
From the beat of the distant drum. . .

In the hotel conference room in Dharhan, Saudi Arabia, the US general turned away from the overhead projection screen, completing the briefing to the assembled international media and inviting questions. Across the world, millions of people watching and listening via satellite had been drawn into the story told by the general's words and the pictures projected onto the screen from the on-board 'smart bomb' cameras. The world had watched graphic pictures illustrating the latest round of sorties of Operation Desert Storm on Iraq, which had taken



Figure 1.1 'Satellite dish farm' on a crazy golf course at a hotel in Dharhan, Saudi Arabia, 1991

2 *Satellite Newsgathering*

place only hours before. It was January 1991, and this briefing in the Persian Gulf conflict was yet another example of satellite newsgathering giving audiences across the world the sense of 'being there' – and this power had also become a political force.

This type of scene occurred on numerous occasions in early 1991, with 'live' coverage from Riyadh and other Iraqi targets in the Middle East of attacking Scud missiles. The use of satellite newsgathering is now so powerful that no-one can be in any doubt that war is fought as much on television as on the battlefield – the political impact of which has been dubbed the 'CNN effect'^{1,2}. It was for this reason that the Iraqi government wanted the Western media present in Baghdad during this period to bring to the world live coverage of the night-time Allied attacks. As a tool of the media, satellite newsgathering (SNG) is of such significance and immediacy that no major international conflict can ever now be reported without its use. While SNG brings everything from reports on the pile-up on the local freeway, to live 'vox-pops' on the street, to national political events, it is in the arena of major international news events that its remarkable power to evoke the sense to the audience of 'being there' is felt the most. It brings these news events into the home and the workplace, delivering the impression to audiences that they are viewing through a 'window on the world'. The development and use of SNG is the culmination of a long history of gathering and distributing news and, to put SNG into context, we are going to take a journey through the history of tele-communications, from the early methods of communicating news to today's sophisticated electronic newsgathering process.

1.1 **News by drum, horn, shout, fire and smoke**

The early communication of news is naturally closely linked with the development of spoken language over 100 000 years ago. Spoken news sent by messenger was essential for the survival of early peoples – by warning of attack or flood, informing of the whereabouts of sources of food, or the proclamation of the birth and death of leaders.

The earliest technologies used to send news over distances (without sending a human messenger) revolved around the use of drums, horns, birds, shouting, beacon fires, mirrors and smoke. In the sixth century BC the Persians could send news from the capital of the Persian Empire to the provinces by means of a line of men shouting one to another, positioned on hills. This kind of transmission was up to thirty times faster than using messengers. In the first century BC, the Gauls could call all their warriors to war in just three days using only the human voice in a similar manner.

However, in many societies the drum and the horn were the quickest and easiest way of relaying information by sound waves, by using a string of local 'repeaters' to cover large distances. (It is interesting to consider the parallel with modern telecommunications, which still relies on 'repeaters' and 'waves', although at a much higher frequency than sound.)

The recording and sending of complex messages is tied to the development of writing. Telegraphy (from the Greek ‘writing in the distance’) describes a communication system able to convey signals that represent coded letters, numbers and signs of writing, and has very ancient origins. The use of hieroglyphics and symbols on clay tablets brought the ability to send more complex information by messenger, and the first alphabet appeared around 1500 BC. In 105 AD T’sai Lun (China) first developed paper, and the use of paper spread across Asia to Egypt in the third and fourth centuries AD.

The beginning of the development of a technological telegraph system came in the late eighteenth century. In 1791, Claude Chappe (France) invented the optical telegraph, which was a mechanical semaphore system based on towers. In 1792, he showed his invention to the French Legislative Assembly, which adopted it officially, and in 1794 the first message sent via this semaphore system brought news of French victory over the Austrians. Napoleon was reported to have been impressed by this, and soon semaphore systems were established between most of the cities of France, followed by prominent cities in Italy, Germany, Russia and the US, and many remained in use until the 1860s, when they were superseded by the electric telegraph.

1.2 Dots and dashes

The true revolution in telegraphy came in the eighteenth and early nineteenth centuries with the discovery of electricity. The work on electricity at various times over this period of Stephen Gray (UK), Pieter van Musschenbroek (Holland), Ewald Georg von Kleist (Germany), Luigi Galvani (Italy), Alessandro Volta (Italy), Andre Ampere (France), Christian Oersted (Denmark) and Michael Faraday (UK) all contributed to the development of the electric telegraph.

The invention of the electric telegraph was the first significant technological leap in the conveyance of news. As with so many inventions, a number of people were working on the same idea at the same time (as we shall also see later with both the telephone and television), and came up with various types of equipment. In 1830, Joseph Henry (US) transmitted the first practical electrical signal, and in 1832 Pawel Schilling (Russia) had constructed the needle telegraph in St Petersburg, in which electricity flowed through a magnetic spool and moved a magnetic needle, thus demonstrating the first working electromagnetic telegraph.

In 1835 William Cooke (UK) and Charles Wheatstone (UK) demonstrated an electric telegraph system, based on Cooke’s observation of a demonstration of Schilling’s system which he had seen a few years earlier. Their system used electric currents to deflect needles that pointed to letters of the alphabet laid out on a grid. They developed their system and built a telegraph line from London to Slough in 1843. In 1845, their telegraph system made history when it aided the capture of a murder suspect, who was seen boarding the train for London. Police used the telegraph to send details to Paddington railway station in London, and the police captured the suspect as he got off the train.