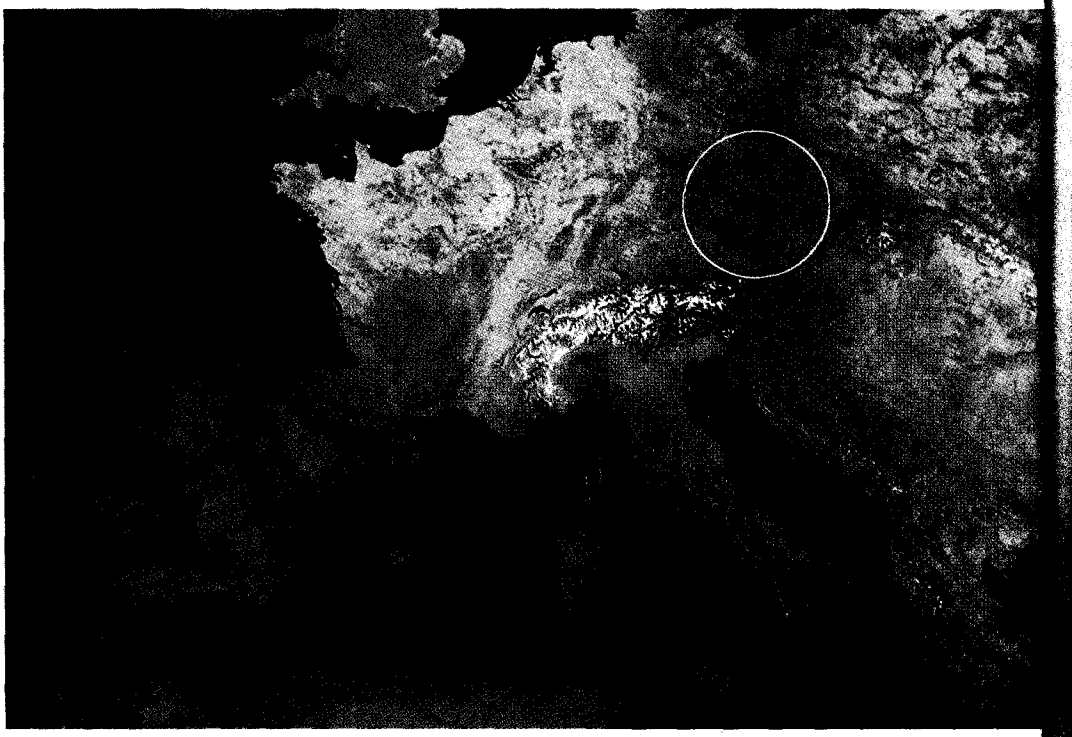
*Robert Kunzig*

# ack to Bohemia

*THERE IS ANOTHER thing which I must not omit, for I beheld it not without a certain wonder; this is that almost in the center of the moon there is a cavity larger than all the rest, and perfectly round in shape. . . . As to light and shade, it offers the same appearance as would a region like Bohemia if that were enclosed on all sides by very lofty mountains arranged exactly in a circle.*



**A satellite image of Europe shows the large, almost circular Bohemian Plateau of Czechoslovakia. A Boston University astronomer thinks the feature may be a huge meteorite crater.**

Galileo, as his biographer Stillman Drake has noted, got into a lot of trouble for that remark about Bohemia. He made it in 1610, in a booklet called *The Starry Messenger,* near the end of a passage in which he set out to prove that "the moon is not robed in a smooth and polished surface"—contrary to the view held by the philosophers of the day, who adhered to Aristotle's idea that all heavenly bodies were perfect billiard balls. Galileo knew different, because he had just *looked* at the moon through his new spyglass; *The Starry Messenger* was the first widely disseminated report of telescopic observations. What Galileo had seen was a moon that was "rough and uneven, covered everywhere, just like the Earth's surface, with huge prominences, deep valleys, and chasms."

This was unorthodox, to say the least—indeed, the whole idea of looking for truth in the sky rather than in ancient texts was unorthodox—and to the philosophers and theologians of his time it opened up an appalling can of worms. If the moon was like Earth, it might be inhabited too. So might other planets, and thus the belief in the special creation of the human race and its special redemption by Jesus Christ would be undermined. "*The Starry Messenger* was an enormous success," says Drake. "Everybody read it. But the philosophers who read it more or less instinctively banded together to put a stop to this nonsense. It's hard now to realize how much those prejudices hampered the progress of science."

The reference to Bohemia in particular was a red flag to the philosophers because it asserted the similarity of Earth and moon in a concrete and vivid way. Galileo had never been to Bohemia, which is now western Czechoslovakia; but he had doubtless heard travelers' reports of the broad plateau around Prague and of the mountains that ring the plateau. So when he needed a terrestrial analogy to the large, round "cavity" he had seen near the center of the moon, Bohemia came to mind.

What he could not realize was that his lunar cavity was actually a giant crater (now called Albategnius) excavated by the impact of a giant rock. Galileo discovered the craters of the moon, but he did not know what they were. In fact it wasn't until 1803, when a shower of 2,000 meteorites rained down on the French village of L'Aigle, that scientists in general came to accept the notion, long accepted in folklore, that rocks could fall from the sky. (And only in this century was it accepted that the lunar craters aren't just volcanoes.) In their war on theological rigidity and peasant superstitions, early scientists had developed prejudices of their own.

The prejudices of today's scientists are entirely different. The moon's craters show that it has been bombarded heavily by large rocks, and scientists reckon Earth must have endured the same fusillade. Falling rocks or asteroids are now quite in vogue—for example, as one explanation of what killed the dinosaurs. The search for craters on Earth, nearly all of which have been camouflaged or erased altogether by eons of erosion and tectonic activity, has become a cottage industry.

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And so it was that at a recent meeting of the American Geophysical Union, Michael Papagiannis, an astronomer from Boston University, presented a paper entitled "The Praha Basin: A Circular Feature in Central Europe." Praha is the Czech name for Prague, and Praha Basin is Papagiannis's new designation for what geographers call the Bohemian Plateau. Papagiannis, like Galileo, has never been to Bohemia, and he hasn't read *The Starry Messenger*. But back in 1983 he got a traveler's report: a postcard that showed a satellite view of Europe. "What is that little circle there?" he wondered, looking at western Czechoslovakia. He started collecting other satellite images of the region. The images raised the "exciting possibility" that the Bohemian Plateau might be a huge impact basin, 200 miles long by 160 miles wide.

Yet researchers who saw the pictures and who specialize in crater-hunting were not overwhelmed. "It's an interesting idea," says Buck Sharpton of the Lunar and Planetary Institute, but he thinks it's not much more. "There's really no substantial evidence for it being an impact basin other than that it forms a vaguely circular topographic feature. And many things on Earth do that." In the past, Sharpton notes, people have suggested that Hudson Bay and even the entire Gulf of Mexico were formed by asteroid impacts. Those ideas didn't pan out.

To prove that a circular feature is an impact crater, one must find at least one of several diagnostic features: characteristic shock structures in the rock, for instance, or an excess of chemical elements, such as iridium, that are rare in Earth's crust but abundant in meteorites. As it happens, Czech geologists have done some fieldwork in the southern Bohemian Plateau and claim to have found an impact crater 30 miles across. Further research may yet document that the entire Bohemian Plateau is a huge crater. That would be exciting: there are only 120 well-documented craters on Earth, and none is larger than 90 miles across. If Bohemia does turn out to be a record-setter, then Galileo, for his prescience (albeit unwitting) and for all the trouble it caused him, would deserve first credit for the discovery. ❑