

# Latin in Scientific Terminology

## LECTURE 7

Based on Ayers (1972), chapters 21–23.

### *Prefixes*

- AB-, A-, ABS- 'away from', 'from'  
abduction, abnormal, aversion, avocation, abstraction, abstain
- AD-, AC-, AG- (ETC.) 'to', 'toward', 'near'  
adrenal, adverb, access, aggression, alleviate  
NB: Assimilation will cause the last consonant of this prefix to become the same as the first consonant of the root.
- AMBI-, AMBO- 'both', 'around'  
ambidextrous, ambition, ambisexual, amboceptor, ambosexual
- ANTE- 'before', 'in front of'  
antechamber, antecedent
- CIRCUM-, CIRCU- 'around'  
circumference, circumstance, circuitous
- CON-, COM-, CO-, ETC. 'with', 'together', 'very'  
conduct, confine, compose, compress, correspond, cooperate, collect  
NB: Assimilation will cause the last consonant of this prefix to become the same as the first consonant of the root.
- CONTRA-, CONTRO- 'opposite', 'against' (through French, counter-)  
contradict, contraceptive, controversy, controvert, counteract, counterindicate
- DE- 'down', 'away', 'off', 'thoroughly'  
describe, descend, depression
- DIS-, DI-, DIF- 'apart', 'in different directions', 'thoroughly'  
dissect, dispersion, divorce, digress, divert, differ, diffusion
- EX-, E-, EF- 'out', 'from', 'removal', 'completely'  
exclude, expel, exclamation, emit, elect, elongate, effective  
NB: after ex- an initial s in a root sometimes disappears, as in ex-(S)PECT and ex-(S)PIRE.
- EXTRA-, EXTRO- 'outside of', 'beyond'  
extraordinary, extrasensory, extrovert
- IN-, IM-, ETC. 'into', 'on' (through French, *en-*)  
incision, induce, illuminate, imprint, irrigation, enclose  
NB: Assimilation will cause the last consonant of this prefix to become the same as the first consonant of the root.
- INTRA-, INTRO- 'within'  
intramural, introduce, introvert
- IN-, IM-, ETC. 'not'  
infirm, inefficient, impossible, illegible, irresponsible  
NB: Assimilation will cause the last consonant of this prefix to become the same as the first consonant of the root.
- INFRA- 'below'  
infrared, infrahuman, infraspecific
- INTER- 'between', 'among'

interrupt, intercept, interact  
 JUXTA- 'by the side of', 'close to'  
 juxtaposition, juxtaspinal  
 OB-, ETC. 'against', 'toward', 'completely'  
 obstruct, obstacle, obvious, oppose, offer, occur  
 NB: Assimilation will cause the last consonant of this prefix to become the same as the first consonant of the root.  
 PER- 'through', 'wrongly', 'completely'  
 perfect, permeate, pervade, perjury  
 POST- 'behind', 'after'  
 postpone, postscript, postgraduate  
 PRE- (PRAE-) 'before', 'in front of'  
 prevent, prepare, precaution, praenomen, praetorian  
 PRO- 'forward', 'in front of'  
 progress, project, prolong  
 RE-, RED- 'back', 'again', 'against'  
 reduce, reject, recede, redundant, redemption  
 RETRO- 'backwards', 'behind'  
 retroactive, retrospective, retrograde  
 SE- 'aside', 'away'  
 secede, select, secrete  
 SUB-, SUS-, SUC-, ETC. 'under', 'up from under', 'somewhat'  
 submarine, subscribe, submerge, suspend, suffer, support  
 NB: Assimilation will cause the last consonant of this prefix to become the same as the first consonant of the root.  
 SUPER-, SUPRA- 'above'  
 supernatural, superstructure, supersonic, suprarenal  
 TRANS-, TRAN-, TRA- 'across', 'through'  
 transmit, transfer, transfusion, transcribe, transcend, trajectory, travesty, tradition  
 ULTRA- 'beyond'  
 ultraviolet, ultramodern, ultrasonic

### *Roots, Part I*

CAUD- 'tail' (*cauda*)  
 e-CAUD-ate, without a tail; NUDI-CAUD-ate, having a tail not covered with hair or fur; SACRO-CAUD-al, pertaining to the sacrum and tail region  
 CEREBR- 'brain' (*cerebrum*)  
 CEREBR-al; CEREBR-in, a nitrogenous glycoside obtained from brain and similar tissue  
 CID-, CIS- 'to cut', 'to kill'  
 MATRI-CIDE; REGI-CIDE; CON-CISE; suc-CISE, abrupt, appear as if a part were cut off; in-CIS-ura, a notch, depression or indentation, as in bone, stomach, liver, etc.  
 DORS- 'back'  
 ante-DORS-al, situated in front of the dorsal fin in fish; DORS-ALG-ia, pain in the back; DORSO-CAUD-ad, to or toward the dorsal surface and caudal end of the body  
 DUC-, DUCT- 'to lead', 'to draw'  
 DUCT; de-DUCT-ion; ab-DUCT-ion, withdrawal of a part from the axis of the body or of an extremity; LEVO-DUCT-ion, movement to the left, especially of the eye  
 ERR- 'to wander', 'to deviate'  
 ERR; ERR-or; ERR-ata; ERR-ant, with a tendency toward moving, straying or deviating

FLEX-, FLECT- 'to bend'  
 re-FLECT-ion; re-FLEX, an involuntary, invariable, adaptive response to a stimulus; retro-FLEX-ion, the state of being bent backwards

FUND-, FUS- 'to pour', 'to melt' (through French, FOUND-)  
 FUS-ion; FUSE; dif-FUSE, spread out; per-FUS-ion, the introduction of fluids into tissues by their injection into arteries, or the passage of fluids through spaces

GREG- 'flock', (*grex*)  
 con-GREG-ate; se-GREG-ate; e-GREG-ious; GREG-arious, tending to herd together, or growing in clusters

LACT- 'milk' (*lac*)  
 LACT-at-ion, the period during which the child is nourished from the breast, or the formation or secretion of milk; LACTI-FER-ous, forming or carrying milk

LATER- 'side' (*latus*)  
 LATERI-GRADE, walking sideways, as a crab; ambi-LATER-al, relating to or affecting both sides; HETERO-LATER-al, pertaining to or situated on the opposite

MEDI- 'middle' (*medius*)  
 MEDI-ate; MEDIO-DORS-al, on the median line of the back

OV- 'egg' (*ovum*)  
 OV-ul-at-ion; BIN-OV-ular, pertaining to two ova, applies to twinning; OVI-CIDE, an insecticide effective against an egg stage

PON-, POSIT-, -POSE 'to place', 'to put' (through French, POUND-)  
 ex-PON-ent; im-POUND; ap-POSIT-ion, the state of being in juxtaposition or proximity; trans-POSIT-ion, a change of position

RUG- 'wrinkle' (*ruga*)  
 RUGA, a fold or wrinkle, as of the mucous membrane of certain organs; RUG-os-ity, a condition exhibiting many folds in a tissue or integument

SANGUI(N)- 'blood' (*sanguis*)  
 SANGU-ine; SANGUI-MOT-or, of or relating to the circulation of blood; con-SANGUIN-eous, related by birth or blood

SICC- 'dry' (*siccus*)  
 ex-SICC-ata, dried specimens; ex-SICC-ant, drying or absorbing moisture; SICC-ant, drying, tending to make dry

VAL- 'to be strong', 'to be well'  
 VAL-id; VALE-DICT-ory; bi-VAL-ent, applies to paired homologous chromosomes; VAL-ence, capacity of atoms to combine with other atoms in different proportions

VARIC- 'twisted and swollen (vein)' (*varix*)  
 VARIC-ose, descriptive of blood vessels that are dilated, knotted and tortuous; NEURO-VARIC-osis, a varicosity on a nerve fibre; VARIX (pl. varices), prominent ridges across the whorls of univalve shells; VARIC-eal, relating to or involving a varix; VARICO-cele, a mass of varicose veins in the spermatic cord

VERT-, VERS- 'to turn'  
 VERTEX, the highest point (Latin 'whirlpool, crown of a head'), from which the word *vertical* comes; a-VERS-ion; VERS-at-ile, hung or attached near the middle and moving freely, as an anther; VERSI-COLOUR-ed, changing from one colour to another in different lights

### Roots, Part II

ARTICUL- 'joint' (*articulus*)  
 inter-ARTICUL-ar, between articulating parts of bones (applies to certain ligaments and fibrocartilages); BI-ARTICUL-ar, two-jointed

BUCC- 'cheek', 'mouth' (*bucca*)

BUCC-al, relating to the cheek or mouth; BUCCO-LINGU-al, pertaining to the cheeks and tongue; BUCCO-VERS-ion, condition of tooth's being out of the line of the normal occlusion in the buccal direction

CLUD-, CLUS-, CLOS- 'to close', 'to shut'  
 con-CLUDE; in-CLUS-ive; e-CLOS-ion, the act of emerging from the pupal case, or of hatching from the egg; ex-CLUS-ion, the process of shutting out in a surgical operation by which part of an organ is disconnected but not excised

CORD- 'heart' (*cor*)  
 ac-CORD; con-CORD; CORD-ate, heart-shaped; sub-CORD-ate, tending to be heart-shaped; post-CORDI-al, situated behind the heart; pre-CORD-ium the area of the chest overlying the heart

COST- 'rib' (*costa*)  
 COST-ate, with one or more longitudinal ribs or ridges; BI-COST-ate, having two longitudinal ridges or ribs, as a leaf; sub-COST-ALG-ia, pain beneath the ribs or over a subcostal nerve

CRUR- 'leg' (*crus*)  
 CRURA (pl. of CRUS); the shanks, or leg-like or columnar structures  
 GENITO-CRUR-al, pertaining to genitalia and leg

CUR(R)-, CURS- 'to run', 'to go'  
 CURR-ent; oc-CUR; con-CUR; ex-CURR-ent, pertaining to ducts, channels or canals where there is an outgoing flow, or with an undivided main stem, or having midrib projecting beyond the apex

DENT- 'tooth' (*dens*)  
 in-DENT; TRI-DENT; DENT-ition, the process of teething, or the arrangement of the teeth; DENT-in, a hard, elastic substance, chemically resembling bone, composing the greater part of teeth; DENT-icle, a small, toothlike process

FEBR- 'fever', (*febris*)  
 FEBR-ile, pertaining to or characterized by fever; FEBR-icula, a slight and transient fever

FER- 'to bear', 'to carry', 'to produce'  
 suf-FER; re-FER; trans-FER; af-FER-ent, bringing toward (applies to nerves carrying impulse to nervous centres); OVI-FER-ous, serving to carry eggs; PROLI-FER-ate, to multiply

FOLI- 'leaf' (*folium*)  
 FOLI-age; FOLI-aceous, having the form or texture of a foliage leaf; pre-FOLI-at-ion, the form and arrangement of foliage leaves in a bud; ef-FOLI-at-ion, shedding of leaves

HER-, HES- 'to stick'  
 ad-HER-ent, attached to a substratum; co-HES-ion, the attractive force between the same kind of molecules; ad-HESIO-tomy, the surgical cutting or division of adhesions

JECT- 'to throw', JACUL-, 'dart' (*jaculum*)  
 e-JECT; re-JECT; pro-JECT-ile; OVI-JECT-or, a highly muscular part of the oviduct in many nematode worms that forces the eggs through the genital pore; JACULAT-ory, darting out, capable of being emitted

MUR- 'wall' (*murus*)  
 inter-MUR-al, situated between the walls of an organ; extra-MUR-al, outside the wall of an organ; MUR-al, pertaining to a wall, as a mural pregnancy

NOMIN-, NOM- 'name' (*nomen*)  
 NOMIN-al; NOMINAL-ism; para-NOM-ia, nominal aphasia, characterized by an inability name objects; BI-NOM-ial, consisting of two names

RADI- 'spoke of a wheel', 'ray' (*radius*)

RADI-ate; RADIO-re-CEPT-or, a terminal organ for receiving light or temperature stimuli; RADIO-ole, a spine of a sea urchin; RADIO-therapy treatment of disease by x-rays, radium and other radioactive substances

SEMIN- 'seed' (*semen*)  
 dis-SEMIN-at-ion; SEMIN-al; SEMIN-at-ion, dispersal of seeds, discharge of spermatozoa; SEMIN-uria, discharge of semen in the urine

TEG-, TECT- 'to cover'  
 pro-TECT; de-TECT; TEG-men, the inner seed coat, or a covering structure or roof, esp. the thin plate over the tympanic atrium; sub-TEG-min-al, under the tegmen or inner coat of a seed

TUSS- 'cough' (*tussis*)  
 TUSS-ive, pertaining to or caused by a cough; TUSS-ilago, a genus of plants used as a remedy for cough

VEN- 'vein' (*vena*)  
 RECTI-VEN-ous, having straight veins; VEN-at-ion, the system or disposition of veins; VEN-ule, small vein of a leaf or insect wing

*Roots, Part III*

ARBOR- 'tree' (*arbor*)  
 ARBOR-eous, treelike or pertaining to trees; ARBOR-iz-at-ion, a conformation or arrangement resembling the branching of a tree

CAL- 'to be warm'  
 CALE-FACI-ent, an externally applied medicine that causes a sensation of warmth; de-CAL-esc-ence, the decrease in temperature when rate of heat absorption exceeds rate of heat input

CARIN- 'keel' (*carina*)  
 CARINA, any keel-like structure, as at the tracheal bifurcation; para-CARIN-al, beside a carina, especially the urethral carina

CERN-, CRET-, CRE- 'to separate', 'to distinguish', 'to secrete'  
 se-CERN-ment, secretion, applied to the function of a gland; in-CRET-ion, internal secretion, se-CRET-agogue, substance promoting or causing secretion

CILI- 'eyelid', 'eyelash' (*cilium*)  
 super-CILI-ous; CILIA, hairlike, vibratile outgrowths of the ectoderm; CILI-ata, a class of phylum Protozoa characterized by the presence of cilia; CILIO-GRADE; progressing by movement of cilia

CORN(U)- 'horn' (*cornu*)  
 CORNU-COPIA; UNI-CORN; BI-CORNU-te, with two hornlike processes; CAVI-CORN, hollow-horned, applies to some ruminants; CORNI-FIC-ation, degenerative process by which cells of epithelium are converted into dead, horny tissue

CUB-, CUMB-, CUBIT- 'to lie'  
 suc-CUMB; in-CUMB-ent; in-CUB-us; pro-CUMB-ent, prone, lying face down (in dentistry, said of a tooth whose long axis approaches the horizontal); suc-CUB-ous, with each leaf covering part of the leaf beneath it

DORM-, DORMIT- 'to sleep'  
 DORMIT-ory; ob-DORMIT-ion, numbness of a part due to interference with nervous function, sensation of a part 'being asleep'; DORMIT-ive, inducing sleep

FET- (FOET-) 'offspring' 'fetus'  
 FET-at-ion, the formation of a fetus, pregnancy; ex-FET-at-ion, extopic or extrauterine pregnancy

FRANG- (-FRING-), FRAG-, FRACT- 'to break', 'to bend'  
 FRACT-ion; FRAG-ment; FRACT-ure; re-FRACT, to cause the deviation of a ray of light from a straight line in passing obliquely from one transparent medium to another of different density

GRAD-, GRESS- 'to step', 'to go'  
 DIGITI-GRADE, walking with only digits touching the ground;  
 ORTHO-GRADE, walking or standing in the upright position;  
 sub-PLANTI-GRADE, incompletely plantigrade, walking with the heel slightly elevated

LINGU- 'tongue', 'language' (*lingua*)  
 LINGU-ist-ics; BI-LINGU-al; FISSI-LINGU-al, having a bifid or cleft tongue; LINGUO-VERS-ion, displacement of a tooth on the lingual side of its proper occlusion

MENT- 'chin' (*mentum*)  
 MENT-al, pertaining to the chin; sub-MENT-al, beneath the chin;  
 MENT-alis, a muscle of the lower lip

PLIC-, PLICIT- 'to fold'  
 PLICA, a fold of skin or membrane; com-PLIC-ate, folded (said of leaves or of insect wings); PLIC-at-ion, the act or process of folding

POT- 'to be powerful'  
 POT-ent-ial; OMNI-POT-ent; UNI-POT-ent, giving rise to only one cell or tissue type (said of an embryonic or multiplying cell); POT-ent-at-ion, effect of a substance which, when, added to another, makes the latter more potent as a drug

PUR- 'pus' (*pus*)  
 PUR-ulent, containing, consisting of, or forming pus; sup-PUR-ate, to form pus; PURO-HEPAT-itis, suppurative inflammation of the liver

REN- 'kidney' (*ren*)  
 ad-REN-al, adjacent to the kidneys, or relating to or derived from adrenal glands or their secretion; sub-REN-iform, slightly kidney-shaped; RENO-TROP-ic, specifically attracted to kidney tissue

SON- 'sound' (*sonus*)  
 ultra-SON-ic, pertaining to sounds with a frequency above that of audible sound; SONI-FIC-at-ion, the act or process of producing sounds, as stridulation of insects

SUD- 'to sweat'  
 ex-SUD-at-ion, process of oozing out slowly; SUDORI-FIC, inducing sweating; SUD-at-orium, a hot air bath or a room for such a bath

TRUD-, TRUS- 'to push', 'to thrust'  
 in-TRUDE; in-ob-TRUS-ive; ex-TRUS-ion, a forcing out (in dentistry, extension of a tooth beyond the occlusal plain)

## LECTURE 8

Based on Ayers (1972), chapters 24–26.

### *Suffixes I*

-AL, (-IAL, -EAL) 'pertaining to', 'like', 'belonging to', 'having the character of' (*-alis*)  
 abdominal, legal, oral, corporal

-ILE, -IL 'pertaining to', 'like', 'belonging to', 'having the character of' (*-ilis*)  
 hostile, juvenile, virile, civil

-AR 'pertaining to', 'like', 'belonging to', 'having the character of' (*-aris*)  
 lunar, solar, popular

-INE 'pertaining to', 'like', 'belonging to', 'having the character of' (*-inus*)  
 bovine, marine, feminine

-IC, -TIC 'pertaining to', 'like' (*-icus, -ticus*)  
 pelvic, civic, lunatic

-ARY 'pertaining to', 'connected with', 'having the character of' (*-arius*)  
 military, literary, sanguinary

- AN, -ANE 'pertaining to', 'like', 'belonging to', 'having the character of' (-anus)  
urban, veteran, Canadian
- FORM (USUALLY -IFORM) 'like', 'having the shape of' (-formis)  
reniform, muriform, oviform
- ATE (OCCASIONALLY -ITE) 'having', 'having the shape of', 'characterized by having' (-atus)  
effeminate, accurate, dentate, favourite
- (U)LENT, -(O)LENT 'full of', 'disposed to' (-lentus)  
fraudulent, purulent, sanguinolent, virulent
- OSE 'full of' (-osus)  
verbose, rugose, comatose
- OUS (-IOUS, -EOUS) 'full of', 'having the character of' (-osus, -us)  
various, populous, nervous
- ACEOUS 'belonging to', 'resembling'  
herbaceous, cretaceous, chartaceous

### Roots, Part I

- ACIN- 'grapes in a cluster' (*acinus*)  
ACIN-ar, pertaining to an acinus, a small seed or kernel, as of a grape; inter-ACIN-ar, among alveoli of a racemose gland; ACIN-iform, grape- or berry- shaped (applies to a type of silk gland in a spider)
- AL- 'wing', (*ala*)  
ALA, any winglike projection or structure; ex-AL-ate, not having wing-like appendages, apterous; ALI-FER-ous, having wings; ALI-NOT-um, the dorsal plate of an insect to which wings are attached
- ANNUL- 'ring' (*annulus*)  
ANNULUS, any ringlike structure; ANNUL-ose, possessing rings
- APIC- 'tip', 'summit', 'apex' (*apex*)  
sub-APIC-al, nearly at the apex; peri-APIC-al, around an apex; APIC- ul-ate, forming abruptly to a small tip, as a leaf
- ARGENT- 'silver' (*argentum*)  
ARGENT-eous, like silver; ARGENTI-FER-ous, producing or containing silver; ARGENT-in-idae, family of small, silvery marine fishes
- CAN- 'dog' (*canis*)  
CAN-in-idae, family which includes dogs, wolves and jackals; CAN-in- iform, having the form of a typical canine tooth
- CAPIT- (-CIPIT-) 'head' (*caput*)  
CAPIT-al; BI-CEPS; CAPIT-ulum or CAPIT-ellum, knoblike swelling on the end of bone; CAPIT-ell-idae, family of worms with small heads
- DUR- 'hard', 'dura mater' (*durus*)  
en-DURE; ob-DUR-ate; in-DUR-at-ion, the hardening of a tissue or part; epi-DUR-al, space between the dura mater and the wall of the vertebral canal; DUR-amen, hard darker central region of a tree stem, heart-wood
- EQU- 'horse' (*equus*)  
EQU-estrian; EQU-it-at-ion; EQU-it-ant, overlapping saddle-wise, as leaves in a leaf-bud; EQU-idae, family of mammals having a single extant genus, *Equus*, which includes the horse, ass and zebra
- LACRIM- (LACHRYM-) 'tear' (*lacrima*)  
LACRIM-al, pertaining to tears or to tear-secreting organs, the lacrimal bone; NASO-LACRIM-al, pertaining to the nose and lacrimal apparatus
- LACUN- 'small pit', 'gap' (*lacuna*)  
LACUNA, a space between cells; a sinus; a cavity in bone; a small cavity or depression on the surface of lichens; a leaf gap; LACUN-oso- RUG-ose, having deep furrows or pits, as some seeds and fruits
- LIMIN- 'threshold' (*limen*)

e-LIMIN-ate; LIMEN, threshold, minimum stimulus or quantitative difference in stimulus that is perceptible, or boundary; LIMEN NASI, boundary between the osseous and cartilaginous portions of the nasal cavity; LIMIN-al, pertaining to a threshold, applies to stimulus, sensations

MAL- 'cheek', 'cheekbone' (*mala*)

MAL-ar, pertaining to the cheek or to the zygoma

OCUL- 'eye' (*oculus*); OCELL-, 'little eye' (*ocellus*)

MON-OC-le; OCELL-ate, like an eye or eyes, applies to marking in many animals; TRANS-OCUL-ar, extending across the eye; MON-OCULE, a one-eyed animal

PALAT- 'palate', 'roof of the mouth' (*palatum*)

PALAT-ine, pertaining to or in the region of the palate (said of artery, bone, foramen); PALAT-itis, inflammation of the palate; PALAT-iform, resembling the palate

PARIET- 'wall' (*paries*)

PARIES, wall of a hollow structure; PARIET-al, pertaining to or forming part of the wall of a structure (of cells, membrane, etc.), also the parietal bone in the roof of the skull; UTERO-PARIET-al, pertaining to the uterus and abdominal wall

PLANT- 'sole of the foot', 'sprout' (*planta*)

PLANTA-, the sole of the foot, or the first tarsal joint of insects; PLANTI-GRADE, walking on the full sole of the foot; im-PLANT; trans-PLANT-at-ion

PONT- 'bridge' (*pons*)

PONT-oon; PONTI-FF; PONS, a process or bridge of tissue connection two parts of an organ, or a convex white eminence situated at the base of the brain; CEREBRO-PONT-ine, relating to cerebrum and pons; PONTO-BULB-ar, pertaining to the pons and the medulla oblongata

PULVIN- 'cushion' (*pulvinus*); PULVIL-, 'little cushion' (*pulvillus*)

PULVINUS, a cellular swelling at the junction of axis and leaf stalk; PULVILLUS or PULVIN-ulus, pad, process or membrane on the foot or between the claws, the lobe between each claw

SEN- 'old' (*senex*)

SEN-ior; SEN-ate; pre-SEN-il-ity, premature old age; SEN-OP-ia, the change of vision in the aged in which persons formerly myopic acquire what seems to be normal vision because of presbyopia

## Roots, Part II

AQU(A)- 'water' (*aqua*)

AQUA-tic, AQUE-DUCT; AQUI-FER, a water-bearing bed or stratum of permeable rock, sand or gravel; AQUA REGIA, a mixture of nitric and hydrochloric acids which dissolves gold

BREV- 'short' (*brevis*)

BREV-ity; ab-BREVI-ate; BREVI-PED, having short legs; BREVI-FOLI-ate, having short leaves; BREVI-LINGU-al, with a short tongue

CAPILL- 'hair' (*capillus*)

CAPELL-ini; CAPILL-ary; CAPILL-ar-ec-TAS-ia, dilatation of the capillaries; CAPILL-aceous, having hairlike filaments

COLL- 'neck' (*collum*)

COLL-ar bone, the clavicle; TORTI-COLL-ar, affected with wry-neck or TORTI-COLL-is

CORON- 'crown' (*corona*); COROLL-, 'little crown' (*corolla*)

COROLLA, the petals of a flower; COROLL-aceous, pertaining to a corolla; CORON-illa, genus of flowers named for crown-shaped flowers

CORTIC-, CORT- 'bark', 'outer layer' (*cortex*)

CORTEX, outer or more superficial part of an organ, the cerebral cortex; infra-CORTIC-al, beneath the cortex; CORTICI-PET-al, conducting toward the cortex

CRUC- 'cross' (*crux*)  
 CRUCI-FY; ex-CRUCI-at-ing; CRUCI-FER, a plant with four petals and tetradynamous stamens, a member of the family Cruciferae; CRUCI-ate, cross-shaped

CUNE- 'wedge' (*cuneus*)  
 CUNE-i-form; CUNE-ate, wedge-shaped; prae-CUNE-us, the medial surface of the parietal or the quadrate lobe of the cerebrum

ENS- 'sword' (*ensis*)  
 ENS-i-form, sword-shaped, as the ensiform cartilage

FALC- 'sickle' (*falx*)  
 FALX, sickle-shaped fold of dura mater; FALC-ate, sickle-shaped, hooked

FUG- 'to flee', 'to put to flight'  
 re-FUGE; FUGI-tive; NIDI-FUG-ous, leaving the nest soon after hatching; CEREBRI-FUG-al, applies to nerve fibres which pass from the brain to the spinal cord; LACTI-FUGE, a drug or agent that lessens the secretion of milk

LINE- 'line' (*linea*)  
 LINE-ar; de-LINE-ate; LINE-at-ion, an arrangement of lines; LINE-olate, marked by fine lines or striae

LUC- 'light', 'to shine' (*lux*)  
 LUC-id; e-LUC-id-ate; NOCTI-LUC-ent, phosphorescent, luminescent; LUCI-FUG-al, fleeing from or avoiding light

MATR-, MATERN- 'mother' (*mater, maternus*)  
 MATRO-CLIN-ous, derived from or inherited from the maternal line; MATR-ix, something within which something else originates or takes form or develops

MONT- 'mountain' (*mons*)  
 MONTI-COL-ous, inhabiting mountainous regions; MONT-iculus, largest part of the superior vermis of the cerebellum; MONT-icules, small eminences or prominences

MULT- 'many' (*multus*)  
 MULTI-CARIN-ate, having many carinae or ridges; MULTI-COST-ate, with many ribs, ridges or veins; MULTI-OCUL-ur, many-eyed

RET- 'net', 'network' (*rete*)  
 RETE, a network or net; RET-ina, the light-receptive layer and terminal expansion of the optic nerve in the eye; RET-icle or RET-iculum, a delicate network of cell protoplasm

ROSTR- 'beak' (*rostrum*)  
 ROSTRUM, beak or beaklike process; LONGI-ROSTR-al, with a long beak; ROST-ell-i-form, shaped like a small beak

TORQU-, TORT-, TORS- 'to twist'  
 TORT; re-TORT; TORT-ure; dis-TORS-ion, the act of twisting; LATERO-TORS-ion, a twisting to one side; con-TORTU-PLIC-ate, applies to a bud with contorted and plicate leaves

VERM- 'worm' (*vermis*)  
 VERMI-celli; VERM-icul-at-ion, wormlike or peristaltic movement, or fine, wavy markings; VERMI-LINGU-al, having a worm-shaped tongue; VERMI-PAR-ous, producing wormlike young, as do blowflies

*Roots, Part III*

BULL- 'bubble', 'blister' (*bulla*); BULLI-, 'to boil'

- BULLA, a large bleb or blister forming either within or beneath the epidermis and filled with lymph; VESI-oluo-BULL-ous, characterized by both vesicles and bullae at the same time
- COL- 'to inhabit'  
 FUNGI-COL-ous, living in or on fungi; LATEBRI-COL-ous, inhabiting holes; DESERTI-COL-ous, desert-inhabiting; RADICI-COL-ous, with the flower seated immediately upon the crown of a root, or dwelling in the root, as a parasite
- CORI- 'skin' (*corium*)  
 CORIUM, the deep layer of the skin; CORI-aceous, leathery (applies to leaves); CORI-aria, a genus of poisonous shrubs used in dyeing and tanning
- CRIST- 'crest' (*crista*)  
 CRISTA, a crest; CRISTA TERMIN-alis, crest on the wall of the right atrium; inter-CRIST-al, between the surmounting ridges of a bone, organ or process (used particularly in intercrystal diameter of pelvis, the distance between two clear crests)
- FAEC- (FEC-) 'excrement', 'sediment' (*faeces*)  
 FAECA-LITH, concretion or calcified mass of faecal material (= COPRO-LITH); FAEC-al-oid, resembling faeces; FAEC-ula, the faecal pellet of an insect
- FLA-, FLAT- 'to blow'  
 ex-suf-FLAT-ion, forced discharge of breath; FLAT-ul-ence, having gas in the stomach and intestinal tract
- FLOR- 'flower' (*flos*)  
 FLOR-ist; FLOR-id; ef-FLOR-esc-ence, eruption of exanthemous disease; extra-FLOR-al, situated outside the flower; pre-FLOR-at-ion, the form and arrangement of flowers in the bud
- FORNIC- 'arch' (*fornix*)  
 FORNIX, an arched body or surface, such as the fornix cerebri; FORNIC-al, like or pertaining to a fornix
- GER-, GEST- 'to carry', 'to bear'  
 di-GEST, to convert food in assimilable form; in-GEST, to take substances into the body; OVI-GER, a leg modified for carrying the eggs in some pycnogonids (sea spiders)
- GUTT- 'drop' (*gutta*)  
 GUTT-er; GUTT-ate, having drop-like markings; GUTT-at-ion formation of drops of water on plants; GUTT-iform, drop-shaped; GUTT-ul-ate, in the form of a small drop, as markings
- NAEV- (NEV-) 'birthmark', 'mole' (*naevus*)  
 NAEVUS, birthmark; NAEV-al, of or related to a naevus; NAEVO-XANTHO-endo-THELI-oma, a group or group of yellowish brown nodules sometimes found on extremities in early childhood
- NID- 'nest' (*nidus*)  
 NID-at-ion, the renewal of uterine lining between menstrual periods; de-NID-at-ion, disintegration and ejection of superficial part of uterine mucus; NID-ament-al, applies to glands which secrete material for an egg-covering
- PULVER-, PULV- 'dust' (*pulvis*)  
 PULVER-ize; PULVI-PLUME, a powder-down feather; PULVER-aceous, covered with a layer of powdery granules
- RADIC- 'root' (*radix*)  
 RADIC-al; e-RADIC-ate; RADIC-ul-ose, having many rootlets; MONO-RADIC-ul-ar, having only one root; MYELO-RADIC-ul-itis, inflammation of spinal cord and roots of spinal nerves
- RAM- 'branch' (*ramus*)  
 RAMI-fic-at-ion; RAM-ate, branched; BI-RAM-ose, divided into two branches; RAMI-FLOR-ous, having flowers on branches

- SAX- 'rock' (*saxum*)  
 SAXI-CAV-ous, applies to rock-borers (as some molluscs), lithophagous;  
 SAXI-FRAGE, plant of the family Saxifraga, perennial herbs frequently  
 found growing in rock crevices; SAXI-COL-ous, inhabiting or growing  
 around rocks
- SCUT- 'shield' (*scutum*)  
 ESCUT-cheon; SCUTE, an external scale, as of reptiles, fish or scaly  
 insects; SCUT-ate protected by large scales or horny plates
- SERR- 'saw', 'saw-tooth' (*serra*)  
 SIERRA; SERR-at-iform, like a saw; sub-SERR-ate, somewhat notched  
 or saw-toothed; SERRI-CORN-ia, a genus of beetles with saw-toothed  
 antennae
- STERCOR-, STERC- 'excrement' (*stercus*)  
 STERCO-BIL-in, the brown pigment of faeces; STERC-oma, a fecalith, a  
 hard faecal mass, usually in the rectum; STERC-ul-ia, a type of plant  
 with a fetid odour
- SULC- 'furrow', 'groove' (*sulcus*)  
 SULC-ate, furrowed, grooved; BI-SULC-ate, having two grooves;  
 SULCO-MARGIN-al, situated at the margin of the spinal cord adjacent  
 to the ventral median fissure

## LECTURE 9

Based on Ayers (1972), chapters 27–30.

### *Suffixes II*

- ENT (*-ient*), -ANT (*-iant*) equivalent to the English present participle end-  
 ing, *ing* (*-ens*, *-ans*); this suffix often forms words which are used as  
 nouns meaning 'person who', 'that which'  
 eloquent, innocent, dormant, vigilant, agent, current, inhabitant
- ILE 'able to be', 'able to', 'tending to' (*-ilis*)  
 fragile, ductile, agile, docile  
 NB: Distinguishable from the other -ile by the fact that it is attached to  
 verbal roots.
- ABLE, -IBLE 'able to be', 'able to', 'tending to' (*-abilis*, *-ibilis*).  
 durable, adaptable, incredible, flexible, adaptability, flexibility  
 NB: When this suffix is followed by another suffix, it becomes -abil-,  
 -ibil-.
- ID 'tending to', 'inclined to' (*-idus*)  
 fervid, frigid, vivid
- TUDE forms abstract nouns (*-tudo*)  
 beatitude, solitude
- UOUS 'tending to', 'inclined to' (*-uus*, *-uosus*)  
 continuous, assiduous, impetuous
- ULOUS 'tending to', 'inclined to' (*-ulus*)  
 incredulous, tremulous, garrulous
- IVE 'tending to', 'inclined to' (*-ivus*)  
 active, aggressive, adhesive
- ORY 'tending to', 'serving for' (*-orius*)  
 preparatory, introductory, excretory
- ITIOUS 'tending to', 'characterized by' (*-icius*)  
 fictitious, excrementitious
- ACIOUS 'tending to', 'inclined to' (*-ax*)  
 vivacious, audacious, loquacious
- ORY (*-orium*) 'place for', 'apparatus'  
 dormitory, lavatory, auditorium, sanatorium

- ARY (-arium) 'place for', 'apparatus'  
mortuary, library, infirmary, aquarium, sanitarium, herbarium
- Y (-IA) 'quality of', 'state of', 'act of'  
misery, modesty, perjury, neuralgia, insomnia, asonia

#### Diminutives

- ULE, -OLE, -LE 'little' (-ulus, -ula, -ulum; -olus, -ola, -olum; -leus, -lea, -leum)  
globule, granule, arteriole, circle, scruple, gladiolus, formula, cupola, capitulum
- EL 'little' (-ellus, -ella, -ellum)  
tunnel, scalpel, morsel, lamella, flagellum, capitellum, cerebellum
- CULE, -CLE 'little' (-culus, -cula, -culum)  
molecule, muscle, particle
- IL 'little' (-illus, -illa, -illum)  
codicil, pupil, fibril, fibrilla, Priscilla, armadillo
- UNCLE 'little' (-unculus)  
carbuncle, avuncular, furnuncle, pedunculus, ranunculus
- ETTE, -ET 'little' (of French origin, but attaching to Latin roots)  
statuette, cornet, lancet

#### Roots, Part I

- AUD-, AUDIT- 'to hear'  
AUDIT-orium, AUDIT-ion; AUDIO-meter, an instrument for measuring the acuity and range of hearing; AUDIT-ive or AUDIT-ory, pertaining to heard sounds or the sense of hearing
- CAMER- 'chamber' (*camera*)  
CAMERA; CAMER-ation, division into a number of separate chambers; UNI-CAMER-al, having only one cavity or chamber
- CAD-, (-CID-), CAS- 'to fall', 'to befall'  
CAD-ence; de-CAD-ent; de-CID-uous; in-CID-ence, the act or manner of falling upon; the way in which one body strikes another, as angle of incidence
- CAP- (-CIP-), CAPT- (-CEPT-) 'to take', 'to seize'  
CAPT-ive; re-CEPT-ion; CON-CEPT-ion; EXTERO-CEPT-or, a receptor which receives stimuli from outside the body
- CREPIT- 'to creak', 'to crackle'  
de-CREPIT; de-CREPIT-at-ion, the breaking up or crackling of certain crystals on heating; CREPIT-at-ion or CREPIT-at-io or CREPITUS, the grating of fractured bones, or the crackling of a joint
- GRAV- 'heavy' (*gravis*)  
in-GRAV-esc-ent, increasing in weight or severity; GRAVI-GRADE, any of several large, heavy-footed mammals, as elephants; PRIMI-GRAV-ida, a woman who is pregnant for the first time
- JAC- 'to lie'  
ad-JAC-ent, lying nearby, having a common border; sub-JAC-ent, lying beneath
- LAB-, LAPS- 'to slip', 'to fall', 'to glide'  
LAPSE; col-LAPSE; re-LAPSE; LAB-ile, unstable, readily changing, moving from place to place; LAB-il-ity, in psychiatry, very rapid fluctuation in intensity and modality of emotions
- MOLL- 'soft' (*mollis*)  
MOLL-ities, softness; MOLL-SOL, surface layer of permanently frozen ground in which ice melts during the summer; e-MOLL-ient, a substance used externally to soften the skin
- MORB- 'disease' (*morbus*)

MORB-id; MORB-ose; *morbus anglicus*, rickets; *morbus divinus* or *morbus caducus*, epilepsy; *morbus hungaricus*, typhus

MOV-, MOT- 'to move'  
 pro-MOTE; de-MOT-ion; OCULO-MOT-or, causing movements of the eyeball (applies to the third cranial nerve); VENO-MOT-or, causing veins to contract or dilate

NASC-, NAT- 'to be born'  
 NAT-ive, NAT-ure; NAT-ion; ad-NATE, congenitally attached or united; in-NATE, inherited, present from birth; ante-NAT-al, occurring or existing before birth, prenatal

PATI-, PASS- 'to suffer', 'to endure'  
 PATI-ent; PASS-ion, an intense emotion; com-PAT-ibil-ity, congruity; the power of a medicine or a substance in a medicine to mix with another without deleterious chemical change or loss of therapeutic power; refers also to blood types

PLAN- 'flat' (*planus*)  
 PLANE; de-PLAT-ate, levelled, flattened; PLAN-at-ion, a process of erosion that produces flat surfaces; PLAN-ula, very young, flat-bodied larva or free-swimming coelenterates

PRUR-, PRURIT- 'to itch'  
 PRURITUS, itching; anti-PRURIT-ic, relieving or preventing itching; PRUR-igo, a chronic inflammatory disease of the skin characterized by itching

REG- (-RIG-), RECT- 'to make straight', 'to rule'; RECT-, 'straight', 'rectum' (*rectus*)  
 REG-ent; di-RECT; ar-RECT-or a muscle which erects; para-RECT-al, beside or near the rectum; REG-imen, a systematic plan or course to maintain or improve health

RUMP-, RUPT- 'to break', 'to burst'  
 ab-RUPT; inter-RUPT; ab-RUPT-ion; RUPT-ure, a forcible tearing of a part, or a hernia; RUPT-io, rupture of a vessel or organ

SCIND-, SCISS- 'to cut', 'to split'  
 re-SCIND; SCISS-ile, separating, easily split; ab-SCIND, to cut off; dis-SCISS-ion, state of being torn apart

TANG- (-TING-), TIG-, TACT- 'to touch'  
 con-TACT; con-TING-ent; TACT-ile, pertaining to the sense of touch; a-TACT-ia, loss of the tactile sense; MYO-TACT-il-ic, relating to the muscular sense

VESIC- 'bladder', 'blister' (*vesica*)  
 VESIC-le, a small bladder, especially a small sac containing fluid, a small bulla; peri-VESICUL-itis, inflammation around a seminal vesicle; VESIC-at-ion, the formation of a blister, or a blister

### Roots, Part II

AMBUL- 'to walk'  
 AMBLE; AMBUL-ance; AMBUL-ant or AMBUL-at-ory, walking or able to walk, designating a patient not confined to bed but requiring medical care; SOMN-AMBUL-ism, sleepwalking

CED-, CESS- 'to go', 'to yield'  
 con-CEDE; intro-CESS-ion, a depression, as of a surface; pro-CESS, a prominence or outgrowth; suc-CED-an-eous, relating to or acting a substitute; pertaining to that which follows after, as a permanent tooth replacing a deciduous tooth

DEXTR- 'right hand' (*dexter*)  
 DEXTRO-DUCT-ion, movement of the visual axis toward the right

FAC- (-FIC-), FACT- (-FECT-) 'to do', 'to make'

FACT-ory; FACT; FICT-ion; ef-FIC-acious, having the power to bring about a desired effect; FAC-ul-tat-ive, voluntary, optional; having the power to do or not do a thing

FID-, FISS- 'to split'  
FISS-ure; FISS-ion; FISS-ile, fissionable; FISSI-ROSTR-al, with deeply cleft beak; PENTA-FID, divided in five divisions or lobes

GUST- 'to taste'  
dis-GUST; GUST-at-ion, the sense of taste, the act of tasting; de-GUST-at-ion, the act of tasting; GUSTO-meter, an apparatus used to determine taste thresholds

INSUL- 'island' (*insula*)  
INSUL-ate; PEN-INSULA; INSULA, that portion of the cortex overlying the corpus striatum INSUL-oma, a tumour arising from the cells of the islets of the pancreas; INSUL-in, the antidiabetic hormone arising from the islets of Langerhans

JUNCT- 'to join'; JUG-, 'yoke' (*jugum*)  
JUNCT-ion; sub-JUG-ate; con-JUG-at-ion, the temporary union or complete fusion of two gametes or unicellular organisms, or the pairing of chromosomes; dis-JUNCT-ion divergence of paired chromosomes at anaphase

LEV- 'left hand' (*laevus*)  
LEVO-DUCT-ion, movement to the left, especially of the eye; LEVO-GYR-ate or LEVO-ROT-ary, rotating the plane of polarized light to the left

MACUL- 'spot' (*macula*)  
im-MACUL-ate; MACCHI-ato; MACULA, a spot or patch of colour, or a small pit or depression; MACULA LUTEA, the yellow spot on the retina, the point of clearest vision; MACUL-at-ion, the arrangement of spots on a plant or animal

NOCT- 'night' (*nox*)  
NOCTI-phobia, morbid fear of night; per-NOCT-at-ion, staying up all night; NOCT-VAG-ant, going about in the night, night-wandering

PAR-, PART- 'to give birth to', 'to produce'  
MULTI-PAR-ous, bearing more than one offspring at a time; BI-PAR-ous, having two young at a time; RAMI-PAR-ous, producing branches, OCTI-PARA, a woman who has been in labour eight times

PEND-, PENS- 'to hang', 'to weigh', 'to pay'  
de-PEND; im-PEND; ex-PENS-ive; com-PENS-at-ion, a psychic phenomenon in which strong of guilt or inferiority prompt excessive defensive reactions

PRED- 'prey' (*praeda*)  
PRED-at-ism, the habit or practice of living by predation; PRED-acious, preying on other animals; PRED-ac-ity, quality or state of being predacious

ROT- 'wheel' (*rota*)  
ROT-ate, shaped like a wheel, rotiform; ROT-ul-iform, shaped like a small wheel; MUTA-ROT-at-ion, a change in optical rotation of solutions of certain sugars

SALI- (-SILI-), SALT- (-SULT-) 'to leap', 'to jump'  
ex-ULT; re-SULT; con-SULT; in-SULT, trauma or other stress to tissues or organs; SALTI-GRADE, moving by leaps as some insects

SORB-, SORPT- 'to suck in'  
ab-SORPT-ion, in physiology, the taking up of fluids or gases through osmosis and capillarity, or infiltration into the skin, or incorporation into the body through blood and lymph

STRING-, STRICT- 'to draw tight'

STRICT, stiffly upright, rigid, erect; a-STRING-ent, an agent that produces contraction of organic tissues or arrests haemorrhage, diarrhoea, etc.

TEN- (-TIN-), TENT- 'to hold'

TEN-ant; con-TIN-uous; de-TENT-ion; in-con-TIN-ent, not having the ability to control the natural evacuations, as the faeces or urine; sus-TIN-icul-ar, supporting (applies to connective tissue acting as a supporting framework for an organ)

VIV- 'living' (*vivus*)

sur-VIVE; VIV-id; VIV-acious; VIVI-dif-FUS-ion, passage of diffusible substances from the blood of a living animal; VIV-PAR-ous, bringing forth the young alive

### Roots, Part III

AC(U)- 'sharp', 'sour', 'needle' (*acus*)

ACU-PUNCT-ure; ACU-ol-ate, beset with small prickles; ACUTI-COST-al, having projecting ribs

ARE- 'space' (*area*)

ARE-ola, any minute interstice or space in a tissue; or a pigmented ring surrounding some central point or space, as a nipple or a pustule, or the part of the iris enclosing the pupil; ARE-ol-et, a small areola

AUR- 'ear' (*auris*)

end-AUR-al, pertaining to the inner surface or part of the external auditory canal; AUR-icle, any ear-like, lobed appendage, or the external ear, or the atrium, or anterior chamber, of the heart

CALC- 'limestone', 'pebble', 'calcium' (*calx*)

CALC-ulus; CALCI-COLE, a plant that thrives in soils rich in calcium salts; CALCI-FIC-at-ion, the deposition of lime salts in tissue; CALC-ar-eous, containing calcium carbonate (chalky)

CAPS- 'box' (*capsa*)

CAPS-ule; en-CAPS-ul-at-ion, the process of surrounding a part with a capsule; de-CAPS-ul-at-ion, removal of a capsule or enveloping membrane

CAR(N)- 'flesh' (*caro*)

CARN-al; CARN-eous, flesh-coloured; in-CARN-at-ive, an agent which produces flesh or promotes granulation; CARNI-VOR-ous

CUT- 'skin' (*cutis*)

intra-CUT-aneous, within the skin substance (applied to the injection of substances into the skin); CUT-in, a substance allied to cellulose found in external layers of thickened epidermal cells

FIBR- 'fibre' (*fibra*)

FIBR-il, a component filament of a fibre, as of a muscle or a nerve; FIBR-in, the fibrous, insoluble protein in the network involved in blood clotting

FOLL(I)- 'bag' (*follis*)

FOLLI-cle, a capsular fruit which opens on one side only, or a cavity or sheath (as an ovarian or hair follicle), or a small secretory cavity or sac (as an acinus or alveolus); peri-FOLLI-cul-ar, surrounding a follicle

FUN- 'rope', 'cord' (*funis*)

FUN-ic, relating to or originating in the umbilical cord; FUNI-PENDUL-ous, suspended by a rope or cord

LOC- 'place' (*locus*)

LOC-al; al-LOC-ate; LOCO-MOT-ion; LOC-ellus, a small compartment of an ovary; BI-LOC-ul-ar, containing two cavities or chambers

LUN(A)- 'moon' (*luna*)

LUN-ate, crescent-shaped; SEMI-LUN-ar, half-moon-shaped; LUN-ette, the transparent lower eyelid of snakes

- OST- 'door', 'opening' (*ostium*)  
OSTIUM, any mouthlike opening, such as the opening of the fallopian tubes; OSTI-ole, the opening of a conceptacle, perithecium, stoma, or another sac, or the inhalant aperture of a sponge
- PART- 'part', 'to divide' (*pars*)  
PARTI-CIP-ate; PART-ic-ul-ar; BI-PART-ite, having two parts; DIGITI-PART-ite, having leaves divided in a hand-like pattern
- PED- 'foot' (*pes*)  
PED-al; im-PEDE; ex-PED-ient; PEDI-cel, any slender stalk, especially one that supports a fruiting or spore-bearing organ; SCUTI-PED, having the foot or part of the foot covered by scutella
- PELL- 'skin' (*pellis*)  
PELL-icle, a thin skin or film, such as a film on the surface of a liquid
- PLUM- 'feather' (*pluma*)  
PLUMI-GER-ous, feathered; PULVI-PLUME, a powder-down feather
- RACEM- 'cluster of grapes or berries' (*racemus*)  
RACEM-ose, arranged in a cluster, or bearing flowers in clusters; RACEM-ic acid, named from its being found in the juice of grapes
- RIM- 'crack', 'chink' (*rima*)  
RIM-ate, having fissures; RIM-iform, in the shape of a narrow fissure; BI-RIM-ose, having two clefts or slits
- VOR- 'to eat'  
VOR-acious; HERBI-VOR-ous, living on vegetable food; FUNGI-VOR-ous, fungus-eating animals and plants; in-SECTI-VOR-ous, living on insects

#### Roots, Part IV

- ANS- 'jug handle', 'loop' (*ansa*)  
ANSA, loop, as of certain nerves; ANSA CERVIC-alis, a nerve loop in the neck
- DIGIT- 'finger', 'toe' (*digitus*)  
DIGIT-ule, any small, fingerlike process; SEX-DIGIT-ate, with six fingers or toes
- FORMIC- 'ant' (*formica*)  
FORMIC acid, a colourless acid occurring in ants and some plants; FORMIC-IDE, a substance used for destroying ants; FORMIC-at-ion, an abnormal sensation of insects crawling on the skin
- HAUST- 'to draw out', 'to drink'  
ex-HAUST-ion; HAUST-ellum, a proboscis adapted for sucking; HAUST-orium, an organ of certain parasitic protozoa by which they attach themselves to the host
- MENT- 'mind' (*mens*)  
MENT-at-ion, the mechanism of thought, mental activity; de-MENT-ia, deterioration or loss of the intellectual faculties, the reasoning power, etc.
- NERV- 'nerve', 'vein of insect wing or leaf' (*nervus*)  
TRI-NERV-ate, having three veins or ribs running from the base to the margin of a leaf; ab-NERV-al, away from a nerve (of the direction of an electric current passing through muscle fibres away from the point of entrance of a nerve)
- PECTOR- 'breast' (*pectus*)  
PECTOR-al, pertaining to the chest, in the chest region; MEDIO-PECTOR-al, applies to the middle part of the sternum; ex-PECTOR-at-ion, ejection of material from the mouth
- PIL- 'hair' (*pilus*)  
PIL-ose, hairy, downy; PILI-FER-ous, bearing or producing hair; PILI-MIC-at-ion, the passing of urine containing hairlike filaments

- PISC- 'fish' (*piscis*)  
 PISC-ine, of, relating to, having the characteristics of fish; PISCI-VOR-ous, fish-eating
- PRESS- 'to press'  
 de-PRESS-ion, im-PRESS-ion, re-PRESS, op-PRESS-ion; de-PRESSO-MOT-or, any nerve which lowers muscular activity
- ROD-, ROS- 'to gnaw'  
 ROD-ent; cor-ROS-ive, a substance which destroys organic tissue by chemical means or by inflammation; e-ROS-ion, an eating, gnawing or wearing away
- SEB- 'grease', 'tallow' (*sebum*)  
 SEBUM, the oily secretion of the SEB-aceous glands which lubricates and protects the hair and skin; SEBO-RRHEA, a functional disease of the sebaceous glands, characterised by an excessive secretion or disturbed quality of sebum
- SENS-, SENT- 'to feel', 'to perceive'  
 SENT-ence; con-SENT; as-SENT; dis-SENT; SENS-ile, capable of affecting a sense; SENTI-ent, of cells that are sensitive and perceptive; SENS-illa, a small sense organ
- SOL- 'sun' (*sol*)  
 SOL-arium; in-SOL-at-ion, exposure to the sun's rays; SOL-ASTER-idae, a family of starfishes, typically brightly coloured and having numerous arms
- SOMN- 'sleep' (*somnus*)  
 SOMNI-FACI-ent, a medicine producing sleep, a hypnotic; SOMNI-FUG-ous, driving away sleep; hyper-SOMN-ia, excessive sleepiness
- SQUAM- 'scale' (*squama*)  
 SQUAMI-FER-ous, bearing scales; e-SQUAM-ate, having no scales; SQUAM-ul-ate, having minute scales
- TER(R)- 'earth' (*terra*)  
 TERR-aneous, applies to land vegetation; TERRI-COL-ous, living in the earth
- UTER- 'womb' (*uterus*)  
 UTER-ismus, uterine contraction of a spasmodic and painful character; UTERO-GEST-at-ion, the part of the gestation period passed in the uterus; UTRI-cle or UTRI-culus, an air bladder of aquatic plants, or the membranous sac of the ear labyrinth
- VACU- 'empty' (*vacuus*)  
 VACUUM; VACU-ole, one of the spaces in cell protoplasm containing air, sap or partially digested food; VACU-ol-is-at-ion, the formation of vacuoles
- VAS- 'vessel' (*vas*)  
 VASE; VAS-cul-ar, consisting of or containing vessels adapted for transmission or circulation of fluid; CARDIO-VAS-cul-ar, pertaining to the heart and blood vessels; VASO-di-LAT-ion, relaxing or enlarging the vessels

#### LECTURE 10

Based on Ayers (1972), chapters 31–33.

#### *Suffixes III*

- ITUDE 'quality of', 'state of' (*-itudo*)  
 longitude, multitude, gratitude
- ITY (-ETY, -TY) 'quality of', 'state of' (*-itas*)  
 gravity, dexterity, brevity

- ANCE, -ANCY; -ENCE, -ENCY 'quality of being', 'state of being' (-*antia*,  
-*entia*)  
vigilance, hesitancy, eloquence, innocence, fluency
- OR 'she or he who', 'that which' (-*or*)  
actor, motor, victor, incisor
- ION 'act of', 'state of', 'result of the act of' (-*io*)  
action, commotion, incision
- URE 'act of', 'result of the act of' (-*ura*)  
rupture, capture, fracture
- US 'act of', 'result of the act of'  
prospectus, consensus, impetus
- OR (-OUR) 'state of', 'result of the act of'  
tumour, pallor, error
- MEN, -MIN- 'result of', 'means of', 'act of' (-*men*)  
specimen, regimen, acumen, acuminate
- MENT (-*mentum*) 'result of', 'means of', 'act of'  
ligament, ferment, excrement, momentum
- BLE, -BUL- (-*bula*, -*bulum*) 'result of the act of', 'means of', 'place for'  
fable, fabulous, mandible, mandibular, pabulum, infundibulum
- CLE, -CUL- (-*culum*) 'result of the act of', 'means of'  
spectacle, receptacle, obstacle, tentacle, tentacular, curriculum, vincu-  
lum, tentaculum
- CRUM, -CR- 'result of the act of', 'means of'  
fulcrum, simulacrum, involucrum, involucral
- TRUM, -TR- 'result of the act of', 'means of'  
spectrum, rostrum, claustrum, claustrophobia

#### Roots, Part I

- ADIP- 'fat' (*adeps*)  
ADIP-os-ity, corpulence, obesity
- CALL- 'hard skin' (*callus*)  
CALL-ous, pertaining to an area of hardened and thickened skin, a  
CALLUS; CORPUS CALLOSUM, a structure of white matter in the  
brain
- CRE-, CRESC-, CRET- 'to grow'  
in-CRE-ment; CRESC-ent; CRESC-endo; con-CRESC-ence, a growing  
together of the roots of two teeth; inter-CRESC-ence, a growing into  
each other, as of tissue
- FA-, FAT- 'to speak'  
af-FA-ble; in-ef-FA-ble; FA-ble; in-FA-nt, a child, usually up to two  
years (in Latin, literally 'not speaking' or 'without speech')
- FLU-, FLUX- 'to flow'; FLUVI-, 'river' (*fluvius*)  
in-FLU-ence; FLU-ency; af-FLUX, flow of blood or other fluid to a part;  
con-FLU-ent, running together, the opposite of discrete; in anatomy,  
coalesced or blended (applied to two or bones originally separate)
- FOSS- 'ditch', 'trench', 'to dig' (*fossa*)  
FOSSA, a pit or trench-like depression; FOSS-ette, a small pit or a  
socket containing the base of the antennule in arthropods; FOSS-ori-al,  
adapted for digging (applies to the claws and feet of animals)
- MAGN- 'large', 'great' (*magnus*)  
MAGN-ate; MAGN-ANIM-ous; MAGNI-LOQU-ent; MAGNI-fy, cause  
to appear larger; MAGN-itude, spacial quality or size
- MAMM- 'breast' (*mamma*)  
MAMM-al; MAMM-il-itis, inflammation of the MAM-illa, or nipple
- MORT- 'death' (*mors*)

MORT-al, liable to death or causing death; MORT-al-ity, the quality of being mortal or the death rate; NATI-MORT-al-ity, the proportion of stillbirths to the general birth rate

NOC-, NOX- 'harm' (*noxa*)

in-NOC-ent; NOCI-FENS-or, efferent fibres which release chemical substances at their terminals, thus stimulating pain endings; NOCI-per-CEPT-ion, perception of pain by the central nervous system

PAT- 'to spread or lie open'

PAT-ent, open, exposed; pre-PAT-ent period, the period in parasitic disease between the introduction of the organism and its demonstration in the body

PET-, PETIT- 'to seek'

PET-it-ion; com-PET-it-ion; PET-ul-ant; RECTI-PET-al-ity, the tendency to rectilinear growth; ACRO-PET-al, ascending (applies to leaves, flowers or roots developing successively from an axis so that the youngest arise at the apex)

PROPRI- 'one's own' (*proprius*)

ap-PROPRI-ate; ex-PROPRI-ate; im-PROPRI-ety; PROPRIO-SPIN-al, pertaining wholly to the spinal cord (applies to fibres)

SEC-, SEG-, SECT- 'to cut'

in-SECT; re-SECT-ion, the operation of cutting out as the removal of a segment or section of an organ; SECT-or-ial, formed or adapted for cutting, as certain teeth

SED- (-SID-), SESS- 'to sit', 'to settle'

re-SIDE; pre-SID-ent; SESS-ion; in-SESS-or-ial, adapted for perching; re-SID-ual, pertaining to that which cannot be evacuated or discharged (as residual air in the lungs, residual urine in the bladder)

SET- 'bristle' (*seta*)

SETA, any bristle-like structure, as the sporophore of liverworts and mosses; SETI-GER, a segment or process bearing bristles

TRACT- 'to draw', 'to drag'

TRACT-or; at-TRACT-ive; dis-TRACT-ile, widely separate (usually applies to long-stalked anthers); CEPHALO-TRACT-or, obstetric forceps

TUBER- 'swelling' (*tuber*)

TUBER, a thickened, fleshy underground stem with surface buds; TUBER-iform, resembling or shaped like a tuber; TUBER-in, a simple protein of the globular type which occurs in potatoes

VEH-, VECT- 'to carry'

ad-VEH-ent, afferent, carrying to an organ; con-VECT-ion, a transmission or carrying, as of heat; VECT-or

VIT- 'life' (*vita*)

VIT-al, pertaining to or necessary for life; AQUA VITAE, spirit or eau-de-vie

## Roots, Part II

CAV- 'hollow' (*cavus*)

CAVI-CORN, hollow-horned; inter-CAV-it-ary, within a CAV-ity

COCT- 'to cook', 'to boil'

con-COCT-ion, preparation made by combining different crude ingredients; COCTO-STA-ble, able to withstand the temperature of boiling water without change

CUT-, CUSS- 'to shake', 'to strike'

con-CUSS-ion, shock, the state of being shaken, a severe shaking or jarring of a part; per-CUSS-ion, the act of firmly tapping the surface of the body with a finger or a small hammer to elicit sounds or vibratory sensations of diagnostic value

DOL- 'to feel pain', 'to cause pain'

con-DOL-ence; in-DOL-ent, sluggish, usually applied to slowness in healing or growing, as an indolent ulcer, or causing little or no pain, as an indolent tumour

EBURN- 'ivory' (*ebur, eburnus*)

EBURN-eous, ivory white, white more or less tinged with yellow; EBURN-itis, increased hardness and density of the tooth enamel

FENESTR- 'window', 'opening' (*fenestra*)

FENESTR-ate, having small perforations or transparent spots (applies to insect wings); CRANIO-FENESTR-ia, congenital bony defect involving the total thickness of the skull, lacuna skull

GLUTIN- 'glue' (*gluten*)

GLUTEN, a mixture of proteins found in the seeds of cereals, which confers the property of toughness to dough; GLUTIN-ous, viscid, glue-like

HI-, HIAT- 'to stand open'

HIAT-us, a space or opening; de-HI-sc-ence, the spontaneous opening of an organ or structure along certain lines in a definite direction; in-de-HI-sc-ent, not splitting at maturity (applies to certain fruits)

I-, IT- 'to go'

in-IT-ial; ex-IT; ob-IT-uary; amb-IT-us, the outer edge or margin or the outline of an echinoid shell viewed from the apical pole; ab-I-ent, tending away from the source of stimulus (opp. ad-I-ent)

LAMIN- 'thin plate' (*lamina*); LAMELL-, dimin. (*lamella*)

LAMIN-ate; LAMELLA, a plate or layer; LAMELLI-CORN, having antenna joints expanded into flattened plates; LAMIN-ectomy, surgical removal of one or more neural laminae of the vertebrae

LAT- 'broad', 'wide' (*latus*)

di-LAT-ion; LATI-SQUAM-ate, broad-scaled

LIG- 'to bind'

ob-LIG-at-ion; al-LIG-at-or; LIG-ament, a band of tough, flexible connective tissue; LIG-at-ure, a cord or thread for tying vessels or the act of tying or binding

MEAT- 'to go', 'to pass'

MEATUS, an opening or passage; MEAT-itis, inflammation of the wall of a meatus; SUPRA-MEAT-al, applies to triangle and spine over external acoustic meatus

MIT(T)-, MIS(s)- 'to send', 'to let go'

e-MISS-ary, any venous channel through the skull connecting the venous sinuses with the diploic veins and veins of the scalp; intro-MISS-ion, insertion, the act of putting in, the introduction of one body into another

PLEX- 'to interweave', 'to braid'

PLEXUS, a network of interlacing nerves or anastomosing blood vessels or lymphatics; PLEX-iform, resembling a plexus or network; PLEX-ODONT, having molar teeth with complicated crown patterns and multiple roots

PUNG-, PUNCT- 'to prick', 'point' (*punctum*)

com-PUNCT-ion; PUNCT-uate; PUNCT-il-ious; PUNCT-iform, having the nature of qualities of a point, or seeming to be located at a point (of a sensation), or in bacteriology, very minute colonies; PUNG-ent, ending in a rigid and sharp point

RIG- 'to be stiff'

RIG-id, stiff or hard; RIG-esc-ent, becoming rigid; RIGID-itas, stiffness, rigidity

RUB(R)- 'red' (*ruber*)

BILI-RUBR-in, a reddish-yellow pigment of bile and blood; RUBIGIN-ose, of a brownish-red tint, rust-coloured; e-RUB-esc-ent, blushing red

SCRIB-, SCRIPT- 'to write'  
 de-SCRIBE; pre-SCRIBE; sub-SCRIBE; circum-SCRIPT, a marginal sphincter when sharply defined, as in sea anemones

VOLV-, VOLUT- 'to roll', 'to turn'  
 in-VOLVE; re-VOLUT-ion; VOLUTE; ob-VOLUTE, bent downward and inward (applies to wings, elytra of insects); VOLV-ulus, a twisting of the bowel upon itself so as to occlude the lumen

*Roots, Part III*

AG-, ACT- 'to do', 'to drive', 'to act'  
 ACT-ion; AG-ile; CUTI-re-ACT-ion, a local skin reaction following inoculation with or the application of extracts of pathogenic organisms

ALB- 'white' (*albus*)  
 ALBI-FACT-ion, the act or process of blanching or rendering white; ALBUM-in, a protein substance found in nearly every animal and some vegetable tissue; ALBUR-num, sapwood or splint wood (i.e., the soft, white substance between the inner bark and true wood)

CER- 'wax' (*cera*)  
 CERI-FER-ous, wax-bearing, waxy; CERE-ous, waxy

FIL- 'thread' (*filum*)  
 FILI-GER-ous, with threadlike outgrowths or flagella; FIL-ar-iasis, a diseased state due to the presence of nematode worms of the super family Filarioidea

FOR- 'to bore', 'to pierce'  
 FOR-amen, the opening through the coats of an ovule, or any small perforation; FOR-amin-ule, a minute foramen; FOR-amini-FER-a, an order of protozoans with calcareous shells with minute openings for pseudopodia

FOV- 'pit' (*fovea*)  
 FOVEA, a small pit, fossa or depression, or a small hollow at leaf base; FOVE-ate, pitted; FOVE-ol-ate, having regular, small depressions

FUNG- 'mushroom', 'fungus' (*fungus*)  
 FUNGI-VOR-ous, fungus-eating animals and plants; FUNG-at-ion, the act of growing up rapidly, like a fungus (as certain pathologic growths); FUNG-os-ity, fungous excrescence, fungous quality

GLOMER- 'ball of yarn' (*glomus*)  
 GLOMUS, a fold of the mesothelium containing a ball of blood vessels; con-GLOMER-ation, that which is made up of parts from various sources

HAL-, HALIT- 'to breathe'  
 HALIT-us, a vapour, as that expired by the lungs; HALIT-osis, the state of having offensive breath

MUC- 'mucus' (*mucus*)  
 MUCI-fic, mucus-secreting; MUCO-CUT-aneous, pertaining to skin and mucous membrane

NUTRI-, NUTRIT- 'to nourish'  
 NUTRIC-ism, a relationship of two animals with all the benefit to one partment; NUTRI-ent, that which affords nutrition

PALP- 'to touch', 'to stroke'  
 im-PALP-able, not capable of being felt, imperceptible to touch; PALP-it-at-ion, any heart action of which the patient is conscious PALPO-CIL, a stiff, sensory filament attached to sense cells of Hydromedusae

SEP-, SEPT- 'to separate', 'wall' (*septum*)  
 SEPTUM, a partition, a dividing wall between two spaces or cavities; e-SEPT-ate, not supplied with septa; SEPT-ectomy, excision of part of the nasal septum

SPIR- 'to breathe'

SPIRIT; con-SPIRE; a-SPIR-at-or, a negative pressure apparatus for withdrawing liquids from cavities; su-SPIR-at-ion, a sigh, the act of sighing; tran-SPIR-at-ion, exhalation of vapour through pores or stomata

STRU-, STRUCT- 'to construct', 'to build'  
 STRUCT-ure; de-STRUCT-ion; ob-STRU-ent, obstructing, tending to obstruct

TERMIN- 'end', 'boundary' (*terminus*)  
 ab-TERMIN-al, going from the end inward; at-TERMIN-al, toward the terminal; co-TERMIN-ous, having the same or coincident boundaries

UMBR- 'shade', 'shadow' (*umbra*)  
 UMBR-age; ad-UMBR-ate; ex-UMBR-al, pertaining to the rounded upper surface of a jellyfish; ob-UMBR-ate, with some structure overhanging the parts so as partially to conceal them; UMBR-aculum, any umbrellalike structure

UNGU- 'nail' (of finger or toe) (*unguis*)  
 UNGUI-FER-ate, having nails, claws or hooklike processes; UNGUI-cul-ata, Mammalia with nails or claws as distinguished from hoofed mammals and cetaceans

VEL- 'veil', 'covering' (*velum*)  
 VELUM, a membrane or structure similar to a veil; VELI-GER, second stage in larval life of certain molluscs when the head bears a velum

VISCER- 'entrails' (*viscus*)  
 e-VISCER-at-ion, removal of internal organs; VISCERO-SENS-ory, relating to sensation in the viscera

#### LECTURE 11

Based on Ayers (1972), chapters 34–37.

#### *Verb-Forming Suffixes*

-ATE 'to make', 'to treat', 'to do something with'  
 alleviate, obviate, illuminate  
 NB: This suffix often combines with the noun-forming suffix -ion (e.g. illumination)

-FY 'to make', 'to cause'  
 terrify, liquify, pacify  
 NB: The adjective ending that corresponds to -fy is -fic, 'making', 'causing' (e.g. terrific, pacific)

-IGATE, -EGATE 'to make', 'to drive'  
 mitigate, fumigate, navigate, variegate

-ESCE 'to begin', 'to be somewhat'  
 effervescent, convalescent, arborescent

#### *Roots, Part I*

CAUL- 'stem', 'stalk' (*caulis*)  
 CAULI-COL-ous, applies to fungi growing on plant stems; CAUL-ine, pertaining to a stem (applies to leaves growing on the upper portion of a stem; FILI-CAUL-ine, with a threadlike stem)

FLAV- 'yellow' (*flavus*)  
 FLAV-edo, yellowness of the skin; FLAV-in, one of a group of yellow pigments isolated from various plant and animal sources

FLOCC- 'tuft, as of wool' (*floccus*)  
 FLOCCUS, a tuft of woolly hairs on a plant; FLOCC-ose, covered with woollike tufts (applies to bacterial growths)

LABI-, LABR- 'lip' (*labium* or *labrum*)

LABIUM, lip, liplike structure; LABIO-GRESS-ion, location of the anterior teeth in front of their normal position

LAT- 'to bear', 'to carry'  
re-LATE; e-LAT-ed; trans-LATE; ab-LAT-ion, removal of a part by amputation, excision, etc.

LEV- 'light' (in weight) (*levis*)  
LEV-ity; LEV-er; e-LEV-at-or, an instrument for lifting a part or for extracting the roots of teeth; al-LEVI-at-ion, the modification of symptoms, the lessening of pain

LIGN- 'wood' (*lignum*)  
LIGNE-ous, woody, of the nature of wood; LIGN-in, a complex substance which, associated with cellulose, causes the thickening of plant cell walls, and so forms wood

LIQU- 'to be liquid'  
LIQUE-FACT-ion, conversion of material into liquid form

LUMIN- 'light' (*lumen*)  
LUMEN, the cavity of a tubular part of an organ, or the central cavity of a plant cell; SONO-LUMIN-esc-ence, the emission of light by various liquids when traversed by high-frequency sound or ultrasonic waves

MAN(U)- 'hand' (*manus*)  
MANU-FACT-ure, MANU-SCRIPT; BI-MAN-ous, having two hands (applies to certain primates); MANU-DUCT-ion, operation performed by the hands in surgical and obstetric practice

NIGR- 'black' (*niger*)  
NIGR-esc-ent, nearly black, blackish

OSS- 'bone' (*os*)  
OSS-icle, any small bone; DERMO-OSSI-FIC-at-ion, a bone formed in the skin

PROXIM- 'near', 'nearest' (*proximus*, 'nearest the body')  
PROXIM-ate, nearest, immediate (as proximate cause); PROXIM-al, in dentistry, surface of a tooth next to the adjacent tooth; PROXIMO-LABI-al, pertaining to proximal and labial surfaces of a tooth

SINISTR- 'left' (*sinister*)  
SINISTER; SINISTRO-TORS-ion, a twisting or turning toward the left; SINISTR-in, a levorotatory polysaccharide

SPIN- 'thorn', 'spine' (*spina*)  
SPIN-ul-ate, covered with spines; SPIN-ul-at-ion, a defensive spiny covering, or the state of being spinulate

STIP-, STIPIT- 'stalk' (*stipes*)  
STIPIT-ate, stalked; STIP-ule, one of two membranes or foliaceous processes developed at the base of a leaf petiole; BI-STIP-ul-ate, provided with two stipules

STRAT- 'layer' (*stratum*)  
BI-STRAT-ose, with cells arranged in two layers; STRAT-iform, applies to fibrocartilage coating osseous grooves

TUM- 'to swell'  
TUM-esc-ent, swollen, enlarged; de-TUM-esc-ence, subsidence of a swelling (esp. of erecto-sexual organs following orgasm)

VARI- 'varied', 'changing', 'spotting' (*varius*)  
VARI-ous; VARI-ety; VARI-egate-d, marked with different colours; VARI-CELLA, chickenpox

VENTR- 'belly' (*venter*)  
VENTRI-LOQU-ism; VENTR-icle, a cavity or chamber, as of the heart or brain; BI-VENTR-al, applies to muscles of the biventer type (= digastric, each of a pair of muscles which run under the jaw and act to open it, from GAST- 'belly' because the muscle has two fleshy parts or 'bellies' at an angle, connected by a tendon)

*Counting in Latin*

- SEMI- 'half', 'partly'  
SEMI-LUN-ate, half-moon-shaped; SEMI-CAUD-ate, with a rudimentary tail
- UN- 'one' (*unus*)  
UN-ique; UN-iform; UN-ANIM-ity; UNI-FOLI-ate, with one leaf; UNIPAR-ous, producing one offspring at a birth; UNI-STRATE, having only one layer
- PRIM- 'first' (*primus*)  
PRIM-ary; PRIM-ates, the highest order of the vertebrate class Mammalia, including man, apes, monkeys and lemurs; PRIMIPAR-ous, pertaining to a woman bearing or giving birth to her first child
- SESQUI- 'one-and-a-half times'  
SESQUI-CENT-ENNI-ial; SEQUI-CHLOR-ide, a compound of chlorine and another element containing three parts of chlorine and two of the other element; SESQUI-OX-ide
- DU- 'two' (*duo*)  
DU-et; DU-al; DU-PLIC-ate; DU-PLICI-DENT, with two pairs of incisors in the upper jaw;
- BI-, BIN- 'two', 'twice'  
BINATE, growing in pairs; BIFID, forked, opening with a median cleft; BISTRAT-ose, with cells arranged in two layers
- SECOND-, SECUND- 'second', 'following' (*secundus*)  
SECOND-ary; SECUNDI-GRAV-ida, a woman pregnant the second time
- TRI- 'three'  
TRIDENT; TRI-VI-al; TRICOST-ate, with three ribs; TRIFID, cleft to form three lobes
- TERTI- 'third'  
TERTI-ary, third, pertaining to third stage of disease; TERT-ian, recurring every other day, as a tertian fever
- TERN- 'three each'; TER-, 'three times'  
TERN-ary, consisting of or based on three, or pertaining to a crystal system in which three-sided forms occur, or an alloy with three elements; TER-VAL-ent, having a valence of three, triple
- QUADR(U)- 'four'  
QUADRU-PLE; QUADRI-JUG-ate, applies to pinnate leaf having four pairs of leaflets; QUADRU-PED, a four-footed animal
- QUART- 'fourth'; QUATERN-, 'four each'  
QUART-an, recurring every three days (or four, counting inclusively), as on first, fourth and seventh day; QUATERN-ate, in sets of four (applies to leaves growing in fours from one point
- QUINQUE- 'five'  
QUINQUE-PART-ite, divided into five parts
- QUINT- 'fifth'; QUIN-, 'five each'  
QUIN-ary, applies to flower symmetry in which there are five parts to a whorl; QUINTU-PL-et, one of five children born at one birth
- SEX- 'six'; SEXT-, 'sixth'  
SEXT-ant, a maximum angle of sixty degrees; SEX-OSTI-atae, group of spiders marked by six cardiac ostia
- SEPT-, SEPTEM- 'seven'; SEPTIM-, 'seventh'  
SEPTEM-ber; SEPTEM-PART-ite, divided into seven parts; SEPTIM-al, based on the number seven
- OCT- 'eight'; OCTAV-, 'eighth'  
OCT-ave; OCT-avo; OCTO-RADI-ate, having eight rays or arms; OCT-ane, the eighth member of the paraffin or marsh gas series
- NOVEM- 'nine'; NON-, 'ninth'

NOVEM-ber; NON-illion, ten to the thirtieth power; NON-an, having an exacerbation every ninth day  
 DECEM- 'ten'; DEC-, DECIM-, 'tenth'  
 DECIM-ate; DECI-LITRE, one-tenth of a litre; DECEM-FID, cleft into ten parts  
 CENT- 'hundred', 'hundredth'  
 CEN-ENN-ial; CENT-uri-on; CENTI-PEDE, elongated segmented arthropods with many legs; CENTI-metre, one-hundredth of a metre  
 MIL(L)- 'thousand', 'thousandth'  
 MILL-ENN-ium; MILLI-PEDE, myriopods constituting the the class Diplopoda having numerous segments and legs; MILLI-metre, one-thousandth of a metre

### Roots, Part II

ARC(U)- 'bow', 'arch' (*arcus*)  
 ARC-ade; ARCI-FER-ous, applies to the pectoral arch of toads; ARC-iform, shaped like an arch or a bow; ARCU-alia, small, cartilaginous pieces, dorsal and central, fused or free, on the vertebral column of fishes  
 CALCAR- 'spur' (*calcar*)  
 CALCAR-ine, a fissure extending to the hippocampal gyrus on the medial surface of the cerebral hemisphere; CALCAR-ate, having a spur or spur-like point  
 NB: Compare *calx*, *calc*- 'lime'.  
 CING-, CINCT- 'to bind', 'to gird'  
 pre-CINCT; suc-CINCT; CING-ulum, a girdle or the waist; sub-CING-ulum, the lower lip part of the cingulum of rotifers; CING-ul-ectomy, the surgical removal of the cingulate gyrus (in the brain)  
 CLIV- 'slope' (*clivus*)  
 pro-CLIV-ity; de-CLIVE, a lower or descending part; CLIVUS, a slope; post-CLIV-al, the fissure behind the clivus of the cerebellum  
 CUSPID- 'point' (*cuspis*)  
 CUSP, a pocket or fold in the wall of the heart or a major blood vessel that fills and distends if the blood flows backwards, so forming part of a valve; a cone-shaped prominence on the surface of a tooth; a sharp rigid point of a leaf; bicuspid, having two cusps or points; a tooth with two cusps, especially a human premolar tooth; bi-CUSP-id, having two cusps, as bicuspid teeth, or as the mitral valve of the heart  
 FASCI- 'band' (*fascia*)  
 FASCIA, a thin sheath of fibrous tissue enclosing a muscle or other organ; FASCI-ated, showing abnormal fusion of parts or organs, resulting in a flattened ribbon-like structure; FASCI-ola, a narrow colour-band; FASC-itis, inflammation of a fascia  
 FERR- 'iron' (*ferrum*)  
 FERR-ic, relating to iron; FERR-ule, a ring or cap, typically a metal one, which strengthens the end of a handle, stick, or tube and prevents it from splitting or wearing; FERR-ous, containing or consisting of iron; FERRI-HAEMO-GLOB-in, haemoglobin in which the iron is normally in a ferrous state  
 FLAGELL- 'whip', 'whip-like appendage' (*flagellum*)  
 FLAGELL-ate; FLAGELL-um, a slender thread-like structure, especially a microscopic whip-like appendage which enables many protozoa, bacteria, spermatozoa, etc. to swim; FLAGELL-in, the structural protein of bacterial flagella  
 GLABR- 'hairless', 'smooth' (*glaber*)

GLABR-ous, free from hair or down, smooth (chiefly of the skin or a leaf); GLAB-ella, the smooth part of the forehead above and between the eyebrows

LIEN- 'spleen' (*lien*)

LIEN-al, pertaining to the spleen (applies to an artery, vein, or nerve plexus); GASTRO-LIEN-al, pertaining to the stomach and spleen

LONG- 'long' (*longus*)

LONGI-tude; LONGI-CORN, having long antennae, former term for longhorn beetle; LONGI-MAN-ous, long-handed

NAS- 'nose' (*nasus*)

NAS-al; NAS-al-ize; NASO-GASTR-ic, reaching or supplying the stomach via the nose; NASO-PHARYNX, the upper part of the pharynx, connecting with the nasal cavity above the soft palate

NUC- 'nut' (*nux*)

NUC-leus; NUC-le-ase, an enzyme that cleaves the chains of nucleotides in nucleic acids into smaller units; NUC-ellus, the central part of an ovule, containing the embryo sac; NUC-le-olus, a small dense spherical structure in the nucleus of a cell during interphase.

OS-, OR- 'mouth' (*os*)

OR-al; OS-culum, a large aperture in a sponge through which water is expelled; OS-CUL-ate, to kiss; OS-CUL-ar, relating to kissing (or to an osculum)

PALLI- 'mantle', 'covering' (*pallium*)

PALLI-um, (in zoology) the mantle of a mollusc or brachiopod, (in anatomy) the outer wall of the mammalian cerebrum, corresponding to the cerebral cortex; PALLI-ate, to make (a disease or its symptoms) less severe without removing the cause; PALLI-at-ive, relieving pain without dealing with the cause of the condition

PRON- 'inclined', 'face-down' (*pronus*)

prone, lying flat, especially face downwards; PRON-ator, a muscle whose contraction produces or assists in the pronation of a limb or part of a limb.

SAC(C)- 'bag', 'sac' (*saccus*)

SACC-ate, dilated to form a sac; SACC-ule (SACC-ulus), a small sac, pouch, or cyst

SIN(U)- 'curve', 'hollow', 'cavity' (*sinus*)

in-SINU-ate, suggest or hint in an indirect and unpleasant way; SINUS, a cavity within a bone or other tissue, especially one in the bones of the face or skull connecting with the nasal cavities; SINU-ate, having a wavy or sinuous margin; with alternate rounded notches and lobes; SINU-ous, having many curves and turns; SINUS-oid, a small irregularly shaped blood vessel found in certain organs, especially the liver

STA-, STAT- 'to stand'

circumstance; distant; extant; instant; status; substance; STA-ble, not liable to undergo chemical decomposition, radioactive decay, or other physical change; STA-bile, stationary; DI-ST-al, situated away from the centre of the body or from the point of attachment

VITR- 'glass' (*vitrum*)

VITR-eous, like glass in appearance; VITR-esc-ent, capable of or susceptible to being turned into glass; VITR-eous HUM-our, the transparent jelly-like tissue filling the eyeball behind the lens (cf. aqueous humour); VITR-ectomy, the surgical operation of removing the vitreous humour from the eyeball

### Roots, Part III

CALC-, CALCANE- 'heel' (*calx; calcaneus*)

CALC-aneus (pl. calcanei), the large bone forming the heel; CALC-aneal, pertaining to the heel bone; CALC-aneo-CAVUS, a type of talipes (a deformity of the foot)

CERVIC- 'neck' (*cervix*)

CERVIC-al, relating to the narrow neck-like passage forming the lower end of the womb (or simply relating to the neck); CERVIC-itis, inflammation of the neck of the womb; CERVICO-BRACHI-ALG-ia, condition in which pain extends from the cervical region to arms or fingers

CORP-, CORPUS-, CORPOR- 'body' (*corpus*)

CORPOR-al; in-CORPOR-al; CORPS; in-CORPOR-ate; CORPUS-cle, a minute body or cell in an organism, especially a red or white cell in the blood of vertebrates

COX- 'hip', 'hip joint' (*coxa*)

COXA, (in anatomy) the hip bone or hip joint; (in entomology) the first or basal segment of the leg of an insect); COX-ALG-ia, pain in the hip joint; EPI-COX-ite, a small process at the end of the toothed part of the coxa in insects

FIBUL- 'clasp', 'brooch' 'outer bone of the leg' (*fibula*)

FIBULA (pl. fibulae), the outer and usually smaller of the two bones between the knee and the ankle; in-FIBUL-ation, the controversial practice of excising the clitoris and labia of a girl or woman and stitching together the edges of the vulva to prevent sexual intercourse; para-FIBUL-ar, pertaining to an accessory element outside the fibula

FREN- 'rein', 'bridle' (*frenum*)

FREN-ulum or FREN-um, (in anatomy) a small fold or ridge of tissue which supports or checks the motion of the part to which it is attached, in particular a fold of skin beneath the tongue, or between the lip and the gum; (in entomology, applying to some moths and butterflies) a bristle or row of bristles on the edge of the hindwing which keeps it in contact with the forewing; FREN-ate, having a frenulum

NB: 'frenzy', 'frenetic' are from Greek PHREN-.

FURC- 'fork' (*furca*)

FURC-ate; TRI-FURC-ate, to divide into three branches or forks; furca (pl. furcae, an ingrowth of the thorax of many insects; FURC-ula, the wishbone of a bird.

FUS- 'spindle' (*fusus*)

FUSE-LAGE; FUS-illi, spindle-shaped pasta; FUS-arium, a mould of a large genus which includes a number that cause plant diseases, especially wilting; FUS-ee, a conical pulley or wheel, especially in a watch or clock

NB: Not to be confused with FUND-, FUS- (pour, melt), as in 'fusion', 'fuse'.

FUSC- 'dark', 'brown', 'tawny' (*fuscus*)

ob-FUSC-ate, make obscure, unclear, or unintelligible; FUSC-ous, dark and sombre in colour; FUSC-in, a brown pigment in the retinal epithelium

GEMM- 'bud' (*gemma*)

GEM; GEMMA, a small cellular body or bud that can separate to form a new organism; GEMM-ation, asexual reproduction by the production of gemmae; budding; GEMM-ule, a tough-coated dormant cluster of embryonic cells produced by a freshwater sponge for development in more favourable conditions

GEN(U)- 'knee' (*genu*)

GENU-ine (with reference to the Roman custom of a father acknowledging paternity of a newborn child by placing it on his knee); GENU-FLECT; GENU, the knee; (in Anatomy and Biology) a part of certain structures resembling a knee, in particular a bend in the corpus callosum of mammals; GENI-cul-ate, bent at a sharp angle

- GERM-, GERMIN- 'sprout', 'bud', 'germ' (*germen*)  
 GERM; GERM-ane; GERMIN-ate; GERM-icide, an agent that kills germs; GERMI-DUCT, the obiduct of a trematode (a parasitic flatworm)
- MAL(E)- 'bad' (*malus*)  
 MALE-FACT-or; MALE-VOL-ent; MAL-FEAS-ance; MALE-DICT-ion; MAL-IGN; MAL-IGN-ant; MAL-PRACT-ice; MAL-ING-er, to pretend to be ill in order to escape duty or work; MAL-OCCLUS-ion, imperfect positioning of the teeth when the jaws are closed
- NAR- 'nostril' (*naris*)  
 NARES, the nostrils; NARI-CORN, the horny part of the nostrils in Turbinaries; NARI-form, shaped like nostrils
- PAPILL- 'nipple' (*papilla*)  
 PAPILLA, a small rounded protuberance on a part or organ of the body; PAPILL-oma (pl. papillomas or papillomata), a small wart-like growth on the skin or on a mucous membrane, derived from the epidermis and usually benign
- PECTIN- 'comb' (*pecten*)  
 PECTEN (pl. pectens or pectines), any of a number of comb-like structures occurring in animal bodies; PECTIN-ella, a comb-like membranella of some infusoria
- PINN-, PENN- 'feather', 'wing', 'fin' (*pinna; penna*)  
 pen; pinnacle; PINNA (in anatomy and zoology) the external part of the ear in humans and other mammals; the auricle; (in botany) a primary division of a pinnate leaf, especially of a fern; (in zoology) any of a number of animal structures resembling fins or wings; BI-PENN-iform, feather-shaped, with sides of a vein of equal size; PINN-ule, a secondary division of a pinnate leaf, especially of a fern; (in zoology) a part or organ like a small wing or fin, especially a side branch on the arm of a crinoid
- PULMO(N)- 'lung' (*pulmo*)  
 PULMON-ary or PULMON-ic, relating to the lungs; GASTO-PULMON-ary, pertaining to the stomach and the lungs
- RAD-, RAS-, RAZ- 'to scrape'  
 RAZE; RAZ-or; e-RAS-er; RAD-ula, (in a mollusc) a rasp-like structure of tiny teeth used for scraping food particles off a surface and drawing them into the mouth; RAST-er, a rectangular pattern of parallel scanning lines followed by the electron beam on a television screen or computer monitor
- VAGIN- 'sheath' (*vagina*)  
 VAGINA, any sheath-like structure, especially a sheath formed round a stem by the base of a leaf; e-VAGIN-ate, (with reference to a tubular or pouch-shaped organ or structure) to turn or be turned inside out

## LECTURE 12

Based on Ayers (1972), chapters 38–40.

### 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

## 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.

BRAC(T)E- 'thin plate' (*bractea*)

BRAC(T), a modified leaf or scale, typically small, with a flower or flower cluster in its axil; BRAC(T)E-ate, having or bearing bracts; BRAC(T)E-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

### 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