

Newsgathering – and future technology

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Richard Sambrook, Head of Newsgathering at BBC News, considers the lessons of Kosovo and looks at future technical requirements for newsgathering, issuing a challenge for equipment manufacturers and developers.

Introduction

Like every other area of our industry, digital technology is bringing extraordinary changes to newsgathering – the capture and field production of news material – and the only certainty about the future is that any prediction will probably be wrong.

However, there are enough clues in the recent past, and enough developments already visible on the horizon to give us an indication of what might be possible. It's thrilling, but terrifying, in some of the challenges it presents to traditional broadcasters.

Our recent experience of covering the Kosovo crisis has illustrated how fast the parameters of newsgathering are changing. Once again, a major conflict has shifted forwards what audiences expect, and what we are able to provide. This was the war where the *mobility* of live coverage became crucial and where *interactivity* with audiences developed and influenced the coverage. And, in Europe at least, it re-inforced the increasing appetite for news.

BBC News expansion

Five years ago BBC News produced 5,000 hours of radio and TV news programmes a year. In 1998 it produced 50,000 hours of programming. We now broadcast four hours of news for every hour of the day and night – all year round. In addition to our four long-standing UK radio networks plus *World Service* radio and two UK TV networks, we have launched *Radio 5 Live* (24-hour radio news), two 24-hour TV news channels (*News24* and *BBC World*) and *News online*. Has growth now stopped? No, it's hardly begun.

This sudden expansion has been prompted, as with other broadcasters, by the need to match increasing competition and hold on to our audiences. Digital platforms and technology have enabled it to happen in a short time frame, at relatively low cost.

News audiences around the world are fragmenting. More and more services are competing for their attention: cable, satellite, digital and the Internet. To hold on to audiences, broadcast-



ers are entering specialist markets – News channels, Business channels, Sports channels, Entertainment news channels and more. As the bandwidth increases, the number of networks and channels increase in an effort to find another niche audience.

Consumer expectations

Alongside this, the audience is changing too. Thanks to CNN, it's now anachronistic to say to viewers or listeners, "If you want to know what's happened in the World you must tune in at 6 or at 10 p.m.". They want the news when they choose. And increasingly they are less tolerant of a news agenda handed down from Broadcast HQ in London or Paris, Bonn or Atlanta. This loss of deference to the traditional newscast is reflected in an increasing appetite for live coverage – for immediacy and, just beginning, for interactivity. The viewers/listeners now have an appetite to choose what they want to see or hear when they want it – and maybe to contribute to it as well. In broadcasting, as with other services, the *consumer* is now in charge.

Alongside this, bandwidth is increasing, the costs of launching new channels are tumbling and the relative costs of acquisition and production are falling – all providing unprecedented opportunities for expansion and for developing new kinds of programming.

These news services won't simply be available on the TV, the radio or even just the PC. Increasingly news is being streamed to telephones, pagers, palmtop computers, petrol pumps, supermarkets, stations and airports – anywhere there can be a screen or a digital display.

What has this to do with newsgathering? If there's a platform for news, there has to be content, in an increasing number of formats and variations.

The BBC's response so far has been to consolidate and build our newsgathering capacity to provide an increasing flow of material which can be versioned and reproduced across an ever wider range of TV, radio and on-line outlets – a core machine which provides the essential material for 12 networks. Investment is going into content provision – for news that means correspondents, crews, bureaux, and live capability. The BBC has over 50 bureaux, ranging from one person to a 24-hour production centre in Washington. But DV cameras, PC applications and internet technology mean even the loneliest "stringer" can now produce television, radio and text. In BBC News, we have the "digital-bureaux" where one journalist shoots a story on DV-cam, edits it on his/her PC using Adobe Premiere software and sends the finished item by a clutch of ISDN lines from Berlin or Seoul or Miami to London. We have produced 15,000 Current Affairs items as well as



Typical newsgathering equipment. (BBC Archives)



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spot news in this way. It cuts costs, provides opportunities for coverage we wouldn't otherwise take and gives the journalist complete control of the production.

All our correspondents (250 of them) can work in either radio or TV and increasingly they also contribute to *BBC News online*.

Building up this core supply has meant the start of a long-term shift in the news production process from the newsroom into the field, with teams on location growing, the programme teams in London becoming leaner, and both ends needing to become more multi-skilled and flexible.

The producer's role is now more crucially in the field, on location, than it is in the newsroom. In the field, the person with only one skill is an unwelcome rarity.

There will always be the firm ground of "high craft" specialists, both technically and journalistically. But the marshland between is growing and the combination of skills which can provide value are increasing in number. Flexibility between the technician and journalist is the key element.

New technology

In looking back to how we got to this stage, one of the interesting issues is how little, so far, the fundamental news production *process* has been altered by new technology. We have multiskilling where it's practical, with single person crewing and editing and some video journalists, but given the transformation in technology to date, we basically do the same things in the same order.



Typical news operation. (BBC Archives)

We send a team to a news event somewhere in the world. One person shoots the pictures, the same person, or more likely another, edits the material together with tapes from agencies or other broadcasters. A correspondent then adds the voiceover. There may also be a producer or "fixer", liaising with HQ, agencies and others on the ground (who may also edit or act as a second camera). Then they feed the edited package – either from a TV station, a feed point, or increasingly from an SNG dish (with engineers). Of course, lighter cameras in conjunction with editing, satellite and compression technology have made life cheaper and more flexible in many respects, but until now the process has remained essentially unchanged. This may not be the case for much longer.



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There have been some major irritations in getting even this far. Different digital formats which are not interchangeable left a number of broadcasters frozen for too long before deciding which direction to take. We now reluctantly accept the complexity of a mixed economy of formats and the inevitability of format transfers in the field or at base.

Laptops have moved from being an accessory to being a core tool of the job, particularly for radio. However what even the most technologically challenged (i.e. lacking) among us know to be possible isn't always delivered. For example, the manufacturer who produced what appeared to be an outstanding multimedia laptop – but hadn't insulated the sound chips from the hard disk, making it useless for broadcasters in terms of sound quality. Or the problems of sound editing on the first video digital laptop edit kits – which rendered them impractical in many situations.



BBC News base in Kukes (Kosovo) with satellite truck. Coverage of the refugee crisis was provided from here for 12 BBC radio and TV networks.

These are small examples of a wider problem which has undoubtedly held us back in developing new skills and competencies.

This points towards one of my central concerns: these irritations seem to me to be caused by a lack of the most basic understanding of how broadcast newsgatherers use their equipment, how they work in the field. The manufacturers and developers need to understand the news-gathering and production **process**, not just the requirements of individual components and pieces of equipment. When I speak to manufacturers, I'm always astonished at how little they know about how their equipment is used.

So in looking forward there are clear risks in predicting how technology may facilitate major changes when the current processes are so poorly understood. But with Moore's Law (double the memory capacity for half the cost, every year or so) still holding good, and with rapid investment in the Internet and interactive services, we are on the brink of a major shift in the way we do our business. Unless the developers, manufacturers and broadcasters understand each other a lot better, all of us will lose money.

I suggest there's an equation at work involving a balance of *economics*, *physics* and *tolerance*:

- ⇒ *Economics* – what can we afford to produce, what investment can we afford for what return;
- ⇒ *Physics* – what will technology actually deliver as opposed to just promise;
- ⇒ *Tolerance* – what will the broadcasters, or more importantly their audiences, accept in terms of quality for the value offered by new services and formats.



A major shift in any of these factors could lead to enormous changes in the services we offer and consequently in the way we work. In a sense it is “tolerance” which is already shifting as the audience moves away from TVs towards PCs, or it upgrades to digital. The internet and interactive services seem likely to drive the most fundamental changes in the way we work and to produce the greatest competitive pressures on the traditional broadcasters.

I do not subscribe to visions of a technological future akin to a science fiction scene, but there are developments already with us or clearly about to arrive which we will rapidly embrace.

Kosovo was the broadcast war of the satellite truck and Inmarsat phone.

Sky News coverage of NATO troops entering Kosovo was exceptional for the flexibility and mobility they displayed. We’ll all learn that lesson quickly. What we need in similar situations is a very lightweight Digital SNG system with a “quick release” vehicle-mounted option – a dockable dish. This could combine the advantages of rapid deployment of a dish by air, followed by mobility on the ground. Following that, the “point and connect” satellite technologies need to develop further to simplify SNG operations. BBC News won a major industry award this year (RTS Production Award) for broadcasting the first live pictures from a moving warship. It was a major technical achievement, but only one step down the route of mobile live coverage.

The store-and-forward technology of TOKO or Livewire are now also a standard part of the newsgathering armoury. Improved compression, delivering better quality in a shorter time or even live coverage, can’t happen too soon.

And for the audio, a lighter cheaper Inmarsat terminal, coupled with laptops, should be the standard issue.

Future landscape

Looking further forward we can see the landscape of broadcast newsgathering is going to look fundamentally different.

Let’s start modestly.

a) *Capture and production*

Disc cameras, we presume, will give us the capability to mark shots as we film and then part-edit on the camera. They are always “two years away” whenever I speak to manufacturers, but like delayed trains we trust they will arrive eventually. We should soon be able to have non-linear editing in the field – perhaps on a laptop – and will need it for re-versioning for all those different niche outlets.

We need to attach metadata – to be automatically generated as early in the process as possible. When large quantities of material are fed in different versions back to base, we have to be able to track it, identify rights and allow others (including the audience) to retrieve it once it is sitting on a server. So the archiving will need to be done at source – effectively at the point of capture.



The “OB in a box” is not far away. For a few thousand dollars we can buy a Trinity which provides editing and a mixing desk. The huge increase in live broadcasting means we will need cheaper and easier means of delivering multi-camera, mixed output.

b) Transmission

With Low Earth Orbit Satellites (LEOs), we hope to be able to feed material from anywhere in the world with a satellite phone (maybe even a *truly* portable version).

We are all hoping the numbers of metal boxes stowed as excess baggage and the accompanying bills will continue to fall.

Then there’s another unknown dimension – what differences will embedded chips make to the IT and other equipment we currently use? Will they help deliver greater compatibility between systems? Will they provide greater automation and what will that mean for working practices?

I used to be puzzled why there was still such a divide between broadcast engineers and IT engineers. With everything we handle now being in digits, if anyone previously thought there was a stand-off between these two disciplines, it’s over. The Internet has won.

Interactivity will be a theme that runs through everything we do.

Already we use e-mail to generate content. The talking points on our news web sites are some of the most popular features and the concerns raised there often alert us to stories or angles we wouldn’t otherwise have known about.

So beyond e-mail, what for example does web-cam technology offer us as newsgatherers? If the story is right, the quality doesn’t matter. Can it offer our audiences the opportunity to partake in programming?

If we are streaming more material from location, should we set up servers on location which can be accessed from a web page or interactive TV? Deconstructing the broadcast raises major issues of editorial control, but if the technology allows it, it will happen.

We are already some steps towards these sorts of scenario. When one of those parameters of economy, physics or tolerance shifts significantly, the floodgates will open.

If broadcaster, manufacturers and developers are to reap benefits from this change, they have to understand each other better.

Abbreviations

DV	Digital video	ISDN	Integrated services digital network
IT	Information technology	OB	Outside broadcast
LEO	Low earth orbit satellite	RTS	(UK) Royal Television Society
NATO	North Atlantic Treaty Organization	SNG	Satellite news gathering



Richard Sambrook is Head of Newsgathering for BBC News. He is responsible for 250 correspondents and 50 Foreign bureaux – supplying news coverage to 12 TV and radio networks and online.

He joined BBC News in 1980 from local newspapers and has worked as a producer in radio and TV, and on location in the Far East, the Middle East, Russia, Europe and the United States. He edited the Nine O'Clock News, the BBC's main evening TV news programme, for five years.

Mr Sambrook has been in his current role since 1996.

Above all, the engineers who design and integrate systems will have to have the same vision as the users. We can adapt skills, but we must work to the same ends.

Conclusions

There are thus two messages for suppliers:

- ⇒ Understand your customers, the users and their needs. Move alongside them. Help them understand what's possible.
 - ⇒ Understand the process of production; think beyond individual components and help deal with the huge changes in how we gather and transmit news stories which are about to break around us.
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