



# The Musa Chronicles

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Flushing, named for the Dutch port of Vlissingen, is the world's largest Chinatown. It's in New York City's borough of Queens, near LaGuardia Airport and the NY Mets baseball stadium.

## 1 ↵ A Small Puzzle

Stanley Leung took a sip from his beer and put it back on the tablecloth before addressing his friends. *"Before I deal the next hand, I'd like to ask for your advice on a small puzzle that Junior and I have been looking at."*

That was enough to get the full attention of both Albert and Lucky. Not the mention of a puzzle, although that was mildly interesting, but the fact that Stanley and Junior had been working on something together without telling them. Somehow, that felt like it went against the house rules: we play together every week, have since years; we should have no secrets between us.

Stanley continued: *"My bank processes about a quarter million checks every night. The checks go through huge scanning machines that read the OCR numbers at the bottom, and the money transfers are made. But the machines also take a photo of every check, front and back, so someone can look at it if there's a problem: the recipient claims it's not his signature, or the amount was misread, or something. All those photos are stored in archives — giant data files — both in our on-site servers and also in an off-site backup server somewhere in North Dakota."*

*"A few weeks ago, someone tried to bring up a photo of a check, and the database couldn't find it — it wasn't where it was supposed to be. They squawked the problem to IT, and we eventually tracked it down — it wasn't that far away, but it took a lot of cycles to look through even the rest of that one archive. So my boss asked me to make sure that didn't happen again: to find out why it had been indexed wrong, and fix the problem."*

*"So I wrote a little piece of code that crawls through the existing archives as a low-priority process and looks for the kind of errors that caused this problem: the original coder hadn't imagined that we would store more than 4 billion checks in one archive, so he only used a 32-bit number, and it rolled over."*

Stanley took another swig of his Pabst before continuing. *"That's not the interesting part. The interesting part is that I programmed the crawler to tell me if it found anything it couldn't handle, and it did. In fact, it found an entire archive that it couldn't interpret. And at*

*first, neither could I. So I displayed it on my screen as photos, but they weren't photos of checks!"*

*"They were photos of letters. Apparently, the post office uses a very similar machine to read the addresses of letters that people send. I don't know how that archive ended up on our server, or whether it's a copy or they're missing it. And now here's the big surprise: it wasn't from the big USPS processing center near us — you know, the big one next to the Whitestone. It was from the post office in ... Hong Kong!"*

That got everyone's attention. Even though they'd all been born here in New York, they knew Hong Kong as visitors, to see family and to be somewhere where everyone else also spoke Cantonese and looked like them. And Hong Kong is a fascinating place: the world's most populous metro area.

Stanley continued: *"Of course I was very interested and curious, and I spent a little time just looking at the names and addresses on the envelopes. Maybe I'd recognize somebody I know, or a street or a store. Some are in English, some are in Cantonese romanization, some are in Cantonese, and some are in Northern Chinese. Very interesting."*

*"Then, as I looked at these photos, I noticed something else. The machine that takes the photos uses a very strong light, and often, you can see the outlines of the writing on the letters inside. It's kind of just smudges — you can't read it — but you can see if the letter is folded, if there's a color letterhead, if there's a photo, things like that. That's when I had my big idea."*

*"I brought the photo of one letter into a photo-processing program, and increased the contrast. And it worked! I could read the lines inside. Well, some of the lines. There were often parts that were covered by the address, or where two sets of lines interfered with each other because of the folding. But it was amazing how much I could read."*

*"I spent about an hour fooling around with that archive, but then I had to get some work done. That night, I couldn't stop thinking about it, and in the end I didn't get much sleep. First of all, I realized that if I can read those letters, then the Beijing government is already doing it. Scary! Then I began to worry whether they could find out that I had accessed the archive and could read the letters. I turned it around and around in my head, and I don't think it's possible. I think that archive is lost, and there's no way for them to know I opened it and figured out how to read the letters. And what are the chances that I happen to read Cantonese! But it's worth worrying about. So just to make sure, I copied part of the archive onto my laptop so I could look at it without accessing the server."*

As he paused for another sip, he looked around the table. Normally, these guys don't let a silence go very long before filling it with comments, complaints, jokes, and laughter. But this time, they were all silent. Albert finally broke the silence: *"Where does Junior fit in?"*

Once Stanley had let his beer thoroughly wet his throat, he continued. "Well, once I had the letters on my laptop, I began reading them — or trying to read them — when I had a spare moment: in the evening, or on my lunch break. Most of the time, I could only decipher a few half-lines, not even full sentences, and it wasn't that interesting. Instead, I got distracted trying to identify the language. Of course the majority were in characters — mostly Cantonese and Northern Chinese, but there were also letters in other dialects: Hakka, Min, and Wu, and even some in traditional characters from Taiwan. There's a lot of English, some Vietnamese and Thai, and many in Indian languages like Bengali, Tamil, and Hindi. I had to look those scripts up to identify them. It became kind of a game."

"Then I found one letter that I couldn't identify at all. It looked a little like Korean, with simple shapes grouped into characters, but it wasn't Korean. I used all the resources I could find online, and I still couldn't figure out which language it was. So I showed it to Junior — he's interested in that kind of stuff. I sent him the photo I had of the see-through envelope, and let him work on it for a while."

"And he found it! It's not a real language at all, or actually, it's Cantonese, but written in a different script. This script is called Musa; it was recently invented, and it claims to be able to write any language in the world. There's a web site — [www.musa.bet](http://www.musa.bet), for Musa Alphabet — but I couldn't find any other information about it. Interestingly, the web site has pages in Cantonese, among other languages — that's how we figured out it was Cantonese in the letter."

"Then I wrote a complicated piece of code that looked through the entire archive for messages in Musa, and it found a few more: six in total, out of millions of letters. None of them have the same address or the same date, and they were mailed from several different post codes — that info is also recorded in the archive."

"So then we began to wonder why someone would write a letter in Cantonese using this weird alphabet instead of just characters or even romanization. And the only reason we could come up with is that they don't want other people to read it, but they don't want it to be obvious, like a code would be. Maybe they don't know about these see-through photos — maybe the Beijing government doesn't even know about these photos — but they must have suspected that their mail could be opened and read."

"And that's as far as we got. That's when we decided to tell you two the story and see what you think."

Lucky was the first to react. As the oldest and the host of these weekly sessions, he felt he was the senior member of the group, its captain. "I think you two have been watching too many movies. If it only took Junior a few days to discover this Musa Alphabet — and I'm sure it wouldn't take much longer to decipher the messages — then it's not a good way to protect the contents. And you said it's not an obvious code, but these are pretty obviously messages in some unknown language, so they would draw a bit of attention. Remember, even if Beijing doesn't know who sent them, they know where they're going: it says so

*right on the envelopes. So they would quickly add the recipients to the list of people they keep tabs on."*

*"I think it's more likely that the senders and recipients are simply hobbyists who amuse themselves with new alphabets, or maybe they're idealists hoping to replace our traditional characters with yet another new phonetic script, like pinyin or bopomofo."*

Lucky was right — their original theory didn't make much sense. But his alternative theories didn't make much sense, either. Or if they did, that would be a pretty disappointing resolution to the mystery.

Albert had been listening to everybody; now it was his turn to comment. *"Lucky is right, but I can't help but believe it's more than just hobbyists or idealists. At least I feel sure they're not just using this crazy new alphabet to write notes to each other. We've known each other for years, and I've never written any of you a letter! The letters we found by chance in one lost archive must be only a tiny piece of a much broader use. And if they were hobbyists or idealists, wouldn't they be trying to tell us all about their new alphabet, instead of keeping it a secret?"*

Junior felt a little lost. *"So what do we think we know, so far? Spread around Hong Kong, there's a group of people who use a new alphabet to write Cantonese. Every once in a while, they even write each other letters. Do we really know any more than that?"*

Stanley: *"Maybe they send these letters to people they hate, hoping to get them in trouble."*

Junior: *"It would be much easier to get someone in trouble by sending them a letter discussing a bomb they were making, or an attack they were planning. Using another alphabet only makes it less likely to be deciphered."*

Albert: *"I think we got distracted by all this spy-movie stuff. It may have nothing to do with conspiracies. Let's start with the obvious: they're writing to each other in Cantonese, and they're using this Musa Alphabet because it gives them some advantage. Maybe they don't read and write characters very well, or maybe they want to convey more information than characters can. If Musa is phonetic, maybe they want to spell out their dialect or talk about pronunciation."*

Lucky turned to Junior: *"Well, is Musa phonetic? Does it convey more information than characters?"*

Junior downplayed his expertise: *"Well, I don't really know. I only glanced at the Musa pages; I didn't study it. It is phonetic, in the sense that it spells sounds, not meanings like characters do. But so does romanization. If they only wanted to record sounds, they could have used romanization."*

Lucky pretended to spit: *"There are too many different romanization schemes, and they're all bad. For example, the sound written **eu** in the Yale system and **eu<sup>h</sup>** in Sidney Lau is*

written **oe** in Cantonese pinyin and **oeh** in Meyer-Wempe, but Jyutping has both **eu** and **oe**, and they're two different sounds, written **eo** and **u** in the official government scheme. I can never remember how to spell anything. Maybe they feel the same way."

Albert dismissed this complaint: "They can just pick one of the romanizations and use it consistently; they don't have to use each one in turn. I like the Yale system because it doesn't use numbers for tones."

Stanley brought the table back to the topic: "Hey, we didn't come here to discuss the different romanization schemes. Is there an interesting mystery behind these letters, or should I deal the next hand?"

"Deal!" was the unanimous response.

## 2 U First Investigations

But of course they didn't leave it at that. Over the next week, they all visited the *musa.bet* site, but only Junior really got into it. He taught himself the alphabet — pretty easy, really — and found a keyboard on the site where he could type notes to his friends. He even discovered that they offer three different styles of Chinese fonts: sans-serif *Heiti*, wood-block *Songti*, and brush-stroke *Kaiti*.

Stanley, on the other hand, went back to the letters and tried to untangle the writing, to see what they actually said. Maybe once they deciphered one message, they'd have an idea whether this was something interesting, or just the kind of stuff one finds in most personal letters: family news and gossip.

Lucky has a few friends that work at the USPS Processing Center next to the Whitestone Expressway, and he tried to find out whether they also use those scanning machines: of course they do! He also tried to find out, without giving it away, whether they ever used the photos for anything else, or made the archives available to any other agency, for example the FBI, CIA, or NSA. Nobody seemed to know anything about it, but of course that's what they'd say, anyway. He couldn't ask very directly, either, and he certainly didn't want to give them any ideas!

Albert was stuck on the questions of why people would use this secret alphabet, how they found each other, and what brought them together. Some kind of new sect? A secret society? Maybe it's a group of friends — like our group — who went to school together, or worked together, or were in the military together, who want to stay in touch in a creative way. He asked Stanley for the names and addresses on the six envelopes, to see what he could find out about those people.

It's easy to Google somebody in the West: enter their name and press Search. In Hong Kong, it's not that simple. First of all, everyone has both an English name and a Chinese name: Bruce Lee was born 李振藩 Lee Jun-fan. But in Cantonese jyutping, that's written

Lei<sup>5</sup> Zan<sup>3</sup>-faan<sup>4</sup>, while in Northern Chinese pinyin, it's Lǐ Zhèn fān. (And Bruce Lee is actually better known under his stage name, 李小龍 Lei<sup>5</sup> Siu<sup>2</sup>-lung<sup>4</sup>.)

Nor is it as easy as it should be to write Cantonese in characters. There are a lot of words that don't have equivalents in Northern Chinese, and even though there are characters for most of them, people don't know them, they're not in all fonts, and it's not always clear how to type them.

On top of all that, there's another problem. If you have a friend named John Smith, you'll never find him with Google, because there are so many John Smiths out there that you'll get too many search results. Well, that problem is even worse in China, because there are a total of only about 2000 possible surnames for 1.4 billion Han Chinese, and 19 surnames cover half of them: 李 Lǐ (it means *plum*) is the most common. In comparison the USA has 5 million surnames for only 332 million people, and the top 19 cover only 7% of them.

So Albert couldn't find anything out online about the recipients of the letters. He thought of asking a friend in Hong Kong to go around to the addresses and report on what he found — maybe later. He wondered whether Musa was being used around the world like this, or only in Hong Kong. How could he find out?

### 3 ▼ Comida Criolla

Even though Flushing is the world's largest Chinatown, it's still part of the melting pot that is New York City, where 37% of residents are foreign-born. On Stanley's street there are restaurants serving Japanese, Korean, Vietnamese, Filipino, Mexican, Cuban, Ethiopian, Greek, Lebanese, hamburgers, hot dogs, empanadas, kebabs, and pizza ... and of course many different Chinese cuisines. There's also a small restaurant called *Mi Chinita* serving a local cuisine: comida criolla. It's Caribbean food, but prepared by Chinese cooks. There are many Chinese in New York who descend from coolies brought over to the West Indies in the mid-19th century. So it's a mix of Cantonese, Spanish, African, Indian, and American, with tropical ingredients like plantain, coconut, and goat.

Stanley has eaten there quite a bit, and he walks past it every day, to and from work. But today he spotted something he'd never noticed before: a small sign in the window written in the Musa Alphabet:

☞ 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗 𐎗𐎛𐎗

How could he never have noticed that before? He took a photo and sent it to Junior. An hour later, the response came:

Si puede leer Musa, le regalamos el postre

Excited (partly by the free dessert for Musa readers), he sent his friends a WhatsApp inviting them to meet there for lunch the next day. They did, they ate well, but when they claimed the free dessert, the waiter brought them a dessert menu ... written in Musa! Only Junior was able to order his free *maduro*. When they asked the owner about it, he just grunted and said it was something his daughter had come up with. The offer didn't seem to be costing him much money.

But at least they learned it's not just in Hong Kong, and not just for Cantonese. Stanley asked the owner when his daughter would be there again. Apparently, she usually does her schoolwork sitting at one of the back tables in the evenings.

#### 4 ▣ A Chinese Pendulum

Angie Pérez turned out to be a friendly 19-year-old, studying computer science at NYU. In her spare time, she roller skates and interprets sign language for NY Presbyterian Queens Hospital — she has a deaf younger brother and a cat, all living at home above the restaurant. She speaks English, Cantonese, Chinese, and Spanish — her father is Puerto Rican and her mother is from Foshan, in Canton.

Stanley discovered all this in the first few minutes with her at the back of the restaurant that night, in between customers ordering *ropa vieja*, *picadillo*, and *arroz con frijoles*. He hadn't wanted to start right off asking about Musa, in case it was some kind of secret sect. So he'd taken advantage of the Python textbook he saw her working from — they had that in common.

Once he got her talking, he mentioned how sorry he was that he couldn't claim the free dessert, and she laughed. "*How did you know about the offer, if you can't read Musa?*" He explained that he'd eaten lunch there with a friend who did qualify, and now that he'd seen the benefits, he was thinking about learning it himself.

*"Well, I'm glad my small effort has helped spread the word. But I have to warn you that Musa readers don't get free dessert in very many restaurants, so don't plan on buying a Ferrari with all the money you save. But it does have other compensations."*

Stanley gave her time to continue on her own.

*"I was turned on to it by my cousin Carrie in Foshan, who's like my big sister. She and her friends participate in a kind of a penpal circle: there's an app that hooks you up with other Musa readers, and we write letters in Musa to each other. Most of the time, you never meet, and nothing big ever comes of it, but some people have made solid friends this way, they say. I haven't, yet!"*

*"So far, the app is only in Cantonese; in fact, it was published by two guys in Shenzhen who see Musa as the only way we can preserve our language against the tsunami of Northern Chinese population and political power, while at the same time bringing it into the*

*modern world. It's funny that the ninth most spoken native language in the world is endangered, but it is!"*

So Lucky was right — idealists! Stanley had never felt much patriotism for Cantonese, although he didn't trust speakers of the Northern dialects. China's history is a pendulum swinging between the North and the South. The capital is now Běijīng, which means "*northern capital*", but until the Communists took over in 1949, the capital was Nánjīng, "*southern capital*", which had become capital with the foundation of the Republic. The last Imperial dynasty — the Qing — had their capital in Beijing, but the last Chinese dynasty — the Ming (the Qing were Manchu) — had their capital in Nanjing, and so on, back and forth. So since 1949, the southerners have been out of power.

But they haven't done that badly for all that: Three out of China's four largest and richest cities are in the south. It's a little like the situation in the USA, Italy, Spain, and Vietnam, where political power and economic power are in different cities. Maybe that works well because the businessmen — the wealth creators — are a little protected from the bureaucrats — the wealth spreaders.

Anyway, Stanley had never been that interested in politics, and it seemed to him that the pendulum was swinging back well enough on its own, without the insignificant push he could contribute if motivated. But he liked the idea of being pen pals with interesting people in China. Maybe he imagined they'd all turn out to be like Angie!

## 5 ▣ A Funkay Dinner

Albert was the next to have an Unexpected Musa Encounter. One day, he got home from work to find a flyer for a new restaurant waiting in his mailbox. He barely glanced at it before dropping it in the lobby wastebasket and getting onto the elevator. But as the door was closing, something clicked in his brain. He got out again, fished the flyer out of the wastebasket, and took a closer look. Here it is (the reverse has the location, hours, and some sample items from the menu):



# Phở-n-Ké

(pronounced *funkay* ʔ<sup>u</sup>ʔ<sup>l</sup>v)

*Hanoi meets Hawaii*



raw fish over rice noodles

In small letters, at the end of the second line, was a pronunciation respelling of the restaurant's name in Musa! Normally, he wouldn't even have noticed. Now, he began to wonder how often he hadn't noticed. He'd have to keep his eyes open for Musa sneaking into his daily life. He thumbtacked the flyer to the back of his door so he'd remember to bring it the next time he saw the boys.

He hadn't really followed up enough, though, had he? They would ask him why he hadn't gone to the restaurant, when it was right around the corner. The idea of raw fish over rice noodles hadn't originally appealed to him, but the dish in the photo looked good. So the next evening, he decided to try it.

*Phở-n-Ké* was a small place, with only a few tables for two. A boy was sitting at one table, playing a game on his phone. Behind the counter was an attractive woman his own age, give or take a few years - it's hard to tell. She greeted him with "*Hi there, what can I make for you?*"

"*I'd like to try this.*", holding up the flyer.

"*Do you have preferences for vegetables, broth, and noodles, or shall I just make it the way I like it?*"

"*That sounds great!*" Albert sat down at one of the tables, facing her so he could watch as she prepared the dish, quickly and efficiently. When it was ready, she brought it out to him and asked if he wanted a beer. He did. In a glass? Yes, please.

When she came back with his beer and his glass, he asked *"Was it you who put the Musa on the flyer?"*

*"Ah! You know Musa! Yes, it was me. Who else would it be? I'm all alone here."*

*"I can't read Musa - I just recognized it. You're the owner?"*

*"Owner, cook, waiter, cleaning lady, and mother."* She indicated her son with a tilt of her head. He hadn't lifted his eyes from the game the whole time.

*"His father doesn't help out?"*

*"His father is in Hawaii. He'll see him over Christmas."*

*"Oh, I'm sorry."*

*"I'm not."*

Albert brought the conversation back onto safer ground. *"What's the deal with the Musa?"*

*"I like it, and it's a good way to spell pronunciation. Most Americans pronounce phở as po or fo with a long o, like po-lice or fo-cus. And if you spell poké with an accent, they stress the second syllable, but if you don't, they rhyme it with joke."*

*"True. I never knew how to pronounce either. The dish is excellent, by the way."*

*"I know! That's why I decided to open a restaurant."*

He liked her sharp wit. *"Has anyone else asked about the Musa on the flyer?"*

*"No, not yet. But I've only been open a week. Evenings are still very slow, but at least the lunch crowd is growing. I'm glad my son is in school then, so I can concentrate on the work."*

*"I work too far away to come for lunch, but I live around the corner, so I'll come back for dinner again."*

*"Please do - I appreciate the business, and the company. My name is Quynh - Q U Y N H - but you can call me Queen."*

*"Albert."* They shook hands. Albert was suddenly in a very good mood, and he didn't want to ruin it by saying something stupid. So he finished up, paid, and said goodbye. *"See you again soon!"*

The next time the boys met to play cards, Stanley told them what he'd learned, and Albert showed them the flyer and repeated what Queen had told him. Lucky was delighted to have been proven right: idealists!

But Stanley was having second thoughts about his initial enthusiasm. He didn't need to meet penpals, he wanted to meet real people that he could spend time with. IT people have a bad social reputation, and it's true that he didn't want to hang out with his coworkers. Sitting at his desk at home writing letters in some utopian alphabet to people he didn't know, all of a sudden didn't seem like such a good idea.

Albert was happy to have met Queen, and content that they'd solved the mysteries of who was writing each other and why. That was enough for him — he already had enough hobbies. Same with Lucky: running two businesses didn't give him enough free time even to spend with his family.

But Junior was interested, and he thought he'd give this app a try. More than that, he had another idea. He had a friend who had already published a few small apps for Android and iOS. They were mildly popular, but so far he hadn't had any big successes, like an app with millions of downloads. Junior wasn't sure that a Musa penpal-matching app in English would be his long-awaited hit, but at least he'd mention it. There already were a couple of Musa apps out there, but nothing to do with penpals.

Meanwhile, there were cards to be dealt :)

## 7 n A Vietnamese Story

Albert waited a whole week before going back to *Phở-n-Ké* - he didn't want to seem too eager. The night he went, he waited across the street until another customer left: he wanted to be alone with Queen (and her silent son, still at the same table). He was a little nervous, but she recognized him and greeted him by name with a big smile, so he regained his habitual confidence. He asked her again to choose what to make for him.

When she brought the dish to his table, again she asked if he wanted a beer. He said "yes", but also invited her to join him at the table, if she weren't too busy.

*"Of course I'm too busy! Don't you see all these customers?"* She gestured at the empty restaurant. Then she went back behind the counter and returned with two beers and two glasses. *"Why don't I talk while you eat? Want to hear my life story? It's very sad ... I mean interesting."* Of course he assented!

*"I come from a long line of Vietnamese patriots, but that didn't stop them from serving in the French colonial administration and studying the Chinese classics. My grandfather always told my father that he had been part of the liaison group between the Việt Minh and the American OSS, working together against the Japanese occupation, but that's probably exaggerated. True or not, my family ended up picking the wrong side when that*

*war ended and the next one began: my father was a 20-year-old cadet pilot in the ARVN air force when Saigon fell in 1975. He was evacuated; the rest of the family was never heard from again."*

*"The US decided he should continue his pilot training, and settled him in Moses Lake, Washington, an old air base in the desert. It didn't take him long to decide that he didn't want to stay there, and he moved to Honolulu, where he met my mom, also a Vietnamese refugee. I was born and raised there, in the Palolo valley. We spoke Vietnamese at home, and my parents were very active in the local Vietnamese community. On Sundays, we had to stay after church for Vietnamese school: learning how to read and write both Chữ Nôm characters and the Chữ Quốc Ngữ alphabet."*

*"After high school, I decided to go "back" to Vietnam, to a place I'd only been to in my imagination. I spent two years in Hà Nội, teaching English to adults. It was very interesting - I'm very glad I went - but the most important thing I learned there is that I'm an American! I'm way too stubborn and independent to live as a woman there. So I came back to Hawaii, fell in love with a Portuguese (the Portuguese were the second group of settlers in Hawaii, after the Polynesians), got married, and had Reno - he's named after Reno Abellira, the famous surfer. Then I got divorced and moved as far away as I could - to New York City. And here I am! Good thing I'm a great cook!"*

Albert told her that he could confirm she was a great cook. She smiled. Then he asked her about the Musa.

*"You know, the Chữ Quốc Ngữ alphabet is really bad. It was invented by Portuguese missionaries in the 16th century, for their own use in learning Vietnamese. Vietnamese people only wrote in Chinese characters mixed with local additions, but literacy was very low, a few percent, and only among the elite. So the French decision to make it a universal national alphabet was actually very enlightened - literacy is now 98%."*

*"But it's still a terrible alphabet, with lots of digraphs and diacritics, plus a bunch of weird Portuguese spellings. No foreigner can read my name aloud, Nguyễn Thị Quỳnh. My given name is actually pronounced "Gwin", but I just use "Queen", since it's spelled with a Q. And the Quốc Ngữ letters are pronounced differently in different regions - Vietnamese has many dialects, and they sound quite different from each other. It's too bad the alphabet doesn't help us with that."*

*"So I discovered Musa a few years ago, through a group that's trying to promote it as a replacement for Quốc Ngữ, one that doesn't remind us of our colonial past under the French or the Chinese, and that does a better job with our language. We're trying to spread the word, but subtly - not in an evangelical way."*

Queen paused, and noticed that Albert had finished eating. "Hey, if you're done eating, you can help with the talking!"

So Albert told her the story of his discovery of Musa, and how Junior was interested in using it the same way for Cantonese. She reminded him that the word *Việt* has the same root as the Cantonese word *Jyut*<sup>6</sup> and the Chinese word *Yuè*, which all refer to the various peoples who lived south of the Yangtze valley before the Chinese arrived in 214 BC. Some stayed, intermarried, and became Cantonese; some retreated into the mountains and became the Zhuang - they're still there, with their own autonomous region; and some fled south, lived in the Hong (Red) river valley in northern Vietnam, and then crossed Laos, invaded the Chao Phraya valley, and became the Thai. So the Cantonese, the Thai, and the Vietnamese have a lot in common. This girl knew her stuff!

## 8 ▣ Challenge

The next time Stanley ate at *Mi Chinita*, Angie was already at her table, studying away. She greeted him and invited him to sit with her, since he was alone. An invitation gladly accepted! He couldn't believe she was being so nice to a not-so-young guy like him: he was twice her age. She asked if he had signed up for a Musa penpal, and he admitted that after thinking about it, he wasn't that interested. She didn't seem disappointed.

The conversation wandered through a labyrinth of topics, with her doing most of the talking. She told him about her skate group: they met at the skate park near the Unisphere, the giant metal globe left over from the 1964 World's Fair. From there they could skate all the way south and west to Highland Park, or east to Cunningham Park, following the chain of parks. She told him how she often traveled with her skates to explore other cities and skate with the local skaters. It sounded a little like a sect! She also told him about her studies, her volunteer job at the hospital, her brother, and her cat. He didn't have much to talk about - maybe that made him a good listener!

He did tell her about the Musa on the flyer for *Phở-n-Ké*, and she accepted his invitation to join him for dinner there the following week ... on one condition: that he learn enough Musa to read the note that she would write him. A test of his worthiness - and a challenge! Of course he couldn't say "no". He hoped it was as easy as Junior said.

## 9 ▴ Messaging

Meanwhile, Junior had gotten together with his friend Shlomo, the app writer, and explained the situation. Shlomo did some more research on Musa and its online presence. He found only one widely-used app, a keyboard called Musa Keys that allows people to type Musa into their computer or phone. It offers one cool feature: you can use your phone as a handheld wireless keyboard for your computer! It's mesmerizing to see the Musa letters appearing like magic on your screen.

But he noticed a big hole in the Musa offerings - not just a penpal matching service, but a Musa messaging app. Of course you can send messages in Musa on popular messaging

apps like WhatsApp, Telegram, Signal, or Facebook Messenger, but those apps don't display Musa correctly, so to read the Musa messages, you have to copy them into Musa Keys. It isn't that hard, but it isn't ideal, either. Of course, the same is true of many smaller languages: those apps can't support every script in the world! But they could allow every user to see his own language just by teaching the apps to look at the operating system for any letters they don't know how to display, instead of just displaying one of those empty rectangles they call *tofu*.

Shlomo didn't have any illusions about surpassing WhatsApp and Telegram with a new messaging app that handled Musa and other smaller languages, but he'd be very happy with 1% of their market. He also noticed that the big apps confused the languages of the messages with the language of the app itself. Many people use WhatsApp in the same language as their computer's operating system, but still want to send and receive messages in other languages - much of the connected world is at least bilingual. And they usually have keyboards for those languages installed, but the messaging apps can't display the text! Stupid.

Shlomo could imagine an app that offered messaging - in Musa and other scripts - as well as penpal matching, or even matching you with other Musa fans in your area. Technically, none of that is very hard ... it just has to be done well and work perfectly. And it needs a good name. *Musame? Mussage?*

Junior also had a few ideas. He played the Wordle word game in English every morning. There's also a Wordle in Cantonese, called *Zidou*, that uses the jyutping romanization with no tones. Maybe he could do a Cantonese version of Wordle that used Musa instead of jyutping. Not only could he include tones, but he could expand it to use all the two-syllable words, since Musa can write any Cantonese syllable with four letters (and possibly a long mark, a small vertical line to show that the vowel is long). He'd have to play around with it a little to see if it works, but it might be a fun little project. He didn't need to make money with it.

## 10 ♪ ♪ A Good Investment?

Down at the club where they play cards, Lucky belongs to a group of businessmen who sometimes make investments together. They might each chip in to finance the opening of a new business - a bazaar, a restaurant, or even a factory. Or they might finance the education of a bright young guy, or even make a joint donation to a worthy cause, or to the victims of a tragedy. Several times, the beneficiary of such a hand up has gone on to join them in giving others a hand up.

Tonight, they're meeting for dinner to hear the testimony of a Chinese businessman from Hong Kong. He's just returned from a visit to Kazakhstan, including an attempt to enter Chinese Turkestan across the border. He went to see what kinds of opportunity there might be there, and also to see for himself, if possible, whether the stories of Chinese

mistreatment of Uyghurs were founded in truth or just American propaganda. But even though he has a Hong Kong passport and is therefore, in theory, a Chinese citizen, they wouldn't give him a visa to enter.

The members of Lucky's investment club are proud to be Chinese, but they don't support China's heavy-handed treatment of minorities. Perhaps, as a minority in the USA, they're more sensitive to such issues. They also see that the Chinese community in America, once past the Yellow Peril racism of the early years, has been very successful and very accepted, more even than in places like Malaysia and Indonesia with many more Chinese. For example, back in the 90's, the City Council of Seattle featured a Choe, a Chow, and a Chong.

They also think that outright conquest and occupation is a dated strategy these days. There's a saying that "you can catch more flies with honey than with vinegar". If China established independent nations for its Tibetans, Uyghurs, Hui, Mongols, and others, tied to China by membership in an East Asian Union, and neighboring nations saw that these independent nations flourished, they would be tempted to join. After all, that's the strategy the Soviets used to hold together a union of more than 100 different nationalities, and that's how America handles its neighbors to the south.

East Asian companies and investors are well-known for their long-term perspectives, and this group is no exception. They don't need an immediate return to satisfy shareholders, like American companies do. They know that the yield curve is upward-sloping - the longer the investment, the higher the return. And they like to build long-term relationships based on trust, not contracts.

You don't need to be a genius to see that Northern Asia is at a turning point in its history. Russia is falling apart; if they can't hold on to the Westernized Slavs of Ukraine, they certainly can't hold on to the non-slavic peoples of the Caucasus and Northern Asia: Kazakhs, Kyrgyz, Uzbeks, Turkmen, Tajiks, Azeris, Tatars, Mongols, Chechens, Ossetians, and so on. Kazakhstan is the bellwether, the largest and richest of the pack. And Kazakhstan is supporting Ukraine against Russia!

This group would love to see Kazakhstan turn to China as a patron and trading partner, but the situation in Turkestan makes China very unpopular there, with no big compensation. If enlightened governments come to power in Turkey or Iran, Central Asia could easily slide in one of those directions. So the best hope of these Chinese investors is to help the Kazakhs and other Asians learn to distinguish between the current Chinese government on the one hand, and on the other hand Chinese people like those in Hong Kong and New York.

Lucky's wife Belinda is a public school teacher, 4th grade. She's very smart, but Lucky always says it's better to be lucky than to be smart. He may not be as smart as his wife, but he's a pretty successful businessman. He has a good nose for opportunity, the balls to pursue it, and the guts to accept the inevitable failures.

Actually, he has the best of both worlds, because he knows how to take advantage of his wife's brains. Once the kids are in bed, he often talks to her about what's going on. So of course he told her about Musa.

And she immediately recognized its significance, maybe even more than the idealists and patriots. In her eyes, it's all about **literacy**. Until Gutenberg invented the printing press in 1455, Europe was a backwater compared to China, India, and the Muslim world. But as soon as Europeans learned to read and write in their own languages, they went through a period of rapid cultural advancement that led to them conquering the entire rest of the world in the next three centuries.

And where has literacy lagged? Africa and Muslim Asia, the least developed regions of the world. What's worse, much of the literacy in those places is in a colonial second language: English, French, Portuguese, Russian, Arabic, or Urdu. It's important that people learn to read and write in their native language, a lesson that Martin Luther taught Rome to its distress.

So Belinda - who spends her days teaching kids to read and write - immediately realized that the great benefit of Musa would be to bring literacy to every language, so that people don't have to learn prestigious colonial languages in order to participate in the world.

Take, for example, the case of Nigeria, a country of 225 million people whose only official language is English. Can't they write Hausa, Yoruba, Igbo or the other 500+ languages spoken in Nigeria? Yes, but not well: the Latin alphabet simply doesn't have letters for many of the sounds. It's been extended with 1300+ more letters, but they're often missing from keyboards and fonts. The Musa alphabet, in contrast, has all the letters they need, and needs only a 26-key keyboard.

Belinda and Lucky had also seen first-hand the effects of the introduction of the *pinyin* romanization of Chinese after WWII. After centuries of stagnation with characters, Chinese literacy has gone from a privilege of the rich to almost universal, the population has multiplied by a factor of four, and the GDP per capita has risen by a factor of ten! *Pinyin* isn't the only cause, but it makes it much easier to enter text, to put things in alphabetical order and look them up, and it's much, much easier than characters to learn.

Interestingly, one of the first things that Uzbekistan and Turkmenistan did after the breakup of the Soviet Union was to change their alphabets, and now Kazakhstan has announced they will also change. The Soviet alphabets were based on Cyrillic, and although they did a decent job with the sounds, they made it much easier to learn Russian than other languages, and they were never well-supported by technology like the internet and cell phones. Kazakhs want to talk with the whole world, not just Russia! Right now,



the Roman alphabet is the best choice for that, but Musa would be even better in the longer term. Trying to shift with the prevailing winds, Kazakhstan has had four different alphabets in the last century, but changing alphabets is very disruptive: your parents can't even help you with your homework!

So Belinda saw that using Musa in Africa and Northern Asia would lead to a boom in real literacy, and hopefully a parallel boom in prosperity and quality of life. And Lucky saw all that as good for business. He decided to tell his investment group about Musa.

## 12 UU Introductions

Stanley hadn't been this nervous since his job interview at the bank, 15 years ago. He wished Angie had told him which language her note would be in, so he didn't have to study both English and Cantonese. What if he failed this test: would she just stand up and leave? What if he passed the test but she didn't like the food, or his company? Should he have prepared a note in Musa for her to read? Too many questions!

In the end, he went to pick her up both optimistic and prepared for the worst. Fortunately, he didn't have to fall back onto his preparation: everything went well. Angie liked the food, and he did well enough on the reading test to earn her approval, even if he wasn't perfect:

bob · h4qmb4f · 4vb · 3j · 7v · ^z]n · 5jb · b3k5f7c · ·

He reminds her of Chow Yun-fat, the famous actor! Maybe that's why she accepted his invitation. He doesn't think there's any resemblance, but he's not going to argue with her.

So far, they haven't had a chance to ask the waitress about Musa. While they've been sitting there eating, there haven't been any other customers except a young boy sitting alone at a table. But now a guy walks in ... and laughs out loud. It's Albert! Stanley hadn't told him about Angie, and Albert hadn't told Stanley about Queen. And now they both got caught with their little secrets! It's a small world.

Introductions were made all around, and Queen pulled two more chairs up to the small table. There's a big age difference between the two ladies, but they're both fans of Musa, so they had no trouble with the conversation. And Queen accepted Angie's invitation to try *Mi Chinita* one day. *Phở-n-Ké* was closed on weekends; Queen spent Saturdays with Reno. But she was free on Sundays, when she left Reno at the Vietnamese church school for the afternoon. *Mi Chinita* only closed on Mondays, so lunch would work any Sunday. They made their plans, and then Stanley and Angie made their excuses, paid, and left. Angie had class at 8am the next morning!

Albert hadn't yet eaten - that's why he came in, the only reason, really! :) So he got to enjoy another half hour with Queen. But morning threatened to roll around for all three of them, too, so Albert also had to say "aloha". This time, he was rewarded with a small good night kiss on the cheek. Now he wasn't sure he would get much sleep!

### 13 J V Making the Pitch

Lucky invited Junior to make the presentation on Musa to his investment club. After all, he was their expert, at least on the technical aspects. But in truth Junior hadn't had any contact at all with the Musa community, if there was such a thing. Finding Musa interesting doesn't require you to hang out in person with other like-minded people. And even people who were much more involved than him - like Angie and Queen - didn't seem to have any idea how widespread Musa was, or even care. J.R.R Tolkien, the author of *The Lord of the Rings*, once gave a lecture confessing that he suffered from the "secret vice" of inventing languages. Musa seemed like another secret vice: only practiced by people alone at home.

The reception by the other investors was predictable. They admitted that it sounded like a clever invention, and maybe it would be great if the world suddenly started reading and writing in Musa. But there didn't seem to be any path from here to there, and they weren't sure how any money they invested could be used to develop or promote Musa. Not to mention how remote was the possibility of a payoff, even a distant one.

But they didn't say "no" - they said that if someone presented them with a specific proposal for a pilot promotion of Musa, they would consider it. That seemed like a very fair response. As they walked out together, Lucky and Junior were both lost in thought as to what such a pilot program might look like.

### 14 J U Vocalizing

As usual, Lucky shared his thoughts with Belinda that night; she rarely gets lost in thoughts. After their conversation the other night, she had taken a look at the Musa website, and it had given her an idea.

Belinda teaches kids to read and write English, and although many of them speak a different language at home, they all speak English pretty well. But English has such weird spelling that they still have trouble learning to read and write. In other languages, like Spanish, letters have consistent sound values, and sounds have consistent letters: **a** is always *a* like in *adios* or English *father*, and **j** is always a raspy *h* as in *José*. Spanish spelling is a little more complicated than that, but in general, spoken and written words resemble each other.

Not in English! In the worst cases, words like *tough though thought through* are all pronounced differently, and words like *to too two* are pronounced alike. One of the reasons English has such crazy spelling is that the English alphabet doesn't have enough vowel letters - we only have *a e i o u* and sometimes *y* - while English has at least 15 or 16 vowels, depending on your dialect and how you count them. So we use letter

sequences like *ou* or *ei*, or even put an *e* after the next consonant, like the difference between *cap* and *cape*.

English spelling is difficult, but it's even more difficult to describe in writing how to pronounce a word. If you're teaching a kid face-to-face how to pronounce *tough*, you can just say it aloud. But if he sees the word in a book, even a workbook for learners, how would you indicate the pronunciation? Textbooks for kids often mark the vowels as long or short, but what about the *u*'s in *put* and *but* - they're both short! There's an International Phonetic Alphabet for linguists, but it's too technical for non-scholars. That's why dictionaries use special pronunciation respellings with a legend at the bottom of the page.

Musa solves that problem. Every vowel has a unique simple shape, and every shape has a unique sound. Long vowels and diphthongs use a second shape for the offglide. What's more, the Musa letters are so simple that they can be written above the English vowels in the text itself:

tough though thought through

The Musa letters are still unfamiliar symbols, the kids will still need a legend at the bottom of the page at first, but at least the pronunciation can be indicated above the text itself, as needed. And the Musa letters won't be confused with the English spelling, as happens when, for example, you use **ou** for the vowel in *south* and then have to explain *soup* and *soul*.

So Belinda's idea is to try using Musa to help some of her kids learning to read and write English, especially the kids who don't speak English at home. Some of them, like Queen's son Reno, are also learning to read and write another language at the same time, and have to remember that **o** in Vietnamese, for example, isn't the same as **o** in English.

For the moment, she doesn't need any help from the investors. She can use one of the school classrooms, and open the class to kids who want to come. She'll look into creating some lessons.

## 15 10 Legends

The next time the boys got together to play cards, Albert and Stanley share their story of meeting each other, and Lucky of course makes a big deal over the girls. He seems to think these young men should all be getting married and making babies already. They're not so sure.

Then he tells them about the presentation that he and Junior made, and about Belinda's idea. Junior offers his help in preparing any material she might need. That night, Lucky passes the offer back to his wife, who calls Junior on the phone. She tells him that she

can handle the actual lessons, but it would be a big help if he came up with a nice legend for the kids to refer to.

After some thought, he comes up with the following:

 fuchsia cube	 green tea	 silver pin	 golden helmet	 wooden hook	 blue moon
 turquoise toy	 gray day	 red dress	 cup of mustard	 auburn hawk	 rose coat
 purple shirt	 white tie	 black cat	 almond lager	 olive sock	 brown cow

It's based on a teaching aid called the Color Vowel System, which associates each English vowel with a color whose name contains that vowel. Even if the child can't yet read, hopefully he can recognize the color and thus figure out which vowel is meant.

It's a big advantage that Musa doesn't use English letters to describe the sounds of English letters - that doesn't help much! The words *new blue shoes* all have the sound written  $\bar{u}$  or  $\bar{o}$ , neither of which appear in the spellings, while words like *wood* and *blood* use  $oo$  but don't have the *new blue shoes* sound - confusing!

Belinda likes the Color Vowel System, but she reminds him that color printing is expensive, and asks him for a two-line black-and-white legend.

▷ fish · > bell · ^ cat · π lock · ɹ duck · ɔ dog · ɑ book · ɔ rabbit  
 ∇∇ key · ∇∇ snake · π∇ fly · ɔ∇ coin · πθ cow · Uθ boat · oθ shoe · κκ bird

He also made a version for kids who can't yet read, with little drawings of the keywords:

▷ f<sup>fish</sup>sh · > b<sup>bell</sup>ll · ^ c<sup>cat</sup>t · π l<sup>lock</sup>ck · ɹ d<sup>duck</sup>ck · ɔ d<sup>dog</sup>g · ɑ b<sup>book</sup>k · ɔ rabb<sup>rabbit</sup>t  
 ∇∇ k<sup>key</sup> · ∇∇ sn<sup>snake</sup>ke · π∇ fl<sup>fly</sup> · ɔ∇ c<sup>coin</sup>n · πθ c<sup>cow</sup> · Uθ b<sup>boat</sup>t · oθ sh<sup>shoe</sup> · κκ b<sup>bird</sup>d

## 16 ∇ Wait and See

When Angie and Queen heard about Belinda's idea, they immediately thought of applying  $\bar{A}$ t to teaching English to adults, not just reading and writing but also speaking and listening. When literate adults learn a second language, they usually learn from the written words, in contrast to children learning their first language, who learn to speak and listen before trying to read and write. So English's crazy spelling is more of a problem for adults than for kids.

One day, Angie stopped by at *Phở-n-Ké* on her way home, to toss ideas around. They see how Belinda's idea can be used to teach adults English, but they'd also like to teach people how to use Musa to write Vietnamese and Cantonese, too. Are those two different goals, or can they be combined? Maybe they could give classes together, using Musa to teach all three languages.

But that sounds too complicated, and adult learners are short of time and patience, and just want to learn the minimum for what they need. In most cases, they just want a way to be able to learn English pronunciation from a written source, so they don't sound FOB - Fresh Off the Boat. So maybe a good first step would be classes where the adults take turns reading English aloud, and when they don't know how to pronounce it, or when Angie or Queen tell them they've mispronounced it, they can just look at the Musa diacritics above each word.

Nonetheless, Angie and Queen decide to see how Belinda's project goes before trying anything on their own. They know they'll only get one shot with these adult learners. The students won't come back if it's not immediately helpful, or if it's too hard. But the legends are useful.

## 17 ∪ ∩ An Insider's Perspective

Lucky's investment club hasn't forgotten about Kazakhstan, and this week, they've invited a Kazakh to come speak. Alibek works for the UN in the facilities management group, making sure that the UN buildings around the world are taken care of. Before this job, he did something similar in Almaty, managing government buildings, but he also lived in Russia for a few years as a young man, in Perm.

The investors want to hear another perspective, an insider. They ask him directly, if you wanted to invest in Kazakhstan, both to make money and to make a positive difference there, what would you do?

Alibek took a long draft of his water and cleared his throat before responding. *"I thought you'd ask me that. The short answer is both bad and good. As a developing country, Kazakhstan offers lots of opportunity, but as an undeveloped country, there are also lots of reasons not to invest there. I have to admit that my view has changed dramatically in the last few years, as I can now see how differently things work here in New York."*

*"Kazakhstan is huge, with vast reserves of mineral wealth and a relatively small population - it should be a very rich country. The trouble is that we have only one center of power: the government. No matter what you want to do, no matter whether you're rich or poor, you're going to need government approval for it, or it won't happen. That applies to studying, getting a job, building a house, starting a new business, whatever - if the government opposes it, it won't happen. That approval can sometimes be bought - we have a problem*

*with corruption in Kazakhstan - but more often, the problem is that the establishment simply feels that your idea threatens their established order: they don't like change."*

*"The result is a kind of paralysis: people are hesitant to propose anything, for fear of displeasing someone somewhere in the government hierarchy. Everybody can see the problems to be addressed and the opportunities to be exploited, but they feel helpless to act. Foreign companies have a little more freedom, but they're still subject to Kazakh control."*

*"One man ruled Kazakhstan as dictator for 30 years after independence, and he was Russia's man. He manipulated the opposition parties, the elections, and even the constitution to stay in power, and finally only agreed to resign in 2019 because of widespread anti-government rallies and assurances that his successor, a close ally, would protect his power, his money, and his allies. But after a honeymoon, the rallies broke out again in 2022, and there was a very public break between the old and new presidents that saw Russia invading Kazakhstan to suppress dissent. And that's how things stand now."*

*"Of course a very similar story can be told about most of the other ex-Soviet and ex-Warsaw Pact countries: it takes a while to drive the old apparatchiks out of office and to build a pluralistic society. I'm convinced that freedom to act as you see fit and respect for property rights are more important than political democracy. After all, elections often bring dictators to power - Hitler and Napoleon III are examples - and are easily manipulated, especially when the voters are unsophisticated. So what I now see as more important is the distribution of power around multiple segments of society, including coalition governments, an independent judiciary, and a strong rule of law."*

*"And I have to admit - sadly - that Kazakhstan is far away from that ideal. It will take a generation or two before people begin to trust that they won't be punished for working to change something, or that anything they create won't simply be taken away from them. I wish I could tell you the opposite - I love my country. But I'm not going back until things change."*

The investors are flabbergasted by this display of disloyalty, as some of them see it. Alibek isn't a Kazakh government employee, but he works at the UN by virtue of his government's participation. They expected a sugar-coated presentation of all the investment opportunities in Kazakhstan. They expected to have to be the skeptical ones, not the speaker! Maybe he was just playing them, lowering their expectations and making them believe he was more impartial than he is in fact.

It was Lucky who first spoke. *"Aren't you being too cynical? Surely, progress and profit are both being made in Kazakhstan, these days. If we were willing to look past the problems you mention, where do you see the best opportunities?"*

Alibek thought for a few minutes. *"Kazakhs feel isolated - as they have been for a century. They're hungry for everything that comes from the broader world: for education that isn't indoctrination, for information that isn't propaganda, for culture that isn't censored, for*

*foreign food, foreign fashion, foreign travel, and even direct contact with foreigners, especially Westerners. They know there's much more out there than they can easily access, and I think they would pay a lot for that access. But you would have to figure out how to offer them what they want without being perceived as a risk by the powers that be. And anything Chinese would be doubly suspicious. But if you could solve the puzzle, you would serve a real need and make a fortune."*

Alibek's story shed light on an odd episode in Kazakhstan's recent history. When they decided to switch from a Cyrillic to a Latin-based alphabet in 2017, they didn't choose any of the Kazakh Latin alphabets already in use: the *Çaŋalif* from 1929, any of the academic romanizations, or the Common Turkic Alphabet promulgated by the Organization of Turkic States, based in Kazakhstan. Instead, the dictator commissioned a group of scholars and educators to come up with a new alphabet, then rejected their proposal and invented one on his own!

As with most languages that use the Roman alphabet, the problem is that there aren't enough letters, which is why Roman alphabets have so many diacritics (like **ö** and **ç**) and digraphs (like **sh** and **ng**). But the dictator wanted to avoid any "hooks or superfluous dots", not just because they're ugly, but because they're often missing from keyboards and fonts. So his big idea was to use an apostrophe to change the sound of the preceding letter, consonant or vowel: the **sh** sound would be spelled **s'**, and the **ö** sound would be spelled **o'**. However, the apostrophes are ugly and hard to read - they break words up visually - and everyone was horrified.

In the end, the new Kazakh Latin alphabet was revised THREE more times, in 2018, 2019, and 2022. The latest revision is very similar to the Turkish alphabet, adding only **ä** **ñ** **q** and **ū**, and only the last of those is not in the Common Turkic Alphabet. As a practical alphabet, the latest revision is much better than the 2017 original, but now it no longer achieves its original goals! Not only can't it be typed on an English keyboard - it has **ä** **ö** **ı** (with no dot) **ñ** **ş** **ü** **ū** - but it sends the wrong political message. It makes clear that Kazakhstan is no longer a Russian colony, but instead it makes Kazakhstan look like a Turkish colony, Russia's historical foe: the latest revision is and will be perceived as a Turkic alphabet.

When the original version came out, everyone was not just horrified, they were also puzzled: what was this guy thinking? But in retrospect, his proposal makes sense, given his goals. So why aren't they switching to Musa, which is a better practical alphabet, has no "hooks or superfluous dots", and has no historical link to Russia, Turkey, Iran, China, or any other foreign power?

18 **UN**A New Musa App?

Meanwhile, Shlomo has more clearly defined how his new Musa matching and messaging app would work, and he came up with a better name: *Parlamus*, Latin for *let's talk*. He

hopes the *mus* ending will remind people of *Musa* without being too cute. He could write the app all by himself, but he knows from experience that it will be better if he collaborates with someone - not only can they share the work and discuss the problems, but each has his own strengths and weaknesses to contribute. He has worked once before with a guy he's never met in person: a Nigerian named Ikechukwu. So he wrote up a short description of the Parlamus app and sent it to Ikechukwu to see if he was interested.

He was, and with a personal interest. Ikechukwu is Igbo, Nigeria's third-largest ethnic group, whose homeland is in the southeast. But he lives in La<sup>y</sup>agos, the largest metropolis in Africa, called *Èkó* in Yorùbá, the local language (and Nigeria's second most spoken, after Hausa). Both Igbo and Yoruba are Niger-Congo languages, like the Bantu languages Swahili and Zulu, and they're all written in Roman alphabets. In addition to the usual problem of not enough letters for their sounds, most of these languages add the challenge of writing tones: each syllable is pronounced with a particular pitch, and the same word with a different pitch pattern has a different meaning. The tones can be written with accents, but often, the accents are omitted. And that's a problem.

There are some other, more subtle, problems. For example, Yoruba uses an underdot to distinguish open *ẹ ọ* as in *wet a lawn* from close *e o* as in *wait alone*. Catalan and Portuguese need to make the same distinction, but they use accents above the vowels: *è ò* or *ê ô* versus *é ó*. Yoruba can't do that, because it needs the accents and the space above the vowels to write the tones, so they use an underdot. The problem is that Unicode doesn't have letters with both an underdot and an accent, so they have to be spelled using "combining diacritics". And there's no standard way to do that: *ẹ́* could be spelled in Unicode in four different ways: as *ẹ + accent*, as *é + underdot*, as *e + accent + underdot*, or as *e + underdot + accent*. And databases that search for words or names with that letter won't find them if the spelling is different. It sounds like a trivial spelling error ... until you try to access your bank account or your driver's license, and they tell you that you don't have one!

Once Shlomo called his attention to *Musa*, Ikechukwu could see that it solves many problems big and small with the Roman spellings. And the *Musa* alphabet isn't a daily reminder of Nigeria's former status as a British colony. It's also not an expression of ethnic identity, like *Ndébé*, *Tafi*, *Oduduwa*, *Adlam*, or the other recent West African scripts. Regardless of their merits and their degree of support from keyboards, cell phones, and fonts, an alphabet that can write only one language, or even just one dialect, is not a good solution for the 525 languages of Nigeria or the 1540 Niger-Congo languages.

Ikechukwu could also see that the Parlamus app would be a huge motivation for people to learn *Musa*, kind of a combination of *Facebook*, *LinkedIn*, *Twitter*, *Tinder*, and *Telegram* where smart and ambitious people could make connections of all sorts. He and Shlomo would have to make sure the app supported all kinds of matching and messaging, even in ways they can't themselves imagine.



Albert's courtship of Queen is going pretty slowly. Maybe he's more cautious, or she's distracted: she has a child, and a business, and a house to take care of. But he's enjoying this slow courtship. He's in the habit of eating at *Phở-n-Ké* once or twice a week, and getting a good night kiss on the cheek.

Her business is growing, too - the restaurant is busier. Now, the tables are often full in the evenings, too, but that's OK: more people are ordering to go, or even ordering online for delivery. Tonight, Queen is working on two orders to go, the tables are full, and in walks another couple. She calls out "*Albert! Come help, please.*", and he goes behind the counter for the first time. She sets him up with an apron, a cutting board, a sushi knife, and several plates of raw fish: salmon, tuna, snapper, and (cooked) eel, and tells him to start cutting - small bites, please. It's an easy job that she usually asks Reno to do, but he's with his father in Hawaii this week and next.

An hour and a half later, the dinner rush is over, the restaurant is empty again, and they survived. More than that, no customers went home hungry, and Albert didn't cut any of his fingers off, either. He's feeling proud of himself ... until Queen notices his pants. The apron was a little short on him, and he has fish juice on both thighs. She says "*Don't worry - I know how to get that off right away*". Until then, he wasn't worried - now he is!

She continues "*Give me those pants, so I can spray the stains.*". He hesitates - he's not used to taking his pants off in front of women. "*Hurry up, before the stains soak in!*" She's very insistent, so he kicks off his shoes, undoes his belt buckle and his fly, and lets his pants fall down, then steps out of them. She grabs them and takes them back to the sink, where she sprays something out of a container onto the stains, then leaves them hanging on a rack to dry.

"*We'll let that dry a little, and then you can wear them home and wash them normally - the stains should come out. I should have given you a longer apron.*" He nods, still in slight shock over his condition: standing in front of Queen with no pants on. She looks at his expression, then bursts out laughing. "*Would it make you more comfortable if I also took my pants off?*" Now he's really shocked! She walks over to the front door, turns the sign off, lowers the rolling door with her key, and locks the front door. "That's enough for today - we're closed!"

*We'll leave the rest of this scene to your imagination :)*