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Suppose  $V$  and  $W$  are two different models of ZFC, the standard axioms of set theory, with the same height and such that every element of  $V$  is also an element of  $W$ . If  $W$  has a subset of the natural numbers which  $V$  does not have, then it affects sets of all sizes in  $W$ . That is, for each infinite cardinal  $\kappa$ , the collection of sets in  $W \setminus V$  of size  $\kappa$  is "large", in a way we will make precise during the talk. This is a result of Gitik.

We asked whether the same is true when  $W$  and  $V$  have exactly the same subsets of the natural numbers, but  $W$  has a countable-length sequence which is not in  $V$ . This is the case, assuming certain combinatorial principles. To prove this, we code a new sequence into a branch of a particular tree, using in the process some work due to Todorcevic. This work is best classified as set-theoretic topology and set theory. (Received September 26, 2006)