YES, WE HAVE NO ASCENDERS (PART 1)

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As I get older, I seem to have more problems reading words I have written quickly, as sequences like 'muvuw' become just one wavy line. I wondered what was the longest word that I would represent— as a wavy line, and what was the longest wavy-line sequence as part of a word. The letters involved are those with no ascenders or descenders, i.e. aceimnorsuvwxzs. (Actually, I write 'z' with a descender, but that's not how it's printed.) The 'i' is included despite the giveaway dot because, in hurried writing, the dot appears in a rather random position above the wavy line, giving a false clue.

Thinking about this reminded me of perhaps the cleverest logo I have ever seen. It belongs to the well-known UK electronics company, Plessey. It is appropriate for an electronics company to use an oscilloscope trace as a logo, but close examination reveals that the waveform actually spells out the word 'Plessey' written in a lazy fashion. Clever!

A little research revealed previous work had been done on this subject in Word Ways, and I report this below, but let me first present my classification of letters. The reader may find it helpful to refer to the alphabets printed below, which show the most often encountered varieties of printed letters, viz. a variant of Times, Roman and italic, then a variant of Helvetica (which has no serifs), Roman and italic, then typical handwriting. A letter always has a body part the same height ("x-height") as the body part of all other letters, e.g. the round part of a 'd'. It may also have an ascender, as in the case of 'd', or a descender, like 'p', but commonly not both. Actually, handwritten 'f' does have both, as does italic 'f' in the Times typeface. 'I' and 'j' are exceptions: they have no ascender, but have a dot above the top of the body, making the total height about the same as if they had ascenders. To avoid too many combinations, and knowing that 'j' is of no great importance, I classify it along with the other letters that have descenders. However, 'i' is important, so I assign it a category to itself. Thus we have four categories of letters for printed fonts:

- type A (letters with ascenders) b d f h k l t
- type B (letters with descenders) g j p q y
- type C (letters with body only) a c e m n o r s u v w x z
- type I (letter 'i' only) I

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As can be seen, handwritten 'f' and 'z' have descenders, unlike their printed Roman counterparts, contrary to what is implied in W73-188. Capitals have neither ascenders nor descenders (in workmanlike typefaces), although the Q often has a part below the base line. This article confines itself to lower-case printed Roman letters.

There are seven ways of combining the three principal categories, which we can theoretically double by regarding 'i' as an optional addition. Thus we could look for words containing letters which have:

1. **Ascenders Only** We need to include the 'i' to get a vowel; LIBIDIBI is given (W73-189) as the longest of this subset of tall words, to be matched by TITIFILL (OED in W79-216), called an all-high-letter word.

2. **Descenders Only** The 'y' provides a vowel, though the haul of words should not be rich. We cannot pretend that 'i' belongs with these letters. Such words were regarded as a subset of tall words (W73-189), GYP being given as an example. PYGG and JUGG? are longer examples from W79-216, where they are called all-low-letter words.

3. **Body Only** Those which prompted my investigation. A good selection of consonants and vowels ensures long words are possible. Indeed, if we include 'i', we have the six most frequent letters in my wordlist, accounting for half of all the letter uses, and we still have eight other letters. Ripley's 35th Anniversary Believe It Or Not (1954) recorded the longest such words as CONCESSIONAIRE and RECONNAISSANCE, both straightforward dictionary words of length 14, though their plurals would be 15 letters long, thus just qualifying for the list below. Borgmann excludes the 'i' and calls them narrow words in Language on Vacation, for a reason that is obscure to me, since all the short fat letters are here. Actually, Borgmann was very rude about Ripley, partly for including the 'i', and offered UNCEEREMONIOUSNESSES and SEMICONSCIOUSNESSES (19 letters) as the longest with an 'i', and OVERNUMEROUSNESSES (18) as the longest without.

4. **Ascenders and Descenders** If we include 'i', these seem to be the words referred to by Darryl Francis (W73-188) as tall words. He gave a number of examples, the longest being the 10-letter LILLIPILLY. This was matched in W79-216 by BIDDY-BIDDY, FIFTY-FIFTY, FIFTY-FIFTH, HIDDYGIDDY, HIGLY-PIGLY, LIGHT-TIGHT. These were exceeded by HIGHTYS-HIGHTY (EDD) and FIFTY-FITHLY which were called tall-letter words.
5. **Ascenders and Body** This category only excludes a few letters, none vital, so if we include the 'i', we almost have the whole alphabet, offering little challenge.

6. **Descenders and Body** This only excludes seven infrequent letters (or eight, depending on 'i'), so is insufficiently restrictive to provide much entertainment.

7. **Ascenders, Descenders and Body** With the 'i', this is the full alphabet, so includes all words, therefore offering no challenge.

Of course, there are many other ways of categorising letters by their shape. For example, we could distinguish between different letter-widths, a technique exploited by Donald Knuth to create a decoding problem (W87-173). We could make (and often have made) words consisting of letters with particular kinds of symmetries.

I do not think that Borgmann's expressed contempt for Ripley is reasonable, so let me reply to his comments about 'i' belonging to the class of tall letters. Many of the body-only letters may have accents or stress marks above, or cedillas below; and 'i' itself may carry no dots (as in its Greek original, or in one of the two Turkish versions of 'I' today), one dot, or two dots (dieresis or umlaut) above. Are we then to classify a letter differently according to the accents it carries? And what are we to do with diphthongs like 'æ' or ligatures such as the conjoined 'fi' in which the 'i' has no dot?

Referring to the alphabets above, the top of the dot on the 'i' is, like most accents, at about the same height as the tops of the ascenders. Bearing in mind that the 'i' with the dot is two separate symbols, it seems most reasonable to include it in the company of other body-only letters that many carry other marks, such as 'é' or 'ç'. That is the position I would have taken, in agreement with Ripley, and contrary to Borgmann, had I not made 'i' a special category.

Actually, a wordplay reason for doing what Borgmann does, is that when making words from the other set of letters (those with ascenders or descendes), the lack of the 'i' means only 'y' is left as a vowel, making the game more difficult.

1. **Ascenders only, with i**

**Complete words or phrases**

<table>
<thead>
<tr>
<th>Number</th>
<th>Word/Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>IKI-IKI-IKI-IKI-IKI (Pal)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>TIT-TIT-TIT (EDD)</td>
<td>TITTIFILL</td>
</tr>
<tr>
<td>8</td>
<td>TITTIFILL</td>
<td>TIKITIKI (Web2) LIBIDIBI (Web2) BLITHLIK (vf)</td>
</tr>
<tr>
<td>7</td>
<td>KITTILL (vf)</td>
<td>KILLKID? ITITITI (Pname, Pal) IBITIBI (in Bolivia)</td>
</tr>
<tr>
<td></td>
<td>IBIKIBI (Pal)</td>
<td>HILLTIT HILL KID HIDDILL</td>
</tr>
<tr>
<td></td>
<td>FILLT (vf)</td>
<td>BITTILL</td>
</tr>
</tbody>
</table>

**Sequences within words or phrases**

<table>
<thead>
<tr>
<th>Number</th>
<th>Word/Phrase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>SELFDIFFIDING</td>
<td>OF A CHILD LITTLE (= from childhood) INFALLIBILITIES</td>
</tr>
<tr>
<td></td>
<td>IGNITIBILITIES</td>
<td>HILLBILLIES GULLIBILITIES FALLIBILITIES</td>
</tr>
<tr>
<td></td>
<td>CHILD KILLING</td>
<td>ARMADILLIDIIDAE (DBS)</td>
</tr>
</tbody>
</table>
2. Descenders only, no i

Complete words or phrases

5 GYPPY
4 PYGG (P)PPP (music)

Sequences within words or phrases

5 PYPPYNS (DAW) PYGGYNSY GYPPY TUMMY (Ch)
4 PYHPHT WORLYGGE (vf) WHYLEGYGGGE (vf) TRYPPYT (vf)
TRYPPGETTE TARPHYPYGUS (TFI) SYPPYN (vf) SYPP (vf)
STYPPYL STEATOPYGY SNAPPY PACE (BT) SLOPPY JOE(S)
RYPYLL (vf) RYPYNE PYPYNE
PYPENN PYPPE PYPPY
PYGYNS PYGYMST PYPPY
PUPPY PICTURE PUPPY PERTNESS PUPPY-PEEPING PUPPY-GOD
POPPLY BLAIN POPPY PINK POPPY JUICE POPPY-GRWA
POPPLY GLOSSY POPPY GARLAND PLATOPYGOU5 NYGGYSH3
LYPPYN LyGGYST LYYGGYN LYYGGYST
LOUNGING PYJAMAS (BT) HAPPY PILL HAPPY PIL.
HAPPYGOLUCKY(ISM) HAPPYGOLUCKINESS GYPO(S)
GYPPING (Ch) GYPPE GYPPY (Ch)
GYPPED (Ch) GYPPE GYPPY
GYGGE FYSGYGGE (vf) EURYPYGIDA(E) (Web2)
EURYPYGA(E) (Ch, sun bittern etc) DYGGYD (see dig, OED)
DOGPPY PADDLE(S) (Ch) DASYPPGAL CYPPY (vf)
CLYPYCE (vf) CHYPYPYNUTIE CANYPPY (vf)
BUGGYPLOUGH (or-PLOW) BRYGGJA (bridge, Old Norse)
BAGPYPY (vf) BABYRLYPPYD (vf)

3. Body only, with and without i

Complete words or phrases

22 RAISE ONE’S CONSCIOUSNESS (BT) NEAR-UNCONSCIOUSNESSES (Ch)
21 INSURANCE COMMISSIONER CONVEXO-CONCAVENESSES (Sted, no I)
COSMIC CONSCIOUSNESSES (BT) CONVEXO-CONVEXNESSES (Sted, no I)
20 SENSE CONSCIOUSNESSES CONSCIOUSNESS-RAISERS UNCENSORIOUSNESSES (Web2)
CONSCIOUSNESS-RAISERS OVERNERVOUSNESSES (W79-216, no I)
19 UNCEMONIOUSNESSES NONSUCCESSIVENESSES?
OVERCONSCIOUSNESSES SEMICONSCIOUSNESSES (Web2)
MARCUS ANNAEUS SENEC A (Seneca) NONSUCCESSIVENESSES?
EXCISE COMMISSIONERS INSURANCE CANVASSERS?
18 UNSUCCESSIVENESSES CONVERTION NEUROSIS (BT)
OVERNúmerOu5nesSES (Borgmann, no I)
now ban phrases:
17 UNCONSCIOUSNESSES NEVEROUSNESSES (W79-216, no I)
COCONSCIOUSNESSES CEREMONIOUSNESSES
now only use selected words:
16  ZENZIZENZIZENZIC  OMNIVOROUSNESSES  NEURORECURRENCES (Sted, no I)
MICROMICROCuries  CONCESSIONNAIRES  CIRCUMINSESSIONS (Web2)
CIRCUMINCESSIONS  CIRCUMCRESCENCES (Web2)  CENSORIOUSNESSES
15  ZENZIZENZIZEVIC  VESICOCAVERNOUS (Web2)
VERRUCARIACEOUS (Web2)  SARRACENIACEOUS (Web2)
SARCOCARCINOMAS (Sted)  RECONNAISANCES
NON-CONCURRENCES (no I)  MEXICAN-AMERICAN
MEROMICROSOMICS (Sted)  MEROMICROSOMIAS (Sted)
MERCURIAMMONIUM (Web2)  INCONVENIENCIES
CONCESSIONAIRES  CONCAVOCONVEXES (Sted, no I)
CONCAVOCONCAVES (Sted, no I)  COENOMONOECIOUS (DBS)
CARCINOSARCOMAS (Sted)  AMINOSUCCINAMIC (Web2)

Sequences within words or phrases
22  MANPOWER SERVICES COMMISSION (UK Govt)
20  PUBLIC SERVICE ANNOUNCEMENT (BT)  CIVIL SERVICE COMMISSIONERS
AMERICAN CANOE ASSOCIATION (BT)
19  WISE IN ONE'S OWN CONCEIT (BT)  TO RECEIVE ONE'S SAVIOUR
GIVE A VIVA VOCE EXAMINATION (BT)  CONSCIOUSNESS-RAISING

now ban phrases:
17  FRANCOIS-MARIE AROUET (author)  DECEMNOVENARIANIZE
16  PROMISCUOUSNESSES  PNEUMONOCARCINOMA
PNEUMOCOCCOSURICS (Sted)  PNEUMOCOCCOSURICALLY (Sted)
PNEUMOCOCCOSURIAS (Sted)  PHOTORECONNAISANCES
GRAMINIVOROUSNESS (BT)  ERNST WERNER VON SIEMENS (Industrialist)
COUNTERRECONNAISSANCE (Web2)  CLASS-CONSCIOUSNESS
AXIOMESIOCERVICAL (Sted, various endings)
ARGININOSUCCINICACIDURICS (Sted, many different endings)

4. Ascenders and Descenders, with and without i

Complete words or phrases
15  IKI-IKI-IKI-IKI-IKI (Pal)
12  HIGHTY-TIGHTY  FIFTY-FIFTY
10  LILLY-PILLY  LIGHTTIGHT (Web2)  HIGLY-PIGLY  HIDDY-GIDDY
FLY BY LIGHT (BT)  FIFTY-FIFTY  FIFTY-FIFTH  BIDDY-BIDDY
TIT-TIT-TIT (attractive alien)  TITTIFILL  TIDDLY BIT
THIGH LIFT  THIGH HIGH  PIP-PIP-PIP  LIGHTHILL (name)
ITTY-BITTY  HILLBILLY  HIGHLIGHT  FLY BLIGHT
FLIGHTILY  DID THY BIT (?)

The longest words or phrases without is are of length 7:

YPLYGHT  THYFTLY  PYKYYLL (vf)  LYTTYLL (vf)  LYGHTLY (vf)  BLYTHLY (vf)
Sequences within words or phrases

12 TIGHTLY-FITTING (Ch)
11 UNINTELLIGIBILITY (-IES)
PORTLAND BILL LIGHTHOUSE NEGLIGIBILITY (-IES)
MOONLIGHT FLITTING INTELLIGIBILITY (-IES)
FLOCCINAUCINIHILIPILIFICATION

10 WITH LIGHT FINGERS (BT) UTILITY BILL UNELIGIBILITY (-IES) (Web2)
TWILIGHT-HIDDEN TIGHT-FITTING REELIGIBILITY
PRESCRIPTIBILITY (-IES) PREELIGIBILITY (-IES) (?) NONREELIGIBILITY (-IES) (?)
NIGHT-FLIGHT NIGHT-FIGHTING MYTILIDIPHICA (NZ)
MULTIPLY BY THREE (BT) LIGHTTIGHTS (?) LIGHT FITTING
INELIGIBILITY (-IES) IMPRESCRIPTIBILITY (-IES) HIGHLIGHTING
GO FIFTY-FIFTY (BT) FLIPPITY-FLOP (?) FIFTY-FIFTHS
FIfty-FIFTY SPLIT/CHANCE (BT) ELIGIBILITY (-IES) EIGHTY-FIFTH(S)
EPITYPHLITIS (Web2) ANTI-PHILIPPIZING
DIVIDE FIFTY-FIFTY (BT) IMPELEMENTIBILITY (-IES) NULLIBILITY

now selected words only:

9 YGYFFYLLIOG (place) WEIGHTLIFTING (Ch) ITHYPHYLLIOUS (Web2)
UNINFALLIBILITY (Web2) UNCORRUPTIBILITY INFALLIBILITY (-IES, -SHIP)
TROTH-PLIGHTING TIGHT-LIPPED INCORDIBILITY (-IES)
STRAIGHT-PIGHT RUMPTI-IDDITY (Ch) IGNITIBILITY (-IES)
PHILIPPINES PHILIPPIKOS (Ch) NULLIBILITY
PERCEPTIBILITY (-IES) OVERSUSCEPTIBILITY (Web2) HIGH LITTLETON (place)
NIGHTLIGHT(S) NIBBYJIBBY (?) NEUROSYPHILITIDIES (Sted)
NAPHTHYLTHIOUREA (Sted) MYELOSYPHILITIDES (Sted) ITHYPHYLLIOUS (Web2)
METYLDIHYDROMORPHINONE or -MORPHINE (Sted) INFALLIBILITY (-IES, -SHIP)
(META-, MESO)SYPHILITIDES (Sted) INCORDIBILITY (-IES)
INSUSCEPTIBILITY (-IES) INFALLIBILITYSHIP IGNITIBILITY (-IES)
INDISCRIPUNIBILITY (-IES) UNCORRUPTIBILITY (-IES) CONCORRIGIBILITY (-IES)
IMPERCEPTIBILITY (-IES) IMPARTIBILIBLY (Web2) CONCERPTIBILITY
HYPERSUSCEPTIBILITY (-IES) HILLBILLIES (Pull) CONSUMPTIBILITY
HIGHLIGHT(ER)(S) (Ch) HIGHLIGHTED (Ch) BALLILLILLY (CS D)
GULLIBILITY (-IES) FONTHILL GIFFORD (place) ADDIBILITY
FALLIBILITY (-IES) EXEMPTIBILITY (-IES) (BT) CULLIBILITY
DIRIGIBILITY DECEPTIBILITY CONCORRIGIBILITY (-IES)
CORRUPTIBILITY (-IES) CONSUMPTIBILITY CHILD-KILLING (Ch)
CONSUMPTIBILITY CONCONSUMPTIBILITY (-IES)
BALLILLILLY (CSD) ARMADILLIIDIIIDAEE (DBS) ADDIBILITY

Apart from TYTTYFYLLE (vf, length 9) noted above, the longest sequences in words or phrases without an i are of length 8:

YGYFFYLLIOG (place) STYGHTYLLE (vf) SLYGHTLY (vf)
POLYPHYLLLY NAPHTHYLTHIOUREA (Sted) ITHYPHYLLIOUS (Web2)
GLYPHYLLINE (Sted) DIMETHYL PHTHALATE
SUMMARY

I have presented many new longer examples of words and phrases using one of the four interesting combinations of letters categorised by letter height. In addition, I have, in each of the four cases, presented long sequences within words or phrases.

It turns out that the number and length of the longest words are very similar to the number and length of the longest sequences within words for a given case, except that longer sequences than words can be found when using letters with ascenders and descenders without an 'i'.

As expected, given some restriction, the easiest types of words to find are those using letters with body only, though including the letter 'i' does help. Next most easy is finding words containing letters with ascenders, though here the 'i' is essential. Adding descenders to the ascenders scarcely helps, since it is difficult to find any words with letters with descenders alone. However, it is possible to do without the 'i' if we have both ascenders and descenders, mainly because the 'y' serves for an 'i' in some scientific and older spellings.

REFERENCES

Words are derived from Oxford English Dictionary headwords, except for those listed below (vf denotes a variant form).

AmHer (American Heritage Dictionary)
BT (Bloomsbury Thesaurus)
Ch (Chambers 20th Century Dictionary)
CSD (Chambers Scots Dictionary, by Alexander Warrack)
DAW (Dictionary of Archaic Words, by James Orchard Halliwell)
DBS (The Dictionary of the Biological Sciences, by Peter Gray)
DJE (Dictionary of Jamaican English)
DOTE (A Dictionary of Obscenity Taboo and Euphemism, by James McDonald)
EDD (English Dialect Dictionary)
LonV (Language on Vacation, by Dmitri Borgmann)
Mang (Tregear: Dictionary of Mangareva)
NZ (Nomenclator Zoologicus)
OSNG (Official Standard Names Gazetteer of USSR)
Pal (Palindromicon, by Jeff Grant)
Pull (The Complete Word Game Dictionary, by Pulliam and Carruth)
Ro (Roget's Thesaurus)
Sted (Stedman's Medical Dictionary)
TPI (Tertiary Faunas, Volume 1)
Web 2 (Webster's Second Edition)