

In the Museum

The Legacy of Strategic Bombing - DAVID SAVOLD

"There were sounds like giant footsteps above. Those were sticks of high-explosive bombs. The giants walked and walked." Like the protagonist of his novel *Slaughterhouse Five*, Kurt Vonnegut Jr. experienced the Allied raid on the German city of Dresden firsthand as an American prisoner of war. The fire-bombing, which killed anywhere from 50,000 to 100,000 people, was designed to crush the morale of Germany and hasten the end of the war. But the Allied attempt to bring the enemy to its knees by bombing its cultural capital troubled even those desperate for victory. Winston Churchill called for a review of "the question of bombing of German cities simply for the sake of increasing terror, though under other pretext."

"The Legacy of Strategic Bombing," a lecture, symposium, and film series organized by the National Air and Space Museum, picks up the debate. Some 50 participants, including Vonnegut, will take part in the 14-part series, which started last month and runs through December 1990. Its goal is to examine the history and legacy of strategic bombing, and it includes among its speakers many who shaped the history of air power.

The participants bring a wide range of experience to the series. Philip Morrison, a physicist on the Manhattan Project, was part of a scientific team that visited Hiroshima after the first atomic bomb fell. Freeman Dyson worked for the evaluation team of the Royal Air Force Bomber Command. Lord Solly Zuckerman served in the British Bombing Survey Unit. John Kenneth Galbraith, Paul Nitze, and George Ball all served on the U.S. Strategic Bombing Survey. And in addition to government leaders, scientists, and historians, the participants include Harold Stearns, a B-17 gunner, Heinz Knoke, a Luftwaffe fighter pilot, and his wife Lilo.

The impetus for the series is an exhibit on strategic bombing that the Museum is planning for its future extension. Originally Museum curators planned to convene a panel to educate themselves for the upcoming exhibit. But the project kept growing, and the Museum decided to open



The Boeing B-17 Flying Fortress was used extensively in both World War II theaters.

some of the symposium sessions to the public and to include both a lecture and a film series. (Approximately half of the symposia remain invitation only.) Included are such classic films as *Victory Through Air Power*, *On the Beach*, and *Dr. Strangelove*, as well as short documentaries from the National Archives.

A book based on the series is planned, and video recordings will provide material for the future exhibit. According to the organizers, the series has already generated a lot of excitement in the academic community. Richard Kohn, chief of the Office of Air Force History, isn't surprised. "I think it will attract a great deal of attention because the overall quality of speakers is very high," he says.

Realizing how controversial the subject is, the organizers have taken pains to balance the presentations. Although 50 years have passed since the beginning of World War II, questions about the value of

strategic bombing remain highly controversial. The debate largely centers on issues of morality and military utility. During the war the Americans and the British were divided over the question of whether precision bombing of industrial targets was more effective than area bombing aimed at the morale of the enemy. The geographic isolation of the United States allowed U.S. military strategists to engage in more abstract analysis, while the British had to live with the fear of reprisal.

The debate over strategic bombing also has provocative parallels with the current debate on the nuclear arms race. "It really does compare in a very interesting way to how the current generation worries about nuclear warfare," says Tami Davis Biddle, a Smithsonian Fellow from Yale University. "People were very, very afraid of bombs," she says, because between the world wars conventional bombs became increasingly fearsome.

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In both format and theme, "The Legacy of Strategic Bombing" represents something of a departure for the Museum. "In the past the Museum has celebrated technology and looked at it uncritically," says Gregg Herken, chairman of the Museum's space history department, "and we want to look at it from a new perspective."

The Sikorsky Century

At the height of the Korean War, Igor Sikorsky began to receive visits from helicopter pilots back from the front. After the pilots finished paying their respects to the man who had developed their aircraft, they would ask to see the fedora that Sikorsky had worn while he was testing his famed VS-300 helicopter. Sikorsky was amused as each pilot bashfully tried on his hat. The visits began to occur with increasing frequency, and Sikorsky eventually learned that his fedora had a reputation as a good luck charm among the troops in Korea. The pilots were paying homage to the designer and his hat to ensure a safe landing.

Igor Ivanovich Sikorsky would have been 100 years old this year. To commemorate this anniversary, as well as the 50th anniversary of the maiden flight of his VS-300, the Museum will open an exhibit on the pioneer airman in November.

It would be hard to exaggerate the breadth of Sikorsky's career. When he was 24 czar Nicholas II gave him a gold watch for his services to his country. In 1953 he was on the cover of *Time* magazine as the father of the Rotor Age. In between he built record-breaking seaplanes that graced the Golden Age of Aviation. "He's certainly worthy of any hagiography people attempt to write about him," says Von Hardesty, one of the exhibit's curators.

The excitement surrounding the double anniversary is not limited to the United States. Thanks to *glasnost*, the Soviet Union has been reclaiming Sikorsky as a native son. Hardesty and Sergei Sikorsky, the inventor's son, met "undisguised pride" while doing research in Moscow. "Dad was a very modest person," says his son. "But privately he would be very pleased and certainly very honored."

The gold watch, which along with the legendary fedora is part of the exhibit, shows the esteem Sikorsky enjoyed in the Russia of another era. Born in Kiev, Sikorsky built his first helicopter in 1909. "It was a good helicopter," he would later say, "but it did not fly." He shelved vertical flight temporarily in favor of airplanes and designed the first four-engine model. In a few years residents of St. Petersburg were



"Breakthrough Over Kiev" depicts Sikorsky's 1914 record flight from St. Petersburg.

regularly thrilled by the sight of his *Grand* and, later, his *Il'ya Muromets*, flying over the Ukrainian city.

The Bolshevik Revolution forced Sikorsky to flee the country. In 1919 he arrived in New York City, where Sergei Rachmaninoff, the Russian pianist, gave him \$5,000 to help him get started. By 1927 Sikorsky was working with the premier World War I ace, René Fonck, in an attempt to fly from New York to Paris.

Though Charles Lindbergh made the flight first, Sikorsky and the U.S. aviator later became close friends and worked together on the flying boats that enjoyed great popularity for several decades. The decline of the flying boats in the late 1930s turned Sikorsky's attention back to vertical flight.

The Museum exhibit's centerpiece is the VS-300—the first successful single-main-

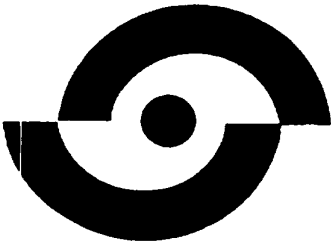
rotor/single-tail-rotor helicopter. Paul E. Garber, historian emeritus and Ramsey Fellow at the Museum, had an opportunity to fly with Sikorsky on the VS-300. As a U.S. Navy commander, Garber visited Sikorsky at his Stratford, Connecticut factory in 1943. "I had my hand on the frame and then he . . . raised me, oh, about maybe eight or ten feet, but that was a wonderful experience."

In 1953, when Sikorsky made the cover of *Time*, readers were instructed how to pronounce "helicopter." Though the heliports described in the piece are still in the future, Sergei Sikorsky says that without question the helicopter was the accomplishment his father was most proud of, not only for its unique role in aviation but "also as an instrument for saving lives." Says his son, "He was enchanted with the idea of the helicopter from the beginning."



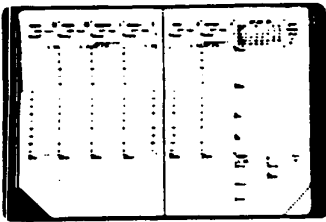
Vice President Quayle, President Bush, and Apollo 11 astronauts Neil Armstrong, Buzz Aldrin, and Michael Collins visited the Museum last July on the 20th anniversary of the first moon landing.

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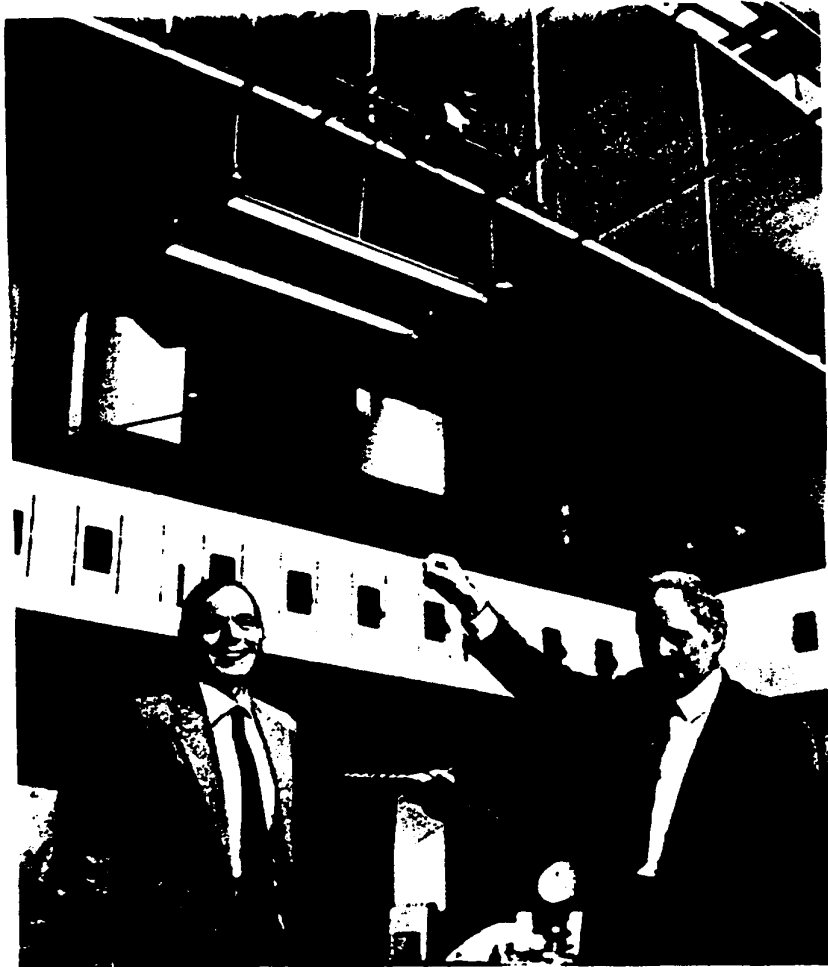
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CAROLINE SHEER

Michael Robinson demonstrates the original flying machine for Martin Harwit.

The Original Flying Machine

"I'm an airplane nut," Michael Robinson says. This admission, while not unusual in itself, has new implications coming from the director of the National Zoological Park. It certainly accounts for the models in his office: a Focke-Wulf Fw 190 A-6, a Supermarine Spitfire Mark XIV, and an Avro Vulcan. It also explains how the Museum happened to acquire a life-size model of a prehistoric dragonfly.

Nearly 275 million years before the Wright brothers, *Meganeura moynyi*—the ancestor of today's dragonfly—ruled the sky. "It was huge," says Robinson, "I mean a 28-inch wingspan." When he decided to create a model of this insect, the first animal to conquer the air, and hang it in the National Zoo's invertebrate exhibit, Robinson started thinking about other flying machines. When he told Martin Harwit about the model, the Museum's director agreed it was a good idea for the Museum to display the original flying machine.

The model is based on Paleozoic fossils from Oklahoma and Kansas initially described by Frank Carpenter, a specialist in fossilized insects at Harvard University's Museum of Comparative Zoology. Its wings are in a new active posture that scientists using high-speed photographs of today's dragonflies have determined to be correct for the prehistoric version. "The one thing we don't know for sure, of course, is what the color of the damn beast was," Robinson says. "We've guessed from the behavior of modern dragonflies that it probably had color patterns."

Robinson, who next plans to put a model of the Wright Flyer in the zoo's bird house, attributes his passion for airplanes to growing up surrounded by airfields in England during World War II. His interest in biology was piqued when he began noticing parallels between airplanes and insects.

Does Robinson have any special plans for celebrating the new model's installation? "I'll wear my de Havilland Comet tie for the occasion," he says.

—David Savold