**LATERAL: A program for the
psychophysiological investigation of the
lateralization of function using
the Apple microcomputer**

P. R. MORRISON

*University of New England
Armidale, New South Wales 2351, Australia*

Tasks used in laterality research that were once presented tachistoscopically can now be presented using microcomputers. The computerization of such experiments not only eases the experimenter's task but also reduces experimenter effects and nonuniformity of subject treatment.

LATERAL comprises four subprograms, two of which present a visuospatial task to either the left or right hemiretinal field and two of which present a verbal task to either the right or left hemiretinal field. The spatial task uses a geometric figure that is flashed onto the screen for less than .4 sec and which then reappears and begins to rotate in a clockwise direction. The subject's task is to press a foot switch (connected to the game I/O) when the figure reaches the orientation at which it first appeared. Instructions to this effect are displayed before the task begins and can be easily modified if variations of this task are required. Any switch can be substituted for the foot switch, and the figure itself can be altered by supplying the program with different data statements.

The verbal task consists of pairs of words flashed onto the screen for approximately 35 msec. The subject's

task is to respond whether or not the words rhyme. The word pairs and the number of them can be changed, as well as the instructions to the subject.

Both tasks present the stimulus approximately 6 deg to the right or left of a fixation point marked on the center of the monitor. For the benefit of polygraph recording, the intertrial interval is 25 sec, but this can be altered by modifying delaying loops within the programs. All programs provide a "ready" signal before each trial and generate a tone from the Apple that signals trial onset. For the spatial task, a tone is also generated when the foot switch is pressed, thus signaling trial termination. For the verbal task, trial termination does not generate a tone, but a voice-operated relay could be used to do this.

If the experimenter and subject are in different rooms, video links to two monitors from the Apple are easily installed, allowing the experimenter to monitor the subject's task.

Requirements. An Apple II microcomputer with at least 16 KB of RAM is required, as well as a foot switch or game controller connected to the Apple's game I/O.

Language. APPLESOFT BASIC is the language used. Conversion to other BASIC can be achieved, given graphics capability and tone generation.

Availability. Program listings are available for \$2 (to cover costs of mailing and copying) from Perry R. Morrison, Department of Psychology, University of New England, Armidale, New South Wales 2351, Australia.

(Accepted for publication May 29, 1982.)