



# Forty-five Snowy I

by Ralph Leighton

*“A place that’s spelled K-Y-Z-Y-L has just got to be interesting.”*

**The author furnished his car with a personalized license plate hoping to attract the attention of Tuvan immigrants, or at least friendly stamp collectors. Here Feynman pretends to push the car a few feet along the road to Tuva.**

*At a dinner-table conversation in 1977 about Tammu Tuva (known to all serious stamp collectors for its wonderful triangular and diamond-shaped stamps) Ralph Leighton and Richard Feynman impetuously resolved to go there because of its capital’s name (“A place that’s spelled K-Y-Z-Y-L has just got to be interesting,” said Feynman.) Over the next decade, until Feynman’s death in 1988, the two pursued their goal, sometimes desultorily but always with enthusiasm. Leighton, who also collaborated with the Nobel prizewinning physicist on two earlier books, “Surely You’re Joking, Mr. Feynman” and What Do You Care What Other People Think?, has now written Tuva or Bust! Richard Feynman’s Last Journey, describing their attempts to penetrate the Cold War bureaucracy and make their way to the center of Asia. A chapter of the book (© Ralph Leighton) is excerpted here with permission of the publisher, W. W. Norton & Company. The book is available in bookstores or from the publisher via the coupon on the inside back cover.*

*Leighton grew up around Caltech, where his father, Robert Leighton, has been a member of the physics faculty since 1947. Ralph met Feynman at the age of one, but their friendship really began when he was in high school and the two discovered a mutual passion for drumming. Out of those years of drumming came Feynman’s recorded stories and some zany adventures—like this one. Just before E&S went to press, Leighton reported that this summer he had finally reached Tuva, where he installed a plaque in Feynman’s memory.*

The school year washed over me, leaving barely a moment to breathe: a typical day began with coaching the water polo team at 6 a.m., followed by five classes of remedial arithmetic

and beginning algebra, and then back to coaching water polo. Most weekends included more coaching, but two welcome exceptions came in November, when Richard and I went to San Francisco to drum for a small ballet company whose home was the Elks Lodge near Union Square.

The year before, we had composed and performed the music for *Cycles of Superstition*, a ballet by the same company. Our “music” consisted entirely of drumming, which was perfectly adequate as far as Richard was concerned. He regarded conventional music and its chords and melodies as “drumming with notes”—an unnecessary complication.

*Cycles of Superstition* had been a great success: the audience of perhaps 30 applauded enthusiastically. This year the production was called *The Ivory Merchant*. Our job was to portray the interaction of colonial and native cultures in Africa, again entirely through drumming.

Rehearsals were Friday evening and Saturday evening, with performances the following weekend. During our free time on Saturday we walked the streets of San Francisco. Our conversation hit upon Tuva. “Let’s go over to the San Francisco library,” suggested Richard. “It oughta be pretty good.”

Half an hour later we reached the Civic Center, a collection of European-style buildings built around a large square lined with sycamores hacked off to resemble the *marronnier* trees found all over France. The library faced the City Hall, where the United Nations had convened for the first time, in 1945. As we made our way up the



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wide stone stairway, Richard proposed a challenge: to find a picture of Tuva in this library.

When we looked through the card catalog, we realized we'd be lucky to find anything at all on Tuva. There was no heading for "Tannu Tuva," "Tuva," or "Tuvinskaya ASSR." There was a section on Central Asia, but it featured places like Tashkent and Samarkand.

Richard went off into the stacks to look at the books on "Siberia—description and travel," while I wandered around the reference section. I eventually hit upon the 1953 edition of the *Great Soviet Encyclopedia* and found an article on Kyzyl. In the middle of the page was a black-and-white photograph—a picture of Tuva!—which showed the "Dom Sovietov," Tuva's new government building. The architecture was not unlike that of the City Hall outside. A lone automobile stood conspicuously in front, casting no shadow—it seemed to have been hand-painted into the photograph.

Excited, I went looking for Richard. He was still in "Siberia—description and travel," sitting on the floor, reading a book called *Road to Oblivion*. The title looked promising. The author, Vladimir Zenzinov, had been sent into exile by the Czar—not once, not twice, but three times. The first two times he managed to escape, so the third time, the government was determined to put him in a place so isolated he would never find his way out. Even though that place turned out not to be Tuva, Richard was captivated by the story.

The following weekend we performed *The Ivory Merchant* to an audience of about 15—

hardly enough to account for the relatives and friends of the cast. Depressed at the sight of so many vacant chairs, I said, "This reminds me of eating in an empty restaurant."

"If the food is good, what does it matter?" replied Richard. "Just do your best. Remember what we're doing: we're composing and performing music for a ballet, man!"

It was an unusual thing for a professor of physics and a high school math teacher to be doing, but we were doing it, and Richard loved that. But he abhorred Samuel Johnson's observation about a dog walking on its hind legs—"It is not done well, but you are surprised to find it done at all"—so it was not mentioned in the program that the drummers had other professions.

A month later, at Christmas, the predictable pattern in my family of presenting phonograph records to each other was broken by my brother Alan, who gave me some of the wonderful triangular and diamond-shaped stamps from the 1930s that Richard had talked about. They showed exciting scenes of horsemen at full gallop, kneeling archers taking aim, wrestlers interlocked in struggle, hunters shooting their quarry at close range (after all, they were postage stamps!), and a wide variety of wild and domesticated animals, from foxes and sables to yaks, camels, and reindeer. Such great variety in so small a country seemed impossible. Were the scenes in these postage stamps based on fact or fantasy? Around the border of several stamps were strange designs—festival masks of some sort—and the words "Posta Touva," spelled as if the territory had once been ruled by France.

During Christmas vacation I went to the UCLA library and discovered *Unknown Mongolia* (London, 1913) by the English explorer Douglas Carruthers (in which Tuva is referred to as "the basin of the Upper Yenisei" and its inhabitants as "the Uriankhai"), and half a dozen other books about Tuva, all of which I borrowed. Apart from *Unknown Mongolia*, all the books were in Russian, a language reputed to be twice as hard as German. But because mathematical formulas contain Greek letters, and the Greek alphabet formed the basis for the Russian alphabet, Richard was able to make out some of the captions. I bought a pocket Russian-English dictionary and looked up words one by one.

One of the UCLA library books showed the first government building—a log cabin—with a beautiful white yurt next to it. There were inevitable jokes about the president of Tuva sleeping in the "White Yurt."

Another book had several pictures of Kyzyl.

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The new government building was already familiar to us. Other photographs showed the regional Party headquarters, a post office, and a hotel. Because the photographs were taken from different locations and included more than one building, we were able to piece together a crude map of downtown Kyzyl. In none of the photographs did we see more than one automobile.

One picture caught my interest only much later: Shkola No. 2. After deducing that there must be at least two schools in Kyzyl, I realized that here was a definite place in Tuva I could write to: I'm a teacher, so why not write to a teacher in Tuva and ask how I can visit? As much fun as it was to find out more about Tuva, our real goal was to get to Kyzyl, and so far we hadn't done anything about that.

I contacted Mary Fleming Zirin (the wife of Caltech Professor of Astrophysics Hal Zirin), whom I had bummed rides off of when I was a student at UCLA, where she was working on her PhD in Russian. Mary remembered me and agreed to translate a short letter to "Teacher" at Shkola No. 2 in Kyzyl. For good measure I sent a similar letter to Shkola No. 1, Kyzyl, Tuva, USSR.

In the spring, after the high school swimming season and its coaching responsibilities were over, I went to the library at the University of Southern California and searched through immigration records of 1900–1950 to see if anyone had come from Tuva to America. While there was no specific category for Tuva, several Mongolians and "others" had come to the United States in any given year.

Just in case one of those "others" was from Tuva and had ended up in Los Angeles, I obtained a personalized license plate and mounted it in a do-it-yourself frame with the words "MONGOL MOTORS" and "KYZYL" flanking "TOUVA" above and below. At the very least, a stamp collector might recognize the spelling and honk if he loved Tuvan postage stamps.

An article I found at the same library at USC claimed that Kyzyl was the USSR's "Atom City"—the center of Soviet atomic weapons development—because Tuva is isolated and surrounded by mountains rich in uranium. Another article, in the *Christian Science Monitor* (September 15, 1966), said:

According to the official version, Tannu Tuva [in 1944]. . . asked for admission into the Soviet Union. Its "petition was granted," just as four years earlier those of the three Baltic republics had been granted.

In the case of Tannu Tuva the discovery of



a large uranium deposit, the first to be found in the Soviet Union on the threshold of the atomic age, seems to have caused the change of status.

If Kyzyl is the USSR's Los Alamos, I thought, then the KGB will never believe that Richard Feynman wants to visit the place because of how it is spelled!

In the summer of 1978, after competing in the First Annual Southern California Clown Diving Championships in Los Angeles, I flew to Europe for a camping trip in the Balkans. Meanwhile, Richard went to the doctor complaining of abdominal pains. He soon underwent surgery. The doctor removed a 14-pound mass of cancer the size of a football that had crushed his kidney and spleen. Richard needed the remainder of the summer to recover.

When I returned from Europe, there was no reply from my fellow teachers at Shkola No. 2 or Shkola No. 1. In the fall a new school year began, this time without the coaching responsibilities. Another change: along with four math classes I was permitted to teach one class of world geography. Of course my students eventually learned about a little lost country called Tannu Tuva.

Although there was no ballet to work on in 1978, Richard and I continued drumming together. When we discussed Tuva, it was usually connected with a letter I had written, perhaps to a college or library in the United States or in England. But one time it was Richard who had something to report: he showed me a little article he had found in the *Los Angeles*



**Above: A Tuvan photograph from a 1931 German book bore a startling resemblance to a postage stamp of the same period. Below: A newspaper mention of a Scythian gold sculpture found in Tuva led Leighton and Feynman to Radio Moscow and new optimism. The sculpture shows a dog (right) biting a boar (center), which is biting a hunter (top).**



*Times*—one of those fillers that takes up one or two inches—that said a Scythian gold sculpture depicting a hunter, his dog, and a wild boar had been found in the Tuva ASSR.

“I’ve been meaning to write to Radio Moscow,” I said. “They have a program called ‘Moscow Mailbag.’ I’ll ask them about the Scythian gold sculpture—maybe they have a picture of it.”

During Christmas vacation I went to Washington, D.C., to visit an old high school friend. While I was there I went to the Library of Congress. The card catalog revealed a gold mine of books on Tuva. Because people off the street are not allowed into the stacks, I presented a dozen slips of paper containing call numbers to a clerk. Half an hour later, only six books were waiting for me—the other six were not to be found. Was someone else onto Tuva? A senior librarian informed me that it was common for books to be misplaced, and that finding only six out of twelve books was not unusual.

My frustration faded when I looked at the books that *had* been located. Among them were three gems. The first was a pocket-sized Tuvan-Mongolian-Russian phrase book. The second gem was much larger—a book by Otto Mänchen-Helfen called *Reise ins asiatische Tuva*. The photographs in this book looked like the scenes in the famous Tuvan postage stamps of the 1930s. Because the book was published in 1931, this was understandable. (In fact, when I looked at my stamps later, I noticed that the picture on the diamond-shaped 3-kopek stamp of 1936 seemed to have been lifted straight out of

Mänchen-Helfen’s book, only it was reversed.)

When I looked at the first paragraph of *Reise ins asiatische Tuva*, my years of suffering through high school German were rewarded at last: I was able to follow along well enough to get the point. (The translation here has been provided by my brother, Alan.)

An eccentric Englishman of the kind Jules Verne loved as a hero traveled the world with the sole purpose of erecting a memorial stone at the midpoint of each continent: “I was here at the center of the continent on this day”—and the date. Africa and North and South America already had their stones when he set out to put a monument in the heart of Asia. According to his calculations, it lay on the banks of the upper Yenisei in the Chinese region of Urianghai. A rich sportsman, tough (as many fools are), he braved every hardship and reached his goal. I saw the stone in the summer of 1929. It stands in Saldam, in Tuva (as the former Urianghai is now called), in the herdsmen’s republic, which lies between Siberia, the Altai Mountains, and the Gobi: the Asian land least accessible to Europeans.

So there *was* someone else onto Tuva—we had a soul mate from the 19th century.

The third gem at the Library of Congress was small and thin, some sort of guidebook written in Russian. From the charts and numbers I could tell there was a lot of talk about increased output of this and that—the usual “progress under socialism” stuff. There was also a map of Kyzyl, with drawings of various buildings. I immediately recognized the new government building,

the regional Party headquarters, the post office, and the hotel; there was also a drama theater. A trolley bus line ran from the airport right into the center of town. I made a photocopy of the map to show to Richard when I got back to California.

The small book also contained a crude map of the whole country, with little silhouettes of various animals: in the northeast there were foxes and reindeer; in the south, camels; and in the west there were yaks—all within 150 miles of Kyzyl. I thought, Here's this wide variety of animals again. Maybe the Tuva shown on the stamps of 1936 and in Mänchen-Helfen's book can still be found outside of Kyzyl today.

As a visitor to the Library of Congress I was not allowed to borrow the books; I would have to order them later through my local library. With trepidation I relinquished them to be "reshelved," perhaps to be lost forever.

When I got back to California and went through my mail, there was a reply from Radio Moscow: while they had no information on the Scythian gold sculpture found in Tuva, they did say that Tuva would be featured in the weekly series "Round About the Soviet Union" on January 17, only a few weeks away. I thought, How lucky we were to write just when we did—I don't listen to Radio Moscow much; we surely would have missed it! On January 3, two weeks before the program of interest to us, I tuned in "Round About the Soviet Union" to check which frequency had the best signal. The announcer said, "This week's program features Kamchatka. . . ." A week later I tuned in again. This time the announcer said, "This week we take you to the Moldavian Soviet Socialist Republic. . . ."

On January 17, after dinner, Richard came over. We drummed awhile. My timer went *ding!*—it was 9 p.m., 15 minutes before the program. I switched on the shortwave radio and tuned in Radio Moscow. The signal was strong.

As the announcer read a news bulletin, I got out the map of downtown Kyzyl I had copied at the Library of Congress. On the floor we spread out the present that Alan had given me for Christmas—a large, detailed map of Tuva (Operational Navigation Chart E-7) published by the U.S. Defense Mapping Agency. It showed elevation contours, vegetation patterns, lakes, rivers, dams, and—because the map was made primarily for pilots—deviations of magnetic north from true north, the length and direction of airport runways, and the location and height of radio towers.

It was time for the program to begin, so I switched on my tape recorder. The announcer said, "The topic for this week's program was

selected by listener Ralph Leighton of Altadena, California. Today we will go to Tuva, located in the heart of Asia. . . ."

"Fantastic! They made the program just for us!" cried Richard.

Most of the broadcast was information I had already found in the *Great Soviet Encyclopedia* at the San Francisco Library—but with the names of some provinces misread, and several directions wrong. But then came a story we had never heard: in the past, shamans made coats and boots out of asbestos (called "mountain wool" in Tuvan, I later found out), which enabled them to dance on hot coals—thus demonstrating their extraordinary powers.

Then came the Party line about how Tuva had joined the USSR in 1944, and how everything is hunky-dory under socialism. Finally the narrator said, "Although Tuva was isolated from the outside world in the past, it is now easy to reach. Today, one can fly comfortably from Moscow to Kyzyl by jet."

The announcer mentioned my name again as the music faded out. We were ecstatic. "Tuva is easy to reach!" said Richard. "They said it themselves!"

We immediately began outlining a letter to Radio Moscow. I was ready to propose that Altadena and Kyzyl become sister cities, but Richard kept me on the straight by reminding me of our goal: "All we have to do is thank Radio Moscow for the program, remind them of what they said about Tuva being easy to reach, and then ask them to help us get there."

I was so excited that the next day I played the tape for my geography class without stopping to think that any student could have reported to the principal that "Mr. Leighton played Radio Moscow to his class." (It was 1979: the Cold War was still going strong, things Russian were definitely *not* chic, and teachers still had to sign loyalty oaths.) I even played the tape to my math class. Among my students were two Armenians from Yerevan who knew some Russian. Now that Tuva was "easy to reach," I asked them to translate a letter addressed to "Hotel, Kyzyl, Tuva ASSR," asking for room rates.

A few days later I finished my letter to Radio Moscow. In addition to thanking them for producing the program just for me, I played up the fact that I was a geography teacher, and that my students knew all about Tuva now. Then I reminded Radio Moscow that according to their program, Tuva is "easy to reach," and popped the question: "Might it be possible that I could visit Tuva myself?" (We figured the professor of physics could be added later, once the geography

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**A monument in Tuva that supposedly marks the center of Asia became the Altadenans' holy grail. Here ethnographer Sevyan Vainshtein, his wife, and a Tuvan colleague hold a card that says, in Russian, "Greetings, Richard Feynman!" Vainshtein later reported seeing a young Tuvan woman reading *The Feynman Lectures on Physics* in Russian outside a yurt.**



teacher got permission to go.)

I knew what we were getting into: Radio Moscow would interview us after our trip to Tuva, editing our answers so that only positive things came out, but I figured it was a price we could afford. Nobody listens to Radio Moscow, I rationalized. Otherwise, the programs about Kamchatka and Moldavia would have begun with a listener's name, as ours did.

While we were waiting for Radio Moscow's reply, Alan gave me a page photocopied from the *World Radio and Television Handbook*, the Bible of shortwave listening. Listed under 3995 kHz were two stations—Yuzhno-Sakhalinsk (on Sakhalin Island), and Kyzyl. As it was winter, the lower frequencies were carrying well in the northern hemisphere, so I set my alarm clock to 3:55 a.m. for a few nights and tuned in 3995 kHz, hoping to catch Radio Tuva's time signal and station ID at 4 a.m.

Most of the time I got one time signal—presumably Yuzhno-Sakhalinsk, since at 5,000 miles it was 1,200 miles closer to Los Angeles than Kyzyl. (I couldn't be sure, however, since shortwave signals bounce off the ionosphere in strange ways.) But one night I got two signals, one faint and one loud. The fainter one said something like "Rabeet Tivah" before it was drowned out by the louder one. I played a tape of "Rabeet Tivah" to Mary Zirin, who thought the words might be "Govorit Tuva" ("Tuva speaking"), a plausible way for radio stations to identify themselves in Russian. That prompted me to send a reception report to Kyzyl.

While I was holding my breath for a QSL

(ham radio lingo for "I acknowledge receipt") card from Radio Tuva, three books arrived from the Library of Congress—the gems had not been lost. I immediately copied each book on the best machine I could find, and promptly sent them back to Washington. With the gracious help of Mary Zirin, the Tuvan-Mongolian-Russian phrase book became a Tuvan-Mongolian-Russian-English phrase book.

It was a useful little book, with statements such as "I am a teacher," and questions like "Do you have a Russian-Mongolian dictionary?" It was also revealing: "How do you deliver goods to the shepherds?" indicated that shepherds in Tuva were still rather isolated in 1972, when the book was published. There were single words for "spring camp," "summer camp," "fall camp," and "winter camp," allowing us to imagine that Tuvans were still moving with their animals from one pasture to another according to the season. There was also evidence of modernization: "How do you carry out the breeding of a cow?"—"We have adopted artificial insemination by hand insertion."

As for city life, the question, "How many rooms are there in your apartment?" was answered with, "I have a comfortable apartment." (Obviously a touchy subject: there must be a housing shortage in Kyzyl.)

In a section entitled "Government Institutions and Social Organizations" came an interesting series of phrases: "Comrades, I declare the meeting to be opened!"—"Chairman of the meeting"—"Agenda for the day"—"To vote"—"To raise one's hand"—"Who is against?"—"Who abstains?"—"It is approved unanimously."

There were single words for "national wrestling" and "freestyle wrestling," for "horse races," and for "a bow-and-arrow horse race." There were no fewer than 13 words and phrases describing the horses themselves—in terms of appearance, age, function, and behavior. The prime Tuvan delicacy was described as "fat of lamb's tail." There was also the useful phrase, "Is it possible to obtain a collection of works of folklore?"

The little phrase book had a whole section on greetings, which gave us the idea of writing a letter in Tuvan. When we got to the body of the letter—the "I would like to go to Tuva" part—we began to mix and match: in this case, we used "I would like to meet with Comrade S" and "They want to go to the theater," substituting "Tuva" for "the theater." But it was tricky. We gradually deduced that English is written backwards in relation to Tuvan: word for word, the Tuvan phrases were "I Comrade S-with meet-to-like-

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would-I" and "They theater-to go-to-want they." (Tuvan seemed to have a Department of Redundancy for personal pronouns.)

If we needed a particular word that was not in the phrase book, we used the pocket English-Russian dictionary to get us into Russian, and then a Russian-Tuvan dictionary (borrowed from UCLA) to get us into Tuvan. Then we used a Tuvan-Russian dictionary followed by the Russian-English dictionary to check our choice. We often came out with a different word, necessitating a new choice in Russian and/or Tuvan.

By the time we were finished, we had managed to put together about 10 sentences. In addition to saying, "I Tuva-to go-to-like-would I," I asked if there were any Tuvan-English or English-Tuvan dictionaries, any schoolbooks in Tuvan, or any recordings of spoken Tuvan.

At last we were ready to send off our masterpiece—but to whom? Richard noticed some small print at the back of the phrase book: It was written by the Tuvan Scientific Research Institute of Language, Literature, and History (its acronym in Russian was TNIYALI) on 4 Kochetova Street, 667000 Kyzyl, Tuva ASSR—a precise address, ZIP code and all!

About a month later a letter from the USSR arrived—not my coveted QSL card from Radio Tuva, but a reply from Radio Moscow. Miss Eugenia Stepanova wrote, "I called up the Intourist travel agency and was told that since they have no offices in Tuva, there are no trips for foreign tourists to that region." Tuva might be easy to reach for a Muscovite, but we Americans

were still back on square one. (We should have known better than to believe everything we heard on Radio Moscow!)

I refused to be deterred. "If there's no Intourist office in Tuva," I reasoned, "then why not get them to open one?" I devised a plan:

1. I write a travel article about the fascinating postage-stamp land of Tuva, sounding as if I had already been to the place (I would write it in the form "when one goes here" and "when one goes there"), and submit it to various travel magazines.

2. A travel magazine prints the article, which tells the reader how to arrange travel to Tuva: "Contact the Soviet travel agency Intourist." (An address would be supplied.)

3. We get every friend we can think of from all over the United States to send a letter to Intourist saying they have read about Tuva in the travel magazine and want further information.

4. Responding to this "popular demand," Intourist opens an office in Kyzyl. (Never mind that only two guys actually end up going to Tuva, and the office closes one month later.)

Richard shook his head in dismay, but he couldn't talk me out of this one. I wrote an article called "Journey to the Fifth Corner of the World," and sent it off to half a dozen travel magazines. The plan never made it past step one.

Still undeterred, I thought: If we can't get Intourist to open an office in Tuva, then where is the nearest place that already has an office? Answer: Abakan, 262 miles to the northwest of Kyzyl, according to the automobile atlas of the USSR I had picked up in Bulgaria during my camping trip in the Balkans. Intourist had rental cars in Abakan. We could drive from there to Shushenskoye, a village—now sacred—where Lenin had been exiled under the czar; the turnoff is 40 miles along the road to Tuva. We would simply miss the turnoff and drive like hell for 222 more miles. Even if we got stuck behind a truck, we could easily reach Kyzyl by nightfall—especially in summer, when the sun set around 10 p.m. From Kyzyl we would telephone Abakan and say we had gotten lost.

Richard was completely opposed to that plan, because it was deceptive. Acting under false pretenses was one of the biggest sins in his book.

In the summer of 1979 Jimmy Carter and Leonid Brezhnev signed SALT II. Meanwhile, I wrote more letters in Tuvan, this time to *Bashky* (teacher) at *Sbkola* (there seemed to be no Tuvan word for "school"), in remote towns with Tuvan names where (according to a map of Soviet

nationalities I had found at UCLA) the majority of Tuvans live.

I also continued my research in libraries around southern California. I found an article in the *Times* of London (November 23, 1970) written by a fellow named Owen Lattimore, who had gone to Tuva on his way to Mongolia. He was apparently the first Westerner to visit Tuva since Otto Mänchen-Helfen, more than 40 years before. Lattimore's article concluded with this paragraph:

And lastly, the Tuvinians themselves. They are the most captivating of the minority people that I have yet encountered in the Soviet Union. Mostly of middle height, they commonly have oval faces, a rather finely marked nose with delicate nostrils, often slightly tilted eyes. They are elegant, gay, assured. They love good food and drink, and wide-ranging conversation with a light touch; but their academic style, in the fields with which I am acquainted, is precise and rigorous. I lost my heart to Tuva and its people.

Naturally, I tracked down Lattimore's address in England and asked how he had been able to get into Tuva. He replied in a handwritten letter that he had gone as a guest of the Siberian Center of the Soviet Academy of Sciences, and that his trip had been arranged in Novosibirsk. It wasn't until several years afterward that I realized the answer to my naive inquiry had come from "God" himself—the dean of Central Asian studies. (Lattimore, who died in 1989, was an American author and scholar who had had the singular distinction of being in good standing with the Soviets, the Mongols, and the Chinese.)

Soon after that I began receiving a publication called the *Central Asian Newsletter* from England. Apparently, during the course of my inquiries to colleges and universities, someone had put me on a mailing list as a specialist. My enthusiasm was further boosted by a letter from Dr. Thomas E. Ewing of the University of Leeds, which began, "It is a pleasure to welcome you to Tuvan studies—your appearance alone must double the population of the field."

In the fall of 1979 another school year began. Over Christmas vacation the Red Army invaded Afghanistan. The eminent Soviet physicist Andrei Sakharov, who had formed a committee in Moscow to monitor the USSR's compliance with the Helsinki Accords on Human Rights, publicly condemned the invasion. Leonid Brezhnev deported him to Gorky, a city closed to foreigners. Sakharov, in a letter smuggled out to the West, called on the nations of the world to boycott the

Olympic Games, which were going to be held in Moscow that summer. President Carter, who had made human rights the centerpiece of his foreign policy, announced that the United States would honor the boycott. As 1980 began, Richard and I realized that we hadn't made any progress toward our goal. With U.S.-Soviet relations deteriorating by the day, we figured our chances of reaching Kyzyl had slipped from slim to none.

Nevertheless, I continued looking for books about Tuva in various local libraries. In one of them I found a photograph taken in Kyzyl that made my heart throb: a tall obelisk with a globe underneath, sitting on a base inscribed with the words TSENTR AZII, AZIANYNG TÖVÜ, and THE CENTRE OF ASIA—obviously inspired by our soul mate, that eccentric English traveler described in Mänchen-Helfen's book. I showed the photograph to Richard. The monument to the "Centre of Asia" became our Holy Grail.

At another library I also struck it rich: there was a new book out, called the *Tuvan Manual*, by John R. Krueger, a professor at Indiana University. The book was packed with information—over 75 pages on Tuvan geography, history, economics, and culture—as well as a detailed description of the Tuvan language.

In a section called "Folk Art" we encountered these intriguing words:

A characteristic and specific feature of Tuvan music is the so-called two-voiced solo or "throat" singing commonly found among native Tuvans and hardly observed anywhere else. The singer sings in two voices. With his lower voice he sings the melody and accompanies it at the same time with a surprisingly pure and tender sound similar to that of the flute.

The only kind of throat singing I was familiar with was the bizarre imitation of animal sounds practiced by Inuit women of northern Quebec, which I had heard a few years before on Radio Canada. But a solo singer producing two notes *at the same time* sounded not just bizarre; it sounded impossible! This we had to see—and hear—for ourselves.

Another intriguing statement in the *Tuvan Manual* had to do with pronunciation: "Although adopting the term 'glottalized vowels' in this book, one remains uncertain as to exactly what the articulatory and phonetic nature of these sounds is." In other words, Tuvan was such an obscure language that the author hadn't heard it spoken.

Professor Krueger's book contained several examples of written Tuvan, a Tuvan-English

*"It is a pleasure to welcome you to Tuvan studies—your appearance alone must double the population of the field."*





**Leighton (right) and Feynman were eventually responsible for bringing the exhibit “Nomads of Eurasia” to the Los Angeles County Natural History Museum. Their museum credentials gave them their best shot yet at reaching Tuva. Here they enjoy a reception for Soviet VIPs at the museum in 1987.**

glossary, and a 16-page bibliography, including a listing of Columbia University holdings of books written in the Tuvan language. The *Tuvan Manual* became our Bible.

At the end of January, I found a strange letter in my mailbox: it was addressed to “RALPH LEISHTOH” at roughly my correct address. I looked at the postmark: it was in Russian script; it looked like K, 61, 3, 61, upside-down U. But I knew what it was: K-Y-Z-Y-L. A letter from Kyzyl! I didn’t open it. I would wait until Richard was home.

That night I went over to the Feynmans’, letter in hand. Richard was surprised and excited. We opened it together. It was dated 7.1.1980, which we deduced to mean January 7, since July 1 hadn’t come around yet. It was from the TNIYaLI, the Tuvan Scientific Research Institute of Language, Literature, and History, which had written the Tuvan-Mongolian-Russian phrase book.

All I could make out was my name, which was in the first sentence. So Richard and I went over to my place and looked at the Tuvan-Mongolian-Russian phrase book. The first word of the letter, “Ekii,” was the third phrase in the book: it meant “Hello.” So the first sentence was “Hello, Ralph Leighton.” But then the phrase book was of no use: the phrases were arranged according to subject, not in alphabetical order.

“We can’t expect everything to be written just like it is in the phrase book, anyway,” said Richard. “This letter is written in *real* Tuvan—not fake Tuvan, like ours was.”

Richard got out our photocopy of the Tuvan-

Russian dictionary, and I got out my pocket Russian-English dictionary, as well as the *Tuvan Manual*. Word by word, we deciphered the second sentence: “New Year with.” So the second sentence was equivalent to “Happy New Year”!

The third sentence came out “Me Daryma Ondar called, forty-five snowy I.” We couldn’t make head nor tail of “forty-five snowy I.”

“Imagine you were a Navajo living on a reservation in New Mexico,” said Richard, beginning to laugh. “And one day, out of the blue, you get this letter written in broken Navajo from a guy in Russia using a Navajo-Spanish-English phrase book that he got translated into Russian by a friend of his. So you write back to him in *real* Navajo . . .”

“No wonder it’s hard to read real Tuvan,” I said.

Then Richard suddenly said, “Hey! I’ve got it: the guy is forty-five years old.” It made perfect sense. It was something like saying, “I have survived forty-five winters”—an apt phrase for Tuva, which lies between Siberia and Mongolia.

We checked the dictionaries again. There was a second definition for “snowy” that came out *letnii* in Russian—“summer” in English! “Winters, summers, what does it matter?” said Richard. “It still could mean he has lived forty-five years.”

Then I looked carefully through the phrase book again. At the bottom of page 32 was the question, “How old are you?” And at the top of page 33 was the answer: “*dörtten besh kharlyg men*”—“forty-five snowy I.” □

*“And one day, out of the blue, you get this letter written in broken Navajo from a guy in Russia using a Navajo-Spanish-English phrase book that he got translated into Russian by a friend of his.”*