definition cameras actually offer inferior audio to their standard definition counterparts. The problem is that high definition equates to recording many more pixels per frame, but the storage medium remains essentially the same (HD is recorded on normal MiniDV cassettes). In the competition for data space, the audio quality has been compromised. This will probably improve in the future as data storage technology continues to develop, but in the meantime it cannot be taken for granted that hi-def video means hi-fi audio.

It is also arguable that many so-called high-definition cameras, particularly in the consumer/prosumer range, do not really deliver better video than their standard-definition counterparts. Certainly they will produce the required quantity of pixels, but there are very many other factors that also determine the final image: lens quality, sensor type and size, in-camera signal processing and compression capabilities. In addition, HD playback can be less than smooth on the average laptop, and so, for the time being, we recommend standard-definition over high-definition video cameras.

Regarding camera technology there is debate about whether a CCD or CMOS light sensor is better.[33] In many situations CMOS has begun to displace CCD technology for reasons such as cost of manufacture and power consumption. Our conclusion is that there are so many variables in design and implementation, as well as in other camera components, that an easy comparison is impossible. Different high-end cameras follow different paths to achieving quality. However, clearly 3CCD systems—where three separate CCDs are employed for each of the red, green, and blue light components—are superior to a single CCD system.

The following sections consider camera types in rough order of preference for linguistic fieldwork.

1.3.2.1 Tape cameras (MiniDV, HDV)

The MiniDV camera type has a good track record and that is what we recommend. It produces the required audio formats and quality by default. Eventually both the format and the recording mechanism (i.e. tape) might become obsolete, but that time has not yet come. However, it is becoming hard to buy this type new as HDV becomes the norm. It is worth noting that HDV tape cameras typically offer standard DV as a recording option, in which case non-compressed linear PCM audio is available. A modern tape-based, HD, low-end
p. 43 professional machine, such ↳ as the 'Sony HVR-A1P', would therefore be a fine main recorder when used with the standard DV rather than the HD setting.[34]

1.3.2.2 Solid-state/hard-drive cameras

Tape as a recording medium is steadily losing ground to disk and flash memory for two good reasons: the time-consuming capturing process is no longer required, and there are fewer moving parts and less weight in the camera. Some models replace the tape with a conventional hard disk, but as the capacities of memory cards have increased (and the prices dropped) the solid-state model is becoming prevalent. This trend is stronger in the consumer range, but also apparent in professional cameras.

The problem with this technology shift is that, at present, there is an unfortunate lack of uniformity regarding recording file formats (compared to MiniDV, which is well established). Therefore extra care should be taken that recordings are created in, or converted to, archivable formats.