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11/3/00
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The Tower of Babel: A Lesson for Engineers

The mythical story of the tower of Babel is used in many different contexts. It is a story that demonstrates human folly. Frederick Brooks, Jr. a renowned Computer Science professor at the University of North Carolina Chapel Hill found it useful. His book The Mythical Man Month has been accepted by many as the software engineering guide for all ages. Not surprising, since it utilizes many of the principles and thoughts that have existed throughout history.

Frederick Brooks as a title to one of the chapters chose, "Why Did the Tower of Babel Fall?" A thought provoking title that he uses to discuss the importance of communication and organization. He begins this chapter with his own translation of Genesis 11.1–8, where the story is found. His general comment on the text is as follows, "The story is deep and instructive on several levels." The particular lesson that Frederick Brooks investigates is his theory that the tower of Babel's construction failed because of a lack of communication and organization.

The text that is typically agreed to have been compiled or developed by the Yahwist (J) is used to enhance and supplement Fredrick Brook's arguments. The key point that he makes is in order for an engineering project to be successful it requires careful planning and communication among members.

The approach taken in The Mythical Man Month is a problem solving or engineering examination project analysis. By evaluating the story of Babel Brook points out possible reasons, while strengthening his own arguments.

He first rules out the possibility that a poor mission statement was the cause of the end of the project. The conclusion is drawn that the mission was indeed clear, but naively impossible. This mission is defined in Gen. 11.4.

Then they said, "Come, let us build ourselves a city, and a tower with its top in the heavens, and let us make a name for ourselves; otherwise we shall be scattered abroad upon the face of the whole earth." [NRSV]

The group of people from the east wished to build an identity or name for themselves. There specific reason for building the tower or temple was because other ancient people were identified by their gods and their city–states that provided the central authority and the home of their god.

The people decided to make bricks for the construction of a city. Such a city, it was hoped, would establish a reputation for its inhabitants and therefore prevent their dispersal.¹

These people like the Babylonians, Assyrians, Greeks, and Romans wanted to have a lasting presence in the region. Their aspirations unfortunately failed.

The next few criteria for failure lie in the realm of physical requirements and labor issues. Frederick Brooks next assessment evaluates the Tower of Babel's labor requirements. He finds no reason for labor to slow or keep the project from progressing. Looking at verses one and two it appears a sizable number of people migrated to Shinar to build the temple tower. Though this technicality is not of a huge concern to Brooks.

¹ David Noel Freedman, ed., Anchor Bible Dictionary (New York, NY: Doubleday, 1992), s.v. "Babel", 561.

The next point that he evaluates is mineral resources. Like the previous case he points out that there is no shortage of the necessary rudimentary requirements. Mesopotamia is rich in both clay and asphalt that would be necessary for construction of a tower.

In the neighborhood of the river the regular rise in the level of the water and the constant dampness of the ground had to borne in mind. Foundations and stonework were therefore made of waterproof and damp-proof with "slime", i.e. Asphalt.²

Therefore the use of such materials is not only economically sound it also would enhance the overall quality of the project. Brooks is able to conclude that the physical resources was not a major factor for the demise of the tower project.

A typical concern for most projects is time. Again this argument like those previously mentioned were not the cause according to Brook. The concept of time is not mentioned anywhere in the text and therefore allows Brook to dismiss this as possible point of failure.

The fifth factor he rules out is the lack of adequate technology. How would someone back then build such a huge structure? The structure, however, may not have been that unique. It possibly conformed to the Mesopotamian forms of the period. The people based upon the supplies used did know how to properly fashion a temple structure. Some believe the structure followed a specific Babylonian style called the Ziggurat. A tower structure where each layer becomes smaller than the proceeding one and the smallest portion becomes the top layer.³

After ruling out each of these various factors Frederick Brook makes his

² Werner Keller. The Bible as History (New York, NY: Bantam Books, 1980) 317.

³ Freedman, 561.

point.

Well, if they had all of these things, why did the project fail? Where did they lack? In two respects—*communication*, and its consequent, *organization*. They were unable to talk with each other; hence they could not coordinate. When coordination failed, work ground to a halt. Reading between the lines we gather that lack of communication led to disputes, bad feelings, and group jealousies. Shortly the clans began to move apart, preferring isolation to wrangling.

Brook, it would seem, ignores the fact that the miscommunication was caused by a third party, YHWH. This detail, however, does not enhance Brook's point and is the likely cause for its omission. An outside catalyst for failure is not the primary reason for the failure of the tower of Babel project instead it is the internal struggle to foster communication and order.

Instead, Brook chose to examine the resulting confusing and lack of useful communication as found in Genesis 11.8. The people lost their identity along with any hope of finishing the tower. They, as Brook is quit to point out, could no longer unite their efforts in a meaningful way.

His conclusion of the final dispersal seems to run counter to the traditional story of the Tower of Babel. In verse 8, YHWH is shown to physically remove the people from the project site. An interesting and meaningful facet of Brooks' translation is that the people were scattered as a result of their loss of communication and by choice not force.

Come, let us go down, and there make such a babble of their language that they will not understand one another's speech." Thus the Lord dispersed them from there all over the earth, so that they had to stop building the city.⁴

This causal relationship between YHWH's actions and the peoples' choice is

4 Frederick P. Brooks, Jr. The Mythical Man Month (Reading, MA: Addison-Wesley), 73.

important to Brook. The lack of organization lead to an "engineering fiasco" know today as the fall of Babel and then of a building process.

Brooks brings his conclusion to the present. Many problems in modern project execution stem from the same basic problems.

So it is today. Schedule disaster, functional misfits, and system bugs all arise because the left hand doesn't know what the right hand is doing.⁵

Miscommunication eventually leads to loss of functionality as a team and correctness and efficiency are lost. The people on the project start to go their own way. Each making his or her own assumptions about the others work. Eventually this leads to the point where the project has lost its primary focus and is so far from its primary objectives that it folds. The Tower of Babel effect.

5 Brooks, 74.