

## Gospel readings (NIV)

### **The Tower of Babel (Genesis 11)**

**11** Now the whole world had one language and a common speech. **2** As people moved eastward,<sup>[a]</sup> they found a plain in Shinar<sup>[b]</sup> and settled there.

**3** They said to each other, “Come, let’s make bricks and bake them thoroughly.” They used brick instead of stone, and tar for mortar. **4** Then they said, “Come, let us build ourselves a city, with a tower that reaches to the heavens, so that we may make a name for ourselves; otherwise we will be scattered over the face of the whole earth.”

**5** But the Lord came down to see the city and the tower the people were building. **6** The Lord said, “If as one people speaking the same language they have begun to do this, then nothing they plan to do will be impossible for them. **7** Come, let us go down and confuse their language so they will not understand each other.”

**8** So the Lord scattered them from there over all the earth, and they stopped building the city. **9** That is why it was called Babel<sup>[c]</sup>—because there the Lord confused the language of the whole world. From there the Lord scattered them over the face of the whole earth.

### **The Word Became Flesh (John 1)**

**1** In the beginning was the Word, and the Word was with God, and the Word was God. **2** He was with God in the beginning. **3** Through him all things were made; without him nothing was made that has been made. **4** In him was life, and that life was the light of all mankind. **5** The light shines in the darkness, and the darkness has not overcome<sup>[a]</sup> it.

**6** There was a man sent from God whose name was John. **7** He came as a witness to testify concerning that light, so that through him all might believe. **8** He himself was not the light; he came only as a witness to the light.

**9** The true light that gives light to everyone was coming into the world. **10** He was in the world, and though the world was made through him, the world did not recognize him. **11** He came to that which was his own, but his own did not receive him. **12** Yet to all who did receive him, to those who believed in his name, he gave the right to become children of God — **13** children born not of natural descent, nor of human decision or a husband’s will, but born of God.

**14** The Word became flesh and made his dwelling among us. We have seen his glory, the glory of the one and only Son, who came from the Father, full of grace and truth.

## **Musings about my first 50 years in the Internet.**

I am what is called an Internet old timer. I first used the predecessor of the Internet, the ARPANET, in the 1970s when I was in graduate school at the University of Texas Austin and needed to get some information from a graduate student at Carnegie Mellon University in Pittsburg. I was doing my research in Artificial Intelligence and Speech Recognition. But that is a different story. I wanted to build on previous work at CMU, and I needed to get speech data used for a previous system there. Today this sounds trivial. But in the early 1970s there was no publicly usable inter organizational email. I could send email to someone else using the same computer system at UT, but not to another campus. My work around was to get permission to use the ARPANET, the predecessor of the Internet, to send email from UTEXAS to CMU, both of which were connected to the ARPANET because of contracts with the US Department of Defense. Permission was granted (rather easily) by the ARPA liaison at UT. I was able to send email to the researcher who had developed the earlier DRAGON speech recognition system, and he was able to send me files of the digitized speech corpus of his research. I was so grateful that I decided to name my system PUFF!

Here are some chronological snippets to remind us of the progression of Internet technology and uses in the intervening 50 years.

### **1970s**

DOD connects mainframe computers to ARPANET; very controlled access  
Vint Cerf and Bob Kahn define TCP/IP; "Fathers of the Internet"  
300 bps dialup modems  
50-56kbps backbone connecting first ARPANET IMPS at 4 locations.  
Primitive email, file transfer

### **1980s**

TCP/IP implemented in ARPANET  
NSF funded CSNET becomes first ISP; NSFNET follows five years later  
Internet Services to universities, research labs (Bell Labs, IBM Research, ...)  
Berners-Lee implements WWW (1989)  
-> 1.5 mbps backbone; 1200-9600 bps dialup  
remote timesharing access via Telnet

## **1990s**

Decade of connecting the SuperComputers; NSFNET  
Internet Services to individuals (AOL, EarthLink, ...)

Web browsers become ubiquitous

-> 56mbps backbone; 14.4 to 56kbps dialup access to a public  
communications port

## **2000s**

TV cable takes over.

155-622mbps backbone; many/most users have dedicated access via cable  
or DSL

Netflix starts streaming over the Internet

## **2010s**

Gigabit backbone networks

The snowball has gotten very big! Time to sit and just watch. Watch videos  
on the net!

## **Meditating on this new ability to communicate, I first thought of John 1**

John 1 says "In the beginning there was the Word (of Jesus), and ... "

Well, not quite in the beginning. We read about the Tower of Babel, which  
came long before Jesus. The author of John 1 seems to be saying that the  
words of Jesus were the most important thing. It was a NEW beginning.  
Indeed, Jesus' teachings created a new religion, which we all practice 2000  
years later.

But I am haunted by the story of the Tower of Babel. Here is why.

Until this week(!) I thought English was becoming the lingua franca of the  
world. When I was doing research on my thesis in the 1970s, many scientific  
papers were published in either French or German. I had to demonstrate  
competence in German to complete my doctorate. But in the time since,  
English has been increasingly the first and second language of choice in my  
international interactions. When traveling in Thailand recently, I was amazed  
that most road signs were in Thai, but with English below. Certainly English  
is the lingua franca of the Internet and the foreign countries that I know.  
English is the current dominant lingua franca of international diplomacy,  
business, science, technology and aviation. I thought English was becoming  
the globally dominant language because of the Internet. But I was wrong.

More globally, there are 379 million who speak English as their native language, and 753 million who can speak it as a second language (1,132 billion total). But there are 1,117 billion native and non-native speakers of Mandarin dialects, 615 million Hindi speakers, and 534 million Spanish speakers. And now there are now more Chinese than English speaking Internet users.

What ever happened to Esperanto?

## **Conclusion**

It seems that the real or allegorical forces that created a Babel of languages still dominate. The Internet might be the new Tower of Babel, but it does not yet seem to be unifying global languages.

So, at least for now, the Word of Christ must be spread by people in their native tongues. The good news is we can use the Internet to do it!

And this is what happens when a computer scientist thinks about non-computer languages.