

Ch. 7

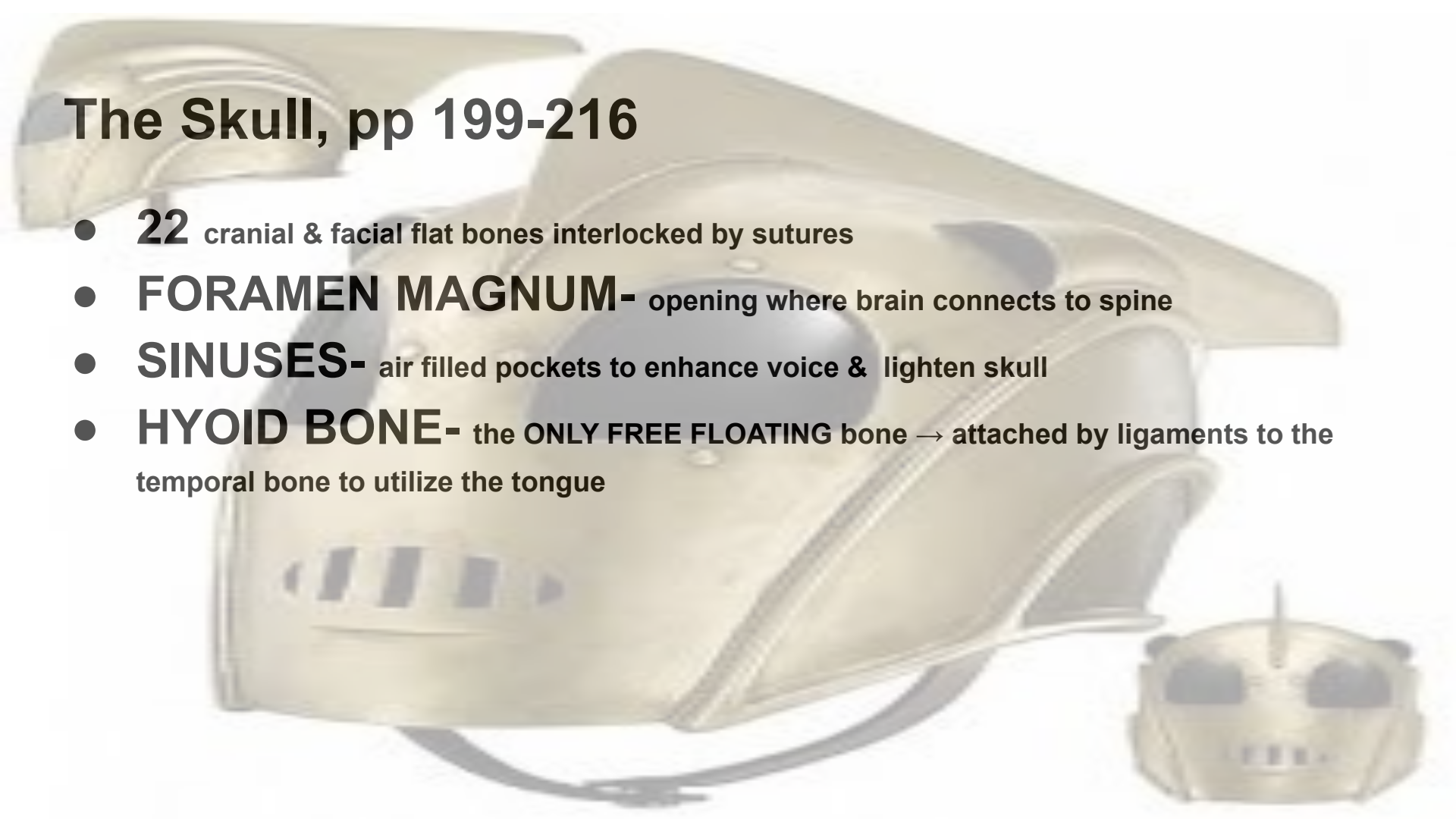
The Skeleton

Axial Skeleton, pp 200-225

Appendicular Skeleton, pp 225-242

The Skull, pp 199-216

- **22** cranial & facial flat bones interlocked by sutures
- **FORAMEN MAGNUM**- opening where brain connects to spine
- **SINUSES**- air filled pockets to enhance voice & lighten skull
- **HYOID BONE**- the **ONLY FREE FLOATING** bone → attached by ligaments to the temporal bone to utilize the tongue



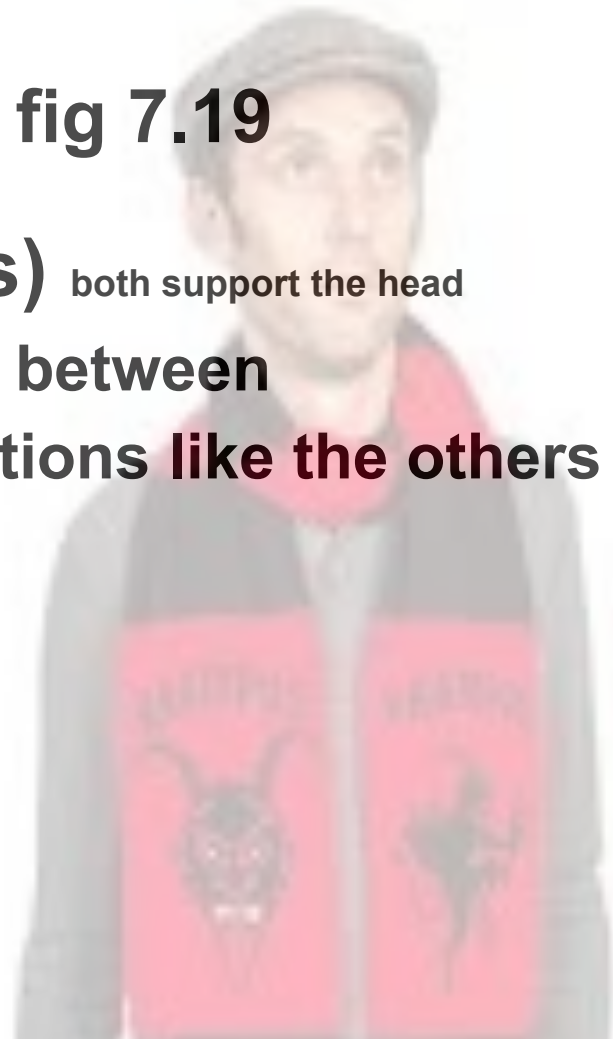
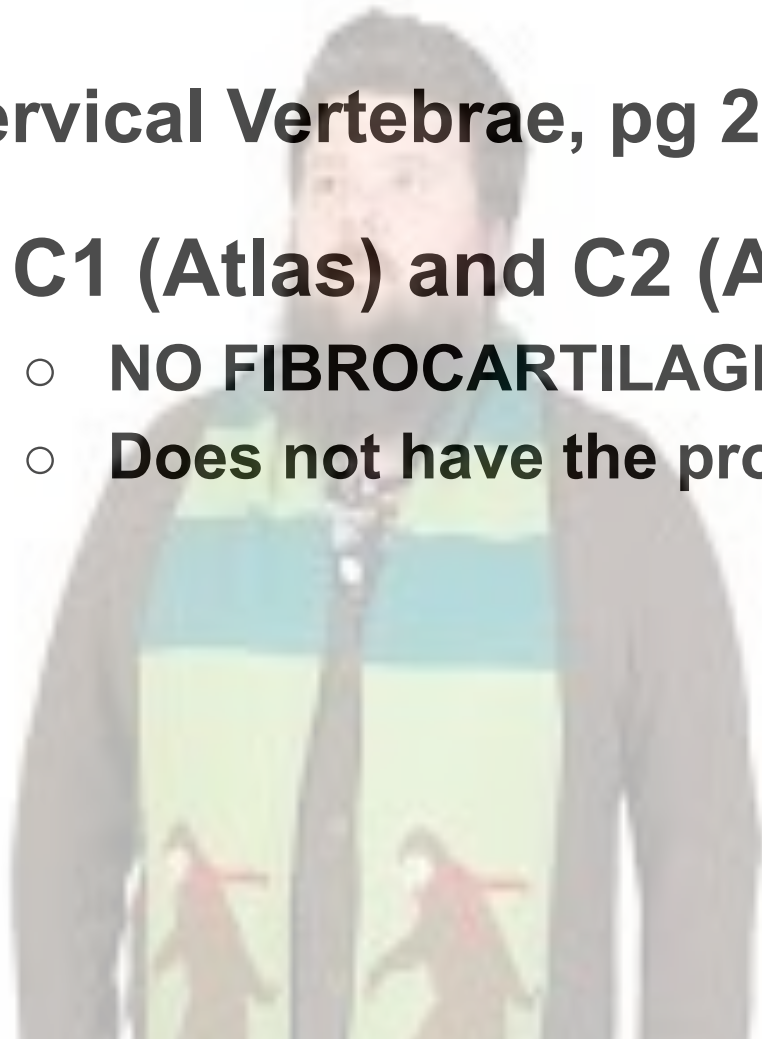
The Vertebral Column, pp. 216-221

- 26 irregular bones
- 5 major regions
 - C1-7: (cervical)
 - T1-12: (thoracic)
 - L1-5: (lumbar)
 - Sacrum: 5 fused
 - Coccyx: 4 fused tailbone
- **LIGAMENTS:** prevent the spine from hyperflex/tension



Cervical Vertebrae, pg 220, fig 7.19

- **C1 (Atlas) and C2 (Axis)** both support the head
 - **NO FIBROCARTILAGE** in between
 - **Does not have the projections like the others**



Thoracic Cage, pp223-225, fig 7.22-7.23

- Known as the bony thorax
- Consists of: sternum, ribs and costal cartilage
- **Sternum:** (breastbone) 6 inches long, in 3 fused bones: manubrium, body and xiphoid process
 - **Manubrium** articulates with clavicle & rib 1-2
 - **Body** articulates with costal cartilage of ribs 2-7
 - **XIPHOID PROCESS** forms inferior end, ossifies until age 40; attaches to major muscles

Thoracic Cage, pp223-225, fig 7.22-7.23

- Ribs: 12 pairs attached posteriorly to thoracic vertebrae & curve toward anterior body surface
- **POINT OF ATTACHMENT!**
- **1-7: TRUE RIBS** attach to sternum via costal cartilage
- **8-10: FALSE RIBS** #8 attach to rib 7
- **11-12: FLOATING RIBS** does not attach anteriorly

The Pectoral Girdle, pp 225-228, fig. 7.24-7.25

- **Shoulder girdle consists of**
 - **Clavicle** articulates to manubrium and braces the scapulae to move arms laterally
 - **Scapula** anchors biceps, helps lower/lift arm

Upper Limb, pp 228-233, fig 7.26-7.28

- Arm: shoulder to elbow supported by the **humerus**
- Forearm: humerus articulates **radius and ulna (elbow)**
- Hand: **carpal** has short bones & **metacarpal** made of small, long bones
- **Phalanges:** 14 bones
 - Thumb
 - Fingers 2-5

Pelvic Girdle, pp 233-237, fig. 7.29-7.30

- Attaches lower limbs to axial skeleton using ligaments
- Thighs get closer to knees for balance
- A pair of **COXAL** bones made of 3 bones, fused as adults
 - Ilium
 - Ishium
 - Pubic



Lower Limbs, pp 237-241, figs. 7.31-7.34

- Thigh: between hip & knee supported by **femur**
- **Patella:** triangular bone articulates with femur
- Leg: between knee and ankle made by **tibia (weight bearing)** and **fibula**
- Foot (**PEDAL**) includes the arch: combo of foot bones, ligaments, tendons. Distributes half of our standing/walking weight evenly to the foot