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INTRODUCTORY REMARKS

Following the significant impact achieved by the special issue of this journal devoted to the ***Deglaciation of Europe*** (*Cuadernos de Investigación Geográfica* 41 (2)), the editors were asked to publish a new issue on the ***Deglaciation of the Americas***. To meet this new challenge we welcomed contributions from some of the leading experts in all the most important areas and mountains of the continent. The positive response to our invitation was practically unanimous. It would be the first time that a single issue ever included the study of the same phenomenon throughout the whole American continent: glaciers had reached their maximum expansion during Late Pleistocene, from Alaska to Tierra de Fuego, and then they retreated until their total disappearance, or at least until they occupied an area similar to the one that they occupy at present. As a result of this positive and enthusiastic response, we now have the opportunity to present a selection of articles of significant interest. For obvious reasons, describing all the ice caps and mountain glaciers of America has been impossible; however, we have managed to include a large majority of them, covering all continental latitudes: subpolar, temperate, subtropical in both hemispheres, and equatorial. This issue includes comprehensive reviews on the largest ice sheet in the northern hemisphere, the Laurentide, along with that of La Cordillera, and travels south to the ice sheet of Patagonia and Tierra de Fuego. It also includes the history of the most important mountain ice caps of each subcontinent, as well as glaciers that only existed during the period of maximum ice extent on the planet, as is the case of the marginal glaciers of the Andean Dry Diagonal.

Most of the works have a regional dimension, and describe the history of the different phases of deglaciation, interrupted occasionally by transitional periods of glacier stagnation and even considerable readvances. These studies analyse the more or less perceptible impact of warm and cold climatic phases of a global nature on each region. The only work with a supra-regional dimension is a contribution on the effects that the period known as the Antarctic Cold Reversal may have had in the tropical Andean world.

We recommend a close reading, contrasting each and every article in this collection. A first reading can reveal a significant asynchrony in the most important periods of deglaciation between each of these regions. It will actually expose the absence of a clear homogeneous approach between similar latitudes, for example, or between places in greater or lesser proximity to either ocean surrounding the east and west of the continent, i.e. the Pacific and the Atlantic. A comprehensive review of the results presented in this collection, and the corresponding conclusions arrived at by the authors, allow to discover an increasingly complex glacial evolution, definitely much more complex than we thought only a few decades ago, in which glaciers suddenly retreated and recovered in very short periods of time. This demonstrates that those periods formerly considered as phases of retreat, have in fact been interrupted by short, but intense advances, and vice versa. In

any case, progress in the knowledge of the deglaciation of the American continent does not lead to the differentiation of ever more numerous homogeneous zones, but rather, these advances seem to increasingly support the existence of a common behaviour all over the planet. In fact, although different glacial behaviours have been locally identified within each region, the more we know about a region, the greater the coincidence in the general evolution of its glaciers with global climatic phases.

Apart from being the first joint publication on the deglaciation of the Americas, this collection also presents the first synthesis of the last two decades in most of these regions, just when the use of new dating methods has become widespread and applied more intensively. This is the case of methods that use the presence of terrestrial cosmogenic isotopes on deglaciated surfaces, which complement, and partly replace, the data provided by radiocarbon analyses. The advantage offered by these new methods is that they are applied to glacial landforms (moraines or polished bedrock), while radiocarbon dating, in the great majority of cases, is applied to glaciolacustrine or fluvioglacial formations. Initially, each of these methods appeared to yield conflicting results, but improved radiocarbon calibration and refined estimation models have allowed for more accurate cosmogenic ages, thus contributing to the convergence of these results around similar ages.

If we manage to keep the pace of improvement shown in the last decades in the knowledge of the deglaciation in each of the different regions of the Americas and, additionally, we know how to verify the results obtained, we will certainly be able to understand the climate thresholds that have caused important changes in the cryosphere, especially those suffered by the planet in the last few millennia. There can be no doubt that the great extension of the American continent along the meridians will substantially contribute to this understanding, due to its wide latitudinal range, and its location between two oceans, which incorporates the marine currents that connect both hemispheres and thermally balance the great latitudinal contrast of their waters.

We wish to express our utmost gratitude to all the authors that have contributed to this issue for their generous effort and the extraordinary work that they have done. This effort has contributed to updating the state of knowledge on the deglaciation of the American continent, which we are sure will be of great help to future researchers. Our gratitude also goes to all the researchers who, over time, have made possible this considerable progress in the knowledge of deglaciation, and whose publications have been frequently mentioned in the comments and bibliographic lists of the contributions presented here.

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