The surgery panel in Diego
Rivera’s Detroit Industry Murals
The surgery panel in Diego Rivera’s *Detroit Industry Murals*

asily overlooked, high in the upper left corner of the south wall of Diego Rivera’s (1886–1957) monumental *Detroit Industry Murals* (1932–1933) at the Detroit Institute of Art, is a pair of bloodied surgeon’s hands at operation, one of the smallest panels of the twenty-seven in the composition. To each side are human organs, some whole as animal organs are displayed and sold at a Mexican mercado, others in cross section as they appear in anatomy texts. They are small, soft, and delicate amid the industrial machinery, gigantic symbolic figures, and the subterranean hive of human labor that surround a visitor to the museum’s central court. Close observation is necessary to discern the identity of each organ and surgical details because of the height of the painting above the courtyard. Most are glands; also present are a histological section of the small intestine; the posterior anatomy of the lower male urinary tract with prostate, seminal vesicles, and bladder; a fallopian tube and ovary; and a female breast partially cut away to reveal the lactiferous ducts. A surgeon, particularly a urologist, may be among a small handful of museum visitors to look beyond the graphic bloody sponges and drapes of the operation, because to his or her eye, it is an orchietomy. Not the usual images in public art.

Why did Rivera include them in his work, the one that he considered his greatest effort? There are no direct quotes from Rivera on the reasons for his choice of organs and operation. Some suggest that because the overall composition celebrates all Detroit industries and not just automobile production, the panel represents medicine as one of the modern activities for which the region was noted. Misidentification of the operation and some of the organs by Rivera scholars makes answering the question more difficult. Understanding Rivera the artist and his overall vision for the work reveals the surgery panel as the allegorical assembly of a human worker, both male and female, from human parts, the central orchietomy being the life-giving and death-demanding Aztec act of human sacrifice.

Four books are the basis for most of the discussion that follows. Linda Bank Downs’s study, *Diego Rivera: The Detroit Industry Murals,*¹ is the definitive review of the murals, their execution, the industrial machinery and persons featured, and the iconography represented. She uses Rivera’s notes, correspondence, and interviews related to the work, much of which are available for review in the museum library. Dorothy McMeekin’s monograph, *Diego Rivera, Science and Creativity in the Detroit Murals,*² focuses on the scientific images in the

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*The Surgery Panel. The surgeon performs an orchietomy at center. The blood-stained drapes form a mound that is both a volcano and a pyramid, images seen at the top registers of the south and north walls of the courtyard. Arrays of organs surround the surgeon's hands: base of brain with pituitary in center; digestive organs and endocrine glands to the left; male and female reproductive structures and breast to the right. Note the duodenum to the left; a pipe in the assembly line has the same configuration. Juxtaposition of female and male reproductive organs reflects the androgyny of the titans on the top registers of both walls. The wave motif signifies energy and is the dominating pattern in the middle register of both walls. Grey ropy material resembling semen flows from the left to form crystals on the right.


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work. She gives a detailed discussion of the surgery panel, but misidentifies some of the organs and states that the operation is a craniotomy for a brain tumor. Patrick Marnham’s biography of Rivera, *Dreaming with His Eyes Open*, traces his artistic development as master muralist. The author links important personal events that occurred during Rivera’s stay in Detroit, specifically the miscarriage of Frida Kahlo, his wife. *Diego Rivera, the Complete Murals*, edited by Luis-Martin Lozano and Juan Rafael Coronel Rivera, is a chronological compendium of all of Rivera’s murals with history and commentary. Weighing nearly twenty pounds it probably is best viewed in a library. The Detroit Institute of Arts website displays the murals of the Diego Court, including the surgery panel and other detailed close-ups.

**Background**

In 1932 Edsel Ford, scion of the Henry Ford family and principal benefactor of the Detroit Institute of Arts, and William Valentiner, museum director, awarded forty-six-year-old Rivera a commission to decorate the large areas of the north and south walls of the inner garden court of the museum with mural art, a medium for which the artist had become world famous. Despite his Communist political beliefs Rivera became fascinated by the power of American industry and the factories and skyscrapers that were its monuments. He later wrote, “In all the constructions of man’s past—pyramids, Roman roads and aqueducts, cathedrals, and palaces—there is nothing to equal these.” He was so inspired by the Detroit offer that he proposed a composition to include nearly all the paintable surface in the museum courtyard. In response Ford convinced museum philanthropists to raise the grant from the initial figure of $10,000 to $20,889, a princely sum at the height of the Depression.

The subject would be Detroit industry, the major theme the manufacture of automobiles. The Ford Motor Company Rouge Plant on the banks of the Rouge River was the largest industrial complex in the world at the time, an immense operation that
The top register of the North wall of Rivera Court has a volcano at center, hands thrusting from the earth holding raw ore. The Native American titan to the left holds red iron ore; the African American, coal. Crystals of red hematite form in the midst of red waves of the mineral, while coal, containing fossil animals, becomes diamonds. Beneath the volcano is the blast furnace, energy flowing first rightward, then to human figures going clockwise. Human faces turn cadaveric green in the segment at middle left. Assembly line is between the two rows of white machines. "Vaccination" is in the small panel at top right, controversial because of its secular depiction of the holy family, the kidnapped Lindbergh baby as Jesus, Jean Harlow as Mary, the physician as Joseph, and scientists as the three wise men. "Healthy Human Embryo" is the small middle panel to the right, "Cells Suffocated by Poisonous Gas" is beneath the poison gas workers in the small middle panel to the left. The predella shows workers in line to clock in for their shifts at left, then show a number of factory activities as images progress to the right, ending in a lunch break at far right.
included producing steel from blast furnaces, smelting iron ore and coke, manufacturing tires from raw rubber, and generating its own power. Rivera and his assistants travelled the Detroit area widely and were given full access to the vast plant and other industries in the area. Downs notes that the artist was deeply impressed:

[The Ford Rouge Plant’s] sheer energy, power, and magnitude made him associate it with the vast archeological sites in Mexico, and the individual industrial processes became analogous to religious rituals.

Ford the industrialist and Rivera the unapologetic Marxist shared a deep appreciation of the spectacle of industrial power:

Henry Ford conceived of his automobile industry as having power, breadth, and scope that went beyond the human scale of management, labor, and machines to take on a universal life of its own. Rivera instinctively understood this and compared it to Aztec cosmological beliefs.

The entire work, twenty-seven panels and some 434 square meters of surface, took more than seven months to complete, with Rivera sometimes working twenty-hour days. Its imagery attests to the mysticism behind his homage to the power of American industry to work raw materials from the earth to mass-produce autos, airplanes, and weapons.

But in the midst of blast furnaces, conveyors, steel presses, and turbine generators how did a surgical operation come to be included in the bravura composition?

Medical imagery

The human body fascinated Rivera. He and his wife Frida Kahlo kept their Detroit apartment amply supplied with medical texts and illustrated books that provided illustrative material for both. Kahlo had both studied and personally experienced medicine. She had completed premedical studies before a torrent of operations following the accident, famously self-portraits, many alluding to her painful surgical treatments. Rivera’s experience was more indirect, typically flamboyant, and apocryphal. He claimed that he had eaten the flesh of cadavers in the company of friends who were medical students with access to the morgue.

Early in his career, while perfecting his artistry in Europe, Rivera visited the operating theatre of Jean-Luis Faure, a surgeon and brother of Rivera’s mentor, art historian, art dealer, and physician Élie Faure. Jean-Luis Faure had a powerful influence on the artist, inspiring his politics and convincing him to study fresco painting in Italy, which would become his most famous medium. Faure held that surgery was important in understanding art:

It was while I was watching a surgical operation that I uncovered the secret of “composition” which confers nobility on any group where it is present . . . . The group formed by the surgeon, the patient, his assistants and the onlookers seemed to me to form a single organism in action . . . . It was the event itself which governed every dimension and every aspect of the group, the position of arms, hands, shoulders, heads, none of which could be [altered] without breaking the harmony and rhythm of the group immediately. Even the direction of the light was arranged so that each of the actors could see what he had to do.

There is no doubt that Rivera absorbed Faure’s message. He included a scene of Jean-Luis Faure operating in his 1925 mural in the Mexican Ministry of Public Education. In the Detroit murals he began to populate his work with realistic medical images. Later he would compose entire works devoted to medical science (Water the Source of Life, 1942–1957), physicians (The History of Cardiology, 1943–1954), and clinical practice (The History of Medicine in Mexico: The People’s Demand for Better Health, 1953–1954).

Labor as human sacrifice

Rivera identified closely with labor and industrial workers. Four human figures—Rivera called them titans—dominate the top panels of the main south and north walls. They embody human labor as a primary source of industrial power. Each represents a human race: Caucasian and Asian atop the south wall; Native American and Black on the north. Both Downs and McMeekins note the androgyny of the figures, Rivera’s personification of male and female workers. Massive human hands thrust from the earth, minerals in each clenched fist, the human energy required to mine raw ore from the earth.

Real human figures in the hive of industrial activity below the idealized figures, however, show industry’s destructive side. In contrast to the bright yellow-white heat of the furnace, the human faces are pale and wan and fade in a grotesque transition to a cadaveric green, their life energy drained. While they have recognizable racial and ethnic features, all share a grim visage reflecting the physical exertion and monotony of assembly line work. The predella beneath the main panels on the north and
The surgery panel in Diego Rivera’s *Detroit Industry Murals*

The surgery panel in Diego Rivera’s *Detroit Industry Murals* south walls depicts a day in the life of a worker. In shades of grey to mimic bas-relief, the workers remain featureless from the point at which they arrive to work bundled in hats and coats on the far left of the north wall to where they return to cars at day’s end, bent from fatigue, at the far right of the south wall.

Thus modern industry drains human energy, a contemporary form of human sacrifice. The dominant image of the automotive panel of the south wall is a giant industrial press that stamps three-dimensional auto bodies from sheets of steel in the form of the terrible Aztec goddess Coatlicue, both life-giving and life-destroying, who demanded human sacrifice. It has an appropriate position beneath an Aztec pyramid, dark and in silhouette, at the center of the top register of the wall.1 Downs notes:

Rivera’s understanding of ancient religious concepts included the idea of a compact between Aztec Indians and their gods. Humans were created by the sacrifice of the gods and therefore humanity must reciprocate by sacrificing lives in order to nourish the gods with human hearts and blood. Just as the Aztecs were human fodder for the sun, Rivera drew the analogy to the factory workers who sacrifice their energy for the technological universe.1p166

Rivera embraced human sacrifice as his Aztec heritage. His epic *Visions of the History of Mexico* (1929–1935) on the walls of central staircase of the Palacio Nacional has at its exact center an Aztec priest holding a human heart aloft, the victim in a bloody white shroud, a brutal image of the country’s Aztec heritage and the blood sacrifice Mexicans paid throughout its history.9 Each of the pyramids in his later mural *The Great City of Tenochtitlan* (1942–1953), also at the Palacio Nacional, has bloodstained steps from the temple at its apex.5p445–48

So where is human sacrifice in the Detroit murals?

**Pyramid and volcano**

The central image in the *Surgery Panel* is the operative field. The mound of bloody surgical sponges and drapes becomes an Aztec pyramid, the scene of human sacrifice. The panel occupies the same wall as the dark, brooding pyramid and the industrialized image of the bloodthirsty goddess Coatlicue, the creator and destroyer.

The surgeon becomes a modern-day Aztec priest removing a testis, the gland that in Rivera’s male eyes at least, is both life-giving and the seat of masculine energy, the sacrifice made in the name of industrialism. The surgeon’s right hand holds an ovoid organ, the opposite hand providing counter-traction. McMeekin, in her monograph addressing the science depicted in the murals, mistakes the operation as brain surgery (the right hand holding a brain tumor), and the figure at top center an open skull showing the tumor.3 A photo of Rivera at work on the surgery panel from a line drawing clearly shows the ovoid testicular shape in the surgeon’s hand, the opposite hand providing counter-traction to stretch the spermatic cord.3

Misidentification thus misses the significance of the organ: the seat of masculine energy, the human raw material of industry. When painting the Detroit murals, Rivera...
was at the height of his artistic powers and had left dozens of lovers in his wake. He likely viewed castration viscerally as an unthinkable act, a sacrifice of a part of himself that energized both his personal and artistic life. Removal of a testis would be the modern equivalent to the Aztec ritual removal of the heart.

The mound of white sponges with its bloody crater-like center also becomes a white-sloped volcano with red lava flowing from its summit. It thus recalls the volcano atop the furnace of the opposite north wall, and the iconic geologic landmarks of the Aztec capital, the snow-capped volcanoes Popocatépetl and Iztaccíhuatl. It is an image Rivera used before in the human sacrifice scene in his mural at the Palacio National. The white shroud covering the victim and the bloody rent in its side is peaked, taking the form of a snow-covered Popocatépetl with lava flowing from its summit.

**Energy**

Flowing toward and away from the operative field in a broad “V” are broad waves in light grey, viscous and amorphous on the left, then coalescing into crystals toward the right. It recapitulates the strata motif in the middle registers of the main north and south walls. The waves signify the energy locked within inanimate raw materials. Downs suggests that Rivera would have known the early twentieth-century writings and beliefs of theosophists Annie Besant and Walter Russell, who became president of the Artists’ League of New York in the early 1930s. They proposed that the recent discovery of the wave properties of light explained the movement of energy on earth in the form of waves.1 Downs quotes Rivera biographer Bertram Wolfe:

Rivera had always been intrigued by the image of the wave. Increasingly it had been implicit in his painting. . . . Now he set out to paint the wave explicitly, the wave that runs through electrons, mountains, water, wind, life, death, the seasons, sound, light, that does not cease to undulate in the dead, nor in things that never lived.1p107

Understanding the image to signify human energy and recalling Rivera’s appetite for sex, the ropy material on the left resembles semen, which one could imagine Rivera’s personal image of germinal energy. Never before shy in his personal sexual exploits (a nude Helen Wills Moody, a Rivera inamorata, stretches across the ceiling in his San Francisco mural at the Pacific Stock Exchange), Rivera might be showing more restraint and less explicit imagery for his Detroit benefactors.

**An assembly line—for a worker**

To the left of the surgeon are the digestive organs and endocrine glands that provide human energy. McMeekin misidentifies several organs, missing altogether the pituitary, thyroid, adrenal, and thymus. No doubt dependent on her medical sources she sees a gall bladder where there isn’t one, says that the segment of duodenum attached to the pancreas to be partially obstructed small bowel (it isn’t), and identifies one of the organs as “an intussusception” (not so).3 By wrongly including pathological conditions she misses one interpretation of the array of organs to each side of the surgeon; it is an assembly line for the formation of a human worker. Beneath the furnace on the north wall is an assembly line of parts hanging from a conveyor in the same broad “V” as the organs on each side of the surgeon. Some parts on the conveyor to the left are bent pipes with open mouths on each side, one in a “C” shape in the same orientation as the duodenum, pancreatic head seated in place, both ends open. The surgeon, then, might well be placing organs into a living being rather than removing one, becoming the life-giving embodiment of Coatlicue.

Detail from the north wall. Workers in assembly line work. Each has distinct facial features and identifiable racial and ethnic features, the human counterparts to giant figures above. The conveyors form a “V,” the wave motif in the left conveyor, assembly parts displayed to each side. Pipes fashioned in a “C” resemble the duodenum in the surgical panel. Both occupy the same position on the left arm of the “V.”

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To the right of the operation are male and female sexual glands and female breast that are the basis of reproduction and infant nurturing (each of which McMeekin correctly names). This begins several scenes in the composition that shows the genesis, nurturing, and destruction of humans: a human embryo (Healthy Human Embryo panel, upper right corner of the north wall), a fetus gestating in the embrace of the roots of a plant (Infant in the Bulb of a Plant, center of the east wall), two women (in Downs's words, "exuding fecundity"\textsuperscript{1p74}) holding fruit and grain (both east wall), vaccination (above the Embryo panel), and death (Cells Suffocated by Poisonous Gas, upper left corner of north wall). The juxtaposition of male and female structures also reveals the hermaphroditic identity of the androgynous titans atop the composition.

Frida Kahlo's medical art in Detroit

Rivera was not the only artist producing memorable medical artwork in Detroit. Frida Kahlo painted some of her most famous masterpieces during their stay in Detroit. In 1932 while he was painting what he considered his finest work, his wife was enduring a miscarriage and the news of her mother’s death more than 2,000 miles away in Mexico City. Three of her works that year, the lithograph Frida and the Abortion (1932) and two paintings on metal, Henry Ford Hospital (1932) and My Birth (1932), portray brutally explicit medical images that have become landmarks of Surrealism.\textsuperscript{7}

In Downs’s words, Kahlo’s stay in the United States “was wretched.”\textsuperscript{1p58} She had just suffered a miscarriage. She was not fluent in English and felt isolated among the glitterati that surrounded them. While her husband embraced the accoutrements of wealth, she disapproved of American capitalism. The
obese sybaritic extrovert could be seen in San Francisco stuffed beside blond haired Moody in her convertible. Kahlo handled her own affairs with both men and women during her stay with more discretion.4

Kahlo became pregnant again in Detroit. She and a trusted friend, Leo Eloesser, a San Francisco surgeon, debated whether she should have an abortion or try to carry the child. Rivera was not interested in a child, anticipating that one would be a nuisance to his work and travels. A child would keep Kahlo from accompanying him, something she wanted to do. Eloesser and Rivera were also concerned about the effects either an abortion or childbirth would have on her health. Kahlo wanted a child but was convinced that childbirth would kill her. She requested an abortion and received quinine and castor oil as an abortifacient that produced only a light hemorrhage. She then decided to continue the pregnancy, but miscarried in July 1932. Rushed to Henry Ford Hospital, she recuperated as an inpatient for a week.4

Kahlo grieved her loss despite her ambivalence about the pregnancy. In both Frida and the Abortion and Henry Ford Hospital Kahlo cries large oversized tears. While Rivera may not have wanted a child, the connection she feels for him is unmistakable. Marnham notes a resemblance between Rivera and the fetus in Frida and the Abortion (1932).4 She had previously depicted Rivera as her unborn child in a earlier drawing after her 1930 abortion; she later erased the image.7

Against the advice of her doctors Rivera brought medical texts and references to Kahlo's bedside and encouraged her to paint. Obstetrician Helene Bernstein notes that the medical images in the works that resulted are the most strikingly accurate portrayal of reproductive anatomy and childbirth in art history to that date.6 Rivera understood that behind the anatomic accuracy there was profound agony:

[Frida] began work on a series of masterpieces which had no precedent in the history of art—paintings which exalted the feminine qualities of endurance to truth, reality, cruelty, and suffering. Never before had a woman put such agonized poetry on canvas as Frida did at this time in Detroit.11\textsuperscript{123}–4

Both artists used medical images, startling in their realism, to produce artistic masterpieces. Rivera's work covered hundreds of square yards in the center of one of America's great museums; Kahlo's were on two small sheets of metal barely a foot square, easily small enough to be packed away and sent back to Mexico City, out of view in private collections. (Today Henry Ford Hospital is in the Dolores Olmedo Museum; pop star Madonna owns My Birth.)

Today popular acclaim has taken a turn. Thousands poured into the museum courtyard after it reopened to the public March 21 1933. 10,000 on Sunday March 26 alone.1 Now the museum is at risk of having its collection sold off to pay municipal debt.12 A recent exhibit of Rivera and Kahlo's work that included Frida and the Abortion and Henry Ford Hospital attracted thousands and generated blockbuster revenues for the High Museum of Art in Atlanta.13 Downs notes the irony: "Kahlo's tiny paintings done in this difficult time in Detroit have now become well known and a significant part of world popular culture, and Rivera's gigantic murals . . . which were intended to reach the masses, are little known outside of that city."1960

References
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