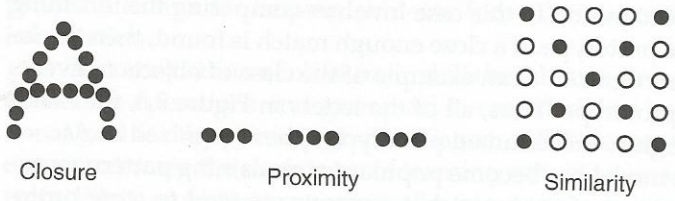

FIGURE 3.4 *Gestalt Principles of Organization*

present or they fail to resemble their prototype. For example, a degraded copy of the letter *A*, as might be seen on a badly eroded tombstone or a poorly produced overhead transparency, is still recognized as an *A*.

To explain this and other perceptual phenomena not easily handled with the prototype or feature analysis models, we rely on principles of organization, context, and past experience. Gestalt psychologists, in studies dating from the early twentieth century, demonstrated that human perception tends to involve "going beyond the information given" in order to construct a meaningful interpretation. That is, the way in which stimuli are organized will prompt the viewer to see them in certain ways, apart from what is actually there. For example, look at the pictures displayed in Figure 3.4. What do you see? Chances are, you did not say, "Just a bunch of dots." The principle of closure prompts us to close up the spaces between the dots in Figure 3.4 (left) and to perceive the figure as an "*A*". Due to proximity, we view the dots in Figure 3.4 (center), not as *nine dots*, but as *three sets of three dots*. Finally, similarity dictates that similar units will be perceived as one, so that we do not see black and white dots in Figure 3.4 (right), we see a black *X*.

The effect of context on pattern recognition can be illustrated by reference to the tombstone and overhead transparency mentioned earlier. In those instances, why is it likely for the degraded letter to be perceived as an *A*? Presumably, the reason is that clues to its identity exist in the context that surrounds it. Other, more easily perceived letters suggest what words are on the tombstone and transparency. Once the word containing the degraded letter has been determined, the identity of the letter is obvious. Figure 3.5 illustrates how context is used to resolve some perceptual ambiguity. The figure in the center could be either the letter *B* or the number *13*. Which will be perceived depends on whether the other letters in the row or the figures in the column are used to provide contextual clues.

Past experience, or prior learning, is the last factor to be considered for its effect on pattern recognition. This refers to the simple fact that what has been learned or experienced previously will have some impact on what is perceived in later situations. A good illustration of this can be seen in the