There are different technologies for creating solar panels. The three best-known types are monocrystalline, polycrystalline, and 'thin film', in descending order of both cost and efficiency. In other words, the monocrystalline type is ideal for on-the-move fieldwork in that a smaller panel can be used but it is also
p. 48 more ↳ expensive. There are a few other factors to consider, however. The monocrystalline type is the most fragile, the thin film type the most robust. Also, the thin film type can be found in a flexible laminate form which can be more easily attached to difficult surfaces, and it works better in very hot conditions. Probably the best application for this type would be where a permanent or semi-permanent field station was to be established (e.g. an entire roof could be covered with such panels).

1.4.2.3 Other power sources

In some ways a solar power generator is a fairly extreme setup given the unit costs and the fragility and bulk of the components. We have already mentioned the portable petrol/diesel generator as an easy option, but this has obvious drawbacks as well, not least in terms of noise pollution. Two other potential electricity sources should be considered: the opportunistic use of motor vehicle power, and wind generators.

It is not efficient to run a motor vehicle just in order to charge a battery, but should the field trips involve regular long journeys by car, bus, or truck anyway, then there may be a case for using the cigar lighter socket during the journey, to charge either individual equipment pieces or a small 12V battery that can be used as a charging source later (in which case it would be best if this battery is of the 'deep cycle' type that is designed to be completely discharged without harm).[38]

The same technique can, in principle, also be used on a boat (but in this case it is unlikely that a suitable socket will be available, so you may need to add the necessary wiring). Never attach anything directly to the starter battery of a boat unless you want a shipwreck. Instead, charge your equipment or dedicated battery through the running engine.

Depending on the prevailing weather at your field site, small wind generators (e.g. as found on sailing boats) could be more useful than a solar panel and no more expensive, bulky, or complex to set up.

1.4.2.4 Batteries

Normally, equipment will be run on batteries for most of the time. These may be internally or externally mounted. If they are internal, then non-removable arrangements should be avoided (i.e. not removable by the user—such as found in iPods): it is essential that batteries can be replaced in the field.

p. 49 Make sure to consider all your equipment needs before setting off. For example, because laptop computers have internal charging circuits and external chargers are not readily available, we needed a special adaptor to power (and therefore recharge) our laptops directly from the truck battery.

Most equipment will allow batteries to be charged by the machine itself, but we recommend not relying on this if possible. It is better to take dedicated chargers for two reasons: it allows equipment to be used with one set of batteries while another set is being charged, and it avoids using the precious machine for such a mundane task. Fortunately, there are universal-type chargers which are readily available from camera shops (e.g. 'Inca' brand), and which are cheap, light, and versatile (one only needs to swap the charging plate to adapt them for different battery types, and they run on both household AC and 12V DC systems).

For video cameras particularly, one should take several high-capacity batteries—and then add another one or two. It is bad enough having to replace tapes or memory cards in the middle of a session without having to swap batteries as well. In our experience, batteries need not be manufacturer-brand items (despite the warnings in the manuals)—we have had no problems using generic units which were about half the price. For such 'clip-on' batteries it is always best to physically remove them when not in use to minimize power