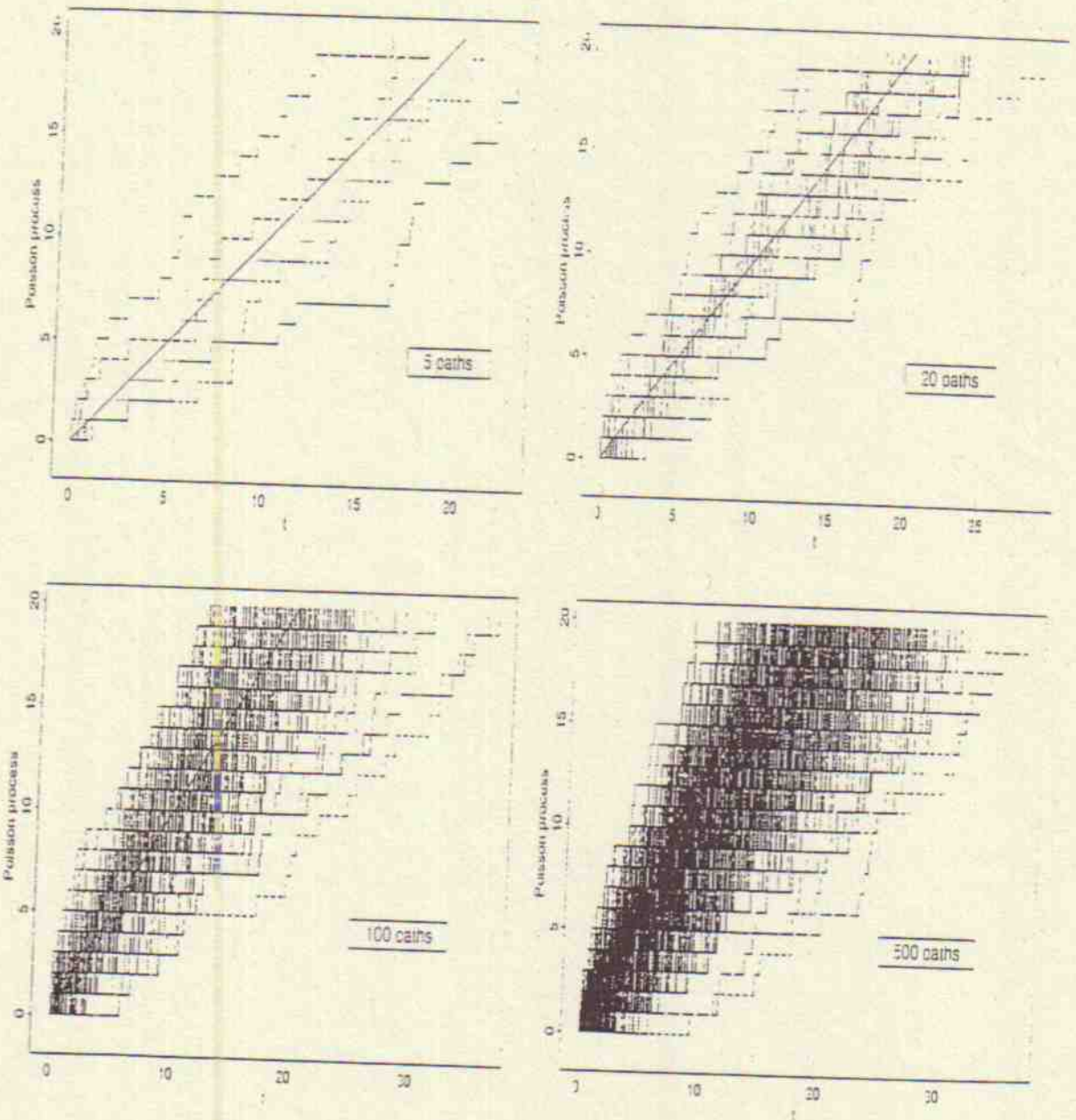

Figure 1.2.9 *Sample paths of a homogeneous Poisson process* $(X_t, t \in [0, \infty))$ *with intensity* $\lambda = 1$; *see Example 1.2.10. The straight solid line stands for the expectation function* $\mu_X(t) = t$.

$(\lambda \hat{=} c)$

$X_t - \lambda t \quad (\lambda \hat{=} c)$

(5)

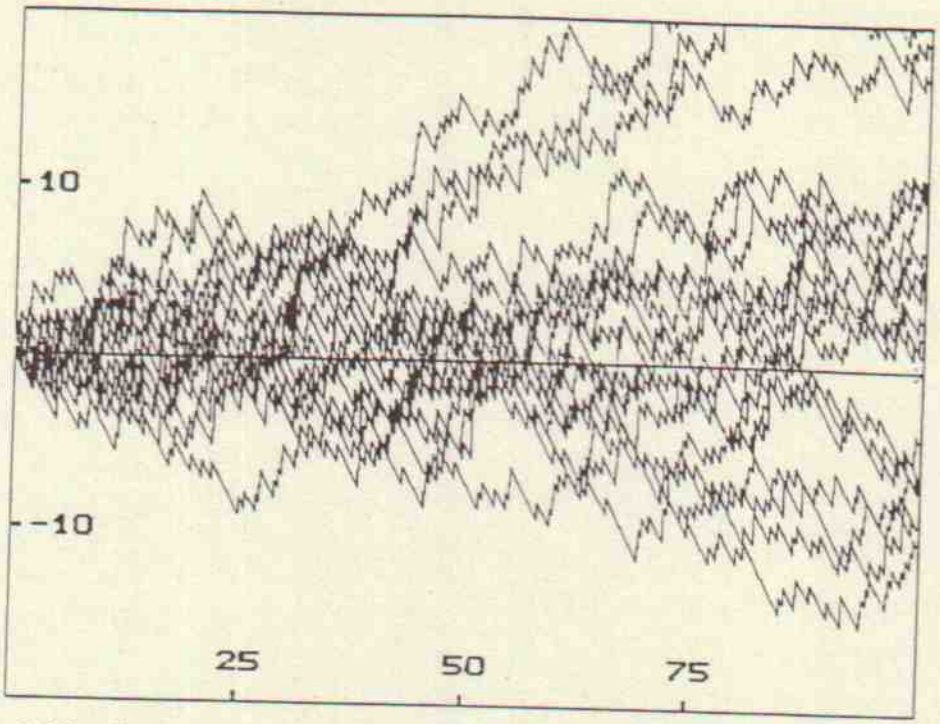

Figure 2.3.1. Trajectories of the Poisson process with compensator for $\lambda = 1.0$.

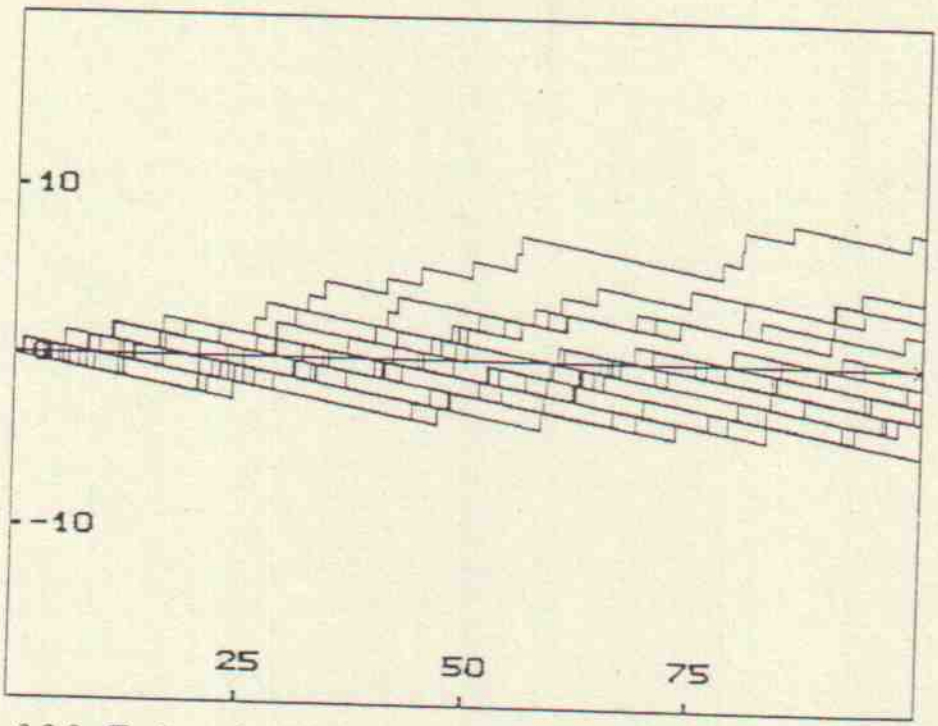

Figure 2.3.2. Trajectories of the Poisson process with compensator for $\lambda = 0.1$.

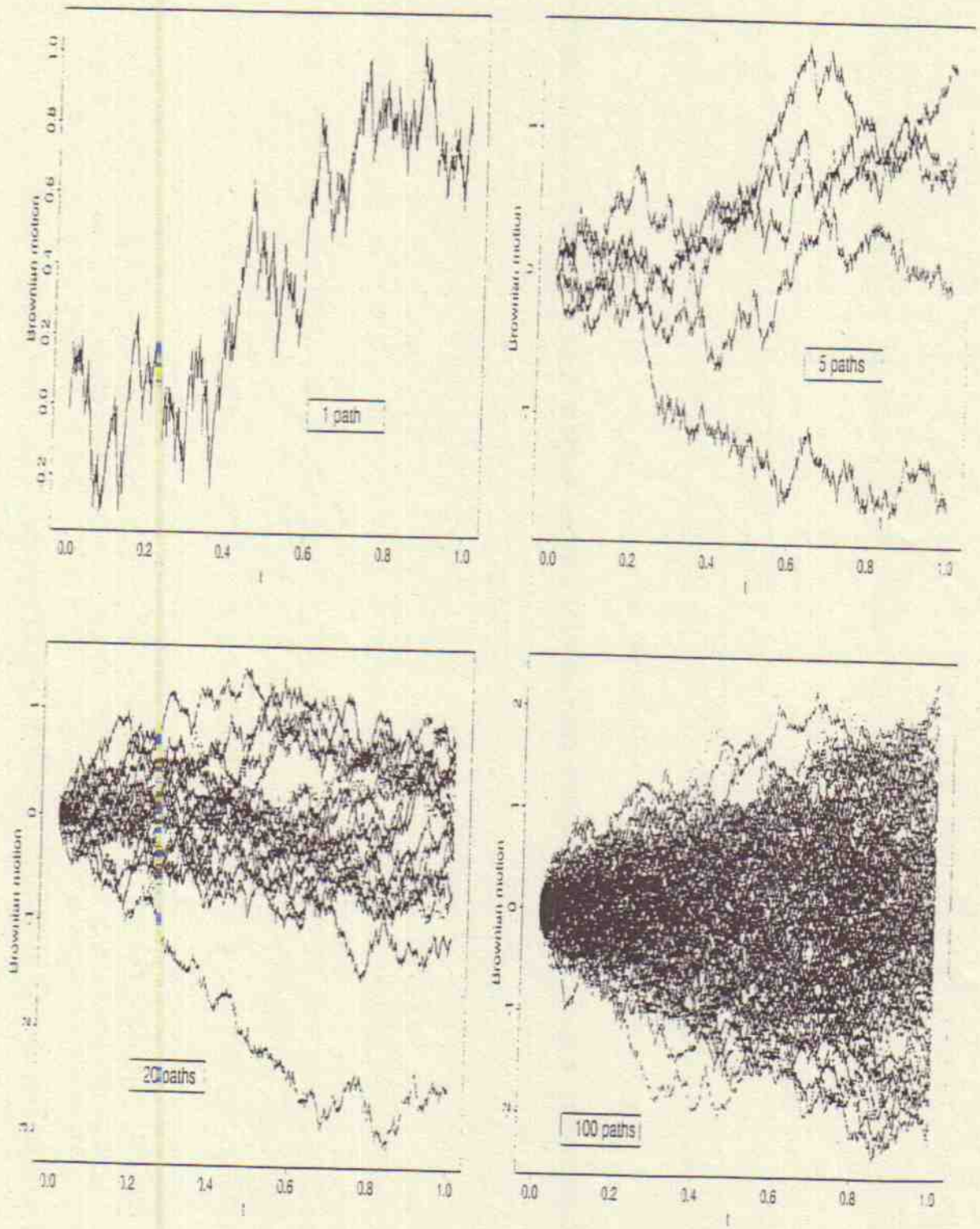

Figure 1.3.1 *Sample paths of Brownian motion on* $[0, 1]$.

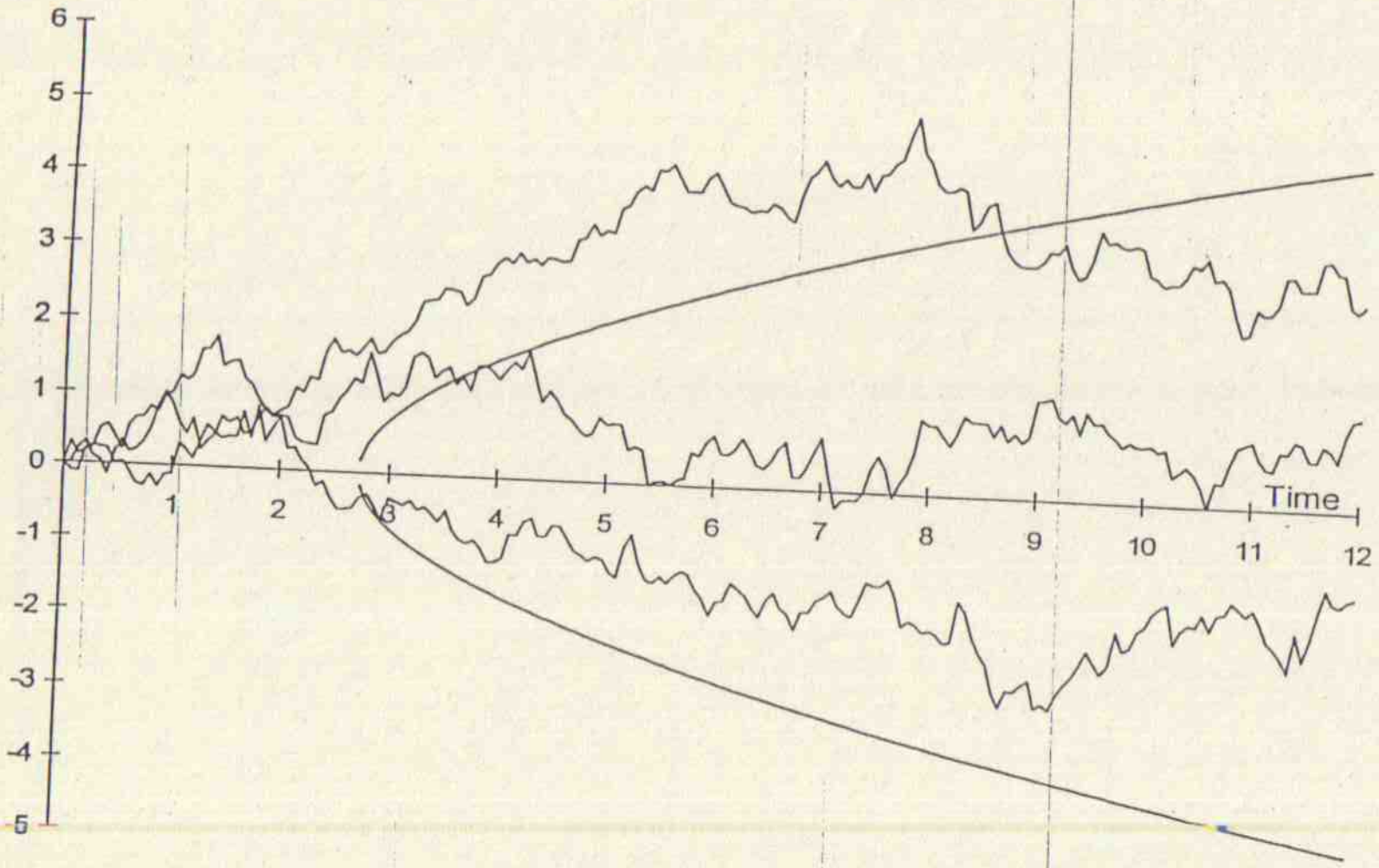

FIG. 1.3. The law of the iterated logarithm

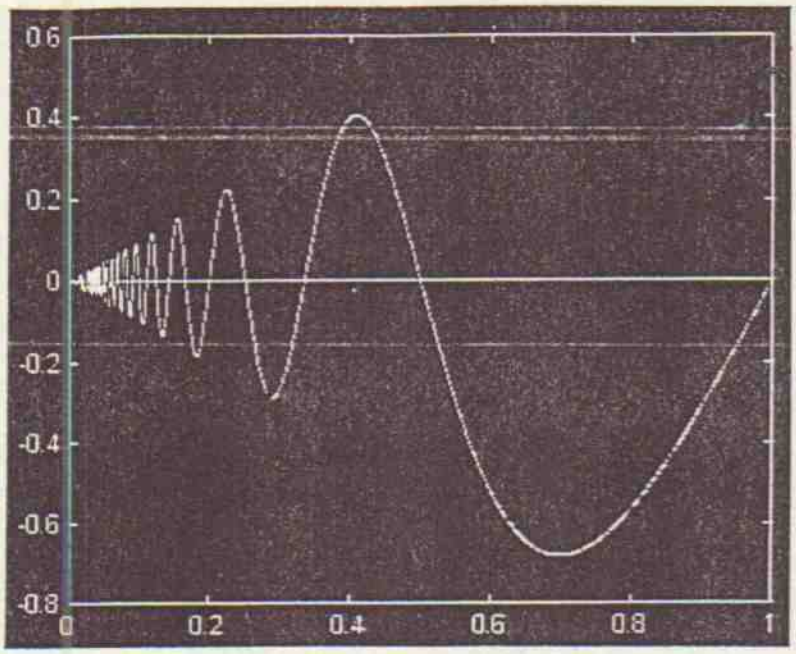

FIGURE 2

3.2.4 An Example

Consider the function

$$f(t) = \begin{cases} t \sin\left(\dfrac{\pi}{t}\right) & \text{when } 0 < t \leq 1 \\ 0 & \text{when } t = 0 \end{cases} \tag{17}$$

It can be shown that $f(t)$ is not of bounded variation.[6]