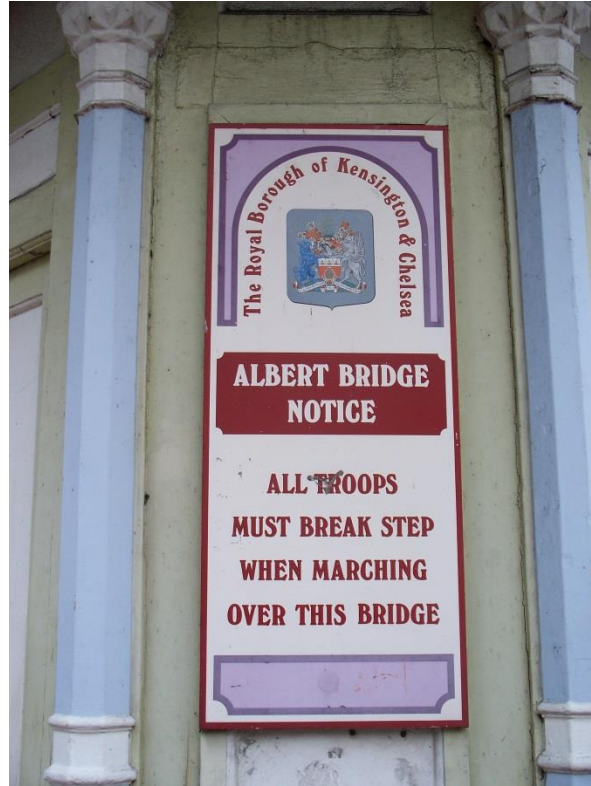


כבוש יריחו

אבנר רמו



Sign on Albert Bridge. London

On April 12, 1831, a detachment of 74 soldiers from the 60th Rifle Corps were marching four abreast over Broughton Suspension Bridge, whistling a marching tune. This caused the bridge to vibrate violently until its mooring broke, sending about 40 men into the Irwell River. As a result of this event, the British Army issued the order to “break step” when soldiers were crossing any bridge. Nineteen years and four days later the Angers suspension bridge collapsed into the Maine River, killing 226 soldiers of a French battalion that was crossing over it in a march.

We hear God’s instructions to Joshua about the campaign against Jericho:

ויאמר יהוה אל-יהושע, ראה נתתי בידך את-יריחו ואת-מלכה-גבורי החיל.
וסבתם את-העיר כל אנשי המלחמה-הקיף את-העיר פעם אחת; כה תעשה ששת ימים.
ושבעה כהנים ישאו שבעה שופרות היובלים לפני הארון, וביום השביעי תסבו את-העיר שבע פעמים; והכהנים יתקעו בשופרות.

“And *YHWH* said to Joshua: See, I have given into your hand Jericho, and the king thereof, [even the] mighty men of valor.

And you shall compass the city, all the men of war, going about the city once. Thus shall you shall do six days.

And seven priests shall bear seven rams' horns before the ark; and the seventh day you shall compass the city seven times, and the priests shall blow with the horns” (Jos 6:2-4).

בשמעכם (כשמעכם) את-קול השופר, יריעו כל-העם תרועה גדולה; ונפלה חומת העיר תחתיה, ועלו העם איש נגדו.

“And when you hear the sound of the horn, all the people shall shout with a great shout; and the wall of the city shall fall down flat, and the people shall go up every man straight before him” (Jos 6:5).

These instructions indicate that the blowing the horns were to occur only on the seventh day, then to be followed by the shouts of the people.



Jean Fouquet (1420-1481): Battle of Jericho

Apparently to prove how meticulous was Joshua in following God’s instructions we now read:

ויאמרו (ויאמר) אל-העם, עברו וסבו את-העיר; והחלוץ-יעבר לפני ארון יהוה.
ויהי כאמר יהושע אל-העם, ושבעה הכהנים נשאים שבעה שופרות היובלים לפני [] יהוה,
עברו ותקעו בשופרות; וארון ברית יהוה הלך אחריהם.
והחלוץ הלך-לפני הכהנים תקעו (תקעי) השופרות; והמאסף הלך אחרי הארון, [] הלוך ותקוע בשופרות.

“And he said to the people: Pass on, and compass the city, and let the armed body pass on before the ark of *YHWH*.

And it was so, that when Joshua had spoken to the people, the seven priests bearing the seven rams' horns before [] *YHWH* passed on, and blew with the horns; and the ark of the covenant of *YHWH* followed them.

And the armed men went before the priests that blew the horns, and the rearward went after the ark, [the priests] blowing with the horns continually” (Jos 6:7-9).

ואת-העם צוה יהושע לאמר, לא תריעו ולא-תשמיעו את-קולכם, ולא-יצא מפיכם דבר: עד יום אמרי אליכם, הריעו-והריעתם.

“And Joshua commanded the people, saying: You shall not shout, nor let your voice be heard, neither shall any word proceed out of your mouth, until the day I bid you shout; then shall you shout” (Jos 6:10).

ויסב ארון-יהוה את-העיר הקף פעם אחת; ויבאו המחנה, וילינו במחנה. וישכם יהושע בבקר; וישאו הכהנים את-ארון יהוה. ושבעה הכהנים נשאים שבעה שופרות היבלים לפני ארון יהוה, הלכים הלוך, ותקעו בשופרות; והחלוץ הלך לפניהם, והמאסף הלך אחרי ארון יהוה, הולך (הלוך) ותקוע בשופרות.

ויסבו את-העיר ביום השני פעם אחת, וישבו המחנה; כה עשו ששת ימים.

“And the ark of *YHWH* compassed the city, going around it once; and they came into the camp, and lodged in the camp.

And Joshua rose early in the morning, and the priests took up the ark of *YHWH*.

And the seven priests bearing the seven rams' horns before the ark of *YHWH* went on continually, and blew with the horns; and the armed men went before them; and the rearward came after the ark of *YHWH*, [the priests] blowing with the horns continually.

And the second day they compassed the city once, and returned into the camp; so they did six days” (Jos 6:11-14).

ויהי ביום השביעי, וישכמו כעלות השחר, ויסבו את-העיר כמשפט הזה, שבע פעמים: רק ביום ההוא סבבו את-העיר שבע פעמים. ויהי בפעם השביעית תקעו הכהנים בשופרות; ויאמר יהושע אל-העם הריעו, כי-נתן יהוה לכם את-העיר.

“And on the seventh day that they rose early at the dawning of the day, and compassed the city after the same manner seven times; only on that day they compassed the city seven times.

And it came to pass at the seventh time, the priests blew with the horns, and Joshua said to the people: Shout; for *YHWH* has given you the city” (Jos 6:15-16).

These verses indicate that the people indeed shouted after the blowing of the horns, which occurred (as instructed by God; Jos 6:4) only after the seventh round of the seventh day. We may therefore conclude that all the remarks about blowing the horns on other days, which were not followed by the shouts of the people (Jos 6:8, 9, 13) must be erroneous, and probably were inserted by a late scribe that did not fully comprehend the text.

Although, we do not know whether “**all the men of war**” marched or just walked around the town, it is possible that repeated marching of a large number of men could have created vibrations that weakened the foundations of Jericho's walls.

Reuter and Schweizer indicated that short term pressure amplitude as low as 200-500 Pa are required to initiate a structural failure and trigger an avalanche (B Reuter and J Schweizer. Avalanch triggering by sound: Myth and Truth. Proc Int. Snow Science Workshop. Davos 2009. pp 330-333).

Fletcher and Tarnopolsky found that some trumpet players are able to blow with maximum pressure as high as 25 kPa (N H Fletcher and A Tarnopolsky. Blowing pressure, power, and spectrum in trumpet playing. J Acoust Soc Am 105:874-881, 1999).

This information suggests that even a single trumpet blowing can trigger an avalanche. There are studies that compare some of the mechanisms of rockslides to those of avalanches. It seems therefore that if the successive marching around Jericho had already weakened its walls, a synchronized blowing of seven trumpets could have created a sound pressure strong enough to turn parts of the walls of Jericho to a rockslide.

As was the case before the battle of Jericho we are now told:

וישלח יהושע אנשים מיריחו, העי אשר עם-בית און מקדם לבית-אל, ויאמר אליהם לאמר, עלו ורגלו את-הארץ; ויעלו האנשים וירגלו את-העי.

“And Joshua sent men from Jericho to Ai, which is beside Beth-aven, on the east side of Beth-el, and spoke to them, saying: Go up and spy out the land. And the men went up and spied out Ai” (Jos 7:2).

However, at the battle of Ai, Joshua does not repeat the strategy employed at Jericho. In fact, this strategy will never be used again. This suggests that the spies that returned from Jericho may have brought to Joshua intelligence about the unique geological predisposition of that city (e.g. spontaneously collapsing buildings), that dictated the tactic employed.

This unique geological susceptibility may also have been the motive behind Joshua’s words:

ארור האיש לפני יהוה, אשר יקום ובנה את-העיר הזאת את-יריחו-בבכרו ייסדנה, ובצעירו יציב דלתיה.

“Cursed be the man before YHWH, that rises up and builds this city, even Jericho; with the loss of his first-born shall he lay the foundation thereof, and with the loss of his youngest son shall he set up the gates of it” (Jos 6:26).

Although we are told that the Israelites conquered several cities before Jericho, and many more after it, we never hear such words about any of them.