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La recuperación de tecnologías indígenas: Arqueología, tecnología y desarrollo en los Andes

By Alexander Herrera Wassilowsky.
Bogotá, Colombia: Consejo Latinoamericano de Ciencias Sociales, Universidad de los Andes, Instituto de Estudios Peruanos, 2011. xx + 183 pp. US\$ 35.00. ISBN 978-958-695-622-2.

This volume is authored by Peruvian archaeologist Alexander Herrera, who has researched pre-Columbian agricultural and hydraulic technologies in the Andean region, among other topics. While Herrera has a Cambridge University PhD, the volume is not primarily targeted at an academic audience, but at a broad readership that could include archaeologists and anthropologists, development practitioners and policymakers, as well as potential recipients of agricultural development projects in Andean communities. Accessibility to this audience has led to the publication in Spanish of a volume that should be of interest well beyond the Andean region, with fewer footnotes and references than would be normal in an academic work. Nevertheless, this is a scholarly volume. Herrera is concerned that archaeology as a discipline should seek not only to interpret the remote past, but that its findings should also be mobilized to address challenges facing the present. He is certainly not alone in considering that the ancient populations of the Andean region developed sophisticated strategies for managing their environment that, in many cases, were better adapted to the sustainable exploitation of the challenging ecological conditions of the Andes than are many contemporary initiatives. However, his volume also responds to the numerous attempts by national governments and development nongovernmental organizations (NGOs) to revive ancient

Andean technologies—such as the use of humid raised beds for agriculture—that have, in many cases, failed to fulfill initial hopes and expectations.

Herrera argues that many development initiatives, whether they involve the introduction of new technologies or the recuperation of ancient ones, do not achieve success because the people and organizations behind them fail to acknowledge that technologies do not comprise solely material entities, but are entanglements of objects, people, social relations, and cultural practice. This argument is set out in the opening and key chapter of the book. Herrera bases his argument on scholarship from the anthropology of technology and science studies, and he posits that, as Bruno Latour and Michel Callon might have put it, the success of a technology depends on humans, materials, environment, social relations, and values coming together in ways that align the interests of the various human and nonhuman actors. Development organizations have too often disregarded social relations and cultural practice when attempting to introduce innovations to agricultural and other practices. A further problem with existing development projects is, Herrera argues, their entrenchment in Western thought, which makes a conceptual and hierarchical separation between *knowing*—the mental processes linked to intentionality and design—and *making*—the practical skill involved in the execution of design. This ethnocentric division, he argues, has meant that many attempts to recuperate old technologies have failed. All too often, the intellectual work, the conceiving and planning of a project, is carried out by academics and technicians who expect local peasants to supply manual labor, but to have little input into the overall project design. It is little surprise then, he adds, that these projects often encounter resistance from their intended beneficiaries. Notwithstanding the

limited success to date of the reintroduction of indigenous technologies, Herrera still believes passionately that ancient Andean technologies have much to offer present-day Andeans and that archaeology has a practical role in aiding their recuperation.

The chapters that follow the opening theoretical exposition give examples of indigenous Andean technologies in 3 separate fields: agriculture, animal husbandry, and forestry. Each chapter provides extensive examples of archaeological evidence for instances of the respective technology in different areas of the Andean region, covering a wide geographical area from Colombia to the north of Argentina, together with rather more limited discussions of attempts to recuperate them in the different settings. The chapter on agriculture is by far the most extensive, covering both techniques of cultivation—notably the use of humid raised beds and terraces—and ancient techniques of irrigation and water management. The discussion of pre-Hispanic techniques in these chapters is detailed, well informed, and scholarly. I found the section on water management and the uses of dams and reservoirs particularly interesting. Here Herrera argues for the advantages of pre-Hispanic water management with earthen dams over the present-day use of concrete. The former were built of local materials, and hence were readily repaired by local populations, and seepage through such dams, rather than being something undesirable, had the knock-on effect of raising the level of the water table in the surrounding area, thus making the surrounding land more productive—as pasture for camelids or as agricultural land. Having recently encountered Mark Carey's (2010) study of the threat of glacial lakes in central Peru in the twentieth century, largely countered by the construction of massive concrete dams, I wondered what potential

application pre-Hispanic hydraulic technology might have in this situation—and can only hope for future dialogue or collaboration between the 2 authors.

The book has some shortcomings. As an academic, I would like Herrera to have revisited and made more use of the theory he sets out in the early part of the book, and, as an anthropologist, I would have liked him to give more detailed ethnographic accounts of the case studies of the—so often failed—attempts at recupera-

tion of old technologies. I also found his characterization of development as inevitably top-down as oversimplified, when, with varying degrees of success, development organizations have made strides towards participatory planning in recent years. Nevertheless, this is an informative volume that should be appreciated by its intended Spanish-speaking audience in the Andes and might just have an impact on future development practice in the Andes and other mountain regions.

REFERENCE

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