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On Terracing in the Andes[1]

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Guillet's (CA 24:561–74) informative article comparing productive systems in the Himalayas and in the Central Andes leaves the unfortunate impression that terracing has been largely abandoned in the Andes. This is a widespread belief derived from equating terracing with the abandoned Inca imperial terraces found in the area around Cuzco. These structures, however, are only one form of Andean terracing. Data from the Ayacucho Valley and elsewhere suggest that significant contemporary terracing goes unrecognized.

The Inca terraces, described by Donkin (1979), are located

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FIG. 1. Terraced maize field.

on steep slopes and constructed of retaining walls of stone (often trimmed) connected by characteristic stone stairways. "The regularity and cyclopean scale of the structures are without parallel in the New World"; these terraces appear "to overstep the bounds of mere utility and to take on symbolic significance" (p. 33). They bring to mind frozen imperial power, and ethnohistorical evidence suggests that at least some of them belonged to the state (the Inca) or the state religion (Garcilaso de la Vega 1959 [1609]:226). In contrast to these spectacular structures, the terraces in use today in, for example, the Ayacucho Valley, go unrecognized as such even by their users. Built on the contour, terrace walls in Quinua are carefully made of stone or adobe planted with maguey, the plant roots being dense enough to act as a retaining wall after the adobe disintegrates.[2] The walls vary in height (some being more than a meter high), and the terraces usually contain only a single field (fig. 1). Some terraces are stepped, but the steps are not readily apparent because the slope is gentle and terrace walls are far apart. The terracing is further obscured because it blends in with nonterraced neighboring fields; an irrigation canal and footpath may follow the retaining wall, connecting it visually to adjoining nonterraced fields, while the wall resembles those of nonterraced fields. There are no dressed stones, dramatic stairways, or sculptured mountainsides here.

The terraces in Quinua are constructed and maintained by the individual owners of the fields, although the footpaths and irrigation canals that follow the walls are maintained by corvée labor. People explain the terraces as soil conservation measures, although leveling the land for the purposes of irrigation (Donkin 1979:34) or improved drainage for maize during the rainy season may be other important functions. They do not call their terraces by the Peruvian name for terraces (*andenes*), and they responded in the negative when I asked if they had any. After I had shown them the step terraces, however, my informants agreed that that is what they were. In addition to these agricultural terraces, house sites and some hamlets are terraced. The church in the central town, for example, is built on a terrace, and nearly the entire hamlet of Chacco, on the floor of the valley, is constructed on five step terraces. This village terracing also has no special name.

The number of deliberately terraced fields in Quinua is a small proportion of the total number of fields. I have not conducted a systematic survey, but at least some of the permanent maize fields around the central town are terraced. The Huari area is covered with terraces (Bennett 1953:23–24), some of them still in use. The significance of Quinua terracing is not its extent but rather that it is unrecognized, which suggests that the incidence of contemporary terracing is underreported.

The extent and nature of contemporary terracing are an open question. Brush (1977*a*:98; 1977*b*) reports that in Uchumarka fence rows of stones and brush function as quasi-terraces. Although built as boundary markers, the fences prevent soil erosion, causing soil to build up along the fence on the lower edge of the field. Fence rows are used in much the same way in Quinua. Further evidence of important contemporary terracing is provided by Donkin (1979:144–48). He identifies 75 cases of terracing in Peru, in 16 of which the terraces are wholly or largely in use and in 37 more of which some use is likely. These data present problems, since 9 of the 16 cases are from the Huánuco Basin, the time period of the sample is mixed, and the meaning of the categories is not clear. With these caveats, however, it is clear that these data support the notion that significant terracing still continues in Peru.

The number of abandoned terraces, moreover, is not a clear measure of agricultural de-intensification as Guillet suggests. We do not always know which terraces were contemporary or how often or for what purposes they were used (Donkin 1979). The nature of agricultural technology depends in part upon the cultigens. The reduction in the amount of irrigated land on the coast, for example, may reflect the increased water needs of European-introduced Old World cultigens rather than any decline in irrigation technology per se (Kosok 1965:16; Netherly 1984:236–37). Similarly, the introduction of new cultigens may have contributed to terrace abandonment. Many of the crops now cultivated around the site of Huari are Old World cultigens better adapted to the arid conditions of the contemporary site than aboriginal ones (Mitchell n.d.). Since it is possible that these new cultigens made terracing inefficient, one would have to explore this question before concluding that the abandonment of the terraces around this site (Donkin 1979:147) is a measure of agricultural de-intensification. Some de-intensification certainly took place. The question is how much and under what circumstances.

I raise these issues not to detract from Guillet's important paper but to counteract the widespread belief, which I once shared, that terracing has been largely abandoned in Peru. To understand why some terraces and not others have been abandoned we must examine such variables as soil salinity, irrigation, types of cultigens planted, and population density, as well as exploring the sociopolitical changes resulting from the end of Inca imperial power and the imposition of Spanish rule. The effects of contemporary land tenure, cash cropping, and migration on local agricultural land use are other significant factors relating to the problem. Andean terracing is not dead and merits further research.

[2] Maguey terracing is also found throughout Central Mexico, particularly on gentle slopes near valley bottoms. Such terracing is called *bancal* (Barbara Price, personal communication).

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