

A wall four amot high will remain standing on a width of five tefachim; more than 4 amot high, it will not remain standing.

Overview

The Gemara infers from our Mishna that a stone wall of 4 amot high requires a width of 5 tefachim¹ in order to be structurally sound. In fact a width of 5 tefachim will only support a wall of 4 amot; but not higher than 4 amot. Tosafot will argue that both our Mishna and life experience contradict this assumption.

asks: תוספות

The R"t has a difficulty with this statement **– וקשיא לרבינו תם**
for bricks which are inferior than גזית, and nevertheless **הא לבינין דגריעי**
– קאי בשלשה תפחים **they stand on** a width of even **three** tefachim for a height of 4 amot². Why therefore does the Gemara assume that גזית which is stronger³ than לבינין require a full 5 tefachim width in order to be able to remain standing upright.

has an additional question: תוספות

and furthermore we do actually see **– ועוד הא קא חזינן**
that even a גזית wall can stand more than 4 amot
high even on a width that is **less** than 5 tefachim wide. Why does the Gemara say that גזית requires 5 tefachim (and even then only for 4 amot high).

answers: תוספות

and the R"t answered that this is what the Gemara is saying; that –
more than 4 amot high it will not remain standing **– טפי לא קאי כמשפט גזית**
for a sufficient time **as is appropriate for גזית**
- **that people want to build גזית**, provided – **שרוצים בני אדם לבנותו**
– שיעמוד ימים רבים כשבונים בגזית **that it should last for many years when they build with גזית**. It is true that גזית walls can be supported for more than 4 amot high even on widths of less than 5 tefachim. However the longevity of these walls will be shortened. People building with expensive גזית material want their walls to last much longer. Therefore the increase in width is required to assure maximum longevity. לבינין walls that are not that expensive; a width of 3 tefachim is sufficient to assure the limited longevity, commensurate with its cost.

¹ An amah is usually considered approximately 18 inches; a tefach 3 inches.

² The Mishna clearly states that for לבינין a total of only 3 tefachim is required for a 4 amot wall.

³ One would naturally assume that the stronger the building material the less width is required to attain the same height. In our Mishna we see the opposite. לבינין which are inferior to גזית require a narrower width than גזית, which is a stronger material.

Summary

To assure the maximum longevity for the expensive גזית wall a minimum of ד' אמות height is required to attain a width of טפחים.

Thinking it over

What is the difference between the הוה אמינא and מסקנא of תוספות as to the reason for the various thicknesses of the walls?