Reporter: *'What I wanted to ask was/HAVE YOU ANY IDEA HOW MUCH THE FLOOD DAMAGE WILL COST TO PUT RIGHT?'*
Councillor: *'THOUSANDS. HUNDREDS AND THOUSANDS OF POUNDS. CARPETS, WALLPAPER, FURNITURE, WHOLE HOMES ARE RUINED, AND ALL BECAUSE SOME FEATHERBRAIN DIDN'T STOP TO THINK ABOUT THE HIGH TIDES. IT'S NEGLIGENCE, AND SOMEBODY SHOULD BE SACKED.'/*

Unethical editing

Care must be taken with editing not to distort the meaning of what has been said. Selective, careless or unscrupulous editing can make someone appear to be saying something completely different, and the easiest way to fall into that trap is to take a qualified statement and to harden it up into something stronger than the speaker said or meant.

Reporter: *'Are you in favour of the death penalty?'*
Interviewee: *'That's very difficult to say. / YES ... / I suppose so, under certain circumstances, but it's an awful thing to take a life, whatever that person has done. When you're dealing with / MURDERERS AND RAPISTS WHO WILL PROBABLY KILL AND RAPE ALL OVER AGAIN AS SOON AS THEY'RE RELEASED ... / I don't know, maybe / THEY SHOULD BE EXECUTED. / But there are always those who are genuinely sorry for what they've done and are serving their time – while there's life there's hope. They might change. But it's the others, / THE MANIACS AND FANATICS WHO CAN'T STOP KILLING – THEY'RE A MENACE TO US ALL. / but, on the other hand, that's what prisons are for, isn't it?'*

If you read only the words in capitals the statement becomes a strong and unqualified call for the death penalty. But taking the answer as a whole, it is apparent that is not what the interviewee was saying.

This kind of selective editing that distorts a person's arguments is never ethical and could never be justified. But reporters are often faced with having to shed some of the context and qualifications to get the audio down to length, and the decisions about what to cut are usually made against the clock.

Where this happens, the story should be explained more fully in the cue or accompanying narrative. Your reporting skills will often mean your explanation will be more concise and economical than that of your interviewee, but the intention should always be to give a fair, accurate and complete picture of what has been said.

Basic production

Think of audio editing as word-processing – with the spoken word. Unwanted phrases can be cut out, pauses tightened, glitches removed, and the order of the

interview can be turned on its head by a simple cut and paste process to point-up the strongest, most newsworthy sound-bites.

Next, background sound can be added – the hubbub of an airport terminal or engines revving up at the racetrack. Individual sound effects can be brought in – an airport announcement or a squeal of tyres. Then appropriate music can be introduced to illustrate the theme and faded down beneath the first interview.

But the *piéce de résistance* is to be able to turn around two different versions of the radio piece for different programmes, plus a couple of sound-bites for the news, all within a fraction of the time it would have taken with tape, while still retaining the same sparkling quality of the original, and then to shrink or stretch each item to exactly the desired length – to the second – without altering the pitch of the voice or music.

Digital sound editing on a desktop computer offers all the functionality of a studio at a fraction of the price and in a fraction of the space. It also saves on expensive studio time.

Many editing programs ape conventional radio studios by displaying the image of a mixing desk on screen. The mixing desk allows you to blend various sounds together. You can click on the sliding volume controls with your and raise or lower them. Familiar peak-level meters show you how loud or quiet your recording will be. Another window might display conventional tape controls: play, record, pause, fast-forward, rewind, cue and review.

Cut and paste

The sound is digitized – converted into computer code – by sampling each sound up to 48,000 times per second. Your recording is displayed in a track or band on the screen, depicted as a waveform.

The peaks represent loud sounds and the troughs indicate silence. You can also zoom in so that each peak can be picked out individually to make tricky edits easier.

To cut out a sentence, click on to the breath space before that sentence begins and then to the trough after it finishes, which highlights the phrase. Then click on the edit button (often a picture of a pair of scissors, or simply use CONTROL X on the keyboard) and it is deleted. If you want to keep that sentence but move it to another part of the recording, then the process is as simple as the cut and paste on your word processor.

Digital editing is *non-destructive*. You need never edit your original, only a copy of it. The missing portion can be restored in a moment, just by pressing the undo key on your keyboard. If you make a slip you can cancel the offending edit and pick up where you left off. And if you make a complete pig's ear of the whole thing and need to start again, you can simply make a fresh copy of your original, which has been stored in all its pristine perfection on hard disk. Because each digital copy is a perfect clone of the original, the sound quality will never deteriorate, no matter how many times you reproduce it. And while you are using the raw interview to

produce bulletin clips, a colleague can be using the same material to start cutting a package.

Multi-tracking

Overlaying sounds on top of one another to make a cross-fade is also simplicity itself.

Most sound editing software displays the recordings as tracks. Let's say the top track is your interview and you want to quietly fade up music under your interview to reach full volume as soon as the talking ends. You paste your recorded music onto the empty track below the interview and shuffle it around until it is in the right position. Then you draw in your fade with your mouse. At any stage, you can listen back to the portion you are working on to hear how it sounds. When you are happy with the blend you save the result.

To construct an elaborate report, you can build it up section by section, layer by layer, or you can programme the overlay points into the computer and set it to compile the item automatically. Sophisticated edit programs use a time code, like television, to guarantee the timing of each edit will be spot-on to the fraction of a second.

With digital editing you can be as multi-layered as you like. A single operator can combine multiple tracks from a single keyboard – though most news reports seldom call for more than four simultaneous tracks of sound and usually it is only one or two.

Bells and whistles

An inevitable problem with multi-layered audio packages is one of variation in sound levels. With so many sources, some portions of the final report may be too loud while others are too quiet. With digital recordings, a stroke of the *normalize* key will automatically even out your recording levels.

Similarly, you can adjust the tone of parts of your recording by tweaking the EQ (equalization). This will change the bass, treble or mid-range tone, or allow other filters to be used for more creative work, such as echo. A *pan* control allows you to send your sounds marching from the left speaker to the right, and making a *loop* will allow you to repeat endlessly background ambience such as hotel lounge hubbub.

The computer can be used to drive entire programmes or news bulletins, with all the interview clips stored on a playlist on the hard disk. The newsreader can choose whether to read the script from the screen or from paper and fires each clip at the click of a button.

As all this technology can be crammed into a notebook computer digital editing can be carried out in the field. The journalist can produce a professionally mixed report and send it back to the radio station along a studio-quality ISDN (Integrated Services Digital Network) line or as an e-mail attachment.

Studio mixing

For more sophisticated productions, one sound source can be mixed with another to achieve a blend. Returning to our interview with the Maori, the tribal song may be blended to fade into the background as he begins to speak and dipped down until it eventually disappears.

To do this in a studio you would need three sound sources. One would have the Maori interview, another the music and the third would record the combination of the two, which would be blended through the mixing desk.

Mixers range from small boxes with a few controls to contraptions with a mind-boggling array of switches, sliders and knobs that look as intimidating to the uninitiated as the flight deck of a jumbo jet. Don't be put off – the idea is basically simple.

A mixer takes two (or more) sounds and allows you to blend them together as you wish. To do this it needs *inputs* to receive the signals, and gain controls to adjust their volumes. Meters display the volume levels, and a main gain sets the final level of the combined signal. When you have balanced the result to your satisfaction the signal is sent through the outputs to another recorder or on to air.

And that is basically it, although sophisticated mixers also have a variety of extra controls for fine adjustments. Larger versions are used as the main *control desks* in radio stations to put programmes on air. Other versions mix and edit television programmes or produce music master tapes.

The volume on a mixer is set by a slider (*fader*) which is usually pushed up to turn the volume up, and pulled down to turn it down. Nothing could be more logical; except up until the early 2000s the BBC in its wisdom installed all its faders the other way up on its control desks, so instead of up for up, it was down for up and up for down! The most plausible explanation offered for this oddity is that the presenter or producer could inadvertently push a conventional fader up by catching it with a shirt cuff.

Setting levels

The operator of the mixer, control desk or panel, rides the levels to maintain a consistent output. The sound should not be allowed to rise so high that it distorts, nor dip too low, or to surge and fall. Some desks have automatic level controls or *compressors* built into them to keep the sound output at an optimum, but running the desk on auto pilot stifles any creativity. It can be a bit like holding every conversation at shouting pitch.

Levels are often set on a *PPM meter* (peak programme meter), which registers the peaks of output but has a dampened action to stop it fluctuating wildly like a VU meter. This makes it easier to use. Alternatively, levels can be displayed as a sequence of green lights that rise and fall with the volume. When they rise beyond

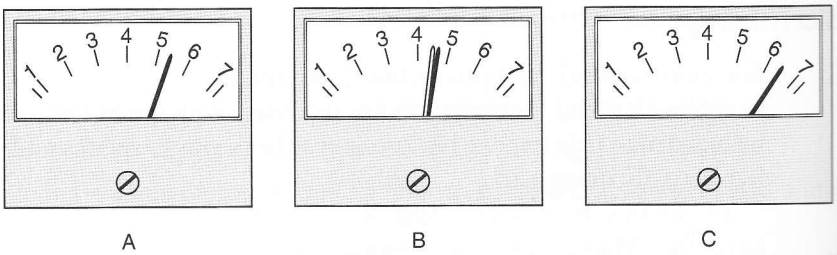

Figure 20.3 Setting the levels on the PPMs
A 5½ is the usual peak for speech.
B This stereo meter has two coloured needles to show the different peaks for the left and right channels. Music has a wider dynamic range than speech and sounds louder to the ear, so to avoid blasting the audience levels are usually turned down to peak at 4½.
C Speech over the telephone loses much of its dynamic range. It sounds quieter than normal speech and can be difficult to hear. Levels should be boosted to 6½ to compensate.

a certain point they go red, which means the volume is too high and is beginning to sound distorted.

Types of fade

Different fades are used to achieve a variety of effects.

Pre-fade

This is not really a fade as such, but a means of monitoring the sound source by listening to it without putting it on air. Pre-fade enables you to cue up the next item while the first is still being played.

An example would be when a local station is opting into the network news. The producer will pre-fade the network to make sure it is being received before crossing over on cue.

The pre-fade buttons on the mixing desk work by sending the sound from the source being monitored to one ear of your headphones, leaving you free to listen with your other ear to what is going out on air.

Cross-fade

The cross-fade is where one source is faded up as another is faded out, and is commonly used to mix music or sound effects with speech.

Fading down and fading up

This is where the two sounds don't overlap but where one source is faded out and another faded in after a very short pause. This is useful where there are sounds that would jar together if cross-faded, such as two pieces of music in different keys.

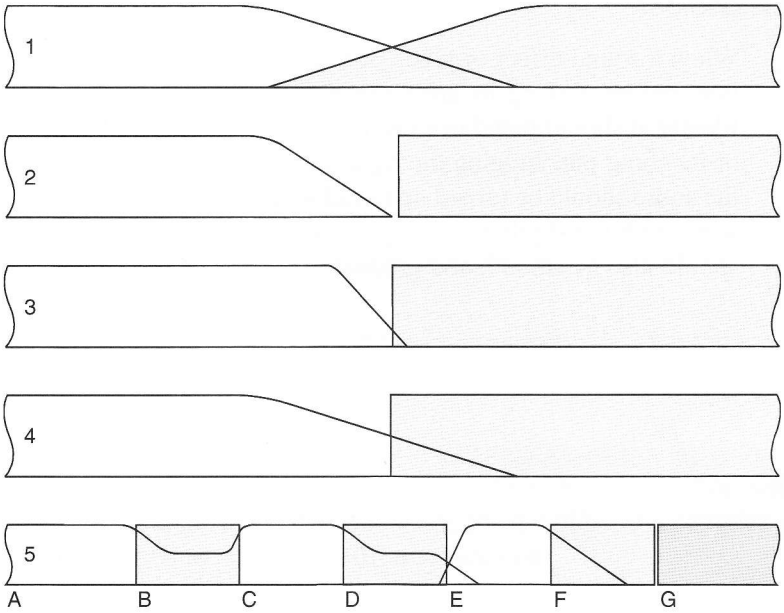

Figure 20.4

1. Cross-fade. Where one item is faded out and another is faded in at the same time (e.g. music giving way to sound effects).
2. Fade. The first item fades out completely before the other begins.
3. The first item fades out quickly and the next begins sharply while the first is still dying away.
4. The first item is faded out gradually, continuing to fade with the other one begins (e.g. music under speech).
5. SIGNATURE TUNE: *'It's 4 o'clock and this is Money Talks with* Penny Note. *Good afternoon.'* (DIP)
   SIG. (DIP) *'Today new claims of insider dealing on the stock market and the companies that are casing in on the Aids scare.'*
   STAB (FADE) *'But first, the budget and the question today that everyone is asking – will he or won't he cut the tax? Etc' '...could push share prices to an all-time high as Peter Lloyd has been finding out in the City.'*
   BUDGET / LLOYD *'The market has been in a bullish mood today in anticipation of those tax cuts. Shares have risen and look set to ...etc.'*
   The illustration represents to opening sequence of *Money Talks*. The signature tune (A) dips beneath Note's introduction (B) but does not disappear, bubbling underneath to re-emerge during a pause (C) and dipping again beneath the menu (D). It then cross-fades into a stab (E), which brings the signature sequence to an end. Note introduces the first item (F) which then begins (G).

Pot-cut

This means closing the fader rapidly to cut short an item. Care must be taken to 'pull the item out' very quickly and at a natural pause in the speech, otherwise the words will be clipped or trail off.

This is made easier by marking *pot-points* on your cue sheet that tell the technical operator where the item can be cut early, and what the last words are before that point.

Fading in and out

When a sound effect or piece of music is supposed to bubbling under a recorded item before making its appearance it should be faded in gradually, or it will jar. Ideally, it should blend in so well that the listener will be unaware of its coming in or its going out. Judging the right length for a fade and the precise point at which the audio should be turned up to full volume takes practice. If you are using music, work with the rhythm or bring the song up at the start of a lyric. The fade down should also be smooth and gradual.