Consumer electronics

iii. Toys and games

How do you upstage an innovative toy like Speak and Spell?
Build more of the same...

That is what Texas Instruments of Dallas has done with the introduction last year of Speak and Math and Speak and Read. In fact, that was the trend last year for many electronic toys and games—more of the same.

In an industry where leaders expect the next big breakthrough to be in both the synthesis and recognition of speech, it was a disappointing year technically. Except for the TI toys and a talking doll by Fisher-Price, most new products in this area again were based on the TMS1000 4-bit microprocessor. The processor's onboard memory gets reprogrammed for each new toy.

The toy industry is a transient market, subject to seasons and buyer whims. For that reason, TI started last year to sell its speech synthesis chips to OEMs. It is offering the TMS 5100 synthesizer and accompanying TMS6100 ROM, a PMOS 128-kb chip set, which can generate 100 words of synthetic speech, for $13 in volume. The company sees a $3 billion speech market for the worldwide semiconductor industry.

TI is also working on a chip set that uses an algorithm to generate allophones, the parts of sound that make up speech, to form an unlimited vocabulary for a text-to-speech application (see p. 80).

Fisher-Price introduced Baby Soft Sounds, a doll that speaks 16 random words when the circuit perceives movement. The manufacturer enlisted the services of a Canadian company, Siltronix, to design and test the chip, while a Silicon Valley company, Precision Monolithics Inc., fabricated the wafer on a new custom production line. Precision Monolithics' wafer lines were originally manufactured to demanding military specifications, intends to service other toy manufacturers who want reliability at low cost.

Fidelity Electronics of Miami introduced an electronic bridge game, Voice Bridge Challenger, which announces bids in bridge terminology. Another game, the Sensory Voice Chess Challenger, which has a 50-word vocabulary stored in its 224-kb ROM, also sets up the board and illuminates the path that the pieces move over. It also can duplicate 64 of the world's greatest chess games by such greats as Spassky, Capablanca, and Fischer.

One of the more sophisticated lines of hand-held games has emerged from Bambino Inc. of Los Angeles. The graphics are among the best in the industry (see illustration).

The games show figures that move as if they were animated cartoons. For instance, in the Super Football game, the players' shoulders and legs move during attempts to gain yards. The ball carrier follows his lead blockers down the field to outmaneuver the defense. The game has two skill levels, programmed with over 100 million computerized plays. The display shows the yards to go to first down, the field position, score, and the time remaining in a quarter.

Coleco Industries of Hartford has introduced a realistic baseball game called Head to Head. The electronic game has a vacuum fluorescent scoreboard that displays all the statistics, including the batter's average. The manager of each team can let the batters swing for "average" results, for "power," or for hitting. After each player's decision is made, the pitcher throws one of 16 computer-assisted pitches of fast balls, slow balls, curves, or sliders. Two skill levels are included, as well as features such as scoring, ground and fly balls, pitchout, and the hit-and-run play. The game requires two 9-V batteries and retails for $39.95.

Radio-controlled toys were again highly visible last year. Entex Industries Inc. has a radio-controlled motorcycle, the Cafe racer, on the market. It sells at $60. The racer runs like a real bike, back and forth, righting on straight-aways, and even jumping on command. A single transmitter controls the steering proportionally. The motorcycle is 25 cm long and comes with rechargeable nicad batteries—a welcome feature for electronic toys where the life of a toy often depends on how often the user is willing to change the batteries.

Meanwhile, the much-heralded Intellivision home computer from Mattel has finally turned up in large department stores. The computer, based on a 16-bit microprocessor, is interfaced to any television set through an RF modulator, thereby making the TV receiver "intelligent." At present, all the $250 computer does play a variety of games through 17 cartridges. The keyboard is scheduled to appear sometime this year, and then Intellivision may be considered a personal computer, with the user able to write programs on it.

Mattel has introduced some innovative hand-held games that avoid the beaten track used by most manufacturers. Three that stand out are Brain Baffler, Computer Gin, and the Horse Race Analyzer. Each offers more than the usual blips and gadgets (see "Beating an electronic opponent is a challenge," Spectrum, November 1980, pp. 26-30).

More of the same was the name of the game. Last year's entries included a host of sports games from Bambino, whose graphics are among the best of hand-held games. Its Football Classic even features a multicolored display.

Nicolas Mokhoff  Associate Editor

IEEE spectrum JANUARY 1981 0018-9235/81/0100-0081$00.75 ©1981 IEEE 81