THE GENERATION GAME

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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:

- INDEFINABLES (100)
  - ENSAFE (50) (whence)
  - IBLIND (50) (blind)
  - SEA (25) FEN (25) BIN (25) LID (25)

- PAEDOLOGICAL (100)
  - ADIOPE (50) (Nigeria)
  - PED (25) AIO (25) ALL (25) COG (25) (hamper + lid)

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

- ACEPHALOCARDIAC (100) dor.
  - CAP (20) ADO (20) HIC (20)
  - CEL (20) (cell)
  - AAR (20) (air)

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

- DISAPPROVING (150)
  - GRIP (50) PANS (50) OVID (50)

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

- CONFIGURATIONIST (200)
  - IGNATIUS (100)
  - TING (50)
  - SUAI (50) (sway)
  - CONFOORTI (100) (comfort)
  - CORN (50) (bay in Chile)

This weighty triple centenarian has twenty letters:

- PROSOPOSTERNODIDYMUS (300) sted.
  - DOUPS (75) (doup = the bottom, or ending, of anything)
  - PIETY (75)
  - DROSS (75)
  - MORON (75)
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.

OLIVER (81)
LO (27) VI (27) ER (27)

BOLSHEVY (108)
HOLS (54) BEVY (54)
SH (27) LO (27) BY (27) VE (27)

MOUNTAINLESS (162)
TALONS (81) SENIUM (81)

MOUNTAINLESS (162)
NIALS (54) TONE (54) SUAM (54)

APPROPRIATIONIST (216)
OPINATOR (108) PRIAPIST (108)
ROTA (54) PION (54) RASP (54) TIPI (54)

GRANULOCYTOPOIESIS (243) dor.
TROPIC (81) LOUISE (81) GAYSON (81)

SUPERVASCULARIZATION (270) dor.
COPT (54) RIZA (54) SLAV (54) SIEU (54)
(copped) (= sue. to follow) RAUN (54)

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.

BIFIDA (31)
FA (7) BI (11) ID (13)

ABIDEABLE (41)
EAE (11) BIB (13) LAD (17)

DECENNIAD (59)
ICE (17) AND (19) END (23)

ABRIDGING (71)
AND (19) GIG (23) RIB (29)

IGNORABLE (83)
AGO (23) RIB (29) LEN (31)

APPELLANT (97)
PAL (29) PAN (31) LET (37)

UNMASKING (109)
ASK (31) INN (37) MUG (41)

PANTHOLIN (109)
PAN (31) HIT (37) LON (41)

PODOMETRY (131)
PET (41) MOO (43) DRY (47)

GLORIOUSNESS (173)
NOSE (53) SLUG (59) SORI (61)

UNMISTERYOUS (199)
OUTE (61) NISY (67) RUMS (71)
(out) (a simpleton)

ARTERIOSTREPSIS (211) sted
SPIRE (67) RESIT (71) ROAST (73)
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:

- AABA (5)
  - AA (2)
  - BA (3)
- BAAD (8)
  - BA (3)
  - DA (5)
- DACE (13)
  - DA (5)
  - CE (8)
- ACCEDE (21)
- CAD (8)
- CEE (13)
- ARABIC (34)
  - CAI (13)
  - BAR (21)
- BELONG (55)
  - BEN (21)
  - LOG (34)
- DISPATCHED (89)
  - DATED (34)
  - CHIPS (55)
- PSEUDOMASTURBATION (233)
- RESPOUTING (144)
  - TINGE (55)
  - POURS (89)
- SEMUDOBIA (89)

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.