Greek and Latin in Scientific Terminology, Lecture 12

Andrew Dunning

14 August 2014

# The Third Declension (redux)

## Case Review

Nominative case: used to indicate the *subject* of a sentence.

Accusative case: used to indicate the *object* of a sentence.

Genitive case: used to indicate possession or close association.

## Odd Things in the Third Declension

Often a significant difference between the nominative singular and the root that we end up with in English.

Ending for the nominative singular is inconsistent.

Often impossible to guess the gender by looking at the ending of the word.

## Masculine and Feminine Nouns

|  |  |  |
| --- | --- | --- |
|  | Singular | Plural |
| Nominative | — (e.g. radix) | -es (e.g. radices) |
| Genitive | -is (e.g. radicis) | -um (-ium) (e.g. radicium) |

## Neuter Nouns

|  |  |  |
| --- | --- | --- |
|  | Singular | Plural |
| Nominative | — (e.g. foramen) | -a (-ia) (e.g. foramina) |
| Genitive | -is (e.g. foraminis) | -um (-ium) (e.g. foraminum) |

## Adjectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Masc. and Fem. | Neuter | Masc. and Fem. | Neuter |
|  | singular |  | plural |  |
| nom. | -is (e.g. dorsalis) | -e (e.g. dorsale) | -es (e.g. dorsales) | -ia (e.g. dorsalia) |
| gen. | -is (e.g. dorsalis) | -is (e.g. doralis) | -ium (e.g. dorsalium) | -ium (e.g. dorsalium) |

## adductor brevis

## ductus semicircularos

## filum terminale

## os terminale

## incisura anterior auris

## cornu inferius

## musculi subcostales

## arteriae recurrentes

## digitus annularis

## nervus abducens

## foramen occipale magnum

## venae comitantes

## arteria dorsalis

## fissura longitudinalis cerebri

## musculus cervicalis ascendens

## musculi intercostales externi

# Roots, Part I

## FACI-, (-FICI-)

‘face’, ‘surface’ (*facies*)

BI-FACI-al, applies to leaves with distinct upper and lower surfaces; CORONO-FACI-al, relating to the crown of the head and the face; inter-FACE, a surface which forms the boundary between two faces or systems; super-FICIES, outer surface

## FRUG-, FRUCT-

‘fruit’ (*frux*)

FRUCTI-FIC-at-ion, fruit formation; FRUCT-ose, fruit sugar; FRUCT-esc-ence, the period of maturing of fruits

## GEMIN-

‘twin’, ‘paired’ (*geminus*); GEMELL-, dimin. (*gemellus*)

GEMIN-ate, growing in pairs, paired; BI-GEMIN-ate, doubly paired, twin-forked; BI-GEMIN-y, the condition of occurring in pairs, or in cardiology, a premature beat coupled with each normal heartbeat

## GEN-, GENIT-

‘to produce’, ‘to beget’; GENER-, ‘race’, ‘kind’ (*genus*)

pro-GENIT-or; con-GENI-al; con-GEN-er, a person, animal, plant or thing allied by origin, nature or function to another; GENIT-al; GENER-ic

## GINGIV-

‘the gums’ (*gingiva*)

GINGIVA, the gums; LABIO-GINGIV-al, pertaining to the lips and gums

## INCUD-

‘anvil’ (*incus*)

INCUS, the middle arc of the chain of ossicles in the ear, so named from its resemblance to an anvil; INCUD-ectomy, surgical removal of the incus

## LUTE-

‘yellow’, ‘corpus luteum’ (*luteus*)

CORPUS LUTEUM, the yellow endocrine body formed in the ovary at the site of a ruptured Graafian follicle; LUTE-al, pertaining to the corpus luteum; LUTE-in, a yellow chemical isolated from egg yolk

## MALLE-

‘hammer’ (*malleus*)

MALLEUS, one of the ossicles of the inner ear having the shape of a hammer; MALLE-at-ion, a spasmodic action of the hands, consisting of continuously striking any nearby object

## NOD-

‘knot’ (*nodus*)

NODE, the knob or joint of a stem at which the leaves arise, or an aggregation of specialized cardiac cells, or any small rounded organ, knob or protuberance

## OLE-

‘oil’ (*oleum*)

OLE-in, a fat which is liquid at ordinary temperatures, found in animal and vegetable tissues; OLEI-FER-ous, producing oil

## ORB-, ORBIT-

‘circle’, ‘cavity of the eye’ (*orbita*)

ORB; ORB-it; ORB-icul-ate, nearly circular in outline (applies to leaves); ORBITO-MAL-ar, pertaining to orbit and malar bones

## PALPEBR-

‘eyelid’ (*palpebra*)

PALPEBRA, either of the two movable folds that protect the eyeball; PALPEBR-ate, furnished with eyelids, or to wink

## PEL(L)-, PULS-

‘to push’, ‘to drive’, ‘to beat’

re-PEL; ex-PULS-ion; PULS-at-ile, pulsating, throbbing; PULS-ellum, a flagellum situated at the posterior end of the protozoan body

## PLUR-

‘more’, ‘many’ (*plus*)

PLUR-al-ity; PLURI-VOR-ous, living upon several hosts, as fungus; PLURI-LOC-ul-ar, having more than one compartment or loculus

## SCAND- (-SCEND-), SCANS-

‘to climb’

a-SCEND; de-SCEND; SCANS-or-ius, the small, anterior gluteal muscle; SCANS-ores an order of birds having two toes before and two behind, such as parrots

## SCOP-

‘broom’, ‘brush’ (*scopa*)

SCOP-ate, having a tuft of hair like a brush; SCOP-arius, a species of shrub commonly called broom-tops

## SOLV-, SOLUT-

‘to loosen’, ‘to dissolve’

SOLUTE, the dissolved substance in a SOLUT-ion; ab-SOL-ute, free from admixture

## STRI-

‘furrow’, ‘groove’, (*stria*)

STRIA, a streak or a line, a narrow, band-like structure; STRI-at-ure, striation, state of being striated, or the arrangement of striae

## TEND-, TENS-, TENT-

‘to stretch’; TENDIN-, ‘tendon’ (*tendo*)

TENS-ion, the act of the stretching, the state of being stretched or strained; dis-TENS-ion, a state of dilation; TENS-or, a muscle that serves to make a part tense

## VELL-, VULS-

‘to tear’

a-VULS-ion, the forcible tearing or wrenching away of a part, as a polyp or a limb; re-VULS-ion, the drawing, by irritation, of blood from a distant part of the body

# The Fourth Declension

## Fourth Declension: Masculine

|  |  |  |
| --- | --- | --- |
|  | Singular | Plural |
| Nominative | -us (e.g. ductus) | -us (e.g. ductus) |
| Genitive | -us (e.g. ductuum) | -uum (e.g. ductuum) |

## Fourth Declension: Neuter

|  |  |  |
| --- | --- | --- |
|  | Singular | Plural |
| Nominative | -u (e.g. cornu) | -ua (e.g. cornua) |
| Genitive | -us *or* -u (e.g. cornu[s]) | -uum (e.g. cornuum) |

## ductus lacrimales

## ligamenta collateralia articulationum digitorum manus

## genu internum radicis nervi (facialis)

## septum sinuum (frontalium)

## arteria genu (suprema)

## ligamenta (cruciata) genu

## processus articulares

## apertura externa aqueductus vestibuli

## cervix cornu

# Roots, Part II

## ALVEOL-

'cavity', 'hollow' (*alveolus*)

ALVEOL-ar, relating to an alveolus; ALVEOL-us, a small cavity, pit, or hollow, in particular: any of the many tiny air sacs of the lungs which allow for rapid gaseous exchange; the bony socket for the root of a tooth; an acinus (sac-like cavity) in a gland; ALVEOL-ation, the formation of alveoli

## ATRI-

'entrance hall', 'room' (*atrium*)

ATRI-um, each of the two upper cavities of the heart from which blood is passed to the ventricles; ATRIO-VENTR-icular, relating to the atrial and ventricular chambers of the heart, or the connection or coordination between them

## AX-

'axis' (*axis*)

AX-ial, relating to or forming an axis; AB-AX-ial, facing away from the stem of a plant (in particular denoting the lower surface of a leaf); AD-AX-ial, facing towards the stem of a plant (in particular denoting the upper surface of a leaf); AXO-POD-ium, a pseudopodium with axial filament

## BARB-

'beard' (*barba*)

barber; BARB-ule, a minute filament projecting from the barb of a feather; BARB-ate, bearded; BARBI-cel, a small process on a feather barbule

## BIL-

'bile' (*bilis*)

BILI-ous, affected by or associated with nausea or vomiting; BILI-RUB-in, an orange-yellow pigment formed in the liver by the breakdown of haemoglobin and excreted in bile; BILI-VERD-in, a green pigment excreted in bile (the oxidized derivative of bilirubin); BILI-ary, relating to bile or the bile duct.

## BRACT(E)-

'thin plate' (*bractea*)

BRACT, a modified leaf or scale, typically small, with a flower or flower cluster in its axil; BRACTE-ate, having or bearing bracts; BRACTE-ole, a small bract, esp. one on a floral stem

## BURS-

'bag', 'pouch' (*bursa*)

bursary; bursar; disburse; reimburse; BURSA, a fluid-filled sac or sac-like cavity, especially one countering friction at a joint; BURS-itis, inflammation of a bursa, typically one in a shoulder joint; BURS-icle, a pouch-like receptacle

## CLAV-

'club' (*clava*)

CLAV-ate or CLAV-iform, club-shaped; thicker at the apex than the base; ob-CLAV-ate, club-shaped and attached at the thicker end

## EGO-

'I'

egotism; egotistical; ALTER-EGO-ism, an altruistic feeling for only those who are in the same situation as oneself; EGO-mania, obsessive egotism or self-centredness; super-EGO, the part of a person's mind that acts as a self-critical conscience, reflecting social standards learned from parents and teachers

## ILE-

'ileum' (*ileum*)

ILEUM, the third portion of the small intestine, between the jejunum and the caecum; ILE-ac, pertaining to the ileum; ILEO-COL-ic, pertaining to the ileum and the colon

## ILI-

'flank, hip' (*ilium*)

ILIO-CAUD-al, connecting the ilium and the tail (applies to the muscle); SACRO-ILI-ac, pertaining to the ilium and sacrum

## LENT-

'lentil', 'lens' (*lens*)

LENT-ic-el, one of many raised pores in the stem of a woody plant that allows gas exchange between the atmosphere and the internal tissues; lenticular, shaped like a lentil, especially by being biconvex; relating to the lens of the eye; LENTI-GER-ous, furnished with a lens

## PILE-

'felt cap' (*pileus*)

PILEUS, (in botany) the cap of a mushroom or toadstool; (in anatomy) one of the cerebellar hemispheres; the membrane which sometimes covers a child's head at birth; PILE-ated, crested (e.g. pileated woodpecker)

## SPIC-

'point', 'spike' (*spica*)

SPIC-ule or SPIC-ula, a small, spike-shaped bone; a needle-like body; SPIC-ate, spiked; SPIC-ulum, the dart of a snail

## UNC-, UNCIN-

'hook' (*uncus; uncinus*)

ad-UNC-ate, crooked; bent in the form of a hook; UNCI-form, shaped like a hook or barb; UNCI-FER-ous, bearing hooks or hook-like processes; UNCIN-ula, a genus of mildew with hooked appendages

# The Fifth Declension

## The Fifth Declension

|  |  |  |
| --- | --- | --- |
|  | Singular | Plural |
| Nominative | -es (e.g. scabies) | -es (e.g. scabies) |
| Genitive | -ei *or* -u (e.g. scabiei) | -erum (e.g. scabierum) |

## facies dorsalis

## arteria transversa faciei

## facies articulares inferiores

# Roots, Part III

## CAN-

'white', 'grey' (*canus*); CAND-, 'to be glowing white'

candid; candidate; candour; in-CAND-esc-ent, emitting light as a result of being heated; CAN-ities, greyness or whiteness of the hair

## CLAV-

'key', 'collarbone' (*clavis*)

enclave; exclave; clavichord; CLAV-icle, the collarbone; sub-CLAV-ian, under the clavicle; CLAVIC-ular, pertaining to the clavicle

## CLIN-

'to slope', 'to lean' (KLIN- in Greek)

incline; decline; CLINO-CEPHA-ly, congenital flatness or concavity of the vertex of the head; syn-CLINE, a trough or fold of stratified rock in which the strata slope upwards from the axis

## CREN-

'notch' (*crena*)

CREN-ate, having a round-toothed or scalloped edge (especially of a leaf or shell); CREN-ul-ate, having a finely scalloped or notched outline or edge (especially of a leaf, shell, or shoreline)

## FAV-

'honeycomb' (*favus*)

FAV-ella, a conceptacle of certain red algae; FAV-eol-ate, honeycombed or alveolate; FAVUS, a distinctive type of tinea capitis characterized by the formation of honeycomb-like mats

## FRONT-

'forehead', 'front' (*frons*)

FRONS (pl. frontes), the forehead or equivalent part of an animal, especially the middle part of an insect's face between the eyes and above the clypeus; FRONT-al, relating to the forehead or front part of the skull; FRONT-al BONE, the bone which forms the front part of the skull and the upper part of the eye sockets; FRONT-ad, toward the frontal aspect; FRONTO-NAS-al, pertaining to the frontal sinus and the nose

## FRUCTIC-

'shrub' (*frutex*)

FRUTEX, a shrub; FRUTIC-ose, (of a lichen) having upright or pendulous branches; FRUT-esc-ent, shrublike

## INGUIN-

'groin' (*inguen*)

INGUIN-al, of the groin; ex-INGUIN-al, occurring outside the groin; INGUINO-DYN-ia, pain in the groin

## LAN-

'wool' (*lana*)

LAN-OL-in, a fatty substance found naturally on sheep's wool; LAN-UGO, fine, soft hair, especially that which covers the body and limbs of a human fetus; LAN-UG-inous, covered with down

## LOB-

'lobe' (*lobus*)

LOBO-tomy, a surgical operation involving incision into the prefrontal lobe of the brain, formerly used to treat mental illness; LOB-ule, a small lobe; LOB-ular, pertaining to a lobule

## LUMB-

'loin' (*lumbus*)

LUMB-ar, relating to the lower part of the back; LUMB-ago, pain in the muscles and joints of the lower back

## NUD-

'naked' (*nudus*)

NUDI-BRANCHI-ate, having gills not covered by a protective shell or membrane; NUDI-CAUD-ate, having a tail not covered by hair or fur

## PAR-

'equal' (*par*)

PAR-ity, the state or condition of being equal; PARI-VINC-ular, applies to the bivalve hinge ligament attached to nymphae; PARI-PINN-ate, pinnate without a terminal leaflet; dis-PAR-ate, not situated alike

## TEMPOR-

'the temples' (*tempora*, pl.)

TEMPOR-al, (in anatomy) of or situated in the temples of the head; infra-TEMPOR-al, below the temporal fossa; PARIETO-TEMPOR-al, pertaining to the parietal and temporal bones or lobes; TEMPOR-al BONE, either of a pair of bones which form part of the side of the skull on each side and enclose the middle and inner ear; TEMPOR-al-is, a fan-shaped muscle which runs from the side of the skull to the back of the lower jaw and is involved in closing the mouth and chewing

## VITELL-

'yolk of an egg' (*vitellus*)

VITELLUS, the yolk of an egg or ovum; VITELL-in, the chief protein constituent of egg yolk; VITELL-ine, relating to the yolk (or yolk sac) of an egg or embryo, or to yolk-producing organs; VITELL-ine MEMBRANE, a transparent membrane surrounding and secreted by the fertilized ovum, preventing the entry of further spermatozoa; VITELLO-GEN-in, a protein present in the blood, from which the substance of egg yolk is derived