



## Unit 12 How Does Information Travel Electronically?

### \* Glossary

**interplay:** interaction

**array:** variety

**wonder:** an object that causes a feeling of great surprise and admiration



### Fibre Optics: a Global, Collaborative Invention

It can be said that a number of people helped create the fibre-optic technology, with their work which spanned decades. Too often we gloss over the many people behind some great innovation, to focus on a single “inventor”.

The technology grew from the **interplay** of many people and ideas, often competing with each other.

Optical communication systems date back to the 1790s, to the optical semaphore telegraph invented by French inventor Claude Chappe. In 1880, Alexander Graham Bell patented an optical telephone system, which he called the Photophone. However, his earlier invention, the telephone, was more practical and took tangible shape. The Photophone remained an experimental invention which never materialized. During the 1920s, John Logie Baird in England and Clarence W. Hansell in the United States patented the idea of using **arrays** of hollow pipes or transparent rods to transmit images for television or facsimile systems.

In 1954, Dutch scientist Abraham Van Heel and British scientist Harold H. Hopkins separately wrote papers on imaging bundles.

The story of fibre optics was therefore played out on a grand scale, in laboratories around the world. Most of the work was done in Europe, North America and Japan, but some developers came from other places including China, India, and South Africa. The fruits of their labour now link all continents except Antarctica. We can explore the world through optical fibres.

However, the fibre-optic revolution is not over and new **wonders** continue emerging from the labs.

(Adapted from Jeff Hecht, *City of Light: The Story of Fibre Optics*, Oxford University Press, 2004)





**Understanding the text**

**1. Find terms and expressions which mean much the same as the following.**

- 1. Interazione di molte persone ed idee .....
- 2. Forma tangibile .....
- 3. Invenzione sperimentale .....
- 4. Tubi vuoti .....
- 5. Sbarre trasparenti .....
- 6. Saggi, studi .....

**2. Tick the sentence that best expresses the content of the text.**

- 1.  All great inventions are the result of teamwork.
- 2.  Great innovations are always carried out by single inventors.
- 3.  Even though some great innovations are the result of the joint work of many, we tend to concentrate just on single inventors.
- 4.  The contributions of single inventors of the past are frequently unrecognized.

**3. Read the text and complete the timeline below.**

- 1. 1790s: .....
- 2. 1880: .....
- 3. 1920s: .....
- 4. 1954: .....