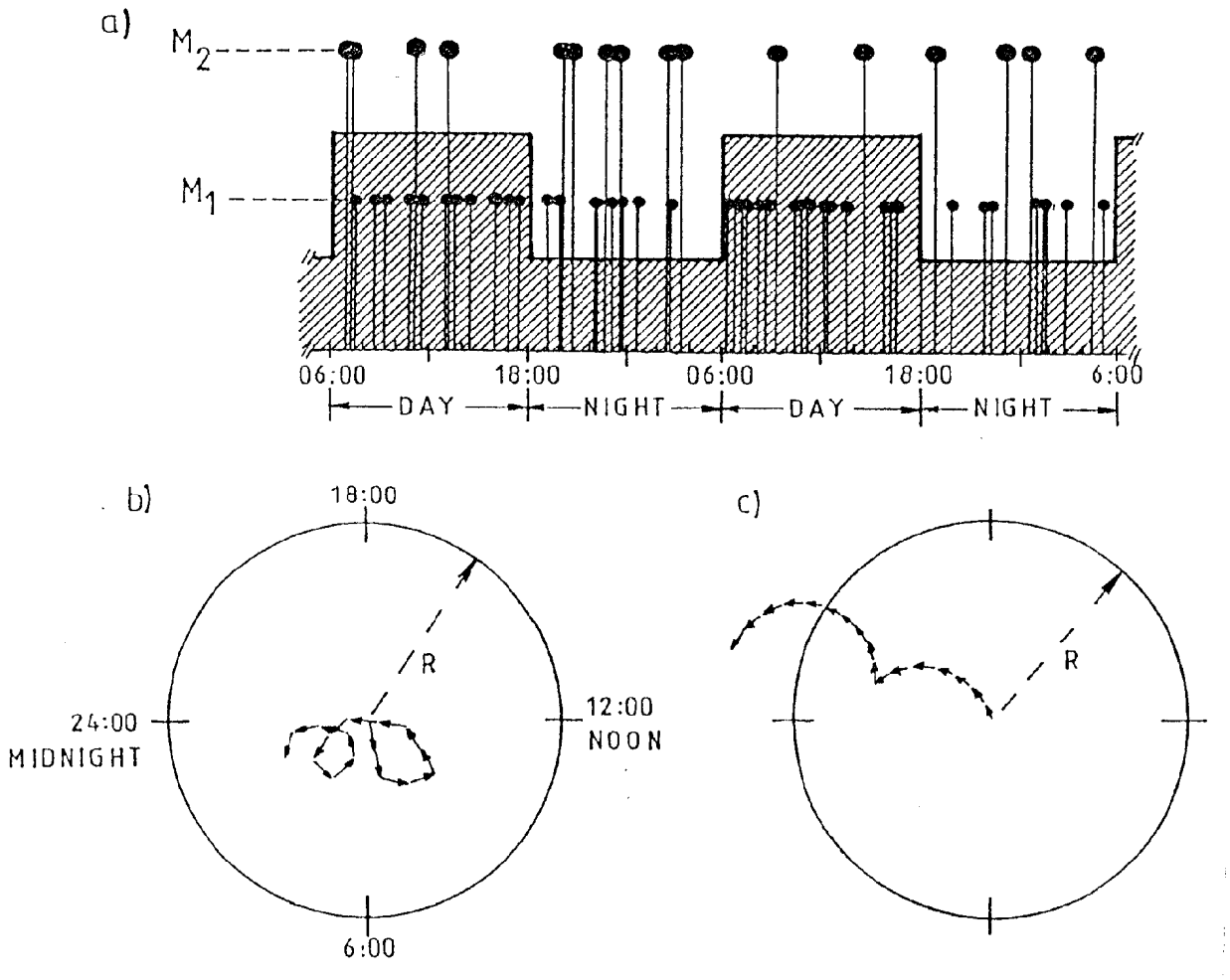

Fig. 2.3 An example of day-night noise modulation using a synthetic earthquake sequence of two different-magnitude events which follow the Poisson distribution a) The larger earthquakes (M2) exceed the background noise (stippled area), so the phasor plot of these events (N = 16, R = 6.9) shows no bias in the walkout. b) Since the smaller events (M1) are detected only at night, when the background noise is reduced, these events show a significant phasor walkout (N = 50, R = 12.2) c). The circles in b and c are drawn at the 95% confidence level for an equivalent random walk (Brownian motion). The Poisson rate for the smaller events is one event per hour and the b-value is 0.5. After Rydelek and Sacks, 1989, with permission from the authors and “Nature” Journal.