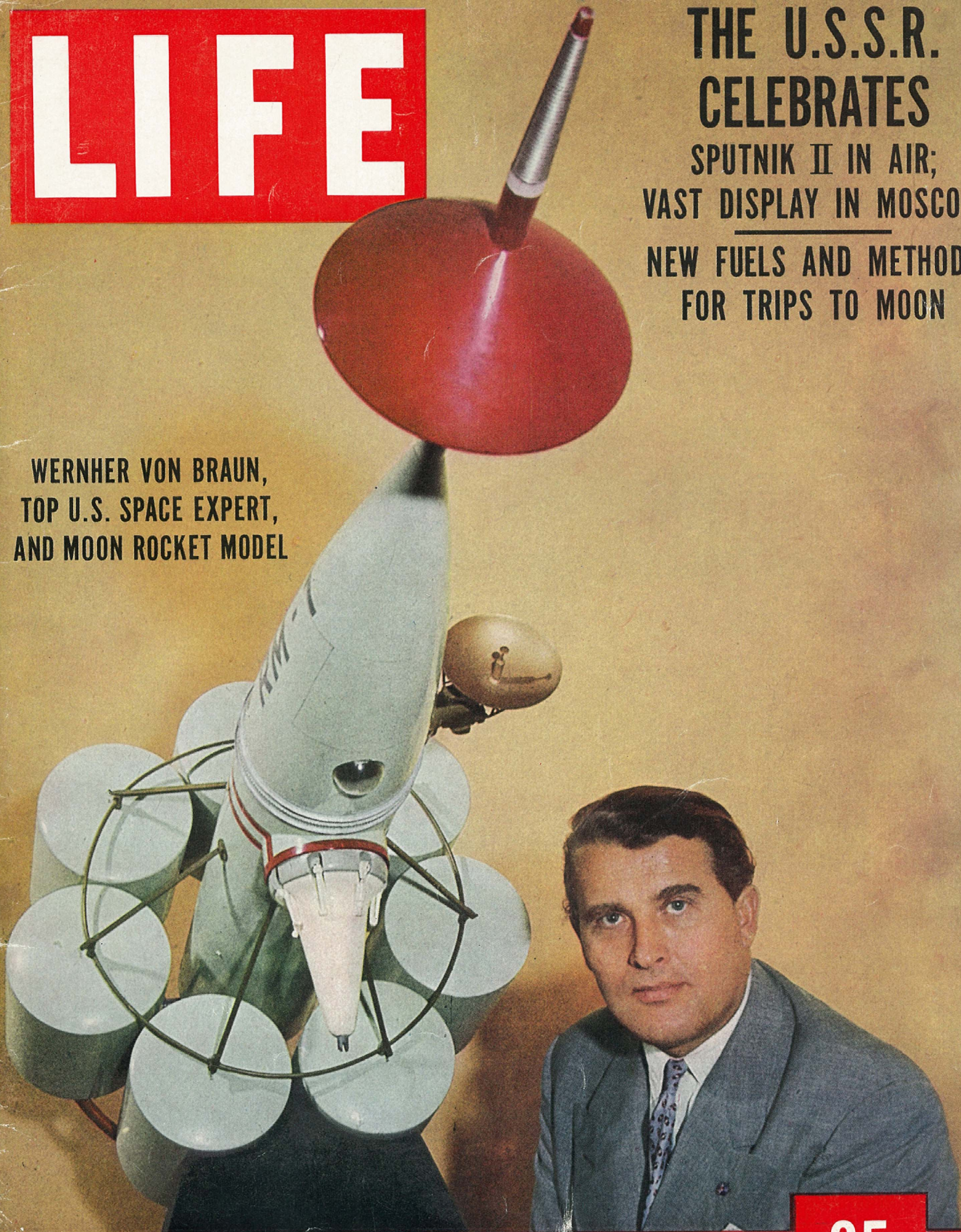


LIFE

**THE U.S.S.R.
CELEBRATES**
SPUTNIK II IN AIR;
VAST DISPLAY IN MOSCOW
NEW FUELS AND METHODS
FOR TRIPS TO MOON

WERNHER VON BRAUN,
TOP U.S. SPACE EXPERT,
AND MOON ROCKET MODEL



REG. U.S. PAT. OFF.

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EXPLAINING SATELLITE FLIGHT, Von Braun draws the earth as a circle on blackboard with the triangle at top as a mountain. Rockets shot off from

mountain at insufficient speed would fall to the earth, as his lines show. But at sufficient speed rocket stays in trajectory around the earth and it is in orbit.

THE SEER OF SPACE

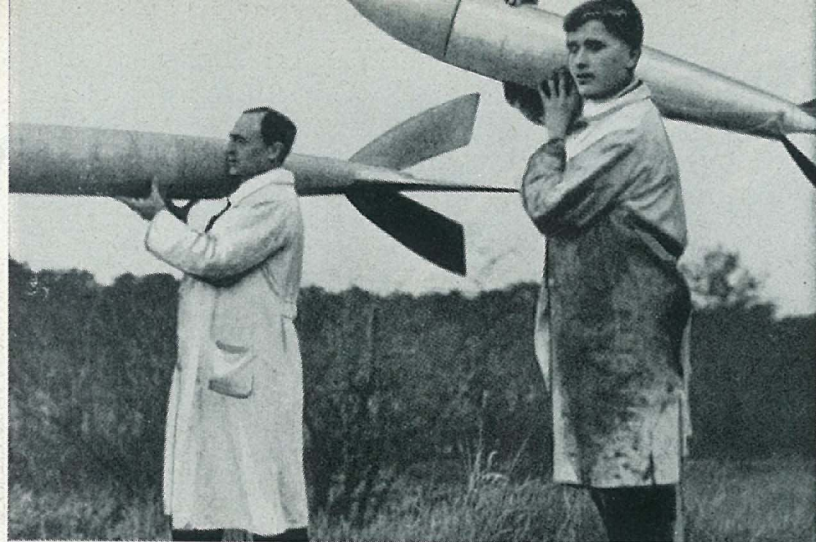
Lifetime of rocket work gives Army's Von Braun special insight into future

To no other scientist in the Western world do Russia's first steps in the conquest of space carry such bitter disappointment as to Wernher von Braun of Huntsville, Ala., a thoroughly Americanized German who is chief of development at the U.S. Army Ballistic Missile Agency. He is the free world's top practical rocket man and its boldest theoretician of space travel. When he was a boy in Berlin, Von Braun tried practical rocketry in the municipal dump. At 20 he headed a project in Germany's rocket program. At 32, working at Peenemünde, he built the V-2 missiles that plagued England toward the end of the war. In 1945 Von Braun, with most of his top scientists, came to the U.S. to work for the Army.

A tirelessly vocal advocate of tying the U.S. space flight program to its military missile effort, he urged in a 1952 speech that the U.S.

build a "manned satellite to curb Russia's military ambitions." But for all Von Braun's scientific achievements, remarks like this were usually dismissed as if made by a tiresome crackpot.

At Redstone Arsenal in Huntsville, Von Braun last week took little satisfaction in seeing his unheeded prophecies vindicated. He was gratified, however, when the Pentagon announced it would use the Jupiter C rocket, Von Braun's baby, to send up a satellite as supplement to the Navy's Vanguard. To a LIFE reporter-photographer team who visited him at Redstone, he spoke of many aspects of space travel (*see p. 136*). "It will," he once said, "free man from his remaining chains, the chains of gravity which still tie him to this planet"—to which he added, in a characteristically poetic outburst: "It will open to him the gates of heaven."



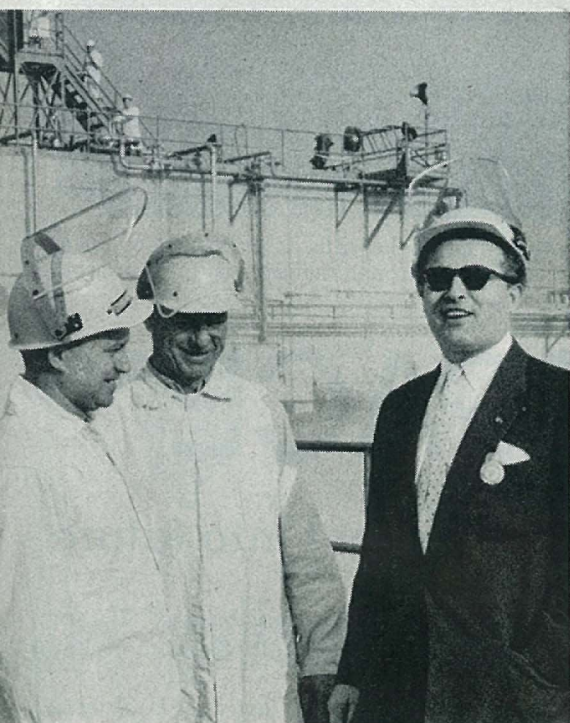
18-YEAR-OLD PIONEER in 1930, Wernher von Braun, a university student and the son of a Prussian baron, and rocket scientist Rudolf Nebel (*left*) carry early rockets across their testing ground, an unused firing range outside Berlin.



DURING WAR Von Braun (*dark suit, far right*) in 1943 accompanies high German brass, including Admiral Dönitz (*left center*), at Peenemünde rocket center. He had same job on German army's V-2 project he now has in the U.S.



IN RECORDER ROOM of blockhouse where all aspects of missile's behavior while being test-fired are measured, he talks with test stand chief Artley.



AT TEST STAND in which missiles are static-fired, two engineers and Von Braun wear safety helmets. Spray behind is to cool stand's exhaust deflector.

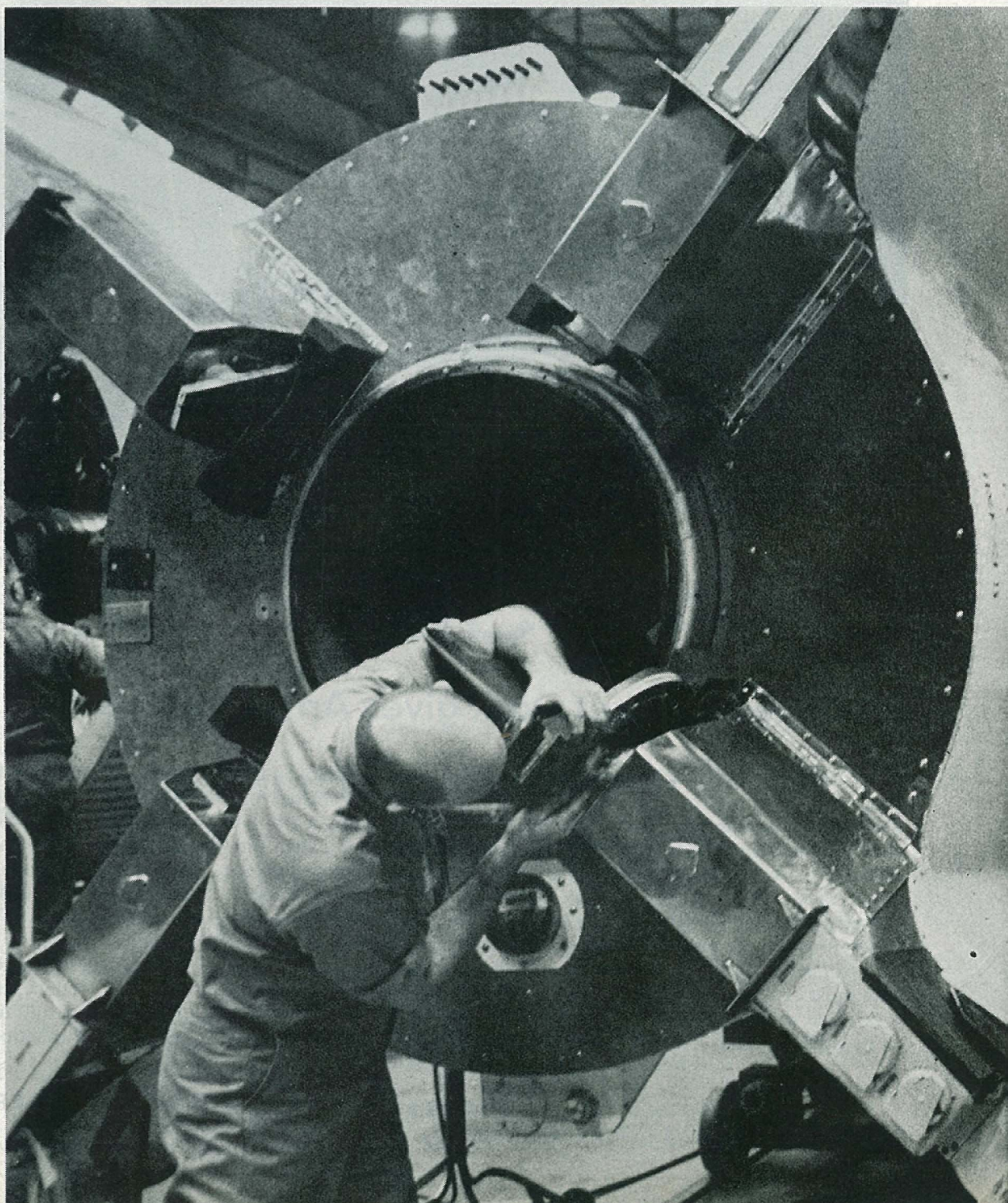
IN ARMY "FAB LAB" (fabricating laboratory) Dr. → von Braun inspects the radar equipment of a Redstone missile as a workman assembles rear end.

'THE LOOKS AND THE FEEL OF

At the U.S. Army Ballistic Missile Agency in Huntsville, Dr. von Braun is in charge of research and design of these modern-day weapons. He has worked on all of its big rockets—Corporal, Honest John, Redstone and Jupiter, which is an adaptation of the Redstone. He has civilian status, under Major General J. B. Medaris, commanding general of the agency, and has in turn a staff of about 3,500 technicians reporting to him. Meanwhile he has lost no opportunities to write, lecture and

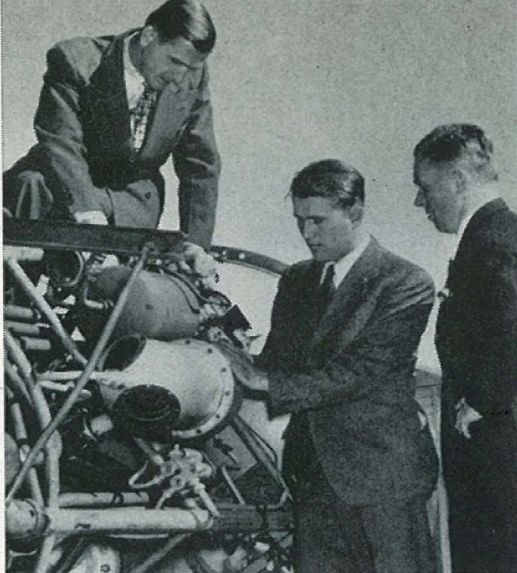
consult on his main passion—space. On LIFE's cover this week he appears with a moon rocket he designed for Disney's film, *Man in Space*.

Von Braun has great respect for basic research and for theorizing. But he depends almost as much on the looks and feel of his rocket hardware as he does on laboratory data. He makes weekly visits to the shops (*below and at right*), to control rooms and test stands. "I've never felt my job was to sit in my office and think," he explains. "Missile building is much





SURRENDERING TO U.S. in Bavaria in 1945, he carried arm in cast. It was broken from auto accident. His chief, General Dornberger, is at left.



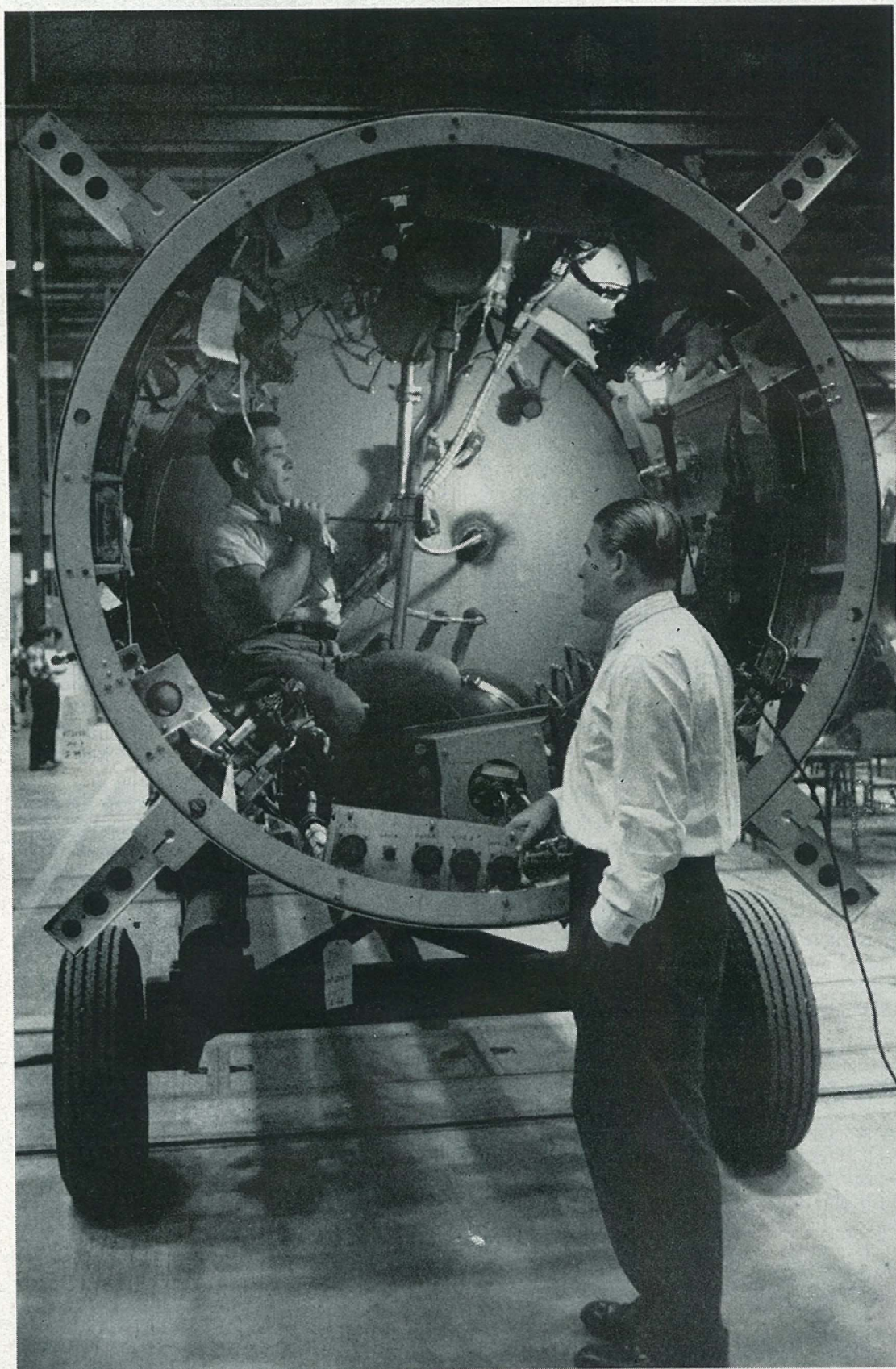
IN U.S. IN 1946, a free man and under contract to U.S. Army, Von Braun appears at White Sands, N. Mex. with colleagues and captured V-2 motor.



RECEIVING DECORATION in 1957, Von Braun is given Civilian Service Award, highest Defense Department civilian honor, by Secretary Wilson.

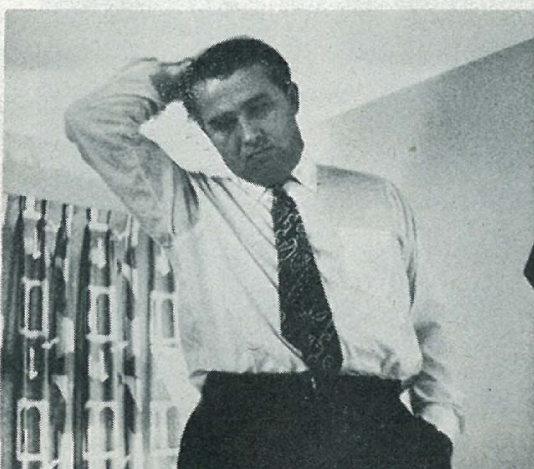
THE HARDWARE'

like interior decorating. Once you decide to refurnish the living room you go shopping. But when you put it all together you may see in a flash it's a mistake—the draperies don't go with the slip covers. The same is true of missiles. Sometimes you can take one look and see something obviously wrong—not accessible perhaps, or too flimsy. The people who are working with it all day are too close to see it. That's why I go to the fabricating shop—I want to know what my baby will look like."



BEFORE BODY UNIT of Redstone medium range missile, Von Braun watches a technician check its complex mechanism before missile goes out to

test-firing stand. The huge body unit, located at the top of the missile, carries all its guidance and control instruments and also contains warhead.



UPSET BY SPUTNIK II, VON BRAUN TALKS EARNESTLY ON SPACE PROBLEM IN INTERVIEW WITH "LIFE"

PLAIN TALK FROM VON BRAUN

LIFE Reporter Richard B. Stolley conducted a running interview with Dr. von Braun the day after Sputnik II had been launched. Here are some of his comments:

ON SPACE-FLIGHT PROBLEMS "It's been said there are so many unknowns in space we cannot proceed. The Russians have demonstrated clearly that this is untrue. A rocket-propulsion expert will tell you there's no sweat in solving propulsion problems but the medical problem is the barrier. A doctor will tell you space flight is medically possible but he doesn't think propulsion can be licked. Many of these obstacles will fade away. Look at the sound barrier and the heat barrier. Right now we're up against the cash barrier, and that one doesn't always fade away so quickly."

ON MISSILE RESEARCH "The six years between 1945-51 are irretrievably lost. The Russians are turning out more scientists than we are, and good ones too. We could have done what they did if we had started in 1946 to integrate the space flight and missile programs. Our lot has been one crash program after another. One fine day we suddenly decided we had to have an ICBM. It was like telling the Wright Brothers to build a B-29."

ON PUBLIC RELATIONS "The ideal thing is to have 100% secrecy and all the money we need. When the Kremlin wants ballistic missiles it tells the scientist to meet the schedule and doesn't worry about public relations. Here we must have money and public support. Congressmen must believe in what we're doing, and they won't until the public believes in us, so they must be kept informed."

ON A SPACE PROGRAM "What this country has needed for a long time is a consolidation of our space program with our weapons program. The kids are as space-minded as they can be. But before Sputnik it was considered bad taste for the military to mention space. What business, people said, does the Army or Air Force have on the moon? The Russians have the carrier to get there. A vehicle that can carry 1,200 pounds into orbit can shoot at the moon or take televised pictures behind it."

ON TRIPS TO MOON "We should be able to send men to the moon and back within 25 years, but only a few selected people who could withstand the trip. The moon is a challenge very much as Antarctica was. People

went there because they thought it would be fun, and found uses for it they hadn't dreamed of. The value of discovery becomes clear only in the wake of the exploration itself. Columbus couldn't have predicted what the United States would be like today."

ON MEN IN SPACE "With existing IRBM hardware we could put a man into orbit in a year. But don't ask me how we'd get him back. If a man would be ready to sacrifice his life by being fired into orbit it would answer some of the questions about space flight, but even if one volunteered we probably couldn't find anybody willing to shoot him up there."

ON FAN MAIL "I get about 10 letters a day. About half come from youngsters who want advice on how to become rocketeers. We tell them to hit math and physics heavily. One lady wrote that God doesn't want man to leave the earth and was willing to bet me \$10 he wouldn't make it. I answered that as far as I knew the Bible said nothing about space flight but it was clearly against gambling."

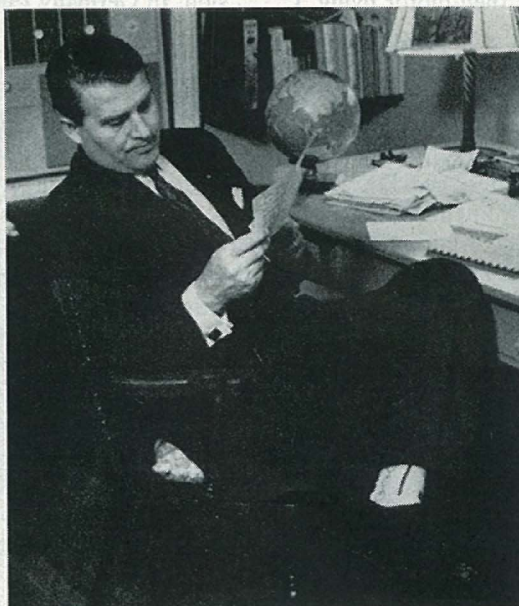
ON INTERFERENCE "There is no question that despite setbacks the Atlas ICBM will work. The people are competent and they will succeed. Meanwhile we should declare a moratorium on obstructive inspections and monitoring by scientific committees and let the people building the Atlas, Titan, Thor, Jupiter and Polaris work in peace. I just wish someone had the authority to tell me, 'All right, we'll leave you alone for two years, but if you fail we're going to hang you.'"

ON U.S. AND SCIENCE "The world has given me more than I ever asked. But I believe something drastic must be done to raise the status of scientists in the public eye in this country. In Europe a professor is considered quite a man. But here, whenever a scientist achieves some eminence they throw rocks at him. And time and again we see a young man start out to be a great rocket engineer. In his early 20s he meets the daughter of a used-car dealer with a lot of money and no interest in science. They talk him out of his academic aspirations and he winds up making five times as much selling used cars. And we've lost another scientist. That's where money comes in. If money is a criterion of a man's standing in this country, and it seems to be, okay, then let's pay the scientists better. We can't knight them, but we can give them more money."



WITH HIS CHIEF, Major General J. B. Medaris (left foreground), Von Braun and the general's staff hold their weekly meeting at Redstone head-

quarters. Of Medaris, Von Braun says, "He got the best people down here quick. His adroitness in judgment in picking the right ones was amazing."



READING FAN LETTERS from space enthusiasts throughout world is nightly chore. Von Braun himself or assistant try to answer serious inquiries.

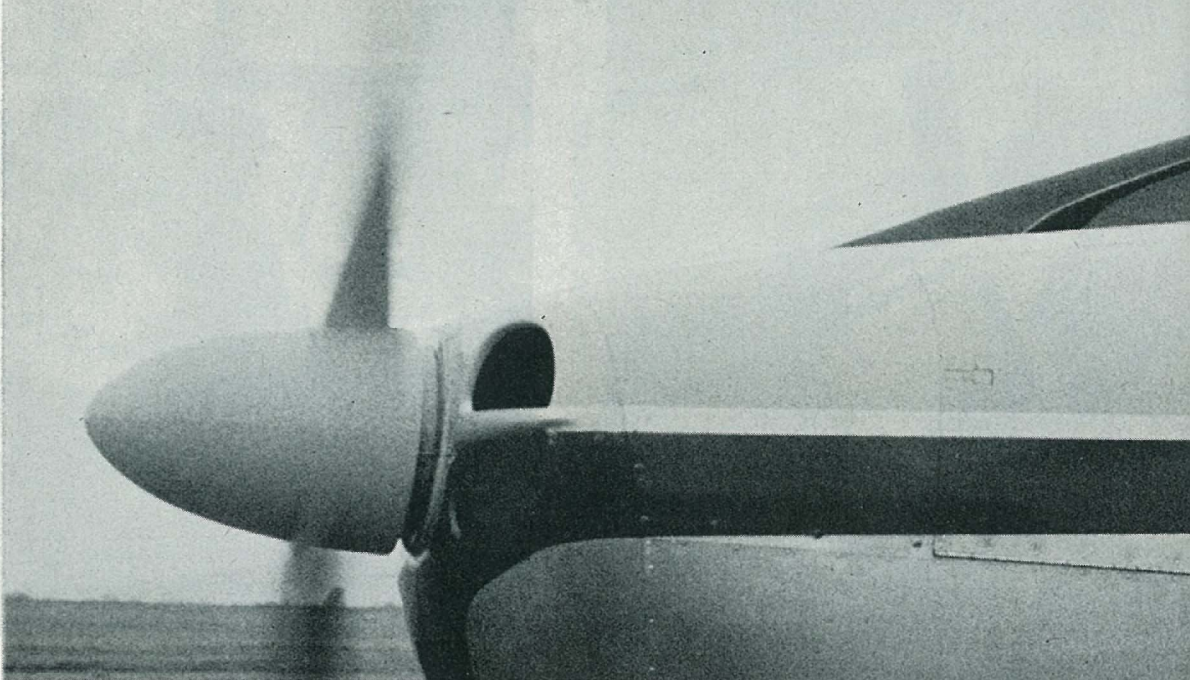


ROCKET-SHAPED SATELLITE, similar to one the Army will launch with Jupiter C, is examined by Von Braun and longtime associate, Dr. Stuhlinger.



← **PEERING INTO SPACE**, Von Braun looks through 16½-inch telescope at observatory built by local astronomical society of which he is president.

WITH LAB CHIEFS, most of whom were with him in Germany during V-2 developments, Von Braun (rear center) goes over Jupiter problems.



OUT FOR A FLIGHT in a rented plane, Von Braun gives his wife Maria a lesson. Above, she checks instruments, then (center) they taxi down the airstrip. Von Braun took up flying in 1931, "first gliding," he says, "then motor flying. I

spent two hitches in the German air force reserve flying military planes. Like skin-diving, which I also do, it seems to give me a mastery of the third dimension. In Germany I made all my business trips in a Messerschmitt Typhoon.

FLYING FUN AND A FAMILY TEA

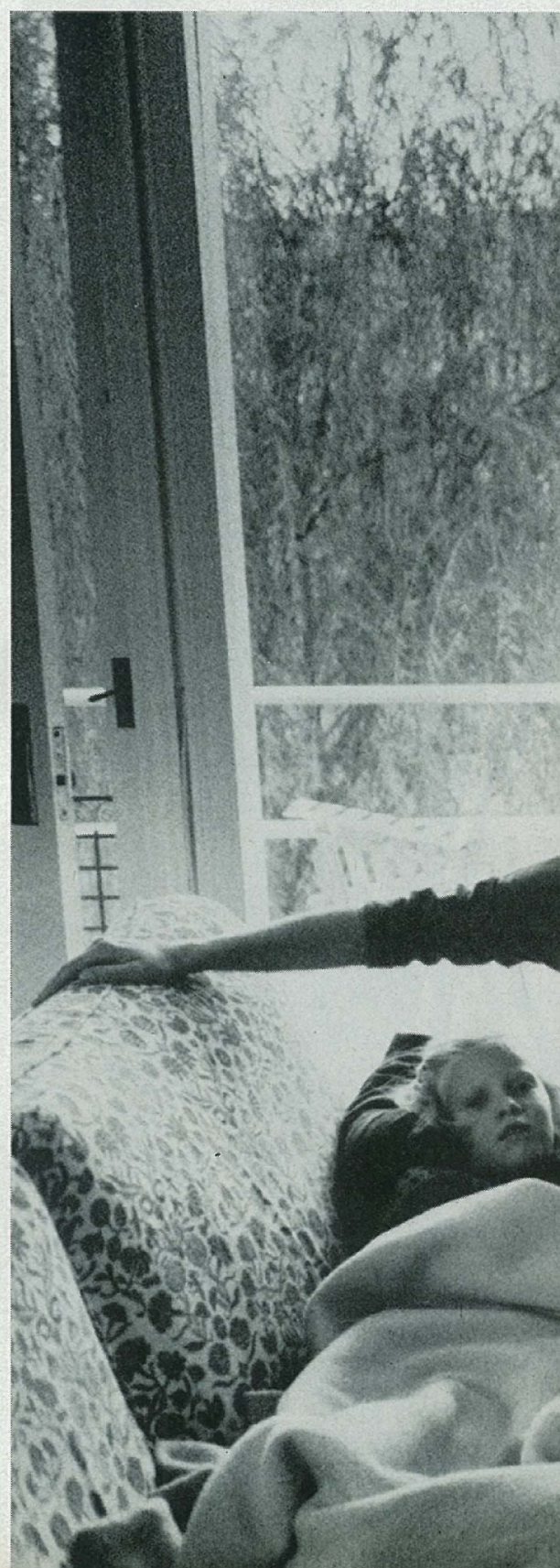
At Huntsville, which is in the northern part of Alabama, Von Braun lives in a small house with his wife and two daughters. The parents speak German only occasionally to keep their American-born children fluent in two tongues. Von Braun has known his wife ever since she was a child in Berlin and he was a university student. He went back to Bavaria in 1947 to

marry her. Dr. von Braun recalls the marriage: "When I went back nobody noticed me before the wedding. Then there was a story in the papers and outside the church a counterintelligence lieutenant was waiting. His concern was that the Russians might kidnap me. That danger no longer exists. I couldn't tell the Russians anything about rocketry. I'd only learn."



SITTING ON FLOOR, Von Braun makes phone call. He has had private number ever since a man called one New Year's Eve asking for ticket to the moon.

AT FAMILY GATHERING Von Braun has afternoon tea and cake. Margrit, 5 (on couch), and Iris, 8, both have flu. Next day Mrs. von Braun got it too.





I could be anywhere in Central Europe within two hours. Once Himmler arrested me and accused me of keeping the plane gassed up so I could fly off to England with the V-2 secrets, which was pretty absurd." At right he con-



gratulates wife on her progress: "Maria has already soloed. She took up flying this summer, and her teacher says she's making good progress. I kid her that the only reason she learned is to get to bigger cities and spend more money."

