chain branching

When in a chain reaction there is a net increase in the number of chain carriers there is said to be chain branching. A simple example of a chain-propagating reaction leading to chain branching is:

\[
\text{O} + \text{H}_2 \rightarrow \text{OH} + \text{H}
\]

in which there is one chain carrier (an oxygen atom) on the left and two chain carriers (a hydrogen atom and a hydroxyl radical) on the right.

See also: degenerate chain branching

Source: PAC, 1996, 68, 149 (A glossary of terms used in chemical kinetics, including reaction dynamics (IUPAC Recommendations 1996)) on page 156