

# Elementary, Dr Watson

David Kelly talks to Philip Mitchell, author of *The Hobbitt* and *Penetrator*

Notwithstanding the several thousand miles separating him from us, Philip Mitchell still manages to exert a powerful influence on the British computer games programming fraternity.

As author of *The Hobbitt* and *Penetrator* his name often comes up in conversation mentioned in hushed tones.

Some people are born with computers in their blood — everything they touch turns into bits and bytes. And Philip is one of these. He first got interested in computers seven years ago while still at school — and he built a few, designing the circuits himself.

Then to Melbourne University and a degree in computer science. While there he worked mostly with main-frame machines, but did a lot of programming micros in his spare time.

"You name it, I've probably built it — 2650, 6502, Z80, 68000," he says. He thinks a good hardware knowledge is an invaluable asset for a programmer: "People who have a background in that side seem to have more of a feel for machine-code because they understand more of what is going on."

Strangely, Philip feels more at home programming in machine-code than Basic.

While still at college, he was recruited by Melbourne House's Fred Milgram as one of the team to produce an adventure game based on a book by JRR Tolkien. So began *The Hobbitt* adventure.

To begin with three people were involved — Philip, Stuart Ritchie who developed the text interpreter, and Veronica Megler who worked on the design of the characters and locations.

When the three finished college *The Hobbitt* was still not completed. Stuart and Veronica left the project and the whole program was dumped on Philip's lap when he joined Melbourne House full-time.

All the work that had been done on the program had been written for the TRS80, so, as well as finishing the program, Philip had to convert it for the Spectrum. Even though Philip no longer writes for the TRS80 he still uses it for all new software development.

Now he is working on the follow-up to *The Hobbitt*, based on the characters from Conan Doyle's Sherlock Holmes books.

In the adventure, you, as Sherlock Holmes, find yourself in the company of a corpse, faced with the task of finding the murderer and convincing Inspector Lastrade of Scotland Yard to arrest the culprit.

"*The Hobbitt* was a starting point. What I want to do is take it a stage further. One of the attractions of *Sherlock Holmes* is the very involved personalities of the characters — particularly Inspector Lastrade and Dr Watson.

"We have now compiled an amazing amount of information. Although the prog-

ram will not be based on any one story, we are trying to stick as closely as possible to the spirit of the original books."

Because the plot is a detective story there is a lot more communication required between the characters — particularly with Lastrade.

The original *Hobbitt* program was in two parts: The central routines which drive the program — some 17K of machine code — and a database which defines the plot, locations and characters.

For the *Sherlock* program an entirely new database will have to be written. Also, the part of the main core program which deals with interaction of the protagonists and language analysis is being considerably extended. This is essential so that you, as Sherlock Holmes, can discuss your ideas with Lastrade and interrogate possible suspects.

*Sherlock Holmes* will have fewer locations than *The Hobbitt*, but with many more objects and people to meet who will be able to give evidence.

At this stage it is not clear if the program will have room for any graphics — memory limitations are Philip's main problem.

"It is very frustrating at times. One of the advantages of writing on the TRS80 is that I can write the program and compress it down later.

"As each new part of the program is incorporated into the main game it is rewritten several times and in the process the routine is refined."

Philip writes first in source code using an off-the-shelf editor/assembler package for the TRS-80. *Sherlock Holmes* is now about 10 times the size of the Spectrum's machine-code with a lot of squeezing it should just fit.

Until now Philip has been working mainly on the personalities of Lastrade and Watson. "In some ways Watson is an equivalent of Thorin in *The Hobbitt*. But Thorin was a pretty static character — apart from singing about gold there wasn't much to him. Watson will be much more complex."

Much of the inspiration for the programming of the Dr Watson character comes from the famous *Eliza* program. Watson reacts to everything that is said to him — reforming what you have said into a question or coupling what has been said into a sentence, together with something that has been said before.

In regard of the Lastrade character, Philip says: "I haven't decided if he will remain in his office or wander about the game. If I let him roam free then, before you could ask him questions, you would have to first find him."

Trying to enhance the level of communication between characters in the new



adventure has taken Philip into the field of Artificial Intelligence (AI).

"I don't think we will see much advance on the sorts of things being achieved now in 8-bit micros. There is just not enough memory, and for AI the processors are too slow.

"When we have 16-bit machines with half a megabyte of memory, then there will be a lot more scope for AI in adventure games. I am currently working with the 68000 processor in my spare time and watching and hoping.

"In my opinion it is the easiest 16-bit chip to program and certainly the most powerful. The reason for this is that its main instruction sequence was designed by a programmer and not an engineer.

"If someone was to produce a micro based around the 68000, designed primarily for speed and high-resolution graphics, then I think we would see some amazing games produced."

At present, adventuring seems to be splitting into two schools. From *The Hobbitt*'s mixture of text and graphics things are either moving towards all-graphic games with some animation, or more complex adventures with advanced text handling and language interpretation, but no graphics.

"When the 16-bit machines with more memory come," says Philip, "the two strands may converge again to produce a truly interactive game."

His deadline for *Sherlock Holmes* is January, when it is hoped to launch the new game for both the Spectrum and Commodore 64 machines.

He is not looking forward to converting the program for the Commodore 64: "Converting *The Hobbitt* was a horrible job — I'm not as comfortable with that machine because in my view the 6502 is an inferior processor to the Z80.

"The processor is older with a very simple instruction set — what takes one or two instructions on the Z80 takes four or five on the 6502 — it's very frustrating."

All goes well both versions of *Sherlock* should be available by the end of January. "If the final game adventure lives up to my claims, then I hope we will have another winner," Philip says. ■