We consider the problem of detecting changes in the drift or the scaling structure of a stochastic process \( \{Z_T(t) : 0 \leq t \leq T\} \), that can be observed over a long time interval \([0, T]\). It is assumed that the process has the form,

\[
Z_T(t) = \begin{cases} 
a_T t + b_T Y_T(t) & : 0 \leq t \leq T^*, \\
Z_T(T^*) + a_T^* (t - T^*) + b_T^* Y_T^*(t - T^*) & : T^* < t \leq T, 
\end{cases}
\]

with unknown model parameters \( a_T, b_T, a_T^*, b_T^*, T^* \), and cumulative error processes \( \{Y_T(t) : 0 \leq t \leq T^*\} \) and \( \{Y_T^*(t) : 0 \leq t \leq T - T^*\} \) that satisfy certain weak invariance principles (with rates). Examples included are partial sums of independent (or dependent) observations, renewal counting processes, or linear processes in time-series analysis.

We will review some recent results concerning the asymptotic change-point analysis of \( \{Z_T(t) : 0 \leq t \leq T\} \) based on statistics that take into account the increments of the process. In particular, we discuss:

- Weighted embeddings of generalized CUSUM statistics.
- A-posteriori tests for (fixed or gradual) changes.
- Truncated sequential change-point procedures.
- Estimation of the change-point \( T^* \) and of other model parameters.

Distributional asymptotics under the null hypothesis of no change as well as under certain alternatives will be presented.