Broadbent (1958) discussed findings from what is known as the dichotic listening task. What usually happens is that three digits are presented one after the other to one ear, while at the same time three different digits are presented to the other ear. After the three pairs of digits have been presented, the participants recall them in whatever order they prefer. Recall is typically ear by ear rather than pair by pair. Thus, for example, if 496 were presented to one ear and 852 to the other ear, recall would be 496852 rather than 489562. Note that various kinds of stimuli (e.g., letters, words) can be used with the dichotic listening task.

Broadbent’s filter theory

The British psychologist Donald Broadbent (1958) put forward the first detailed theory of attention. His filter theory was based on findings from the shadowing and dichotic listening tasks. The key assumptions in this theory were as follows:

- Two stimuli or messages presented at the same time gain access in parallel (at the same time) to a sensory buffer. This holds information for a short period before it is attended to or disappears from the processing system.
- One of the inputs is then allowed through a filter on the basis of its physical characteristics, with the other input only briefly in the buffer for later processing.
- This filter prevents overloading of the limited-capacity mechanism beyond the filter; this mechanism processes the input thoroughly.

This theory handles Cherry’s basic findings, with unattended messages being rejected by the filter and thus receiving very little processing. It also accounts for performance on Broadbent’s original dichotic listening task, since it is assumed that the filter selects one.