

IDENTIFICATION

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1. INTRODUCTION

- ◉ Identification is the determination of the individuality of a person - living or dead.
- ◉ A criminal X poses to the police as an innocent person Y by surgically altering his facial features. Police produces before a forensic specialist to establish his true identity - identification of living.
- ◉ A body in highly putrefied state is found anywhere. A woman claims it is the body of her husband and claims insurance money. The police produces body before the forensic specialist to establish his true identity - identification of the dead.

CASE STUDY

- ◉ Bhowal Sanyasi Case - Kumar Ramendra Narayan Roy allegedly died of biliary colic in 1909 in Darjeeling. In 1921, a Sadhu (Bhowal Sanyasi) arrived in Decca, and claimed that he was Kumar Ramendra, and asked for his share in property. When denied he filled a suit in Decca court in 1930, for restoration of his legal rights. Most of his identification data was exactly the same as that of Ramendra including pink and white complexion, brown wavy hairs, light moustache, twisted lip, sharp angle at the rim of ear, ear lobe pierced and not adherent to cheek, broken left upper first molar, a fleshy point in the lower eyelid, size 6 for shoes, irregular scar on left ankle, syphilitic ulcer, boil marks on the head and back, operation mark near the groin area, tiger claw mark on the right arm and even a minute mole on the dorsum of the penis.
- ◉ He was declared by the court to be Kumar Ramendra Narayan Roy and entitled to the property. However the Bhowal Sanyasi died shortly after the decision of the court in July 1946.

ABSOLUTE VS. PARTIAL IDENTIFICATION

- ◉ Absolute [complete, full] identification means the identification of a person is [living or dead] 100 % correct.
- ◉ For criminal prosecution, identification must be absolute.
- ◉ Partial [Circumstantial, incomplete, probable] identification is anything less than 100 % surety. E.g. Mass disaster.

IDENTIFICATION IS NECESSARY IN

- ◉ Living persons
- ◉ Recently dead persons
- ◉ Decomposed bodies
- ◉ Badly burnt bodies
- ◉ Mutilated bodies
- ◉ If only part is found, say a limb
- ◉ Skeleton
- ◉ If only a bone is found or bone fragment is found

WHY IDENTIFICATION IS NECESSARY

1. Civil cases

- ◉ Death benefits
- ◉ Disputed sex
- ◉ Inheritance
- ◉ Collecting life insurance
- ◉ Marriage
- ◉ Missing person
- ◉ Passport
- ◉ Probating (proving before a competent judicial authority) a will
- ◉ Workmen's compensation

CONTINUE...

2. Criminal cases

- ◉ Interchange of babies in hospital
- ◉ Impersonation
- ◉ Person accused of criminal charges
- ◉ To establish corpus delicti
- ◉ Making investigation easier

3. Humanitarian

- ◉ Correct identification of the dead permits prompt notification of anxious family
- ◉ Dead person has right to be disposed of with ceremonies of his own religion

STEPS TAKEN BY DOCTOR TO ESTABLISH ABSOLUTE IDENTITY

- ⦿ During all medico legal examinations, at least 2 identification marks should be noted [more are better].
- ⦿ The identification marks must probably on exposed parts, because the doctor may have to identify the accused in open court. He should verify the marks in court

IDENTITY THEFT

- ◉ Identity theft is a form of fraud or cheating in which a criminal pretends to be someone else by assuming that persons identity, typically in order to access his resources, obtain credit and other benefits on his behalf or to commit a crime in that persons name.
- ◉ The person whose identity is stolen is the victim of identity theft
- ◉ Also known as impersonation, identity fraud, or identity cloning.

2. CORPUS DELICTI

- ◉ Corpus delicti [L. corpus = body, delictum = crime] is the legal principle requiring positive proof of a crime before someone can be convicted of committing that crime.
- ◉ Also known as the body of crime, foundation of crime, or essence of crime.
- ◉ Ex.
- ◉ A person cannot be tried for larceny unless it is proven that property has been stolen
- ◉ A person X cannot be tried for murder of a missing person Y, unless it is proven that Y has indeed died.
- ◉ Corpus delicti includes anything which positively prove a crime
- ◉ In case of homicide it would include the dead body, photograph of dead body, blood stained clothes showing weapon marks, bullet, several body parts (head, trunk] etc.
- ◉ It includes positive identification of dead body or body parts.

3. IDENTIFICATION DATA

- Race
- Religion
- Sex
- Age
- Stature
- Complexion
- Hair
- Deformities and other peculiarities such as moles, birthmarks
- Scars
- Tattoos
- Anthropometry
- Dactylography
- Footprints, palatoprints, lip prints
- Facial superimposition
- Reconstruction of features from skulls
- Teeth and bite marks
- Clothes and personal articles
- Biometric and non biometric methods

BIOMETRIC METHODS

Physical characteristics :

- ⦿ Bone comparison
- ⦿ DNA profiling
- ⦿ Frontal sinus pattern
- ⦿ Iris scan
- ⦿ Retina scan
- ⦿ Skull suture pattern
- ⦿ Veins pattern
- ⦿ Nails

BEHAVIORAL CHARACTERISTICS

- ◉ Gait
- ◉ Handwriting
- ◉ Mental power, memory and education
- ◉ Speech and voice
- ◉ Tricks of manners and habits

RACE

- Race is the categorization of humans into populations on the basis of at least 6 physical features into three groups : Caucasoid, Negroids, Mongoloids.
- Skin
- Eyes
- Nose
- Hair
- Skeletal features (head form, cranial features, face form, stature, dentition)
- Soft tissues
- Race may be conceived as a division of species in which the frequency which hereditary traits appear among its members.
- A biological grouping within the human species distinguished or classified according to genetically transmitted differences.
- Members of each race share ancestry with one another to a greater extent than the individuals of other races.

CEPHALIC INDEX

$$\text{C.I.} = \frac{\textit{Maximum breadth of skull}}{\textit{Maximum length of skull}} \times 100$$

MBS = Two parietal eminences

MLS = distance between glabella and parietal eminence

70 - 75: Dolicocephalic / long head (Negroes, Pure Aryans)

75 - 80: Mesaticephalic / medium head (Europeans, Chinese)

80 - 85: Brachycephalic / short head (Mongolians)

RACIAL DIFFERENCES

| S.No. | Trait | Negroids | Caucasoids | Mangoloids |
|-------|-------------|----------------------------|--------------------------------|---------------------------------------|
| 1 | Head | Dolicocephalic / long head | Mesaticephalic / medium head | Brachycephalic / short head |
| 2 | Skull | Square | Oval | round |
| 3 | Prognathism | Common, pronounced | Least common, least pronounced | Midway between Caucasoid and Negroids |
| 4 | Skin color | Black | Whitish | Yellow |
| 5 | Eye color | Black | Blue | Black |

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(1)



(2)



(3)

Fig. 3.7: Skulls as seen from the top (1) dolichocephalic (long headed); (2) mesaticephalic (medium headed); (3) brachycephalic (short headed)

- Prognathism is the positional relationship of the mandible or maxilla to the skeletal base where either of the jaws protrudes beyond a predetermined imaginary line in the coronal plane of the skull.



Normal lower jaw



Prognathic lower jaw



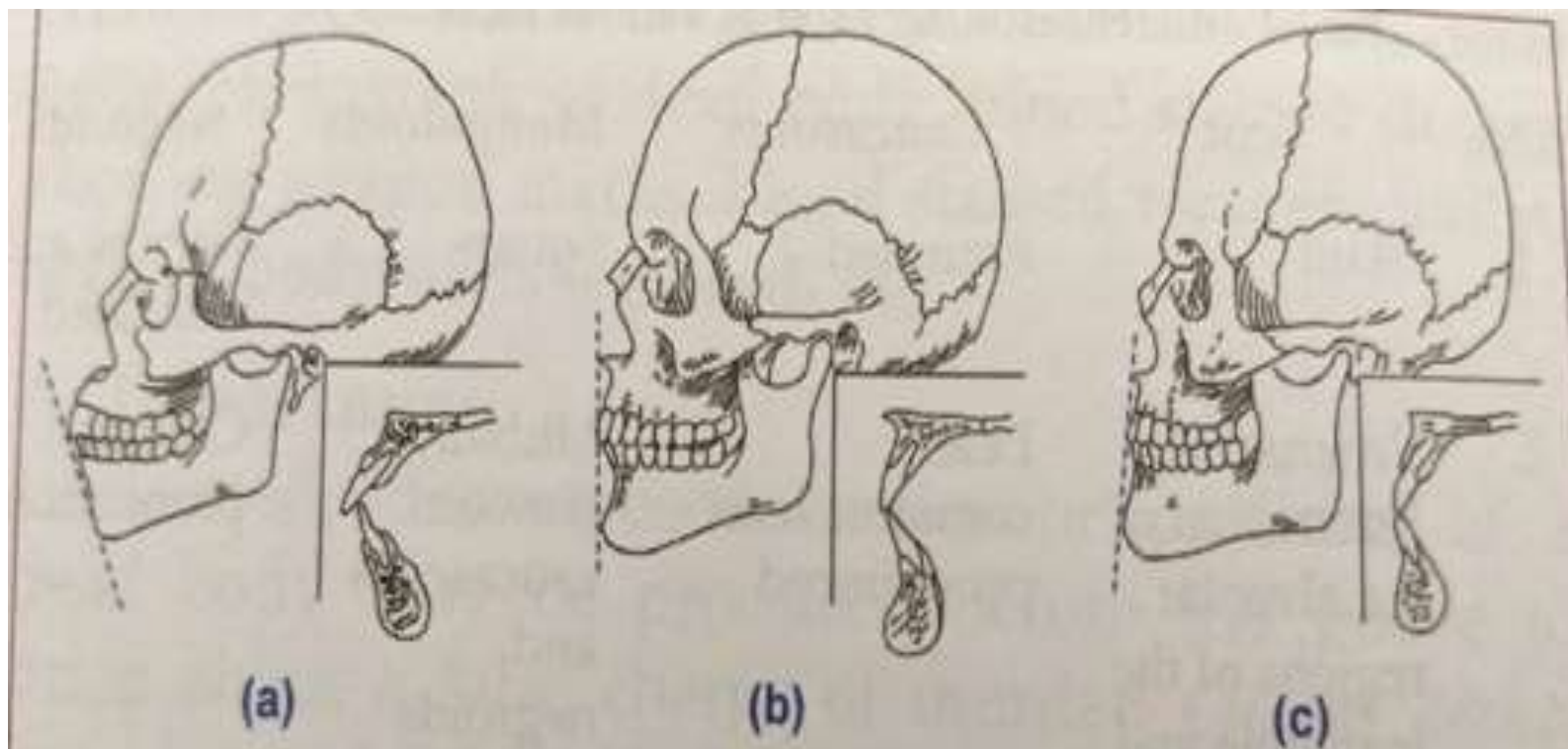
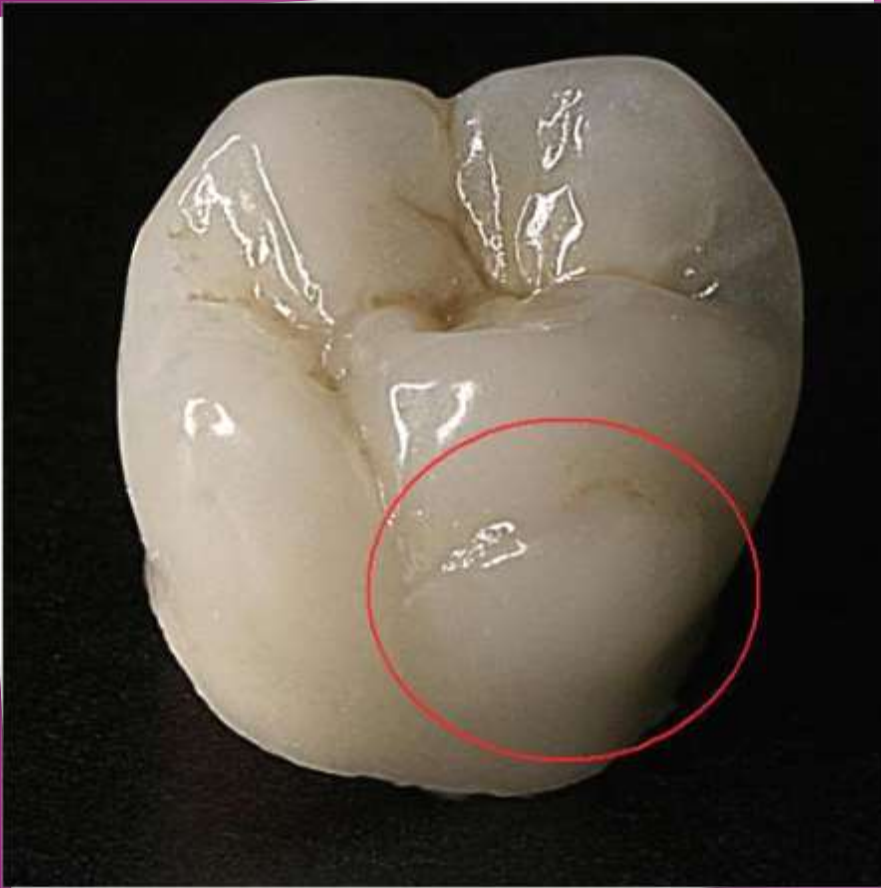


Fig. 3.5: (a) Shape of the negroid skull with prognathism and no nasal sill [floor of nasal opening] (b) Shape of a caucasoid skull with a nasal sill and receding maxillary bones (c) Slope of a Mongoloid skull with projecting maxillary bones and an edge to edge bite in the incisor region

RACIAL DIFFERENCES

| S.No. | Trait | Negroid | Caucasoid | Mongoloid |
|-------|----------------|--|---|---|
| 6 | Hair | Dark colored, wooly appearance and arranged in tight spirals, kidney shaped in cross section | Light colored, wavy and oval in cross section | Dark colored, straight and rounded in cross section |
| 7 | Nasal aperture | Square | Long and slender | Rounded |
| 8 | Eye orbit | Square | Triangular | Rounded |
| 9 | Forehead | Small and compressed | Raised | Inclined |
| 10 | Palate | Square | Triangular | Rounded |

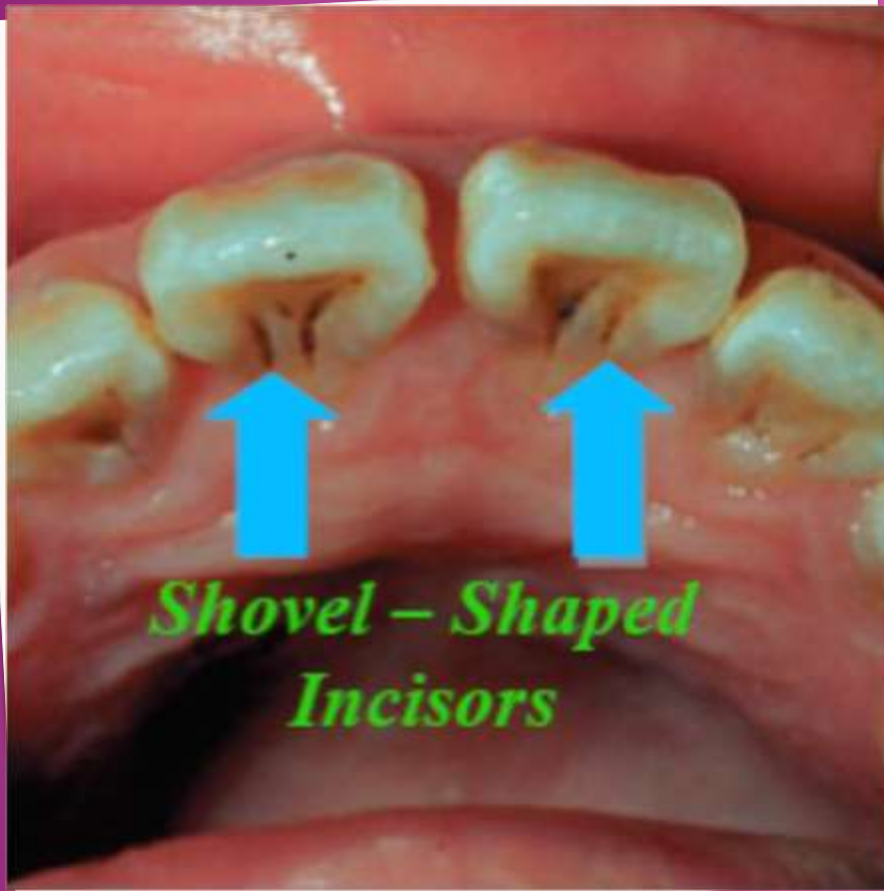
| S.No. | Trait | Negroid | Caucasoid | Mongoloid |
|-------|------------------------|--------------------------------|------------------------------|---|
| 11 | Limbs | Longer | Normal in proportion to body | Smaller |
| 12 | Face | Malar bones and jaw projecting | Small, Malar bones prominent | Larger and flattened, teeth set obliquely |
| 13 | Shape of upper incisor | Straight | Straight | Shovel shape (concave from behind) |
| 14 | Shape of upper incisor | Straight | Straight | Shovel shape (concave from behind) |



The cusp of Carabelli, or Carabelli's tubercle, or *tuberculum anomale* of Georg Carabelli is a small additional cusp at the mesiopalatal line angle of maxillary first molars. This extra cusp is usually found on the first molar, and becomes progressively less likely in the second, third molars. This cusp is entirely absent in some individuals and present in others in a variety of forms.



This extra cusp is usually found on the first molar, and becomes progressively less likely in the second, third molars. This cusp is entirely absent in some individuals and present in others in a variety of forms. Present in Caucasians but absent in others.



Shovel-shaped incisors (or, more simply, shovel incisors) are incisors whose lingual surfaces are scooped as a consequence of lingual marginal ridges, crown curvature or basaltubercles, either alone or in combination. Upper incisors are shovel shaped (concave from behind) in Mangoloids, but straight in others.

INDICES FROM LONG BONES

⊙ **Brachial Index** = $\frac{\text{Length of Radius}}{\text{Lenth of Humerus}} \times 100$

⊙ **Crural Index** = $\frac{\text{Length of Tibia}}{\text{Lenth of Femur}} \times 100$

⊙ **Humerofemoral Index** = $\frac{\text{Length of Humerus}}{\text{Lenth of Femur}} \times 100$

| Indices | Indian | Caucasoid | Negroid |
|---------|--------|-----------|---------|
| B.I. | 76.49 | 74.5 | 78.5 |
| Cr.I. | 86.49 | 83.3 | 86.2 |
| H.I. | 71.11 | 69 | 72.4 |

RELIGION

- ◉ Hindu males are not circumcised and wear sacred thread.
- ◉ Muslim males are circumcised, have corns and callosities on lateral aspects of knees and feet and have a black spot on forehead
- ◉ Hindu females wear sindoor on head, nose rings and ear rings

SOURCES AND SUGGESTED READING:

- ◉ Textbook of Forensic Medicine and Toxicology, Anil Aggrawal, APC publication
- ◉ Review of Forensic Medicine and Toxicology, Gautam Biswas, JAYPEE publication
- ◉ The Essentials of Forensic Medicine and Toxicology, Dr. K S Narayan Reddy and Dr. O P Murthy, The Health Science Publisher
- ◉ Textbook of Forensic Medicine and Toxicology, P C Dikshit, PEEPEE publications
- ◉ Research papers