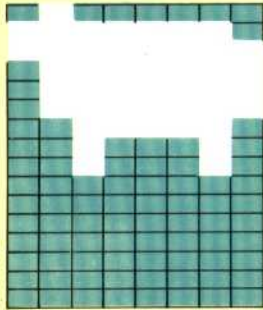
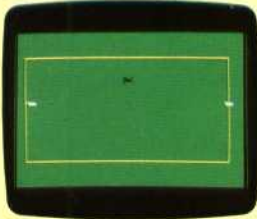


Canis Familiaris — The Dog



LIZ DIXON

Ovis Aries — The Sheep



Game Start



The Middle Game



IAN MCKINNELL

Back In The Pen Again!

ROUNDING UP SHEEP

We give a game that uses many of the features we've described. The player uses the joystick to control a dog that is chasing two sheep in a field. If the sheep run into the fence they will back off and turn. If the sheep run into one another they will turn at random. If the dog touches the sheep they turn 90° to the right. Pressing the joystick button causes a little cage to be drawn in the bottom left-hand corner of the field. Pressing the button again will erase the cage. The dog's task is to manoeuvre the sheep into the cage.

```

TO CHASE
  SET.VAR
  ASK :TURTLE [SET.SCREEN]
  SET.DEMONS
START
  WATCH
END

TO SET.VAR
  MAKE "FENCE 0
  MAKE "TURTLE 0
  MAKE "SHEEP1 3
  MAKE "SHEEP2 2
  MAKE "DOG 1
  MAKE "GREEN 92
  MAKE "ORANGE 23
  MAKE "BLACK 0
  MAKE "WHITE 7
END

TO SET.SCREEN
  CS
  FS
  SETBG :GREEN
  HT
  PU
  SETPOS [-150 -80]
  PD
  SETPC 0 :BROWN
  RECT 160 300
  PU
END

TO RECT :SIDE1 :SIDE2
  REPEAT 2 [FD :SIDE1 RT 90 FD :SIDE2 RT 90]
END

TO SET.DEMONS
  WHEN OVER :SHEEP1 :FENCE [SETSP 0]
  WHEN OVER :SHEEP2 :FENCE [SETSP 0]
  WHEN TOUCHING :SHEEP1 :SHEEP2 [SETSP 0]
  WHEN TOUCHING :DOG :SHEEP1 [SETSP 0]
  WHEN TOUCHING :DOG :SHEEP2 [SETSP 0]
  WHEN 3 [SETSP 0]
  WHEN 15 [JOYH]
END

TO JOYH
  IF (JOY 1) < 0 [STOP]
  ASK :DOG [SETH 45 * JOY 1]
END

TO START
  SET :SHEEP1 1 [-150 20] 45 :WHITE

```

```

  SET :SHEEP2 1 [150 20] 315 :WHITE
  SET :DOG 2 [0 0] 0 :BLACK
  SET.SPEEDS
END

TO SET:NO :SHAPE :POS :HEAD :COLOR
  TELL :NO
  PU
  SETSH :SHAPE
  SETC :COLOR
  ST
  SETPOS :POS
  SETH :HEAD
END

TO SET.SPEEDS
  ASK :SHEEP1 [SETSP 10]
  ASK :SHEEP2 [SETSP 10]
  ASK :DOG [SETSP 60]
END

TO WATCH
  IF SPEED = 0 [CHECK]
  WATCH
END

TO CHECK
  IF COND OVER :SHEEP1 :FENCE [ASK :SHEEP1
    [BK 20 RT 90]]
  IF COND OVER :SHEEP2 :FENCE [ASK :SHEEP2
    [BK 20 RT 90]]
  IF COND TOUCHING :SHEEP1 :SHEEP2 [BUMP]
  IF COND TOUCHING :DOG :SHEEP1 [ASK
    :SHEEP1 [RT 90]]
  IF COND TOUCHING :DOG :SHEEP2 [ASK
    :SHEEP2 [RT 90]]
  IF COND 3 [ASK :TURTLE [DRAW.CAGE]]
  SET.SPEEDS
END

TO BUMP
  ASK :SHEEP1 [SETH RANDOM 360]
  ASK :SHEEP2 [SETH RANDOM 360]
END

TO DRAW.CAGE
  PU
  SETPOS [-150 -30]
  PX
  SETH 90
  REPEAT 2 [FD 50 RT 90]
  PU
END

```

Logo Exercises

1. Change the sheep herding game so that the dog is controlled by using the keyboard rather than the joystick.
2. Write a program for a game in which you are in control of a spaceship. Meteorites come hurtling towards you and you must dodge out of their way and survive as long as possible. Here are some hints to help you. Use one sprite for the ship and the others for the meteorites. Use WHEN demons to check collisions. The meteorites move at a steady speed but in a random direction. The spaceship can be controlled by the joystick.