DR. ALEXIS CARREL: MEDICAL MARVEL AND MORAL MONSTER



On April 14, 1939 the New York Times reported that on the previous day New York's Rotary Club gave its Gold Service Award to Dr. Alexis Carrel "in recognition of a life devoted to the amelioration of human suffering." The headline blared that the honoree "FINDS SOCIETY WAVERING. Future *life must be based on Reality*" -- and then Dr. Carrel's words were reported in some detail:

A new civilization will develop when full use is made through a brain pool of scientific knowledge to replace the present civilization [which] is based on ideologies of the 18th century....In our civilization we have misfits and feebleminded persons that the people of the 18th century did not take into consideration there are hereditary and physiological traits that make individuals different...If we used scientific insights we might discover a new way of life which would be based on reality. If life is based on reality we cannot fail. If it is based on philosophical or sociological ideologies we will fail as we already have failed. Our present knowledge is too great to be in one mind. It should be coordinated into a brain pool or a sort of composite Aristotle... It is too soon now but it will come because it is absolutely necessary.

What kind of a person could make such grandiose statements – especially in April 1939? On the very same day as this newspaper account, Franklin Roosevelt wrote a letter to Adolf Hitler requesting the Chancellor to give his personal assurance of peaceful intent so that the United States could serve as a "friendly intermediary" and assure thirty-two other nations that they wouldn't be invaded. According to Roosevelt, "Plainly the world is moving toward the moment when this situation must end in catastrophe unless a more rational way of guiding events is found." FDR's request was ridiculed in Berlin and less than five months later Germany invaded Poland. The week before Carrel's talk in New York, Pope Pius XII had congratulated Generalissimo Franco for his victory in Spain, Mussolini invaded Albania and Marian Anderson sang before 75,000 people at the Lincoln Memorial. Writing in her daily newspaper column Eleanor Roosevelt's words were muted and almost fatalistic:

Here in America, so many miles away, the clouds which hang over other countries are felt and, more and more, the thought seems to come home to us that we are fortunate to live in America. I suppose, however, that no matter where you live or under what conditions, you carry on your daily tasks and adjust yourself to whatever circumstances you may have to meet. Probably this is why human beings survive all kinds of situations. Impossible as it seems today that one could ever survive and adjust to certain things, one will find oneself doing so tomorrow and almost forgetting that other conditions ever prevailed.

Alexis Carrel's speech to New York's Rotary Club was merely a sampler of his beliefs recently described in the second edition of his international

bestseller Man the Unknown. Never timid nor humble, in 320 dense pages the surgeon, who had won the Nobel Prize in 1912 for his work on vascular suturing and transplantation of blood vessels and organs, told how to improve the human race through psychology, nutrition, exercise, education and spiritual enrichment. When the book's first edition appeared in October 1935, it was second in sales only to Gone With The Wind and the author's face appeared on the cover of Time Magazine. The outspoken Dr. Carrel was well aware of world events and in the preface of the second edition his words were apocalyptic:

The book is having the paradoxical destiny of becoming more timely while it grows older. Its significance has increased continually. The real significance of the events taking place in Europe and in this country is not yet understood by the public...The crisis is due neither to the presence of Mr. Roosevelt in the White House nor to that of Hitler in Germany nor of Mussolini in Rome. It comes from the very structure of civilization. It is a crisis of man. Man is not able to manage the world derived from the caprice of his intelligence. He has no other alternative than to remake this world according to the laws of life. He must adopt his environment to the nature of his organic and mental activities and renovate his habits of existence. To progress again, man must remake himself...Otherwise, modern society will join ancient Greece and the Roman Empire in nothingness. And the basis of this renovation can be found only in the knowledge of our body and soul...He cannot remake himself without suffering. For he is both the marble and the sculptor. In order to uncover his true visage, he must shatter his own substance with heavy blows of his hammer.

(Several more statements from the substance of the book which follow here are out of order and slightly edited)

The human race is degenerating morally and mentally, indifferent to everything but money. The only possible remedy is a much more profound knowledge of ourselves...But there's reason for hope because, after all, the ancestral potentialities still exist in the germ plasm of their weak offspring.

Men are not born equal... A great race must propagate its best elements to form a better human stock. Many inferior individuals have been conserved through the efforts of hygiene and medicine and the only way to obviate the disastrous predominance of the weak is to develop the strong.

The feeble-minded and the man of genius should not be equal before the law. The stupid, the unintelligent...those incapable of attention, of effort, have no right to a higher education.

Eugenics is indispensible for the perpetuation of the strong. It asks for the sacrifice of many individuals...Philosophical and sentimental prejudices must give way before necessity.

The free practice of eugenics could lead not only to the development of stronger individuals but also strains endowed with more endurance, intelligence and courage. These strains should constitute an aristocracy from which great men probably would appear. What's needed is a high council living in seclusion like monks...audacious men of science, unafraid of resorting to extreme, even ruthless measures. They should be free from research or teaching responsibilities and dedicate their lives to contemplation of our habits and thoughts...Our destiny is in our hands. Humanity's attention must turn from the machines of the world of inanimate matter to the body and the soul of man...On the new road, we must now go forward.

Alexis Carrel noted that upon this "new road" the defenders of the body and soul of a great race should be descendants of bold men – the likes of crusaders, revolutionaries, great criminals, financial and industrial magnates. Those deemed worthy should have their lives extended while the dregs of society would be "humanely and economically disposed of in small euthanistic institutions supplied with the proper gasses...Why preserve useless and harmful beings?" By "harmful" Carrel meant those guilty of criminal acts who were refractory to such corporal punishment as "lashing." However, the term "useless" was a code word frequently employed in those days by eugenicists and later by Nazis to characterize the unwanted other, the "unfit," the mentally ill, epileptics, homosexuals, gypsies, Jews. (Although Carrel was referring to individual executions by using "proper gasses", it should be noted that in this country, between the 1920s and 2010, hundreds of criminals were executed in gas chambers and it remains a legal option in several states.) However, Dr. Carrel wasn't thinking exclusively about eliminating criminals. At various times he said the following:

-Civilization is already encumbered with those who should be dead: the weak, the diseased and the fools.

-Natural selection no longer plays its part because the weak are saved as well as the strong.

-Perhaps it would be effective to kill off the worst and keep the best, as we do in breeding dogs.

-The old order must die so that the new order lives.

-The fight of man against death will perhaps succeed too well. For the artificial postponement of death of a large number of individuals would be a far greater calamity than death itself.

Alexis Carrel believed that prolonged life should be reserved for the select few, the "builders of civilizations," and had no doubt that there would be many worthy candidates for this new ruling caste: "Even in our own base and egotistical age, thousands of men and women still follow, on the battlefield, in the monastery or in that abomination of desolation the modern city, the path of heroism and holiness."

He hoped to establish an "Institute of Man", a think tank staffed by a "high council" of experts who not only would study mankind, but *mold* it. All Americans under age 30 would be evaluated to determine who should or should not be permitted to propagate – only the best strains allowed to do so. During the 1930s when Carrel praised Nazi Germany for its "energetic measures" to prevent contamination of the human race, his was not a lone voice; his views were shared by many Americans, thousands flocked to his lectures and millions read his book. Was Alexis Carrel a moral monster? a fascist? a Nazi? an anti-Semite? a mad scientist? -- or merely a misguided elitist? Seventy-five years later, it's still difficult to say with clarity so let's consider his story in greater detail.

Alexis Carrel was born June 28, 1873 to a prosperous and devout Catholic family near Lyon (Lyons) the great silk production center. When he was a

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twenty year old medical student in Lyon, an anarchist stabbed the president of France, Sadi Carnot; his portal vein was severed and he bled to death. Young Carrel realized that the surgical techniques of the time were insufficient. He took lessons from an expert embroiderer who taught him to use tiny needles and fine thread, practiced diligently and developed a delicate suturing technique which permitted anastomosing blood vessels as small as a millimeter in diameter. In 1902, when an assistant in the anatomy department, he read a paper before the local medical society describing his method which when widely applied would revolutionize microvascular surgery.

In 1903 the young doctor was invited to ride "the sick train" which took thousands of pilgrims to the famous Lourdes shrine. He was puzzled by hundreds of miracle cures that had been reported during the 19th century and while on the train personally observed the swollen abdomen of a teenage girl, presumably near death from tuberculous peritonitis, shrink down within a half hour after the nuns sprinkled holy water on her belly. Dr. Carrel couldn't believe his eyes and published what he'd witnessed, concluding that there were phenomena in medicine that could not be explained by science alone. The clergy attacked him for being skeptical while the medical establishment called him gullible and blackballed him for academic promotion. Nevertheless, throughout his life Carrel remained fascinated with miracle cures and frequently revisited Lourdes.

Fed up with the politics of clinical medicine in France, he pursued other interests and in 1904 left for Canada where he briefly considered becoming a rancher. He soon had second thoughts, worked briefly in Chicago, and then in September 1905 accepted an invitation from Dr. Simon Flexner, medical director of the brand new Rockefeller Institute for

Medical Research, to join him in New York where he would work for the next thirty-three years. Early on his animal experiments were criticized by anti-vivisectionists but their objections were somewhat quelled in 1909 after he performed a daring bedside anastomosis of the popliteal vein of a dying three day old infant directly to the radial artery of her physician father. Both survived the desperate transfusion which was performed in the doctor's West Side apartment and for many critics the remarkable feat established that animal research could have practical human benefits.

At Rockefeller, Carrel continued doing various organ transplants and in 1910 performed the first coronary bypass surgery on a dog. Although animal surgery was technically quite easy for him, most animals rejected the transplants and died. Carrel realized that something was happening at the cellular level and this prompted his subsequent research on tissue culture. In 1912, when he won the Nobel Prize for Medicine and Physiology, at age 39 he was the youngest individual to receive that honor and the first physician working in the United States. The Nobel committee noted that his work provided the "means of curing the wounds and maladies that so harm the human species." In his Nobel Lecture Carrel acknowledged the contributions of predecessors and continuing problems related to tissue culture which hindered practical application. However, he predicted that these would be surmounted and "render possible the benefits to humankind which we hope to see accomplished in the future."

While visiting France at the onset of World War I, Carrel was called to active duty. He was disturbed by seeing men dying from contaminated wounds and overcame French bureaucracy to start a small research hospital that was partially funded by the Rockefeller Foundation. He

collaborated with the English chemist Henry Dakin who had developed a hypochlorite irrigating solution which when used along with surgical debridement and scrupulous asepsis transformed the management of war wounds. As at other times during his long career, he was criticized for taking more credit than was his and not acknowledging the important contributions of others – in this case Henry Dakin.

After the War and back at the Rockefeller Institute, he operated in a labyrinth of rooms on the top floor of the Institute that were brightly lit by skylights. In order to combat the sun's glare, he painted walls, floors and equipment black and all workers wore black masks and hooded robes. The dramatic effect must have been sinister. Carrel had a life-long talent for offending people. He was brusque, aloof and had a genius for selfpromotion which was resented by his peers. His most widely publicized experiment involved cells from an embryonic chicken heart that was kept alive in vitro, for 34 years, finally discarded two years after Carrel's death. The press had a field day speculating about the "immortal" chicken heart and what it might portend for humans. Every year one newspaper would run a Happy Birthday column to the chicken heart and even an obituary when it "died."

In November 1930, Charles Lindbergh came to visit Dr. Carrel at the Institute. As was his eccentric custom, at that first meeting Carrel silently scrutinized the much younger man's face for several minutes before he passed muster. It was about three years since Lindbergh's epic trans-Atlantic flight, but now he had a personal agenda far removed from aviation. His sister-in-law had a dysfunctional heart valve as a result of rheumatic heart disease and he hoped that Carrel could suggest a way of repairing the valve surgically, like could be done with engine valves.

When told that such a procedure was impossible without the aid of an artificial heart, the mechanically gifted Lindbergh proposed to build one. The heart would have to be removed, repaired outside the body and then replaced and he envisioned a pulsatile pump that could sustain life during surgery. At the same time, Carrel invited the mechanically gifted Lindbergh to collaborate in research, already under way, searching for methods to keep "alive" and functioning excised portions of animal tissues and even entire organs.

For Lindbergh, the much older Carrel was a father figure; for Carrel here was the son he never had. They were an odd couple in physical appearance – the tall, thin flyer and the elfin, bald Frenchman who wore a black beret and pince-nez glasses. But in some ways they were a perfect match. Both thought of the body as a living machine that was made of replaceable parts and although it took Lindbergh four years to perfect his "Life Chamber" apparatus, when he did, they were able to keep various organs "alive" for days or weeks at a time. In September 1935 when Dr. Carrel's face appeared on the cover of *Time Magazine* the accompanying article titled "Carrel's Man" described the semi-secret collaboration of these two celebrities. In June 1938, the colleagues, now described as "Men in Black," appeared together on *Time Magazine's* cover with their hand-blown glass heart pump between them -- and the next year the pump was displayed at New York World's Fair.

Alexis Carrel's book *Man The Unknown* was translated into nineteen languages and appeared in a condensed series in the *Readers Digest*. In it he acknowledged that although his interest in clairvoyance, telepathy and the power of prayer were unorthodox, and "scientists will consider my interest to be puerile or insane," he didn't hesitate discussing them because these phenomena are "real." Predictably, after reading a book

review in the *New York Times* a prominent psychiatrist wrote a letter to the editor objecting to Carrel's remark that prayer can cure cancer and other ailments within a few minutes.

As early as 1911, when testifying at a meeting of the American Breeders Association Carrel said, "The diseases of the mind are a serious menace...They are to be feared, not only because they increase the number of criminals, but chiefly because they profoundly weaken the dominant white races." The ideal solution would be the suppression of each of these individuals "as soon as he has proven himself to be dangerous." He endorsed a program of "voluntary" eugenics – for example, discouraging the "unfit" from marrying. As a social Darwinist he advocated weeding out the unfit while encouraging the elite to multiply: "a great race must propagate its best elements." Eugenicists like him believed in better breeding practices; according to him, "Eugenics is indispensable for the perpetuation of the strong." As Carrel wrote, "The herd always profits by the ideas and inventions of the elite. Instead of leveling organic and mental inequalities, we should...construct greater men. Although he advocated "positive" eugenics and, in individual cases even "negative" eugenics, he never sanctioned mass involuntary sterilization or euthanasia of sick or defective children or adults as was being done in Nazi Germany during the 1930s.

When Carrel's chief supporter Simon Flexner retired in October 1935, he was replaced as director of the Rockefeller Institute by Herbert Gasser. The new director was appalled by Carrel's extramural activities, particularly a speech he gave about "The Mystery of Death" to an overflow crowd at the New York Academy of Medicine (December 12, 1935) with several thousand people unable to get inside. The next day the *Times* breathlessly reported on page one that Carrel had predicted that although death was

not conquerable it could be postponed for years – indeed by placing a human in a state of suspended animation "a period of centuries may become one of the realities of tomorrow." He speculated that in the future if an old man was given the glands of a still-born infant or the blood of a young man, he might be rejuvenated. Moreover, he criticized medically assisted prolongation of life for burdening civilized countries with those "who should be dead" – early death was described as a builder of civilization since it eliminated "the weak, the diseased and the fools."

One week after Dr. Carrel's lecture at the Academy of Medicine, the liberal journalist Walter Lippman spoke in the same auditorium on "Aspects of a Philosophy of Government in a Sick World." Current events in Europe certainly were on his mind and though he never mentioned Alexis Carrel by name, surely he was aware of the previous week's event. After explaining that governments should avoid social engineering and that humility is the beginning of wisdom, Lippman's concluding remarks were pointed:

Without [recognizing their limits] men will use political power for ends that government cannot realize, and in the vanity of their delusions fall into the manner of cruelty, disorder, and waste. They will have forgotten to respect the nature of living things, and in their ambition to be gods among men they will affront the living god. They will not have learned that those who would be more than human end by being less than human.

Herbert Gasser was not alone in objecting to the publicity-prone Dr. Carrel who not only trumpeted his own work but discussed politics and education and spoke positively about spiritualists and clairvoyants. Most of the Institute's research scientists shunned the limelight and were taken aback by their outspoken colleague, but Alexis Carrel also had supporters at the Institute. Among them was a young German immigrant Richard J. Bing, who as a youth was inspired by reading *Arrowsmith* to take up experimental cardiology. In 1935, while doing investigative studies in Copenhagen, Dr. Bing was invited by Carrel to join him and Lindbergh on their pump studies in New York. (Because Bing was half-Jewish this afforded him an opportunity to escape Nazi Germany.) Writing some five decades later, the by-now eminent Dr. Bing recalled Carrel as "a kind, understanding and humane person," a generous mentor who taught him tissue culture techniques which he employed in his own illustrious career. He recalled that his boss admired forceful autocratic personalities [not including FDR] and once had remarked that he'd like to become a dictator in some South American nation.

Richard Bing remarked that "things were not easy for Carrel at the Rockefeller Institute which might have been for reasons of his own doing...[because] he was a scientist who believed in nonscientific things." He held mystical beliefs and from the time of the "miracle cure" that he'd witnessed at Lourdes, often would assert that there were phenomena in medicine that could not be explained by science alone. He was a strong believer in the power of mind over body and once made Bing and others sit around a heavy table and attempt to lift it with one hand. They couldn't but then he asked them to count to ten while concentrating on the task and they lifted the table easily. Dr. Bing concluded, "There were certainly few other scientists of an equally contrasting, scintillating and controversial personality. Providence has provided that his scientific work endures, while his controversial personal features have faded into the background." In 1939 Dr. Gasser invoked a mandatory retirement age of sixty-five which, although it effected others beside Carrel, he took personally. He complained in a letter to an influential friend about "Jewish influences" – after all Gasser was half Jewish – but this was denied after an investigation by the Foundation's lawyers. Certainly Gasser was relieved to eliminate the Frenchman's expensive animal research laboratory which included a vast "mousery" that housed some 12,000 rodents fed special diets to test their resistance to cancer and other diseases and bred for physical strength.

In fact, during the 1930s the Rockefeller Institute had a liberal policy toward employing senior Jewish scientists at a time when American medical schools generally did not. About one third of the Institute's twenty-two member research staff had Jewish origins although, almost to a man, they were assimilated, non-observant and unsympathetic with Zionists who were perceived as being warmongers. – the likes of Phoebus Levine, Alexander Wiener, Jacques Loeb, Alfred Cohn, Samuel Meltzer and Michael Heidelberger. Also among them was Karl Landsteiner who after emigrating from Austria in 1922, worked at the Institute and in 1940 was awarded the Nobel Prize for his discovery of human blood groups. When Landsteiner was a youngster, his family had converted to Catholicism and in 1937 when he was included in a *Who's Who in American Jewry*, he threatened a lawsuit of \$100,000 on the grounds that his teenage son might be shocked to discover his Jewish ancestry and subjected to humiliation.

Both the Jewish director Simon Flexner and his equally famous brother Abraham were avid eugenicists and, although they never denied their roots, they were more concerned with fitting in with the WASP elite than

with the fortunes of their kinsmen. Simon strongly supported Carrel's work and used the favorable publicity given to his trophy Nobel Laureate to promote the Institute and impress the Rockefellers patrons to keep their money flowing. For his part, after being involuntarily retired from the Rockefeller Foundation's Graduate Education Board in 1928, Abraham Flexner went on to found the Institute for Advanced Study in Princeton and appointed Carrel to his Board of Directors as a guaranteed yes-man. According to one of Lindbergh's biographers, he once wrote,

Whenever the Jewish percentage of the total population becomes too high, a reaction seems to invariably occur. It is too bad because a few Jews of the right type are, I believe, an asset to any country...If an anti-Semitic movement starts in the United States, it may go far [not too far]. It will certainly affect the good Jews along with the others.

Alexis Carrel would have agreed with Lindbergh that a few Jews of "the right type" could be an asset – men like Dr. Emanuel Libman, the famous cardiologist at Mount Sinai Hospital. In 1932, at a testimonial dinner on the occasion of Libman's sixtieth birthday, Carrel was unable to attend but sent a laudatory message in which he spoke admiringly about Old Testament prophets, "strong lone figures," and included Libman among contemporary luminaries like Einstein and Cardozo – he concluded simply "Libman is medicine itself." in a letter to the activist rabbi Stephen S. Wise, who had praised his book as "epochal' and an "oasis of beauty," Carrel noted that "We Christians will always respect the Jews who are proud of being Jews, who recognize that they differ profoundly from us, that they are a people, and a great people."

Every summer Dr. Carrel and his wife vacationed on Saint-Gildas, a 100 acre island off the barren Brittany coast which they'd purchased with

money from his Nobel Prize. Exhausted by suffocating publicity after the kidnapping and murder of their infant son in 1932 and the subsequent manhunt and trial of Bruno Hauptmann, the Lindberghs went into selfimposed exile in England and in 1938 purchased Illeic, the 40 acre islet adjacent to Saint-Gildas. As if in a stark Ingmar Bergmann movie, the two friends sometimes would sit alone on their private islands, staring out through mist and surf and meditating about the "crisis" of civilization. Lindbergh could walk several hundred yards across the isthmus separating their enclaves or if the tide was high he'd row across. Perhaps they may perceived of themselves as Nietzschian *ubermenshen*, but even supermen sometime crave solitude or a safe haven from prying eyes and *paparazzi*.

Charles Lindbergh was particularly taken with Carrel's ideas of the superiority of the white race. In turn, Carrel viewed Lindbergh as a "savant" who proved his theory that those capable of greatness in one area could be equally great in other endeavors. Their goal was to graduate from rodents to primates to humans in their experiments at prolonging life an in 1938 they considered visiting the mental institution in Vineland, New Jersey in order to "look over the prospects."

But by 1939 the two men's paths were about to diverge. In his five visits to Germany during the 1930s Lindbergh was impressed by the discipline and precision of the new order. He was wined, dined and courted by the high command and became convinced that no one could defeat the Luftwaffe. Usually when they met, Carrel did most of the talking, but back in Brittany after his most recent inspection trip to Europe, Lindbergh was impatient discussing biological research and race betterment through diet and controlled reproduction. Now he was obsessed with the looming political crisis and was eager to advise western political and military leaders – Franklin Roosevelt, Neville Chamberlain, Joseph Kennedy, et al --

of the futility of challenging the Nazi war machine. He believed that Hitler was a "great man," albeit a fanatic, and it was better to avoid confrontation and acquiesce to the Fuhrer's demands. As Lindbergh saw it, a major problem in America was that Jewish propaganda in Jewish owned newspapers was exaggerating the negatives. On the other hand, Carrel felt that non-intervention was foolish and said that Lindbergh was naïve and "committing suicide with the stupidities he is uttering."

With the onset of war in Europe, Lindbergh became the leading spokesman of the isolationist America First movement and, imbued with Alexis Carrel's eugenic ideas, he felt that war did have one virtue -- it was a way of weeding out the weak. But Carrel retained his French hatred of *les Bosch* and well remembered the brutality of war from his experiences during World War I. But the two friends agreed that the Soviets posed an even greater threat to civilization than the Germans and that western Jews were war mongering because most of them were communists.

Alexis Carrel's last six years were shrouded in controversy. In 1942 he opened in Paris The French Foundation for Study of Human Problems – usually referred to as The Carrel Foundation – which was funded by the Vichy government. Presumably, the institute's mission was to improve the lot of French children, but it also would serve as a laboratory to test his eugenicist ideas – war may have been bestial but it did provide an opportunity to promote the strongest and best. Some latter day apologists, claimed that it was necessary for Carrel to cooperate with the Petain government in order to permit his research institute to function and that he wasn't sympathetic with the excesses of Nazi behavior.

In August 1944 the new French Minister of Health, in an effort to "purify" his department of former collaborators, dismissed the 71 year old Dr. Carrel from his position as head of the Foundation for Study of Human

Relations. As he was quoted in the New York Times (Aug 31, 1944), "I was living tranquilly in the United States when I decided that France needed me. I came and founded my institutes for the children of my country and put my theories into practice...I had one aim and I reached it. I am convinced I did not do anything against France." Broken and depressed, he died of heart failure at age 71 in 1944 and his body was transported to his island home on the Brittany coast. Historians have been divided about Carrel's final years – some hailed him as a patriot, others called him a scoundrel. However, his name soon was forgotten by most people.

Several of Alexis Carrel's books, which were published posthumously by his wife, became fodder for right-wing conservatives, racists and unreformed eugenicists. During the 1980s his ideas were politicized in France when the xenophobic Jean-Marie LePen praised him as the "first modern ecologist" and described his own followers as "the heirs of Alexis Carrel." In response the head of the University of Lyon's medical school, which in 1969 had been named after Alexis Carrel, declared that his philosophy was unworthy of the Hippocratic tradition: "If we fail to see Carrel's 'barbaric project' for what it was, medicine would be deprived of its civilizing mission and become an instrument of a totalitarian big brother." Subsequently, the school's name was changed to honor Rene Laennec, the inventor of the stethoscope.

After their last meeting in January 1941, Lindbergh and Carrel went their separate ways. Shortly after the war's end, Lindbergh visited Saint-Gildas where Mme. Carrel showed him his friend's humble grave. Nearly three decades later in 1973, Charles Lindbergh, now 71 years old, spoke at the Alexis Carrel Centennial Conference in Washington. As he recalled:

I came to ask his advice about problems I had encountered in

designing an artificial heart for use during operations...I soon found Carrel himself even more fascinating than the laboratory projects I pursued in his department of experimental surgery. There seemed to be no limit to the breadth and penetration of his thought....According to his mood, Carrel could work with a precision that caused the admiration of the scientific world, or he could speak with an abandon that brought criticism heaping on his shoulders. He might straighten his back and assert that 'all surgeons are butchers,' and that 'all people are fools,' or sit at his desk and write that 'on the scale of magnitudes man is placed midway between the atom and the star.'...In eulogizing Carrel, one might emphasize his skill as a surgeon, his pioneering work in the fields of tissue and organ culture, his treatment of the wounded in World War I, his suturing of blood vessels which brought him the Nobel Prize, his perception and his depth of vision. Personally, I can say that he had the most stimulating mind I have ever met.

About a year later Charles Lindbergh died of lymphoma. When his doctors at Columbia could do nothing more, he overruled their orders and had himself flown to Maui where he orchestrated his final days. Like his mentor, he was buried modestly in his island paradise far from the "civilized" world.

Perhaps the most balanced assessment of Alexis Carrel appeared in a book review written in 1997 by the famed heart surgeon Denton A. Cooley:

Rightly deemed a scientific genius, he was also part showman savant, mystic and ascetic. Despite his genuine religious bent and his preoccupation with life's ultimate questions, his behavior lacked many of the qualities associated with true greatness of soul. Moreover his elitist social philosophy was narrow and potentially chilling. As a medical scientist and researcher, however, Carrel has had few equals. Here his greatness is undisputed and modern medicine and its beneficiaries owe him an immense debt.

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