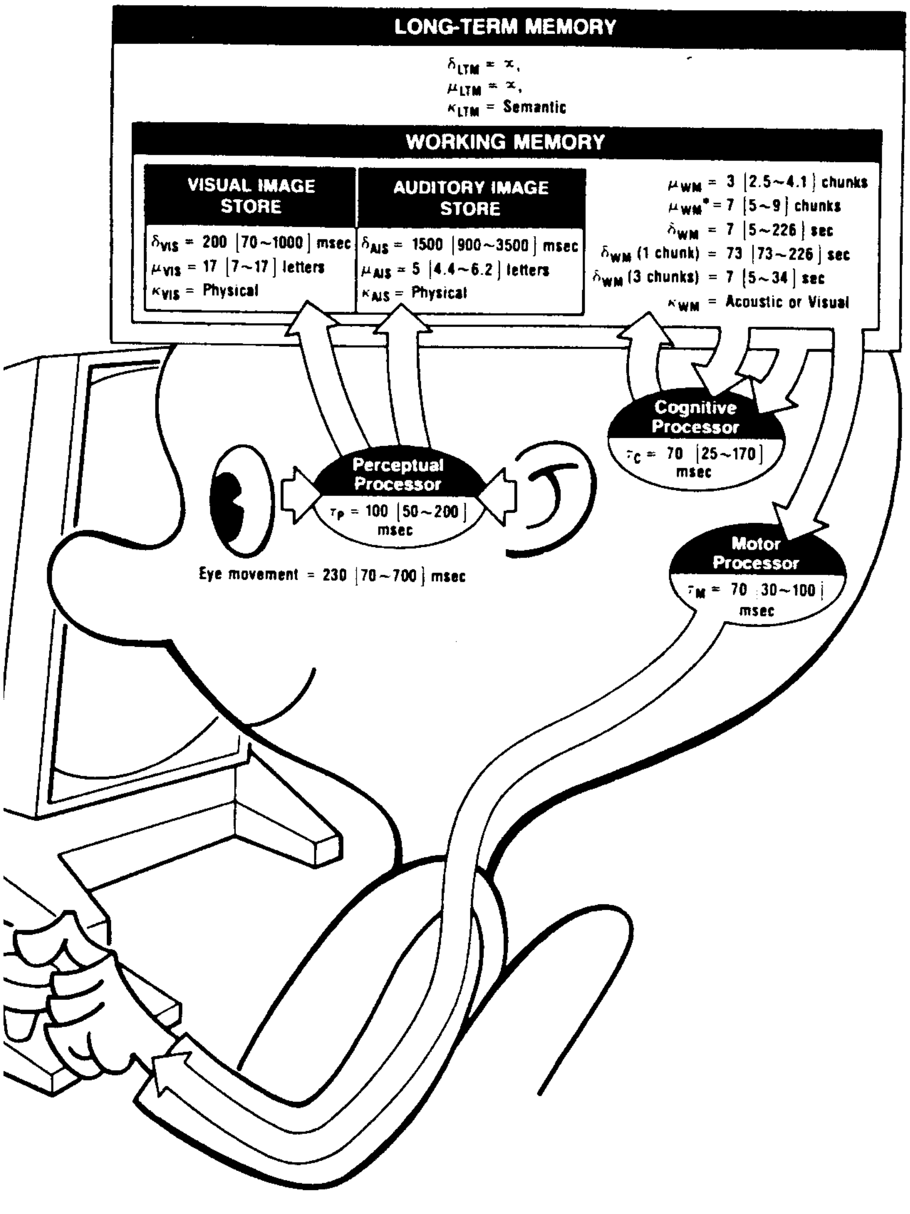

Figure 1: The Model Human Processor – memories and processors [Card, Moran, & Newell, 1983, (pp. 26)]. Sensory information flows into Working Memory through the Perceptual Processor. Working Memory consists of activated chunks in Long-Term Memory. The basic principle of operation of the Model Human Processor is the *Recognize-Act Cycle of the Cognitive Process*. The Motor Processor is set in motion through activation of chunks in Working Memory.

Example 1: A simple reaction-time analysis using the Model Human Processor [Card, Moran, & Newell, 1983, (pp. 66-69)]. A user sits before a computer display. Whenever any symbol appears, the user responds by pressing the space bar. What is the time between signal and response?

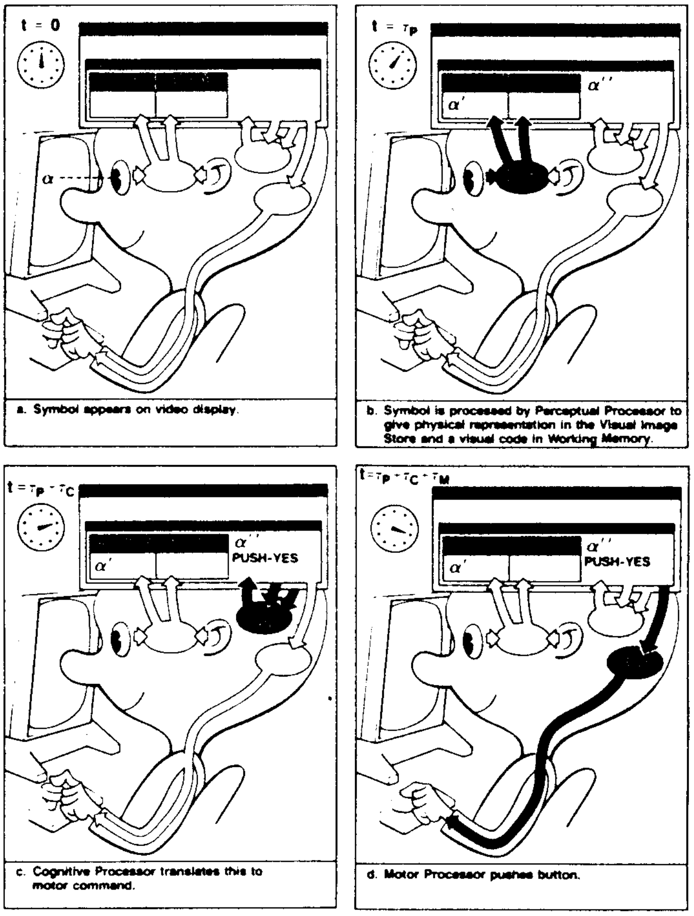

Figure 2: A reaction time analysis using the Model Human Processor.

Solution : Figure 2 illustrates the course of processing through the Model Human Processor. The user is in some state of attention to the display (Figure 2a). When some physical depiction of the letter A – denoted by α – appears, it is processed by the Perceptual Processor, giving rise to a physically-coded representation of the symbol – written as α' – in the Visual Image Store and very shortly thereafter to a visually coded symbol – written as α'' – in the Working Memory (see Figure 2b). This process requires one Perceptual Processor cycle τ_P. The occurrence of the stimulus is connected with a response (Figure 2c), requiring one Cognitive Processor cycle, τ_C. The motor system then carries out the actual physical movement to push the the key (Figure 2d), requiring one Motor Processor cycle, τ_M. Hence, the total time required between signal and response is $\tau_P+\tau_C+\tau_M$.