

THE GENERATION GAME

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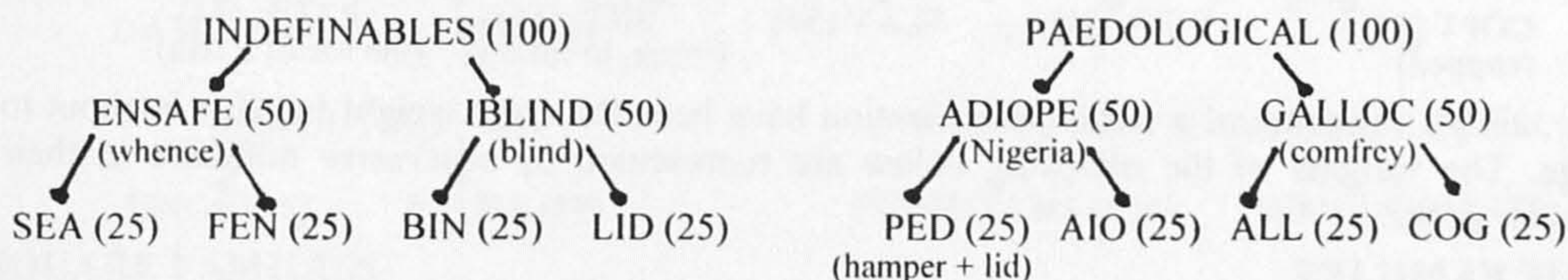
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The families below are all single parent families with a difference. The parent has never had a partner. All the offspring are produced asexually. The offspring in a particular generation are all the same length (letterwise). The letters are each assigned their alphabetical values (a=1, b=2 etc). Unreferenced words can be found in the Oxford English Dictionary, Second Edition. Locations, identified by country, are taken from The United States Board on Geographic Names.

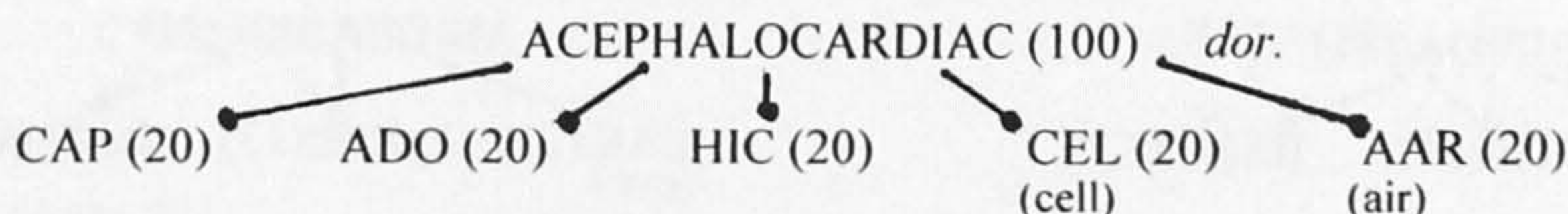
Other references: *cad* = An Archaic Dictionary by W.R. Cooper, 1876; *dor* = Dorland's Medical Dictionary; *nz* = Nomenclator Zoologicus; *sted* = Stedman's Medical Dictionary; *web2* = Webster's Second Edition.

CENTURY WORDS AND THEIR RELATIVES

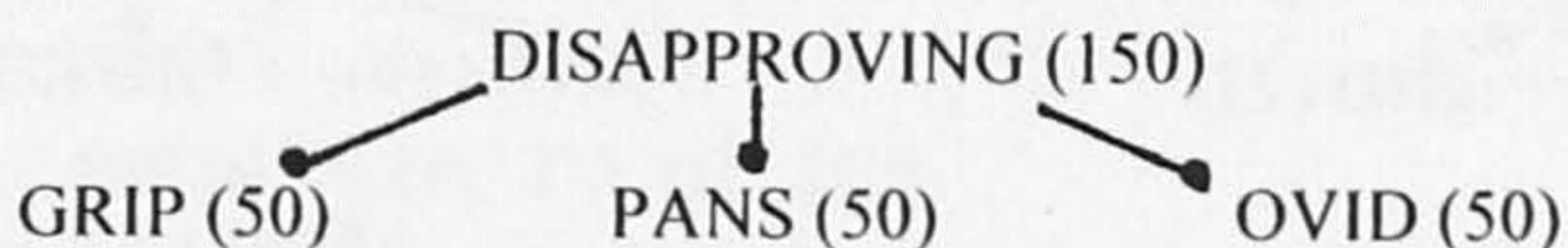
The grandparent is a century word; the offspring each weigh 50; their offspring each weigh 25:



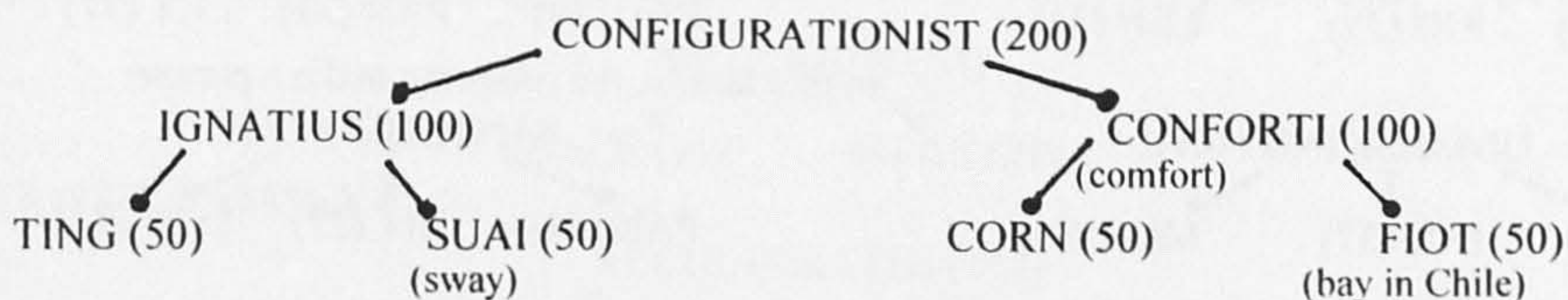
In this case, the parent gives rise to 5 offspring each of weight 20:



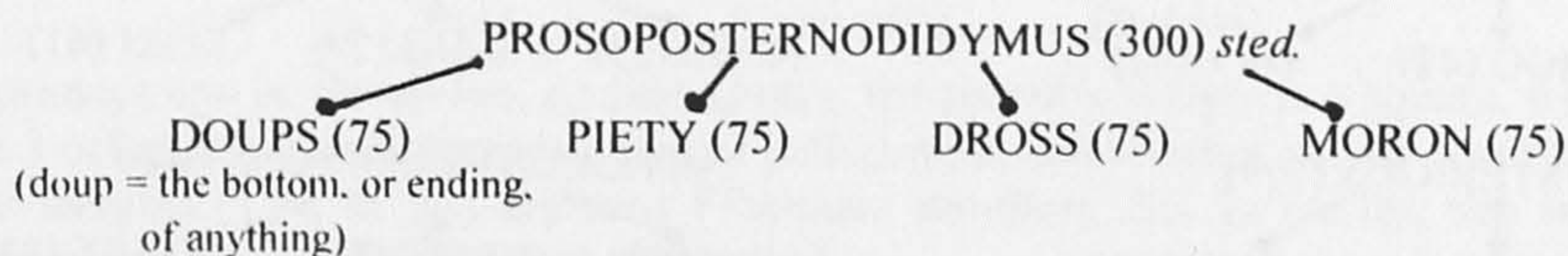
This disapproving parent, weighing in at 150, has 3 offspring each of weight 50:



Onwards to greater weights... this grandparent is a double centenarian:

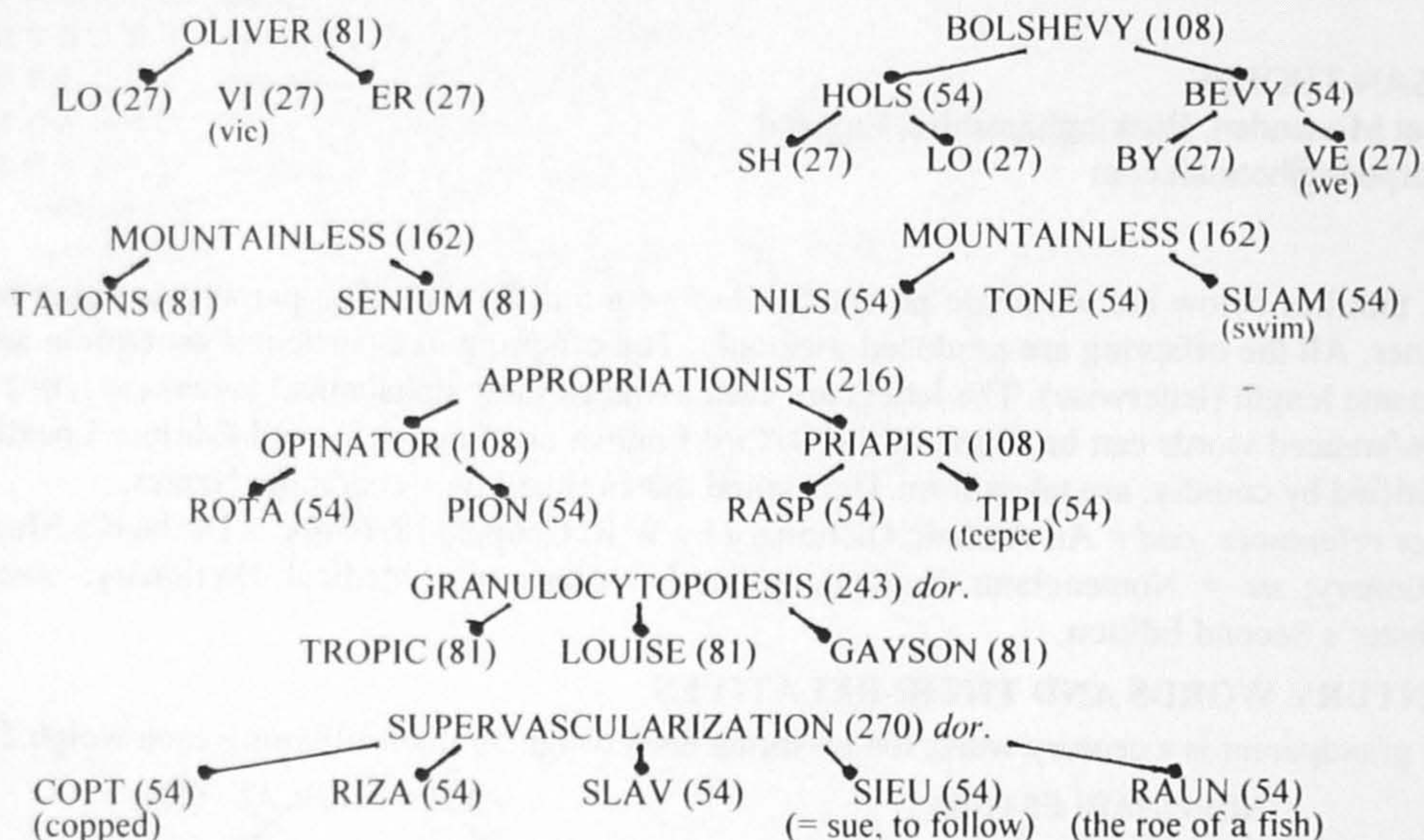


This weighty triple centenarian has twenty letters:



BALANCED FAMILIES

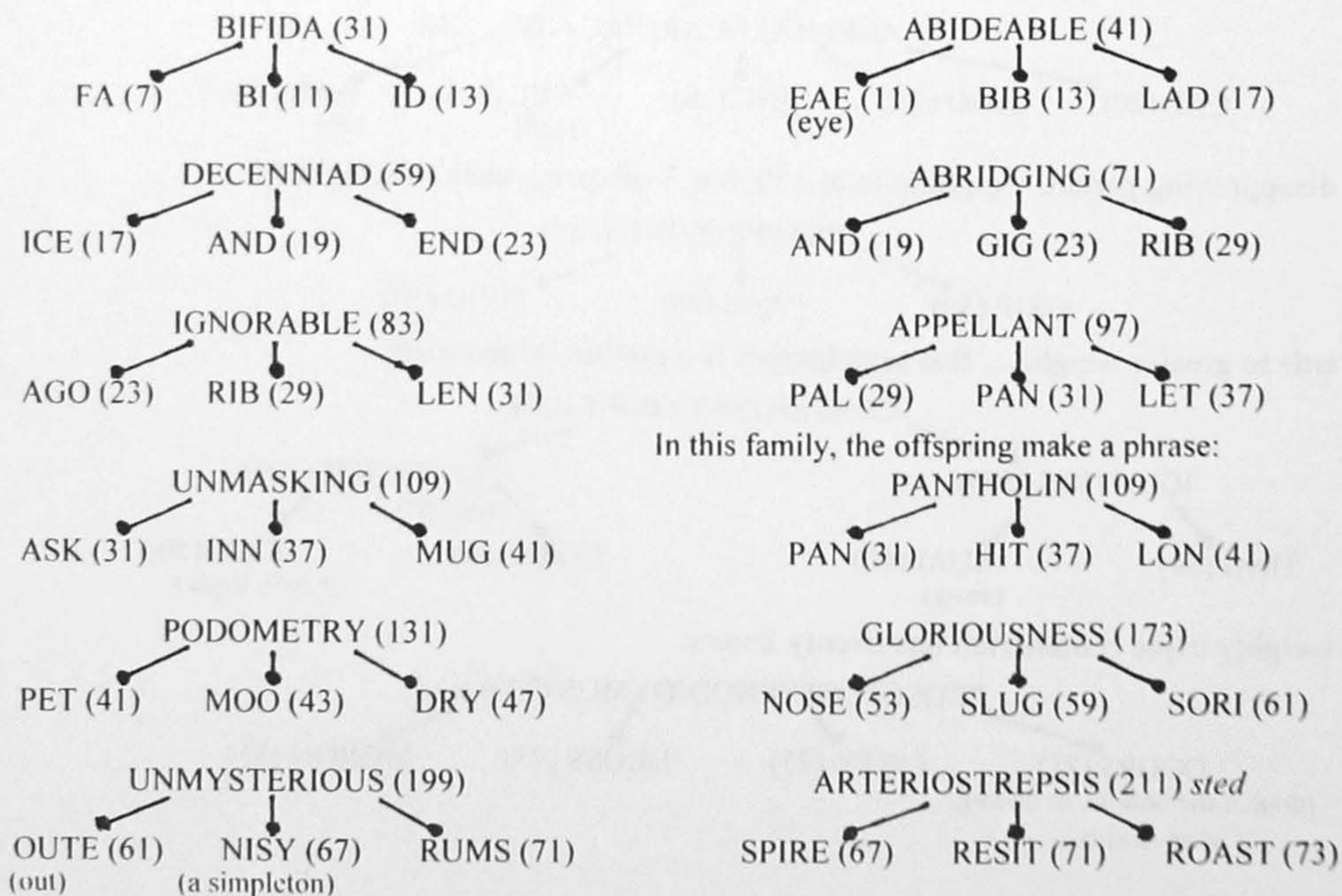
A balanced word is one whose average letter weight (total weight divided by number of letters) is 13.5. All the family members below are balanced.

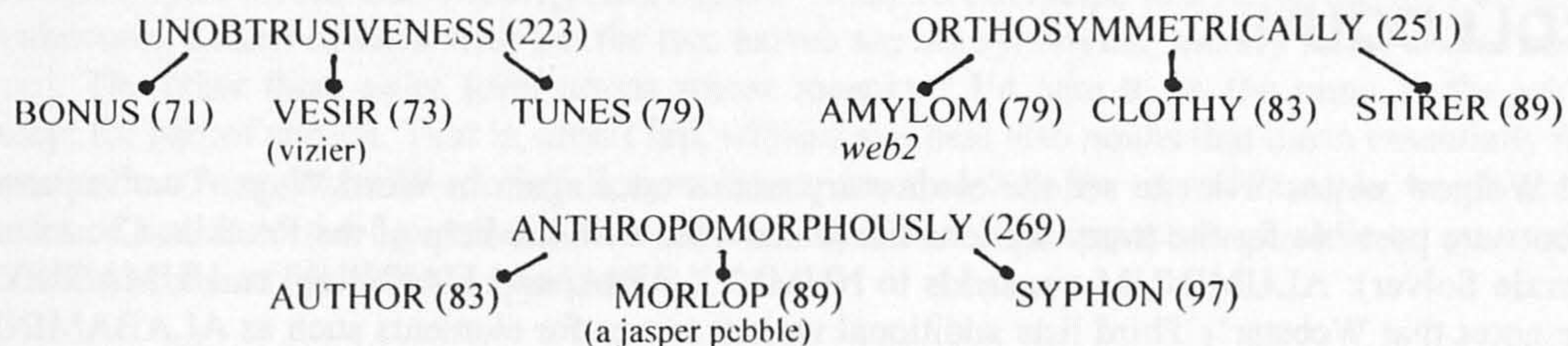


So far, all the offspring of a particular generation have been the same weight but this is about to change. The weights of the offspring below are represented by *successive* numbers in their particular genre.

PRIME FAMILIES

The weight of the parent is a prime. The weights of the 3 offspring are successive primes.

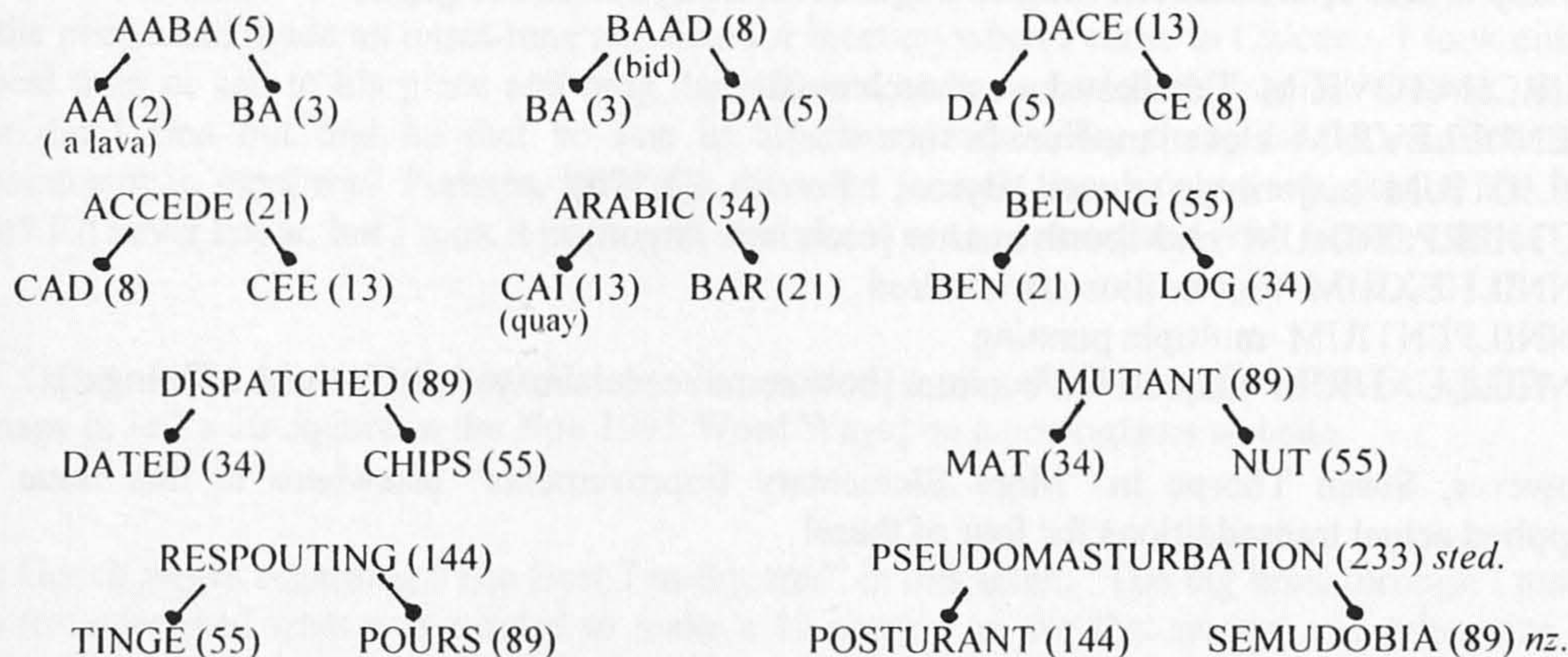




FIBONACCI FAMILIES

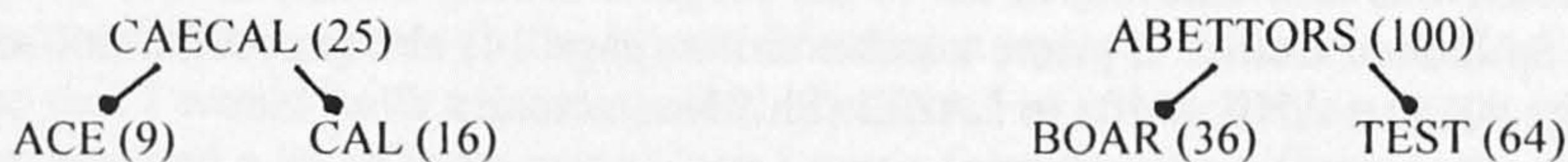
The Fibonacci number series: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233...

Three successive Fibonacci numbers represent the weights of the parent and 2 offspring:



SQUARE FAMILIES

Square numbers: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144...



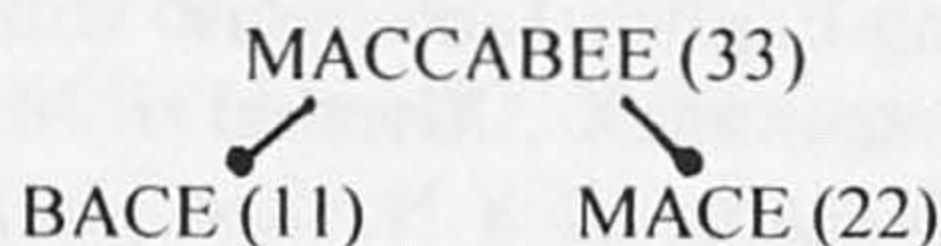
A CUBE FAMILY?

Is there a parent and 3 offspring which are represented by the following 4 successive cubes?

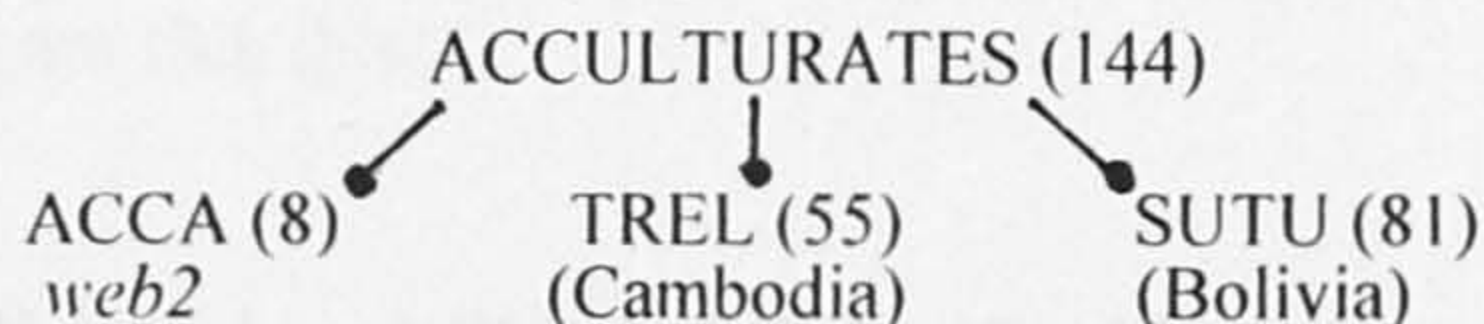
$$216 (6^3) = 27 (3^3) + 64 (4^3) + 125 (5^3)$$

NUMERICALLY-PALINDROMIC FAMILIES

33 = 11 + 22 appears to be the only parent/offspring weight relationship that consists of 3 successive numerical palindromes - apart from 3 = 1 + 2: AAA (3) cad = A (1) + AA (2).



A MIXED UP FAMILY



Appearances can be deceptive. At first glance, the parent's weight is a square, whilst the weights of the 3 offspring are a cube, a numerical palindrome, and another square respectively. But three of the weights (144, 8, 55) are also Fibonacci numbers. So, in reality, this mixed up family incorporates 4 different numerical genres.