

Scene 1: Cafeteria of the Martlesham Heath Laboratories of British Telecom

Year : Mid 1971

Lunch was taken in the Sergeants Mess of the wartime aerodrome. The iconic high rise building was not yet complete so we were housed in a combination of much more comfortable temporary laboratories and the older buildings from the time of war.

The lambs fry and bacon served on Thursdays was not to be missed, and as always the plates were handed to the customers by mature and very experienced ladies wearing what appeared to be asbestos gloves reaching to their elbows. On taking the plate from the smiling caterer a searing sensation started at the points of contact with the fingers. "Not too hot?" "Need a tray?" ... "No, that's fine"

Clearly this was a test, and the next stage was to find a table as quickly as possible.

Fortunately I spy my friends from the Cable Section with a spare spot at their table, but must be careful not to break into a jog. That lady with the long heat-resistant gloves will still be watching me.

At the table it was a joy to dissipate the finger heat with a firm grasp of the cold cutlery before getting to work on a meal I can still easily recall decades later.

Snippets of dialog drifted across from an adjacent table, and I noticed that our table was somewhat hushed. Nearby experimenters were discussing a recent drawing of a silica fibre.

"So what does that work out to be in db per kilometer?"... "120 to 130"

At this point the Cable Section table resumed its discussion on central heating. Our careers in high frequency coaxial cable were obviously safe into the foreseeable future.

Now read on.

Scene 2: Melbourne, 10 Lonsdale st. not long returned from UK

Year : Late 1971

"CSIRO want some kind of demo of their liquid-filled fibre actually doing something useful."

"Just showing the HeNe laser going around the drum in a dark room is not going to get funding."

"You do TV... How about transmitting a picture?"

"Where's the opto-electronics? Who has the LED and a reasonable detector?"

"No promises on bandwidth to start."

"I'll do a high sensitivity test at audio, then we ramp up the electronics."

Not that many weeks later, after shaving the end off a standard LED to improve the launch efficiency we had TV transmission over several hundred metres.

The reaction was varied to say the least.

My boss..."Looks a bit noisy!"

Fortunately Alan Snyder came down one day and was really enthusiastic.

"This is great! I don't think anyone has TV going this far at the moment!"

Thanks Alan.

It turned out that the circuitry for TV camera pre-amplifiers had much in common with optic fibre receivers, and we even published a paper later with help from Uni of WA on the use these camera based techniques. (Hullett and Moi)

**Scene 3 : Clayton Labs Blackburn rd,
Large optics lab with high power Argon ion laser and Chris Byrne.**

Year : late 1980's

“What are we going to show these defence science people that won't bore them?”
“They come from a range of countries and have see this stuff most days of the week.”

“Hey Chris, where's that fluoride fibre with the faulty coating?”
“It had that really bright spot at the far end.”
“Lets ramp up the power.”

“Its burning! And leaving a trail of ash. Don't inhale the smoke!”
“Look at that. When I turn the power down it stops.”
“Turn the optical power up again and it re-starts burning at the far end.”
“I think we have a demo for the defence crowd.”

Some days later a very formal murmuring group of distinguished defense scientists is gathering around the optical table.

“Good afternoon. Can you all see the diagram?”
“I will now explain the re-startable optical fibre fuse”
“Power from the Argon Ion laser is launched here and at the far end absorption takes place”
“Chris, could you please start increasing the power. Ah ...we have ignition. The fibre is now ablating at a rate determined by the laser launch power.”
“Notice how we can stop and re-start”
“A fuse immune to EM interference!”

At this stage we expected a hearty guffaw and we would all go off to afternoon tea.

But no.

Black covered notebooks were excitedly produced.

The diagram was copied, and we were questioned in detail as to the exact fibre type and the power required.

Chris and I looked at each other in disbelief.

Some years later something similar appeared in a trade magazine.