Part of the forensic ‘jigsaw puzzle’: Tooth shape offers insights into a deceased person’s genetic makeup

A study found that some characteristics of dental remains — such as crown groove patterns, cusp size, number of roots, and the presence of wisdom teeth — can act as pieces of a jigsaw puzzle to help discern a person’s identity and genetic makeup.

These techniques can then be applied in various ways, to both modern and ancient remains and it could, for example, help identify unknown individuals in ongoing forensic cases where skeletal or DNA remnants have been destroyed.

It could also be used to unpick the mystery of the human race’s origin from fossilised remains or investigate the prehistoric movement of ancient populations.

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Research from the University of Tübingen published in the journal PNAS used an algorithm to compare DNA data to commonly seen dental traits.

This allowed the researchers to find links connecting genetics and teeth characteristics, gathered by assessing more than 130million possible combinations.

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The scientists say that researchers in future should pay attention to the appearance of the teeth they discover.

This will be of particular use if DNA cannot be retrieved due to poor preservation or when restrictions apply to destructive sampling, as in paleoanthropological research, says co-author Dr Hugo Reyes-Centeno.

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