

infrared detector capable of distinguishing a temperature difference of  $1^{\circ}\text{C}$  would detect the aircraft but not the cruise missile.

Radar must also be considered in two categories, pulse-doppler and synthetic aperture. The former uses the motion of the target to distinguish it from the background, whereas synthetic aperture radar achieves its high resolution by integrating a large number of reflections received by a moving radar from a stationary target. The faster the target is moving, the better for the Doppler radar, but the worse for the synthetic aperture radar.

The probability of detection needed to fulfil a mission depends on what that mission is. If six bombers intrude, definite identification of three of them should suffice to trigger the warning system. Apprehension of one out of ten drug running attempts would eventually decimate the activity. But if an intruder knows that the surveillance never works at night, he may be able to avoid it every time.

Table B summarizes the capabilities and limitations of the various sensors and platforms, and of data processing for the different types of surveillance.