In addition to these usual properties of a lexical item, a placename has further properties to document: the origin of the name (how the name was bestowed and by whom), and the properties of the place denoted: the location of the denotation according to some geographic coordinate system, possibly the social location of the place (e.g. in the land tenure system of the speakers), and associated history, stories, songs, designs, uses, and resources.

A useful general field guide to eliciting placenames and landscape terms has been prepared by researchers at the Max Planck Institute (Nijmegen) (Bohnemeyer et al. 2004; Burenhult 2008a). For work on the placenames of a particular language, a good start is to seek out gazetteers and materials on placenames of the region, and neighbouring groups, because sometimes similar strategies for forming placenames and attitudes towards placenames are found among neighbours (cf. the calquing of morphological properties of placenames in neighbouring but genetically distant languages in northern Australia: McConvell 2009).

17.2.1 Location of the denotation—in the field

With a view to toponymic recording, one can supplement the usual field equipment with good maps and a GPS receiver. Basic topographic survey maps can be supplemented by cadastral (land tenure), geological, and vegetation maps. Historical maps can be useful to understand references to past events. In countries that have been colonized, early maps and surveyors' field notes and diaries may contain reference to placenames or variant forms of placenames of the people displaced by the colonizers.

Maps may already be available in digital form, and if not, can be scanned for portability. Digital maps, like any digital graphics, are of two basic kinds: raster and vector, with the latter being more amenable to manipulation by software. Digital maps may constitute interrelated 'layers' within a GIS, including image maps derived from aerial photographs and/or satellite imagery.

Ideally the fieldworker would visit each site with several knowledgeable people, determine with them the area, and maybe photograph or sketch aspects of the site. Even without a site visit, the researcher can have the locals sketch the place in their own terms This may be a map, or it may be a route map locating the place on a track with respect to other places. (*The History of Cartography* (Harley and Woodward 1987, 1998) includes coverage of indigenous mapping practices around the world.) With the help of locals, the researcher can locate the area on a survey map and determine its coordinates. Below, we discuss further the kind of information involved in placename documentation.

p. 395 ## 17.2.2 Denotation

Several senses of the 'meaning' of a placename are to be distinguished. Most basic is its location, part of the denotation of the placename. Understanding the denotation of a placename requires working out what is denoted spatially (including landform, landmark, and built structures). The literal meaning, etymology, and etiology or story behind the name are other aspects (considered below). A place can be conceptualized as having zero (a point), one (linear), or two (areal) dimensions (possibly even three dimensions). For example, a name apparently denoting a river may on inquiry be shown to denote the entire river (and tributaries or possibly its entire catchment), or just a stretch of the channel, or just a pool in the river. The placename may have a narrow (focal) referent and extended referents. What counts as a place worthy of a name will depend on the geographic types recognized by speakers of the language, as well as on the way the speakers use the land, and on historical circumstance.

Each language can be expected to have its own classification of landforms (see Turk et al., Chapter 16 above, and the papers in Burenhult 2008a). At a basic level this depends on the environment, what geographical features are present. But this will be tempered by the ways in which the language's speakers interact with