

"Why Don't We Go to the Moon?"

How an offhanded remark set in motion the achievement of the century

REPUBLIC CITY – In an excerpt from the forthcoming new Galactic Standard edition of her definitive *Challenging the Cold Silence: The Inside Story of Project Phoenix Flight*, Asami Sato tells the story of how the odyssey began: With a casual remark by Avatar Korra in, of all places, a Future City sushi bar.

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"Why don't we go to the moon?"

Under the circumstances – nearing the end of a celebratory evening that had seen us do a complete lap of Future City's restaurants and pubs – it was the kind of remark to which the only logical reply was, "All right, no more fizzy plum wine for you, young lady."

It was Sanyue 17, 193 ASC (barely). That afternoon, Korra and I had won the first annual Future City Historic Grand Prix. Between the two of us, we'd probably put away enough of that august beverage for three or four women our size over the course of the evening, and that didn't count what hadn't made it inside us; six hours and probably two dozen stops later, our hair and clothes were still sticky and fragrant from the first two bottles, which we'd mostly poured over each other's heads (as you do when you win a grand prix).

When I took a closer look, though, I realized that Korra was at least half-serious. She holds her liquor amazingly – I might say annoyingly – well (which she claims is a waterbender thing), and in spite of

everything, she appeared to know exactly what she was saying.

"Why, do you think there's a good mochi place there?" I asked wryly.

"No, but – " she began. Before she could continue, our octocuda balls arrived and yet another chef wanted to hear the complete story of how we had won the race.

We didn't get back to the idea until the next day, when we regrouped back at the racetrack at midday to tidy up the garage and make certain the car was properly put away. While we worked, I remarked to Korra, "The moon?"

She gave me a puzzled look, not understanding at first what I was asking about, then smiled. "Yeah," she said. "Did you ever read Zuko's book about the Hundred-Year War?"

"We read excerpts from it when I was at school, but never the whole thing," I said. "Why? What interest does he have in the moon?"

Korra explained that the last chapter of the book contained the former Fire Lord's suggestions for various far-reaching projects his posterity might undertake to improve worldwide cooperation, the most ambitious of which – by a long way – was a manned expedition to Yue. This had been well beyond the limits of technology at the time he was writing. It was *still*, I thought, well beyond the limits of technology as Korra was describing it to me; but Zuko had thought that the next return of what, at the time, had still been called Sozin's Comet might provide a way of getting around that problem.

"The comet's due in the summer of 200," I told her. "We would have seven years. *Seven years* to invent technologies, materials, and bending techniques no one has even *thought* of, marshal all the technical and human resources that would be required to realize them, construct facilities, train personnel... seven years." I shook my head. "And that's not even taking into account what it would cost."

Korra gave me her challenging grin. "C'mon, you like thinking big," she teased.

"Even my father, spirits rest him, didn't think *that* big," I said.

She gave a sober nod at that, recognizing that I had a point. I was, after

all, talking about a man who had once employed the entire world supply of platinum solely in the development of a more efficient way of punching metalbenders in the face, and even he would have found the task of arranging a moon mission daunting.

She sighed. "Yeah, you're probably right," she said. "Ah, well. It was just a crazy idea." Then she added with a wry grin, "There are better ways to bankrupt yourself than trying to send your nutty girlfriend to the moon."

That was that until evening, when my daughter Hikari asked me to read her a story at bedtime. She was six at the time and had been reading on her own for several years, so we both knew she was a little old for that, but she still asked from time to time, and of course I always obliged her. The book she selected that night happened to be an old favorite, not just of hers, but of mine as well: Master Sokka's great children's classic, *The Princess in the Moon*.

Hikari slept well that night... but I didn't. I lay awake most of the night, revolving the problem in my mind. I had evidently talked Korra out of the idea, but now I couldn't let go of it myself. *Could* such a thing be done, at what was then the state of the art? *Was* it a crazy idea – and more importantly, *was* it an *impossible* one? The more I thought about it, the less sure I was of that.

At that time, I happened to be near the forefront of two separate technological revolutions that were both in the process of changing life in Dìqiú forever. One, the aeronautical revolution, had begun thirty years earlier, when my late father still ran the company. Airships had been known for generations, and the airbenders (and certain firebenders) had known ways of harnessing their gifts to fly for even longer. But in the 160s, a new breed of aerial vehicle had appeared on the scene: the airplane. Heavier than air, powered by the same internal combustion engines that made the Satomobile possible, they were a natural extension of Future Industries' leadership in vehicle technology. (As with the equally revolutionary Mecha-Tanks, it would've been better if Dad hadn't used them to further a

terrorist conspiracy, but you can't have everything.)

Regardless, Future Industries had survived the Equalist debacle, and its airplane development program had survived with it. By the 190s, our engineers had developed a new and better way of powering them – the jet engine – but, like the piston engine, it had the same limitation that kept it from being of use in the cold silence beyond Dìqiú's atmosphere: It wouldn't work without air.

There had been some fairly impressive advancements in rocket technology in the last decade or so, and rockets, unlike jets, *would* work in space; but as far as I knew, no rocket powerful enough to lift something the size of a ship capable of taking people to Yue and back existed. Not even close. Zuko's memoir suggested that he thought Sozin's Comet might play a role in overcoming that limitation, but I wasn't at all clear on how that was supposed to work. It didn't seem as if he'd really thought the matter through himself.

The *other* technological revolution I was involved with at the time was newer: not a legacy of my father's time, but developed entirely under my own stewardship. To give credit where it's due, the digital electronic computer was originally invented by a team of engineers at Cabbage Corporation, but by the 190s, the Sato Computing Machines division of Future Industries was in full operation as well. On that sleepless night in 193, I knew just enough astronomy to realize that we were never going to get anywhere near Yue without computers – a *lot* of computers – to crunch all the numbers that were going to be necessary just for navigation, let alone all the other mathematically complicated tasks a mission like that would require.

With those two things in mind, I became more and more convinced that we could, after all, *do* it; that if the technology to reach the moon did not yet exist, the principles by which that technology would have to operate were known. The rest would be a matter of development.

But *what* a development effort it would require, particularly if we were going to hit the absolutely immutable deadline that was

the next arrival of Sozin's Comet! As I mulled it over in the dark, I knew there was no way I could even consider financing it alone. Not even the full resources of Future Industries would be enough to make something like that happen, and it would have been wildly irresponsible to try. There was no commercial purpose in such an undertaking – no riches awaited on the moon – so it wouldn't even be a question of betting the company on a wild gamble. The money spent on going to Yue would be *spent*, period. It wouldn't be an investment that could have a tangible return, and I couldn't ask the Board of Directors to undertake it on those terms.

Besides, a flight to Yue wasn't a job for private enterprise. Oh, private enterprise could, and would, make it *possible* – the private sector was where all the technology and know-how would come from – but the impetus, the funding, and the ultimate control had to originate elsewhere. If we went to Yue, we would be going on behalf of all humankind, and we'd require all humankind's backing – less lyrically, the backing of humankind's *governments*. I doubted any single country could sustain the cost of such an undertaking either.

In fact, I suddenly recalled, that was Fire Lord Zuko's intent all along. Korra had said as much the day before: The part of Zuko's book that had contained the suggestion was about projects involving cooperation among nations for the benefit of the whole world. The benefits of a cooperative voyage to Yue might not be suitable for the private sector, but they were *eminently* suitable for the public sector: prestige, national pride, international understanding, technological advancement.

By sunrise I was convinced that the project really was possible. It would take a massive, concerted effort by the finest engineers and scientists in the world; it would require things no one had even *thought* of yet; and it would cost an absolute fortune... *but it could be done*.

And what was more, I was convinced as I left my bed to start a new day, it *should* be done.

I should have been exhausted – at 41, I was no longer young enough to shrug off an

allnighter with no effect at all, the way I routinely had in my twenties – but instead I was energized, and I felt sharp and clear as I prepared myself for the day. Now that I'd concluded that the job could and should be done, I was burning to get started. It was going to take a huge amount of work just to get to the point where the *real* work could *begin*.

As I helped Hikari get ready for school, I decided there was one more thing I had to do before I told Korra I had decided to accept her withdrawn challenge. (She wouldn't be awake for at least another two hours anyway, nor in a fit state for human communication for three.) I was satisfied with my thoughts and the conclusions they had brought me to, but there was one more check I should make before I went ahead. I would have to run it by Mako.

The reader will probably recognize Mako's name; like me, he was a founding member of the original New Team Avatar. In fact, in our younger days, Mako was my ex, and then Korra's, and then mine again, and then Korra's again. (This led Korra's first biographer to wonder how it is that he's even still alive, but then, Jinora has peculiar ideas about romance generally.) Somehow, we all managed to remain friends anyway, and as a side effect, this interesting career trajectory left him uniquely well-equipped to tell when either Korra *or* I was preparing to do something ridiculous.

After seeing Hikari off to school, when I could be reasonably sure he'd be awake, I called him and explained the whole thing.

"You're crazy," he said, and that's when I knew we would have to do it.

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She lives in Future City with her daughter Hikari, when they aren't both out testing experimental aircraft, practicing extreme sports, or saving the world as members of Team Avatar.