Launching the Space Age

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The Space Age began in earnest fifty years ago, with the launch of the Soviet satellite Sputnik on October 4, 1957. After that day, no one could think of the earth, and of space, in quite the same way again—though it took a long while for all the implications of the Soviet breakthrough to sink in.

Red Moon Rising: Sputnik and the Hidden Rivalries that Ignited the Space Age
By Matthew Brzezinski
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The story of Sputnik is now a familiar one. In the mid-1950s, the Soviet Union pushed hard for an intercontinental missile in order to make up for the country's inability to mount a credible bomber threat against the United States. Because Soviet nuclear warheads were bulky, engineers made their new missile stronger than it needed to be. Sergey Korolev, the leader of the Russian missile team, knew such a rocket could also launch a satellite; Soviet Premier Nikita Khrushchev was interested—but only after the weapon work was completed. By contrast, in the United States, missile research took a backseat to work on long-range bombers, and design teams—including one run by Wernher von Braun, the father of Nazi Germany's V-2 missile in World War II—were not given high priority, even though President Dwight D. Eisenhower had announced that America intended to launch a scientific satellite (using non-weaponized rockets) as part of an international scientific program.

After two successful long-range tests in August 1957, the Soviet military missile project was stopped in its tracks by the failure of the dummy warheads to survive fiery reentry into the atmosphere. Seizing the moment, Korolev's team hurriedly inserted a satellite mission with a simple and quickly assembled payload: Sputnik, a metal sphere about two feet in diameter, housing a radio transmitter. Even though the satellite's radio frequencies were announced in advance, the actual launch of this first man-made satellite

came as a tremendous shock to complacent Westerners.

This story has been told many times in many ways, but perhaps never quite as dramatically as in Matthew Brzezinski's new book, *Red Moon Rising*. Written to mark the anniversary, and to bring the gripping scientific, political, and historical tale to life for a new generation, the book shows both the power and the limits of historical narratives about technical subjects. Compared with books published much closer to the event (my own *Red Star in Orbit* came out in 1981), Brzezinski's book is much richer in delightful detail, especially about the individuals involved in the earliest Soviet (and American) space efforts. But some crucial details—both political and scientific—are badly obscured in the telling, while others may be nothing more than dramatic reconstructions to set the mood for readers.

Because Sputnik was a milestone in the Cold War—a global clash between two political systems that, in turn, caused tremendous domestic political division in the United States—it should come as no surprise that Brzezinski's book is far from apolitical. Obligatory from-the-left slams at McCarthy pop up again and again. And sometimes, by amalgamating first-person narratives from space pioneers, Brzezinski—an accomplished newspaper correspondent and the nephew of Cold Warrior Zbigniew Brzezinski—adopts bizarre and inappropriate sympathies.

Take, for instance, the case of Khrushchev. Brzezinski, as omniscient narrator, makes Khrushchev a sympathetic character and comes to portray the world in Khrushchev's terms. "Khrushchev was unsettled by the rise to power of the Republican Party," Brzezinski writes, apparently disagreeing with the many historians who believe that the Soviet leaders saw the two U.S. political parties as Tweedledee and Tweedledum of the ruling classes. "John Foster Dulles," Brzezinski writes, "lurked dangerously behind the kind, grandfatherly façade of President Dwight D. Eisenhower." Brzezinski's relativism about American-Soviet cultural differences leads to a grating terminological irony when he describes how "Dulles purged the State Department of suspected liberals"—using the word *purge* as a slap not at the brutal masters of that art in all its bloodiest forms, but at their Cold War opponents, his own countrymen. Brzezinski engages in similar semantic dodging and weaving elsewhere: the North Koreans don't *invade* South Korea in 1950, they merely "cross the thirty-eighth parallel," (presumptively in some northeast-Asian wanderlust-inspired "walkabout") and there's no mention of the Americans the North Koreans killed in so doing.

Brzezinski's Khrushchev, stunned by the uprising in Hungary in October 1956, hesitates—and considers

granting the nation's popular demand for freedom. But then, Brzezinski continues, came news of "the orgy of revenge" of "lynch mobs" roaming the streets of Budapest. Khrushchev "reversed course," issuing orders that led to the deaths of more than 30,000 Hungarians. This is a death toll several times that caused by the Nazi's V-2 rockets (not even counting the degree to which the V-2 project may have helped shorten the war by bankrupting German industry), a blood debt for which the author does not forgive von Braun. But for Khrushchev, the deaths in Hungary were water under the bridge—just the "cost of doing business," you might say—and Brzezinski drops the subject.

Political slants aside, *Red Moon Rising* dazzles with its intimate portraits of key events in the American-Soviet race for space. But for those familiar with the dramatic story of those years, the book also raises nagging questions and doubts about accuracy. Take this captivating depiction of a Soviet commission meeting in the summer of 1957:

> One after another, Korolev fixed the commission members with long, livid looks. *Fools*, his eyes blazed, *you stupid, shortsighted fools.* Thirteen hard and hostile faces returned his angry gaze. From behind the thick stacks of telemetry readings and mission reports in front of each representative, a few smug and barely concealed smirks swirled amid the cigarette smoke and steaming glasses of sweet tea. For once, their satisfied expressions seemed to say, the arrogant Chief Designer wouldn't get his way. This time, he wasn't going to steamroll over anyone.

This is historical storytelling at its best. But on the very next page, Brzezinski makes passing mention of "the sparse historical record" of this meeting. And thereupon rises a specter of doubt—whence came the details, the revelations of inner thoughts and facial expressions, the minutiae that create so vivid a picture of that meeting half a century ago? How did the author find out such things? He does list one book (of unclear reliability) and alludes to a series of interviews, but still a reader might grow suspicious of how much is research, how much creative dramatization.

Elsewhere, in his description of the events surrounding both countries' announcement of satellite projects for the International Geophysical Year (IGY) beginning in mid-1957, Brzezinski does not handle the historical record carefully, misreporting the basic chronology of events, and conjuring up personal motivations he imagines must explain actions he has misrepresented or misunderstood. "A few weeks prior to the IGY's 1955 convention in Rome," he writes, "Radio Moscow announced

that the Soviet Union would launch scientific instruments into space.... In response, the National Academy of Sciences promptly declared that the United States would also send up a satellite to study the earth's protective cocoon."

That Radio Moscow broadcast, if it existed at all, seems to only be talking about "sounding rockets"—a research technique both the United States and the Soviet Union had already been using. As for the sequence of announcements of a satellite launching, Brzezinski got it completely backwards, as chronicled by space historian Asif Siddiqi:

> The chain of events was set off on 29 July 1955 by U.S. President Dwight D. Eisenhower's Press Secretary James C. Hagerty who announced at the White House that the United States would launch "small Earth-circling satellites" as part of its participation in the IGY. It was at this same time that the International Astronautical Federation was holding its Sixth International Astronautical Congress at Copenhagen, Denmark. Heading the Soviet delegation was [Leonid] Sedov and Kirill F. Ogorodnikov, the editor of a respected astronomy journal in the U.S.S.R. The two were called into action by an announcement on 2 August by Fred C. Durant III, the President of the congress, who reported the Eisenhower administration's intentions of launching a satellite during the IGY. Not to be outdone, Sedov convened a press conference the same day at the Soviet embassy in Copenhagen for about fifty journalists during which he announced that, "In my opinion, it will be possible to launch an artificial Earth satellite within the next two years." He added that "The realization of the Soviet project can be expected in the near future."

In other words, the *American* satellite announcement came first, and it was the Soviet side that, "not to be outdone," responded with an impromptu *me-too* claim. Brzezinski's tale may be dramatic, but it isn't true.

Throughout the book, such vivid yet dubious details keep popping up. Brzezinski writes floridly about the "shifting dunes" (later, the "windswept dunes") surrounding Tyura Tam, the desert rocket base from which Sputnik was launched—but I've been there numerous times and I can't recall any dunes: it's a dry steppe area with enough hardy brush cover to hold the ground in place quite securely. He tells of a missile crash that dramatically spreads debris "over a 250-mile radius"—except the report of that crash actually described a radius of 250 *meters*.

Although the book's vast notes section fully documents the impressive breadth of Brzezinski's research, his imagination seems to fill in the gaps in what he was able to learn from

memoirs and interviews about the events leading up to the launch of Sputnik—the dramatic core of the book. And this causes him to make crucial errors in his technical descriptions. "Swaddled in a black velvet diaper" in the hangar, Brzezinski writes, "the little orb had spring-loaded antennae that dangled over the sides like electronic umbilical cords"—but Oleg Ivanovskiy, the engineer directly in charge of preparing Sputnik for launch, told me recently that the antennae were attached only *after* the sphere was mounted on the launch vehicle (a famous photo of Sputnik on a test stand, with antennae, was taken during initial assembly in Moscow). "The rocket was rolled out the following morning," Brzezinski continues—but according to Ivanovskiy, it was rolled out in the middle of the night, to avoid being seen by American spy planes. Once the rocket reached the launch pad, Brzezinski writes, a flaw was discovered with one of Sputnik's batteries, and the needed corrections were made there on the pad—but Ivanovskiy told me in detail how the power flaw was detected in ground checks inside the assembly building, and fixed there, since once it reached the pad, Sputnik was covered by its nose cone and was inaccessible. Perhaps such discrepancies are to be expected—eyewitnesses will differ in their half-century-old recollections, no doubt—but in such cases, a chronicler needs to describe contending versions, not pick one and assert it with narrative certainty.

Of course, the launch was dramatic, and some measure of artistic license can be forgiven. (I am certainly never entirely rational when up close and personal with big rocket launches.) But nonetheless, the limits of Brzezinski's understanding of spaceflight—and the shallowness of the technical editing of his book—are disappointing. At one point in his account of the launch, he describes a 19.9 second period during which "momentum had carried the missile…another one hundred miles higher." But at an orbital speed of five miles per second, Sputnik was moving not vertically higher, but horizontally farther to the east—its actual altitude hardly changing at all in that interval. Would such a speed harm the satellite, Brzezinski asks, "succumbing to the friction of slamming through the dense lower atmosphere at nearly 25,000 feet per second?" But the rocket actually first rose vertically to clear the thicker layers of the atmosphere before then pitching over to the horizontal flight path on which it accelerated to its final speed—well above the threat of air friction.

These many factual infelicities raise questions about the technical credibility of *Red Moon Rising*. Still, the book's truly magnificent narrative style and the otherwise impressive research that clearly went into it are surely sufficient to merit a respectful

reception. Perhaps the book is best seen as a poetical rendition of historical fact—something akin to the *Iliad*'s rendering of the historical Trojan War: a tale with gods and demons and friendships and enmities, an explanatory creation myth for the Space Age. It may not be a definitive history, but its literary value, providing us with a common myth, can unite and inspire, and help us appreciate the human dimensions of this literally highest-ever expression of human creativity.

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