Correlating the genetic history of dogs and people following their arrival into the Americas

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Recent palaeogenomic studies have shown correlations between the ancestry of dogs and the spread of ancient human populations across Eurasia. These processes extend as far back as 15,000 years ago, where dogs were being exchanged between genetically- and culturally-distinct hunter-gatherer populations. As dogs were introduced during the early peopling of Americas, it is likely similar co-evolutionary histories exist across the continent. To test this, we analysed spatial autocorrelation in pre-contact dog and human mitochondrial genomes from across North and South America. We found remarkable concordance in the origin and spread of mitochondrial haplotypes, which often accompanied major cultural transitions, such as the adoption of maize agriculture between 7,000 and 5,000 years ago in Central and South America. Combined, our results reveal the long-term and integral role that dogs played in a multitude of human societies across the world.