13.3 Anthropological Approaches to Technology

For years, most studies on how technology interfaces with other social behaviours have dealt either with the *effects* of technological systems on culture and society or with a search for the information human groups *communicate* when making and using artefacts. What social consequences followed the development of the steam engine, or the introduction of steel tools in 'Neolithic' New Guinean societies, or the stirrup in medieval cavalry? These are all questions illustrating this approach. At a general level, Marxist theory proposes the combination of 'productive forces' with 'social relations of production', and has resulted in the best known sociological and economic studies on the two-way interaction between the effects of techniques (and phenomena related to them) and other aspects of cultural and social organization.

p. 303 The second academic tradition comprises various studies of 'style' by archeologists and anthropologists. Style has mainly been read from artefacts through details of form and decoration as status markers (notably within social hierarchies or gendered positions), with a focus on the identities of groups and individuals, the makers or users of the artefacts.

Although there is still a tendency, primarily in archeology, to correlate stylistic details of artefacts or technical behaviour to the production of 'meaning', many anthropological case studies have demonstrated that technological options have as much bearing on physical dimensions of material culture as on 'style'. As mentioned above, *à propos* the Metro, missiles, or everyday work in a New Guinea village, the human ability to produce and freely modify technological systems goes beyond formal features that have only unimportant effects on the material world. Technological choices may deeply affect the physical 'function' of an artefact—the quotation marks remind us that style, of course, has its own function.

In the last three decades, the very embedding of techniques in other types of social actions and thoughts have been investigated under two academic labels: 'cultural technology' and 'material culture studies'. 'Cultural technology' has tried to carry on Mauss's 'utopic' (Schlanger 1991; 2006: 147) program of research by paying particular attention to the way things are made and physically used—i.e. by documenting and analysing 'operational sequences' ('chaînes opératoires'), their components, and their variations in space and time; in order to explain how particular aspects of a technical system are linked to some local characteristics of social organization, ritual life, or systems of thought. Examples of this approach can be found in case studies by Gosselain (1999; 2010), Mahias (1993; 2002), Lemonnier (1989; 1993a; 1993b), or Martinelli (1996; 2005), as well as in dozens of papers published in the journal *Techniques et culture*.

Whereas the theory of 'cultural technology' has been developed by scholars directly influenced by Mauss and by Leroi-Gourhan (1971[1943], 1973[1945], 1993[1964]), among whom are Balfet (1975; 1991) and Cresswell (1972), material culture studies result from the blending of the anthropology of consumption, initiated by Douglas (Douglas and Isherwood 1979), with an interest in the 'cultural biography of things' (Kopytoff 1986). This approach is somewhat parallel to that of Latour (2005) on the social 'agency' of objects, and is notably illustrated in the *Journal of Material Culture*. Although dealing with the 'social life of things' (Appadurai 1986), material culture studies have mostly looked at the way objects are involved in various social strategies, identity, and status issues, both in non-industrial societies in the context of modernity, and in the industrial world, often with regard to the consumption of goods (Miller 1995; 2006; Keane 2006a).

In recent years a series of scholars have successfully bridged the gap between material culture studies and cultural technology (e.g. Coupaye 2009; Damon 2008; Douny 2007; Revolon 2007). Simultaneously, attention is now paid in part to the 'embodiment' of particular aspects of local culture, via technical
p. 304 behaviour (body ↳ techniques have long been the least developed section in the anthropology of objects and techniques). Such studies show that the engagement of the self and that of the body in technical action is produced by the partial embodiment or internalization of the subjects' interactions with their cultural