Osborne-Rubinstein def. 89.1 and Trees

Just in case you need to compare this definition with the more common based on the concept of tree.

Definition. Binary relation $\succ$ is *asymmetric* if $x \succ y \Rightarrow \neg(y \succ x)$; it is a *total order* if $x \neq y \Rightarrow (x \succ y) \vee (y \succ x)$. A *least element* for $\succ$ is an x such that $x' \succ x$ for all $x' \neq x$. By $x \prec y$ we mean $y \succ x$.

A pair $(H, \succ)$, where H is a set and $\succ$ is a binary relation on it, is a *tree* if $\succ$ has a least element $\emptyset$ and for each $h \in H$ the set $B(h) = \{h' : h' \prec h\}$ is totally ordered by $\succ$.

The set H in definition 89.1 becomes a tree $(H, \succ)$ as follows. For $h = (a^1, a^2, \ldots a^k) \in H$ and $1 \leq m \leq k$ define its m-truncation as $\tau_m(h) = (a^1, a^2, \ldots a^m)$. Then define $\succ$ on H as follows: (i) $\emptyset \prec h$ for all $h \neq \emptyset$; (ii) for all $h, h' \neq \emptyset$, $h' \prec h$ if there is $m < k$ such that $h' = \tau_m(h)$.

That's all. So you can call h a "node" if you like.