

The talk is based on Chapter 5 of the Kyprianou book. The main subjects of the chapter are subordinators (Levy processes with paths which are non-decreasing almost surely) and killed subordinators (subordinators that are sent to a point not on the positive half-line at an independent exponentially distributed time). We will consider first passage over a fixed level when this level tends to infinity and, in particular, the asymptotic law of the overshoot and undershoot as well as the phenomena of crossing a level by hitting it. These three points of interest turn out to be closely related to renewal measures, this relation will be discussed.