

each centred on the token.

It is this section of the program's graphics generation that sets it apart from most other games occupying less than 48 Kbytes. The transformation is virtually instantaneous, completely overshadowing the normal run of 3D graphics generators available for Spectrum. The ability to change points of view is essential to the game. Without it a considerable portion of the playing ground would often be hidden from view.

The author is understandably unwilling to reveal too much about the working methods that he and his collaborator Angela Sutherland have adopted. He does imply, however, that the playing ground is not, as one would expect, held as a  $128 \times 128 \times 6$  array. Evidence of this is apparent if, rather than entering the city, the player token is made to turn round and head off into the desert. After a short walk, he or she comes to another city, and then another, and so on.

And so to the object of the game itself. It is set in the City of Antescher (named by the game's authors in tribute to the Dutch artist and designer M. C. Escher, who drew ingenious delusive structures that were impossible to actually build). Standing outside its gates, you hear the cries of a person in distress. You jump over the low wall into the city and go off in search of the victim, jumping onto obstacles or turning to avoid them as you go. The city appears in isometric projection and no attempt is made to keep faith with perspective.

Only a small portion of the city is in view at any

one time, the frame scrolling across as the figure moves left, right, up or down. The scrolling action is excellent, as is the animation of the figures. Full marks, too, for a good sense of humour in the treatment of the animation.

It soon becomes apparent that the city is populated by huge ants whose bite, though not immediately fatal, will cause death if you suffer enough of them. If an ant becomes aware of you, it will follow you. You can shake it off if you are skilled enough, otherwise you have to resort to the rather unreliable grenade. Don't throw it at the wall immediately in front of you, because you could blow yourself up.

On the first pass through the game the figure to be rescued is in full view opposite the gate. On successive passes it gets harder to find, and harder to reach. It is invariably located above ground level. The rescuer may jump up only one level at a time, so if the victim is not directly accessible from the ground - by a stairway, for instance - the rescuer is in real trouble. The only way is to wait till the ants attack at a suitable spot, paralyse one, and jump onto its back, using it as the first step up.

The rescuer can also get a 'leg up' in this way from the victim, should it be necessary - the ants won't attack the victim. The pass finishes when rescuer and victim are both outside the city.

Despite its few failings, Ant Attack is worthy of the accolades that greeted it when it appeared on the market just before Christmas 1983. It is a fine example to all would-be software authors.



IAN MCKINNELL

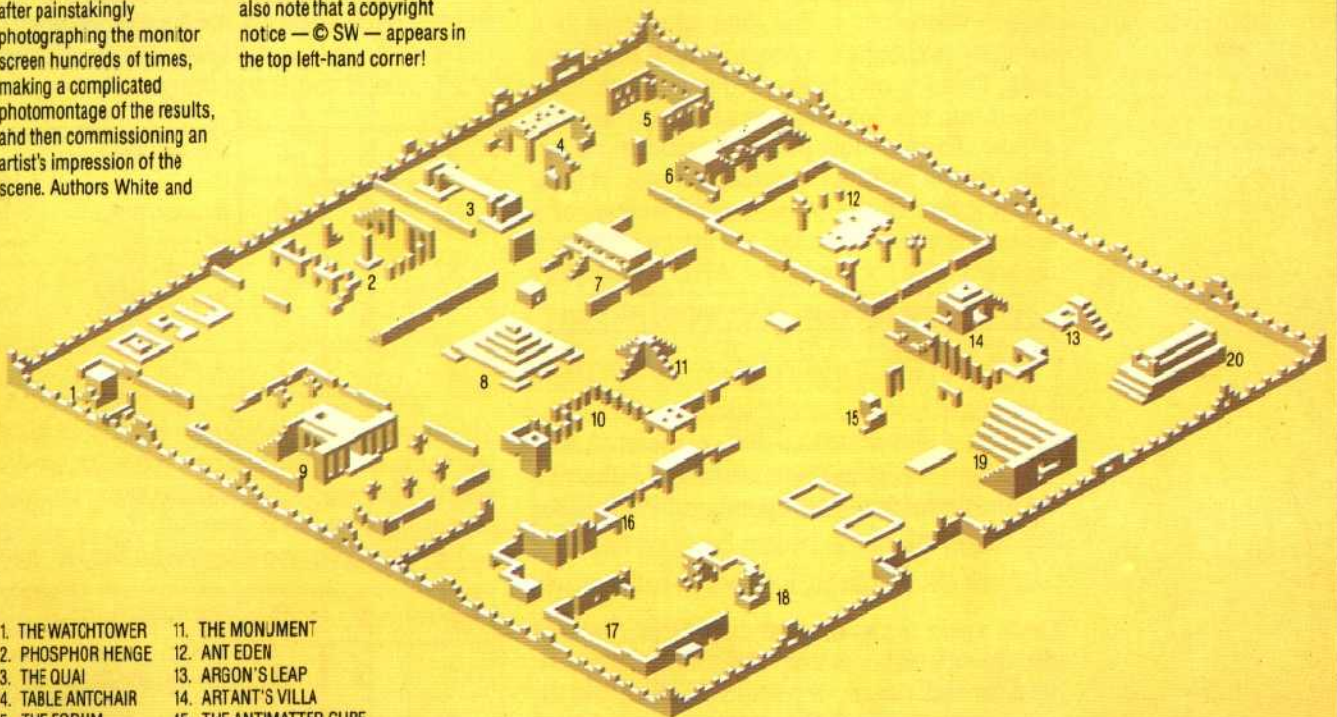
#### Master Minds

Ant Attack was a first attempt at commercial software writing for its author, Sandy White. Sandy, just 23 years old when the package first appeared in late 1983, had graduated from Edinburgh College of Art with a degree in sculpture when he conceived the notion of creating a games program for home microcomputers. A friend, Angela Sutherland, collaborated in the design of the structures that make up the city of Antescher.

## Riddle Of The Sands

This plan of the entire city of Antescher was constructed after painstakingly photographing the monitor screen hundreds of times, making a complicated photomontage of the results, and then commissioning an artist's impression of the scene. Authors White and

Sutherland have given names to the chief structures, but also note that a copyright notice - © SW - appears in the top left-hand corner!



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|--------------------|-------------------------|
| 1. THE WATCHTOWER  | 11. THE MONUMENT        |
| 2. PHOSPHOR HENGE  | 12. ANT EDEN            |
| 3. THE QUAI        | 13. ARGON'S LEAP        |
| 4. TABLE ANTCHAIR  | 14. ARTANT'S VILLA      |
| 5. THE FORUM       | 15. THE ANTIMATTER CUBE |
| 6. THE ANTICHAMBER | 16. DROXTRAP            |
| 7. SKAZ YANDOR     | 17. ADRIANT'S WALL      |
| 8. THE PYRAMID     | 18. BCNZAI WALK         |
| 9. THE ANCIENT     | 19. THE SQUARENA        |
| 10. OXYMINE        | 20. THE CRYPT           |