an optimism in the face of uncertainty that defined the whole endeavor.

With the weight of being humanity’s sole representative of a unique human thought, potentially the last human thought, one that would quietly wander a billion years in the darkness of space, Ann rose to the solemnity of the occasion, and, intertwined with the dutiful world historical facts any human would feel called upon to remember in such a singular moment, she also could not help but reflect on falling in love only a few days earlier. In

the astronomically remote chance the *Voyager* is ever found, there will remain the further astronomically small chance such an abstraction as the concept of human love can be deciphered. It is staggering to reflect on what is riding on these few seconds of sound.

On September 13, 2013, the front page of the *New York Times* read, “Exiting the Solar System, and Fulfilling a Dream: NASA Craft, Aloft 36 Years, Enters Region Between the Stars.” And there it was: a human mind and heartbeat in love, lunging toward an “afterlife” in a region of space and time that no art or religion had ever accounted for.



(Top:) *Voyager 1* launches, September 5, 1977. (Above:) *Electrical signature of a brain and heart in love.*

THE PULSE ARMED WITH A PEN:

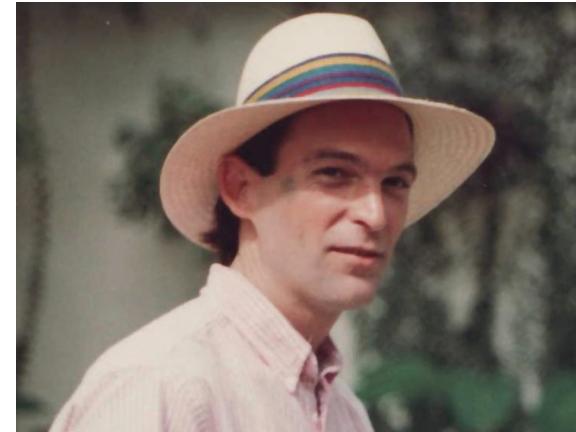
FIRST RECORDING OF A CONTINUOUS FLOW
"BEATLESS" ARTIFICIAL HEART,
2014



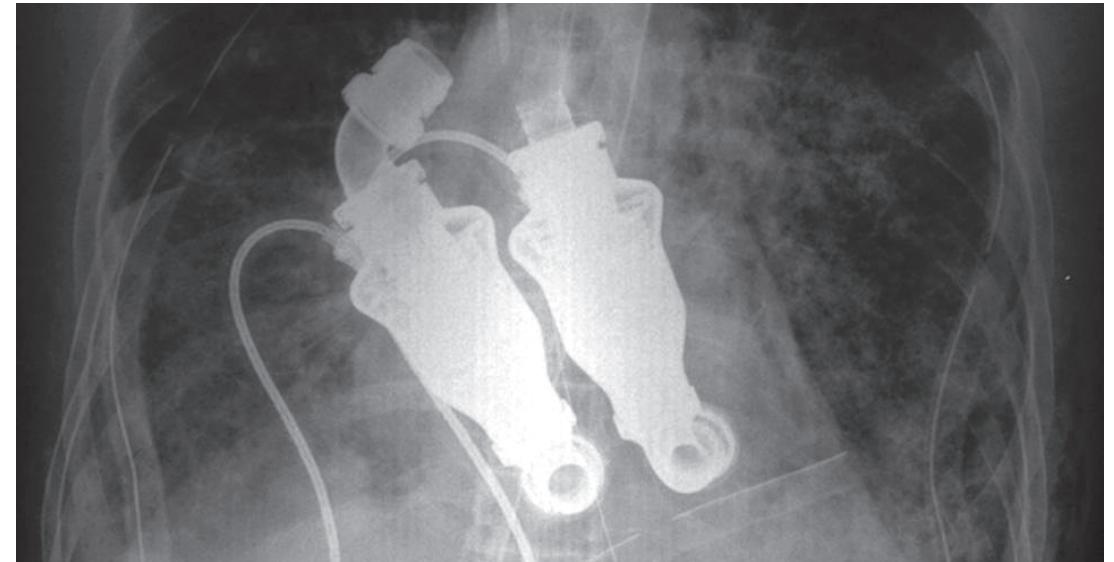
After half a century of effort, although significant advances have been made, a total artificial heart, one that can be pulled off the shelf, implanted, and sustain a person with few complications for a lifetime, remains the Holy Grail for cardiac surgeons. There are several challenges in building such a heart, but a central obstacle is to make a device that's capable of pumping billions of times without failure. This pulsing action has traditionally seemed a non-negotiable factor in design, but in the past decade doctors have made a startling suggestion: what if humans don't need a beating heart after all? Perhaps the barrier has been in assuming we need to imitate nature's solution.

Instead of trying to mimic the beating of the heart, doctors have now designed one that uses continuous flow technology, essentially a turbine that uses miniature whirling rotor blades to supply blood to the body. This represents a physiological solution created outside of evolutionary history. In March of 2011, the first continuous flow "beatless" heart was implanted into Craig Lewis in Houston by Dr. O. H. "Bud" Frazier and Dr. Billy Cohn. The standard ways a doctor monitors life—the heartbeat, the pulse, an EKG—no longer applied to Mr. Lewis, and yet he was fully alive. He lived for five weeks before succumbing to his underlying disease, which attacked and irreparably damaged other organs, but proved that life was possible without a heartbeat.

In an interview given shortly after Craig Lewis's surgery, his wife remarked on the amazement she felt in listening for her husband's heartbeat and hearing only a distant hum. Science, in its awe-inspiring complexity and abstraction, can sometimes be most keenly felt in the gentlest and most private of moments, such as a wife's ear searching



for signs of life through a few inches of flesh and bone. Mrs. Lewis's mind must have drifted to thoughts of the continuity of love, memory, identity, and definitions of life and death during that time, which has profound implications. The philosophical reflection embedded in this recording of the beatless heart adds another unexpected chapter to the meaning we find in the sound of the human heartbeat.



(Top:) Craig Lewis, first recipient of a beatless heart. (Above:) X-ray of "continuous flow" beatless heart.

PUBLIC PROGRAMS

LECTURE

DARIO ROBLETO

Friday, September 12, 6:30 p.m.
Dudley Recital Hall, Fine Arts Building
University of Houston (Main Campus)

Artist Dario Robleto has explored love, loss, grief, and other universal aspects of the human condition throughout his career, often distilling these complex states into meditations on fragility and change. *The Boundary of Life Is Quietly Crossed* revolves around his most recent area of inquiry: the largely unexplored history of the human heartbeat as sound. This lecture draws on his extensive research into the earliest attempts to record the heartbeat as sound and image, the heartbeat and brainwave recordings on a probe currently headed toward the edge of the Solar System, and recent developments in the evolution of the artificial heart.

CONVERSATION WITH THE ARTIST

ANN DRUYAN AND DARIO ROBLETO

Tuesday, September 23, 6:30 p.m.
The Menil Collection

In 1977, Ann Druyan, executive producer and writer for the Emmy-nominated series *Cosmos: A Spacetime Odyssey*, became the creative director of the Golden Record. As part of the team of seven headed by her soon-to-be-husband, astronomer Carl Sagan, she helped create a portrait of Earth from natural sounds, images, musical selections, spoken greetings, and even recordings of her own heartbeat and brainwaves that was placed aboard the unmanned space probes *Voyager 1* and *2* and launched on a billion-year journey into space. Thirty-seven years later, *Voyager 1* is just now exiting our solar bubble and entering interstellar space. In this program, Druyan joins Dario Robleto in a discussion of the creation of the Golden Record and the relationship between science, art, emotion, and the human desire for long-term preservation.

CONVERSATION WITH THE ARTIST

PATRICK FEASTER AND DARIO ROBLETO

Tuesday, October 21, 6:30 p.m.
The Menil Collection

Prior to Thomas Edison's groundbreaking invention of sound recording and playback technology in 1877, the ephemerality of

sound meant that it only existed in the moment of its creation. To "record" sound before this time meant it appeared as oral or written descriptions or musical scores. In 2008, Patrick Feaster, a researcher and educator specializing in the history and culture of early sound media, and his colleagues revolutionized the field of historical sound recording by suggesting that attempts to record sound waves as *visual* tracings almost two decades before Edison's breakthrough could be "played back" today as *sound*. In this discussion with Dario Robleto, Feaster speaks about his work and their recent collaboration on "playing back" the earliest 19th-century attempts to visually record the human pulse and heartbeat.

FILM SCREENING

MAN, ART, MACHINES (1969)

Tuesday, November 18, 6:30 p.m.
The Menil Collection

Quests such as visualizing the mysterious movements of the human pulse and heartbeat, building a mechanical heart from scratch, landing humans on the moon, or sending a vessel past the edge of the Solar System embody a sense of technological optimism and wonder that defined American idealism in the 1960s. It was also a driving force behind *The Machine as Seen at the End of the Mechanical Age*. Organized by Pontus Hulten, the exhibition opened at the Museum of Modern Art, New York, before traveling to the Rice Museum, Rice University, in 1969. Featuring appearances by Dominique de Menil, Pontus Hulten, and sculptor Jean Tinguely, *Man, Art, Machines* explores the evolution of the exhibition in Houston.

CONVERSATION WITH THE ARTIST

MIMI SWARTZ AND DARIO ROBLETO

Tuesday, December 2, 6:30 p.m.
The Menil Collection

In her upcoming book, Mimi Swartz, an executive editor of *Texas Monthly*, traces the history of the artificial human heart. The first total artificial heart was implanted in 1969 at the Texas Heart Institute in Houston, and much of this tale of ambition and innovation focuses on the work of surgeons living and working in the city today. Dario Robleto and Swartz have been in dialogue since the early stages of their respective projects and invite the public to join them in a layered conversation about the past, present, and future of this technology.