A Principle of Conceptual Marking

In this Section I subject the theory I have just submitted to a test by making and examining a prediction based on it. On what happens before the terminologist crosses the bridge to the world of expressions Picht and Draskau write:

> *the concept ...lends itself to analysis and in this way its characteristics may be discovered…these characteristics have the greatest importance for terminology. Each time a new object is discovered or created, a new concept comes into existence, whose type and configuration in respect of its characteristics require examination with the aid of predications. The sum of the predications (= characteristics) is equal to the sum of our knowledge about the concept … In spite of considerable efforts, it has not yet proved possible to establish any uniform classification of conceptual characteristics; there are, however, classifications which are useful in certain subject fields.*
>
> Picht & Draskau (1985: 40-44)

I react to the assertion of Picht and Draskau by hypothesising that a terminological system in whatever natural language is always based on not more than the twenty-one conceptual equations involved in my periodic system of conceptual elements.

Reportedly, Wester recognises four types of concept formation (cf. Picht and Draskau (1985: 43-44)):

(a) determination (127) below
(b) conjunction (128)
(c) disjunction (129)
(d) integration (130)

(127) A machine tool is a tool.

$$R\ e\ [\ R_o\ h\ Q] = Re + R_o\ [Qo]\ ho$$
$$= R\ [R_o[Qo]\ ho]\ e$$

(128) Smog is partly smoke and partly fog.

$$R\ e\ [R_1\ j\ R_2\ ] = R\ e + R_1\ [R_2o]\ jo$$
$$= R\ [R_1\ [R_2o]\ jo]\ e$$

(129) A child is either a boy or a girl.

$$H\ e\ [\ H_1\ d\ H_2] = H\ e + H_1\ [\ H_2o]\ do$$
$$= H\ [H_1\ [\ H_2o]\ do]e$$

(130) A man and a woman can form a married couple.

$$H\ p\ [[H\ h\ Q']\ v\ [\ H\ h\ Q]]$$
$$= H\ p\ [H_1\ v\ H_2]$$
$$= H\ p + H_2\ [H_1\ v]\ r^2$$
$$= H\ [H_2\ [H_1\ v]\ r^2]\ p$$

Picht and Draskau echo a part of the usual account of sense relations:

(a) identity e.g. Ger. *Gesetz E. law*

(b) inclusion e.g. *car, motor vehicle*
(c) intersection e.g. *sword, dagger*
(d) negation e.g. *compression, decompression*

In Dagne and Gemeda (1987: 55-56), Massamba recognises putatively six types of concept formation, namely:

(a) function o c C
e.g. Ksw. *kingamaradhi* "immunity"
(b) state o h Q
e.g. *ubwete* "dormancy"
(c) resemblance o_1 s o_2
e.g. *tumbo* "stomach" *kidole* "finger"
kidoletumbo "appendix"
(d) effect C c^- o
e.g. *kiviza* "inhibitor"

The paucity of the foregoing accounts of a typology of conceptual unions is to be traced back to the general lack of a powerful tool of conceptual analysis similar to the one I am presenting in this study. The conceptual calculus affords me a deeper insight into conceptual structure.

In (131)-(148) I conduct a conceptual analysis of most of the Greco-Latin suffixes found in biological and general terminology. First, I state the concept that is articulated by the suffix. The inflectional endings are to be omitted. Exemplification is either in neo-Latin or in the anglicised form.

(131) Property, Characteristic, Feature
o h Q = o [Qo] h

-al-	embryonal, vital
-an-	tertianus
-ari-	primary
-ax, -ac-	tenax
-er-	glycerin
-il-	juvenilis
-in	adamantin
-n-	paternus, maternus
-os-	gibbosa, cavernosum
-tas, -tat-	tuberositas

(132) Composition
o_1 h o_2 = o_2[o_1h]o

-e-	stratum corneum
-in	spermin, dentin, adrenalin, carotin.
-ugo, -ugin-, -igo, -igin-	

(133) Femininity

H h Q = H [Qo] h

-ix necatrix, vastatrix

-is, -id

(134) Collective, Taxon

[...[[o 1 j o 2] j o 3] j...j o n] ð o

-ace- Fagaceae, Cetacea

-ad gonad, tetrad

-an- Polychrosis botrana

-ari- Biston pomonarius

-at- Cheimatobia brumata

-idi- Daphnidae, Hominidae

-ic- physics, logic

-in- Acarina, Murinae

-ism- organism

-om (at)- Carcinoma

-on Osteon, plancton

-ori- Locusta migratorius

-os- biocoenosis

-ot- Craniota

(135) Direction

$[o_1\ y\ o_2]\ v\ [o_1\ y\ o_2] = o_1\ [o_1\ [o_2o]y\ v.o_2o]\ yr$

-ad caudad, dorsad

-al- centralis

(136) Plating, Coating; Possession

$[R_1\ m\ R'_2]\ v\ [R_1\ m\ R_2]$

-al- proboscidalis

-isa galvanise

-ar-, -ari-, -at-, -i-, -in-, -it-, -os-, -ot-, -ut-

(137) Diminution

$o_1\ g^-o_2 = o_1\ [o_2o]\ g^-$

-ari- Hipparion, Otaria, Peltaria

-cul- osculum, musculus

-idi- Coccidium, nephridium

-isc- meniscus

-eli-, ett-, -icul-, -ill-, -is, -id, -it, -i-, -l-, -ol-, ul-, -uncul-

(138) Augmentation

$[o_1\ g\ o_2] = o_1\ [o_2o]\ g$

-ascens cinerascens

-escens, -escent- pubescens, senescens

-ior gracilior,longior, major

-ist- Megista, conorhinus megistus
-ita- agitare, palpitare

(139) Function, Pertinence

$o_1\ g^o o_2] = o_1\ [o_2 o]\ g^o$

-et- pedetes, colymbetes
-ic- acusticus, opticus
-id- lucidus, horridus
-in erepsin, steapsin
-ma, -mat- dogma, plasma, diaphragma
-ul-, -ist-, -ment-, -men, -min, -on, -ont, or, -or-, -ter

(140) Similarity, Resemblance

$o_1\ s\ o_2 = o_1\ [o_2 o] s$

-ace- rosaceus, violaceus, Crustacea
-ae- Gastraea, pygmaeus
-ago, agin-, -igo,
-igin-, -ugo, -ugin- Xanthia citrago
-al- oval, Ossa turbinalia
-ar- capillaris
-ari- Placenta zonaria
-at- lunata
-e- argenteus, lacteus
-ic- conicus, cyclicus
-id- Annelides, Araneida
-ide- thyreoidea, Arachnoidea
-in- hyalinus, tigrinus, leoninus
-it- Ammonites, Sphaerites
-i- trapezius
-od- Nematodes
-os- Os petrosum

(141) Occurrence, Habitat; Container, Place

o m L = L[o m]o

-ace- arundinaceus
-ae- Limnaes
-al- Asterias glacialis, Gastrophilus intestinalis
-an- montanus, africanus
-ar- Bufo vulgaria
-ari- Calandra granaria, Mus agrarius
-atic- silvaticus, aquaticus
-atil- aquatilis
-ens- hortensis
-est- Arvicola agrestis
ester, -estr- alpestris, campestris, terretris
-et- lphidula saliceti

-c- Fasciola hepatica, rustica.
-n- alpinus, salinus, marinus, ovinus, bovinus
-it- Bufo calamita
-os- pilosus, sabulosus

(142) Relative Position

o_1 m o_2 = o_1 [o_2o]m

-ac- cardiacus. ilicus
-ae- peronaeus
-an- medianus
-ior- anterior
-ar- articularis, jugularis
-e- rhomboideus
-ic- thoracicus
-in- pelvina, palatinum
-i- posterius
-os- arteriosus, venosus

(143) Becoming, Beginning

o i C = o [Cr] i

-escens, -escent- adolescens, senescens
-sce- labascere, valescere

(144) The Effected Change, Result

o_1 c o_2 = o_2 [o_1c]r

-io, -ion- localisation, evolution
-at- quadratus
-ur- temperature
-atio, -ativ-, -ator-, -atur-, -or-, -ori-

(145) Means, Tool

H c [o c C] = o [H c. Cr2] cr

-acul- retinaculum
-an- Organum, Stephanophyes, Cavum tympani
-br cribrum
-bul- stabulum, infundibulum
-cul- tentaculum, gubernaculum
-cr- ambulacrum
-ment- alimentum, vestimentum
-men, -min foramen, nomen

(146) Enzyme

R c [[R_1 h Q'] v [R_1 h Q]] |– R c C = R [Cr] c

-ase- maltase, sucrase, transferase, dehydrogenase, oxidase, phosphatase,

catalase, urease, zymase, ribonuclease
amylase, lactase, peptidase, lipase, esterase, thrombokinase.

(147) Process; State
o c C ß Q
Q s o = Q [oo]s
-ias- amoebiasis, elephantiasis
-i, io, -ion-, -it-, -nti-, -or, -u-, -ori-, -os-, -s-, -ul-, -ur-

(148) Possibility, Disposition
o p C = o[C r] p
o p^- C = o [C r] p^-
-bil- audibilis, flexibilis
-il- agilis, contractilis, Reptilia
-iti- pungitius, adventitius
-iv- active, generative
-ns, -nt- Rodentia, Culex pipiens

Given that the concepts examined in (131-148) constitute the bulk of concept formation elements in English (or, for that matter, European) scientific conceptology, our hypothesis in this Section cannot be refuted, for the concepts which are realised by means of suffixes are based on palpably simple conceptual unions.