

**Open Day as Theatre,  
Post Office Research laboratories,  
10 Lonsdale street Melbourne**

### **Evidence-based magic.**

They are gathering around a demonstration of analogue TV transmitted over an optic fibre.  
This is novel in the early 1970's.

The demonstrator adjusts the micrometers of the launching optics for the light emitting diode.  
Devices with fibre pigtails are yet to appear in the optics trade magazines.  
“See how the emitting diode has to be right up against the end of the fibre”  
That's broken the ice.

“So how does the picture get through the fibre?”

“Do you know how a TV picture is made from a sweeping spot?”

“Never given it much thought. I know it flickers. Is that what you mean?”

“Well yes, a spot made by an electron beam (or cathode ray) hitting the phosphor screen paints a picture many times a second. It sweeps back and forth in lines as it scans down from top to bottom of the screen. The brightness of the spot can be changed by the video signal which today we are sending over the fibre. Normally this signal comes in through your antenna at home”

“Can you adjust the optics again?”

“There you are. See the picture fade as I draw the diode back from the fibre end.”

Visitor stares intently at the optics.

“That's amazing! The picture is certainly going through the fibre.”

“Glad you enjoyed the demo.”

“But I still don't see how you can squeeze a 27 inch picture down to 50 microns. The picture inside the fibre core must be really really tiny!”

“And it has to bounce around inside the fibre core without getting all messed up!”

So that's why he was staring so fixedly at the launch optics.

Gavan Rosman  
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