



Technology Transition Workshop | *Dr. Ann H. Ross*

***The Concept of “Race”: A  
Forensic Anthropological  
Perspective on Human Variation***

# ***Ancestry or Racial Affinity***

**Whatever its social meaning and political ramifications, the identification of ancestry for the skeleton is important for the creation of a biological profile (Gill, 1998).**

# ***Ancestry or Racial Affinity***

- **Politically charged**
- **Confusion between biological and cultural identity**
- **Does “Race” exist?**
- **Conceptual problem**
- **Fear of legal systems forcing categories**

# *Race: An Excuse for Genocide*

- Rwanda - Hutus and Tutsis
- Balkans



Image from <http://thevelvetrocket.com/category/politics/>

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- ***Ancestry***

- A lineage, or those who compose the line of natural descent; an ancestor is one from whom a person descends

- ***Race***

- A geographically and culturally determined collection of individuals who share in a common gene pool and are similar in many characteristics (subspecies)

- ***Ethnic Groups***

- A group of persons who share the same language and customs and who identify with certain recent groups

# ***Ancestry***

- **Mating**
  - Related to distance
  - People whose ancestors have lived close to ours for many generations are more likely to share genetically inherited traits with us than are people who live further away
- **Breeding populations**
  - Expected to share many genetically inherited traits and to have a similar appearance

- **Main problem with the race concept**
  - Does not reflect the fluid interbreeding patterns (gene flow) of populations
  - Humans rarely mate within a single group for long
  - Few moderately distinct breeding populations

***Cultural and geographic barriers to inter-group mating are breaking down over time.***

# ***American Anthropological Association Position on Race***

**Inequalities between “racial”  
groups are not a consequence of  
their biological inheritance but  
are products of their social  
construct.**

See <http://www.aaanet.org/stmts/racepp.htm>

# ***Ancestry***

- **Variation in physical features allows the forensic anthropologist to:**
  - **Estimate a person's ancestry with some degree of specificity**
  - **Determine if the immediate ancestors of unknown skeletal remains are from a broad geographic area**

# **Ancestry**

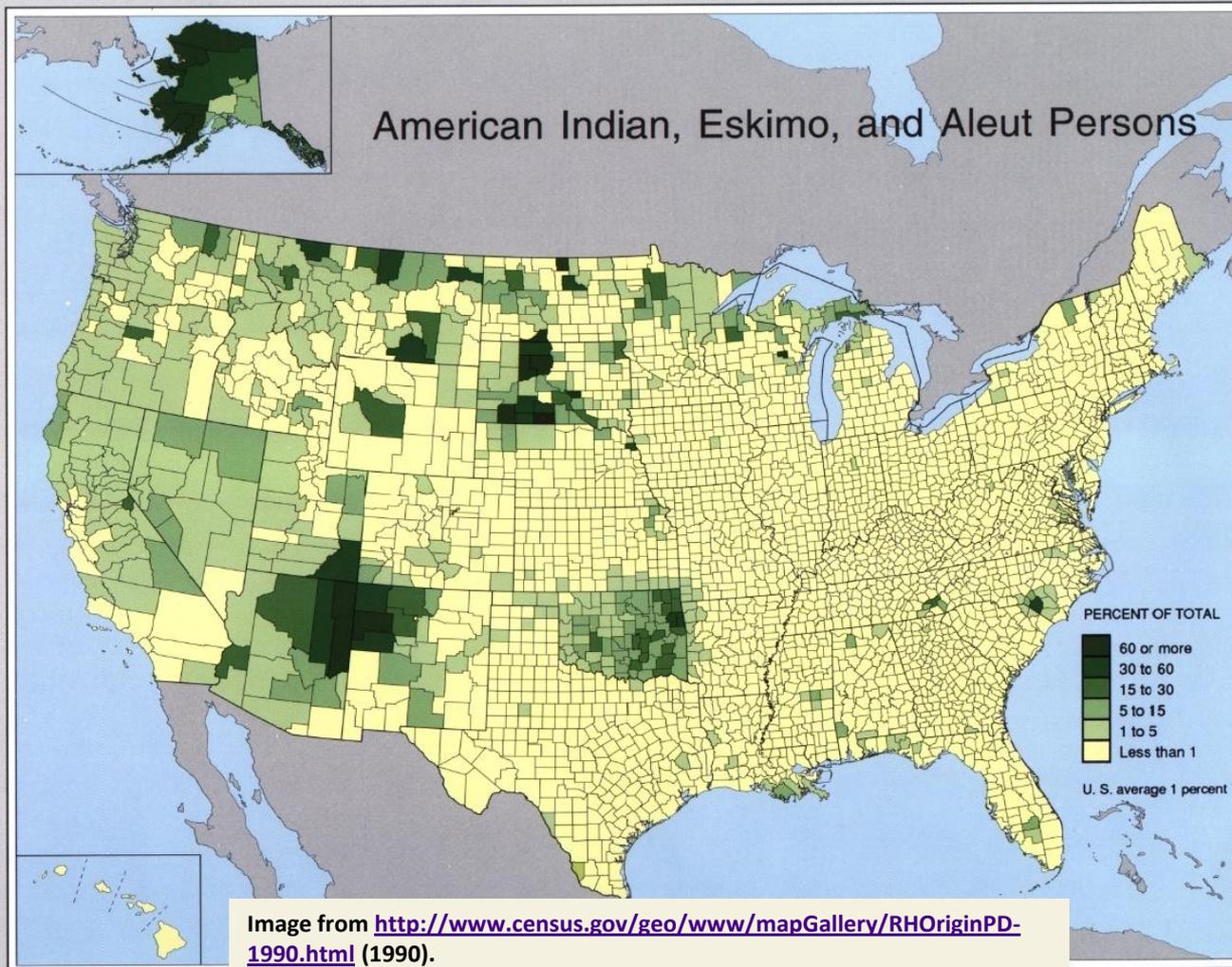
- **Ancestry implies broad, geographically defined biological population (e.g., Europe, Africa, Asia, the Americas, Oceania)**
  - **If we determine that an individual’s ancestry is European, it would be inferred that the individual would have been phenotypically classified by others as “white”**

# ***Why Determine “Race”?***

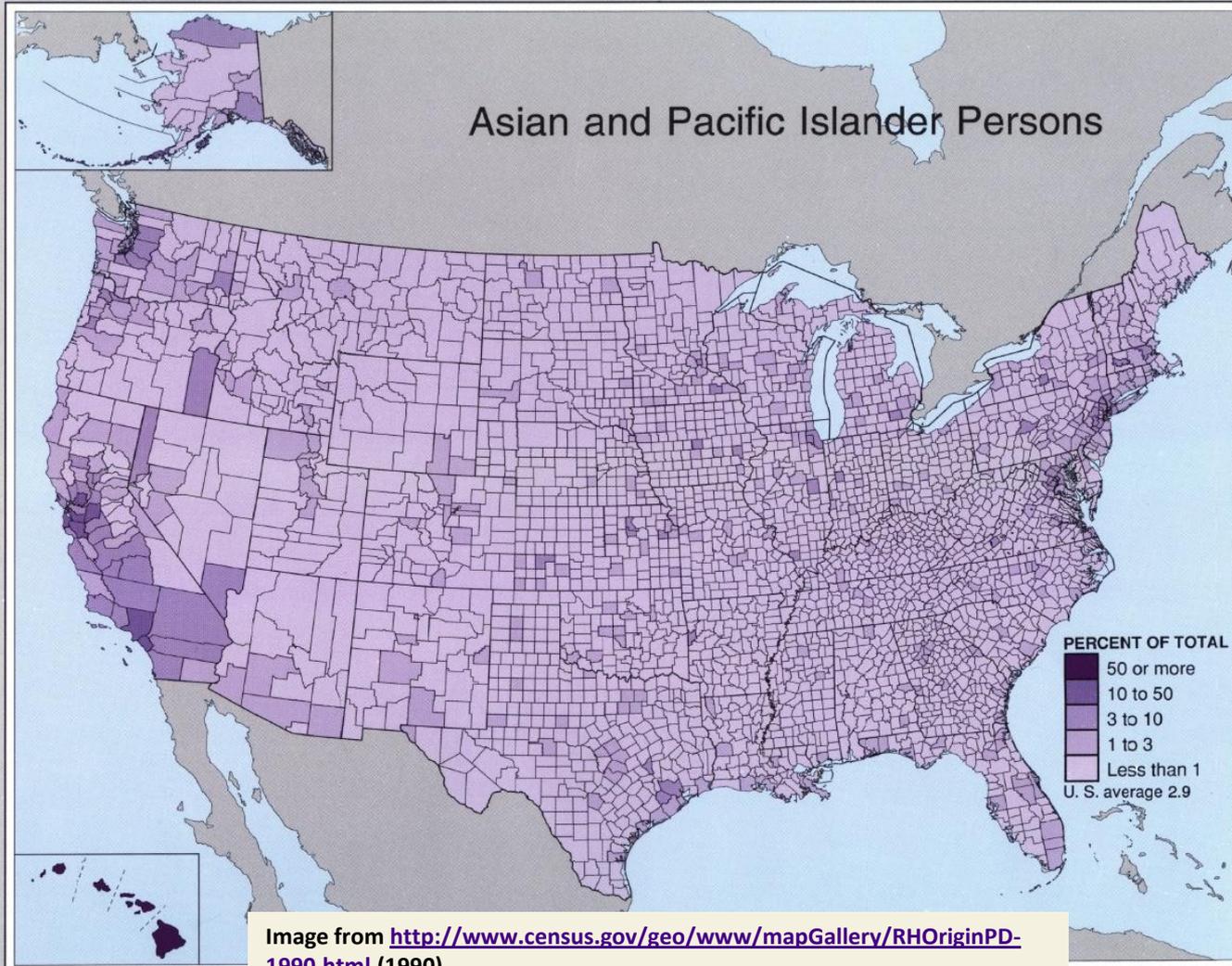
- **The term ‘race’ is no longer used in modern anthropology or biology**
- **It has been supplanted with the term ancestry, which avoids the implication of the older, typological/taxonomic concept**
- **It shifts the emphasis to the more appropriate geographically-defined biological populations**

From Nawrocki 1993

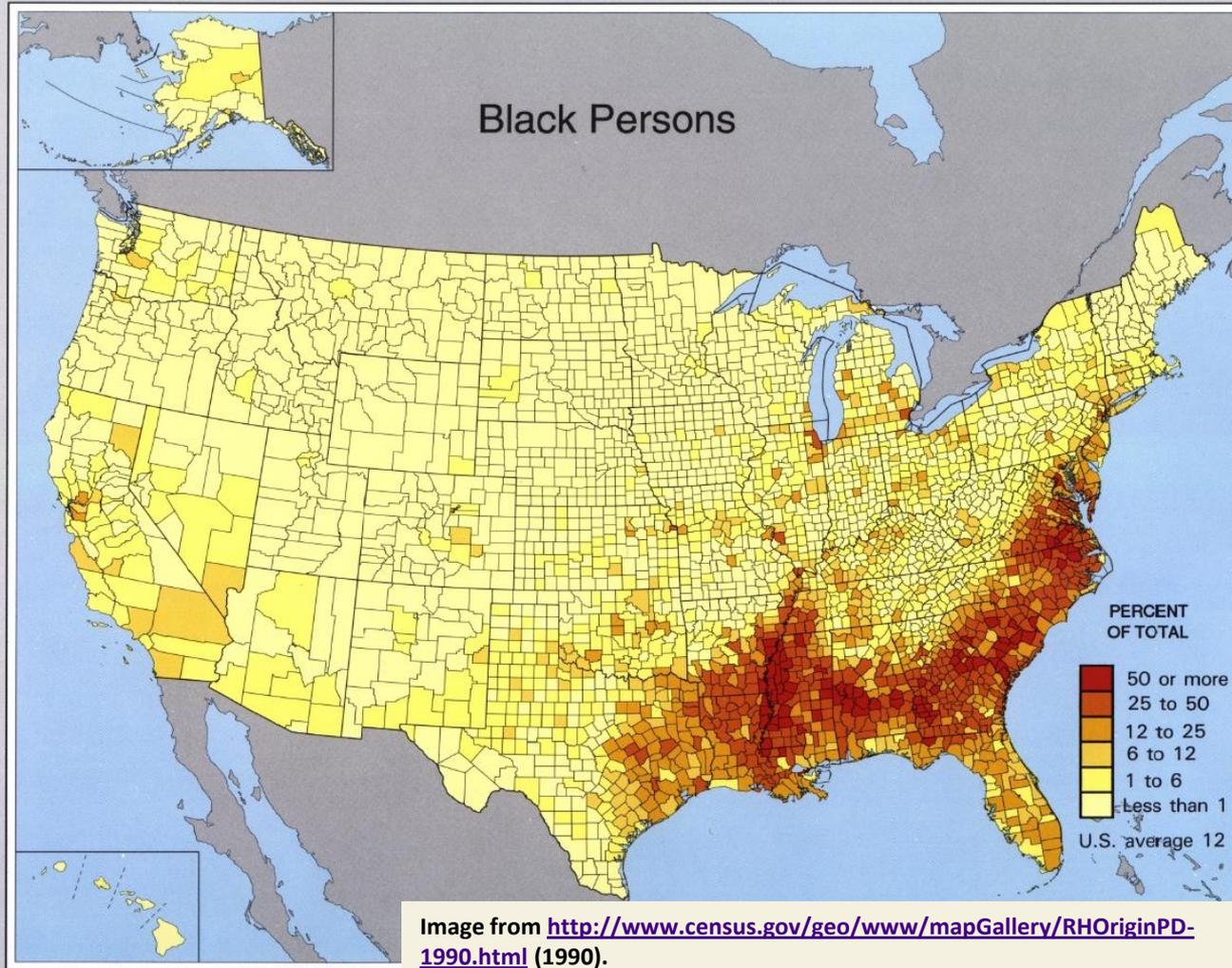
# Ancestry Determination in the United States



# Ancestry Determination in the United States



# Ancestry Determination in the United States



# Ancestry Determination in the United States

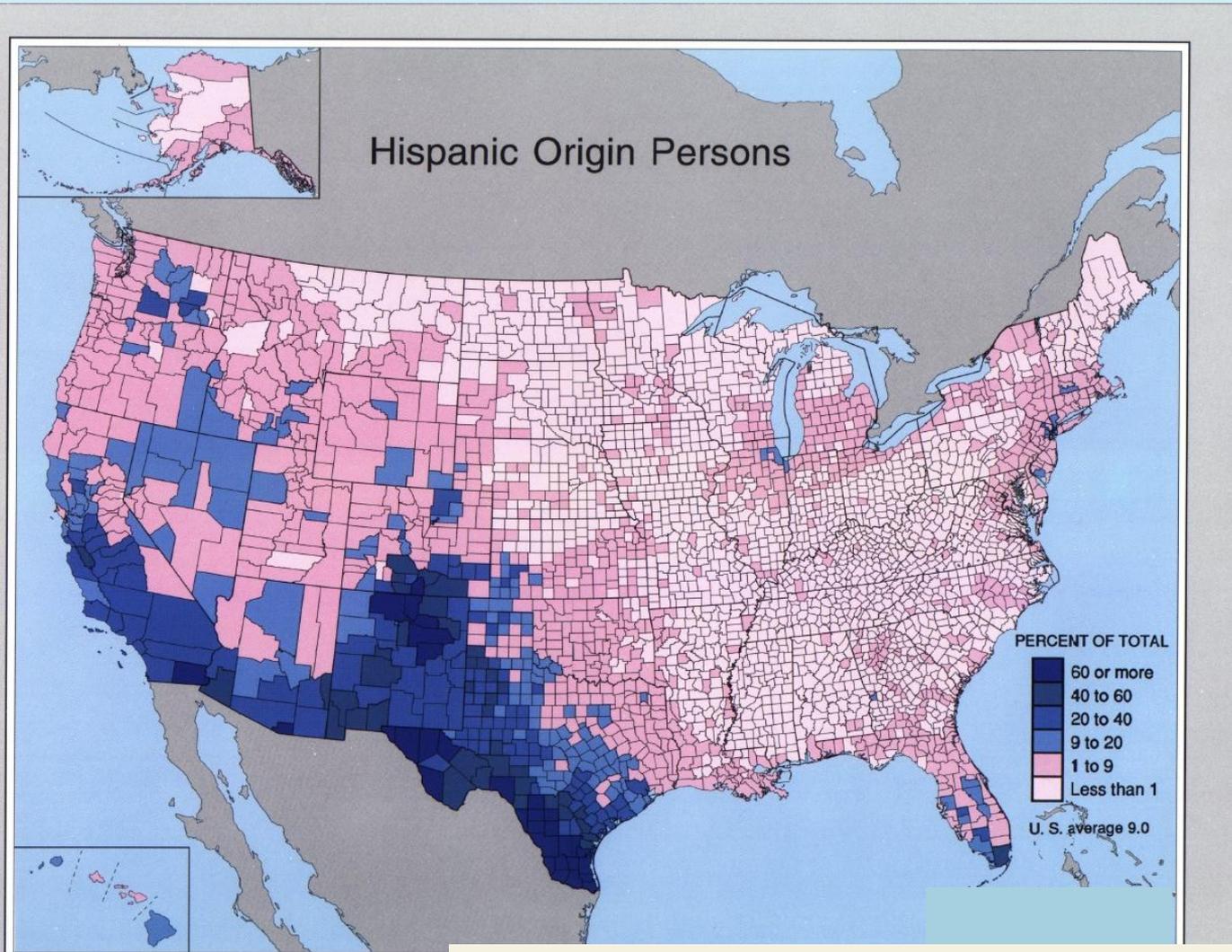


Image from <http://www.census.gov/geo/www/mapGallery/RHOriginPD-1990.html> (1990).

# Evolution of the Hispanic Question from the 1970 Census to the 2000 Census

1970 ▶

b. Is this person's origin or descent— (Fill one circle)

- Mexican
- Puerto Rican
- Cuban
- Central or South American
- Other Spanish
- No, none of these

First time data were collected.

1980 ▶

“Spanish/Hispanic” added to question.

“No” moved to front of list.

7. Is this person of Spanish/Hispanic origin or descent?

Fill one circle.

- No (not Spanish/Hispanic)
- Yes, Mexican, Mexican Amer., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, other Spanish/Hispanic

“Central or South American” removed.

1990 ▶

Dropped the word “descent”.

7. Is this person of Spanish/Hispanic origin?

Fill ONE circle for each person.

If Yes, other Spanish/Hispanic, print one group.

- No (not Spanish/Hispanic)
- Yes, Mexican, Mexican-Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, other Spanish/Hispanic  
(Print one group, for example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on.)

Example write-in groups listed; respondents allowed to provide a write-in response for “other Spanish/Hispanic.”

“Latino” added.

2000 ▶

5 Is this person Spanish/Hispanic/Latino? Mark (X) the “No” box if not Spanish/Hispanic/Latino.

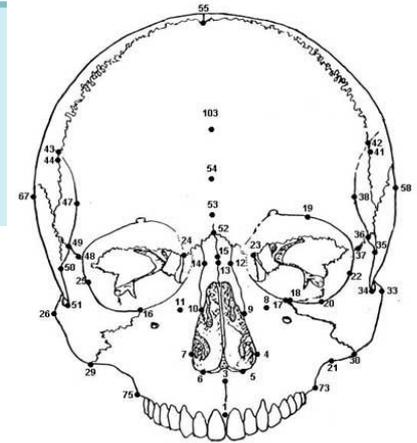
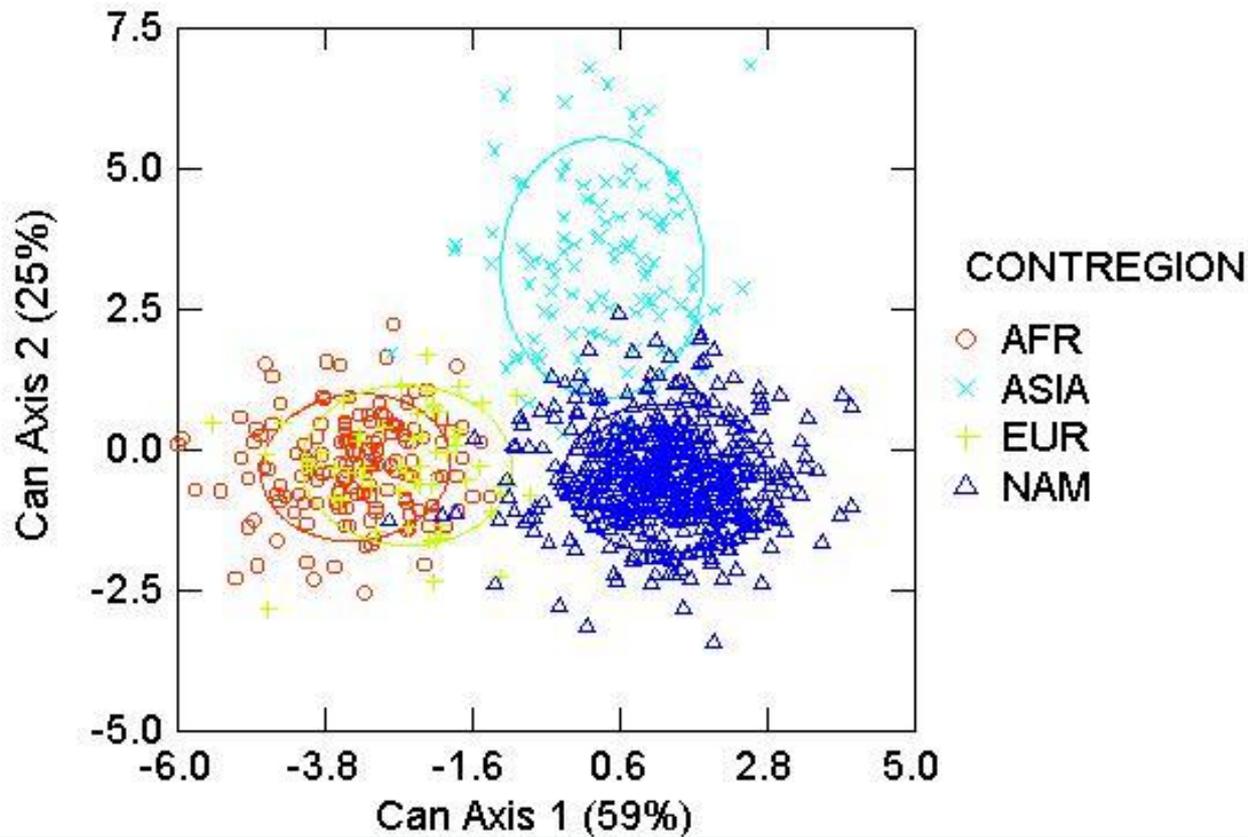
- No, not Spanish/Hispanic/Latino
- Yes, Mexican, Mexican Am., Chicano
- Yes, Puerto Rican
- Yes, Cuban
- Yes, other Spanish/Hispanic/Latino — Print group.

Dropped the word “origin.”

Location of instructions to write in subgroups moved.

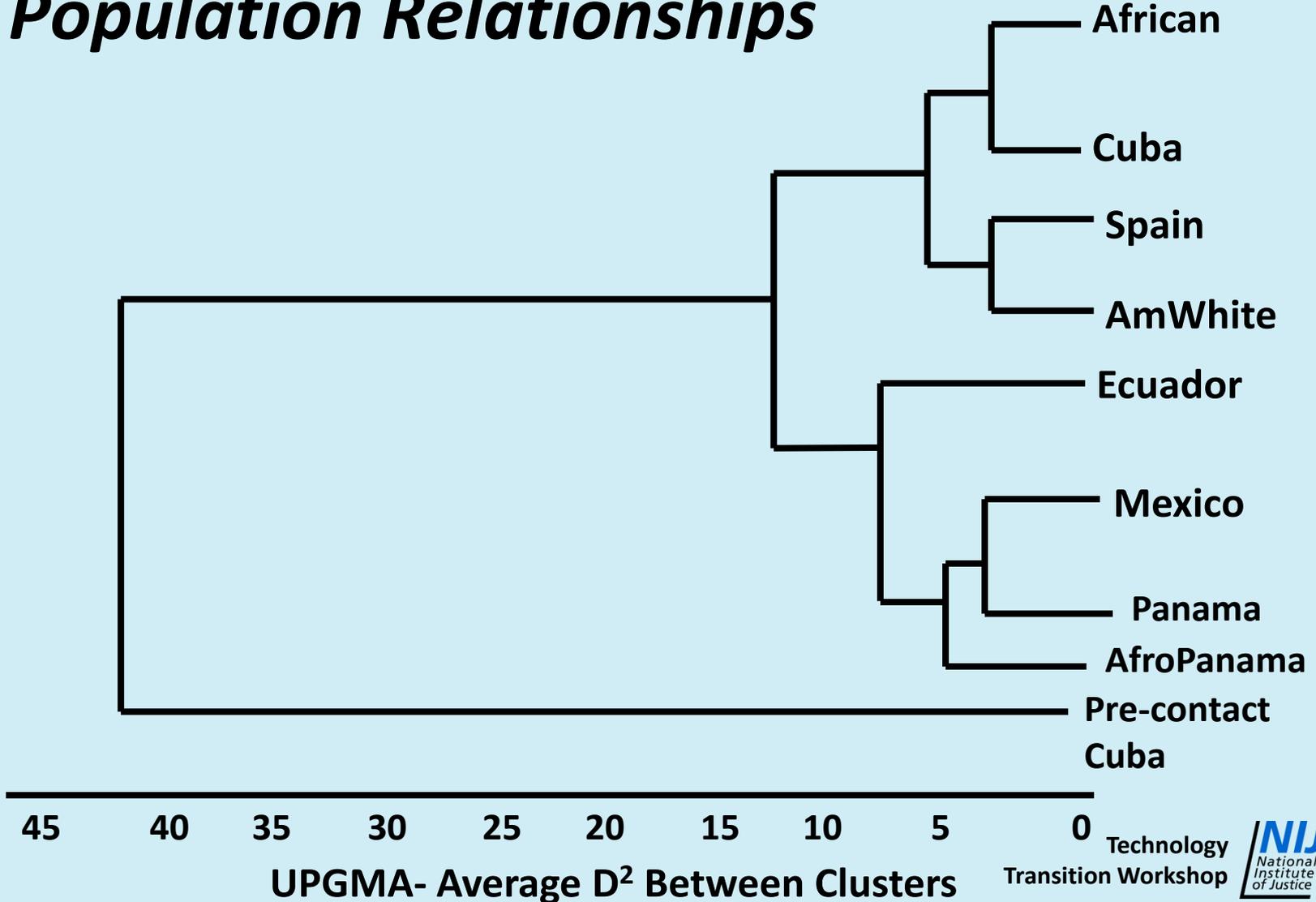
Examples of write-in other Hispanic subgroups were removed.

From Cresce, A.R.; Schmidley, A.D.; Ramirez, R.R. (2004).



Images courtesy of Dr. S.D. Ousley

# Population Relationships



# *Hispanic*



Image courtesy of Dr. Ann H. Ross

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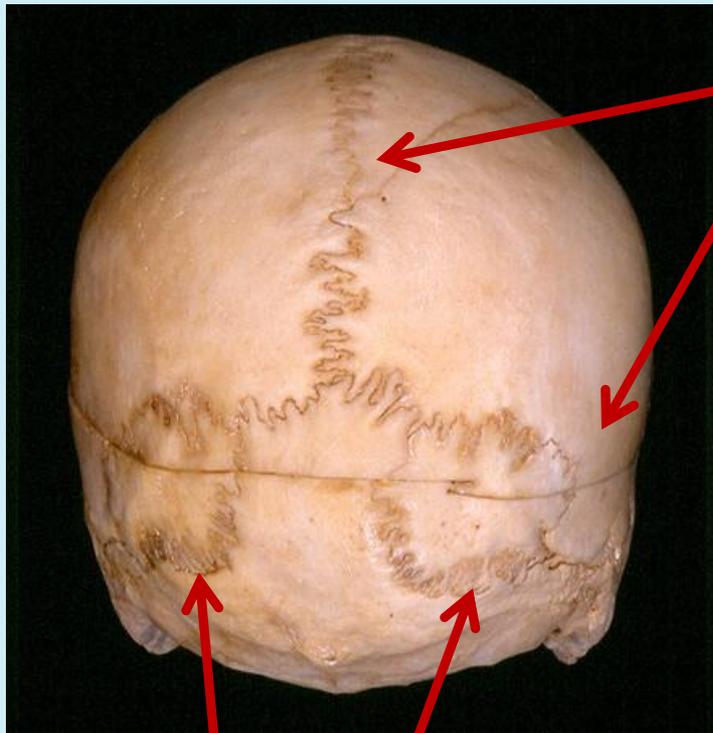




## Protostylid

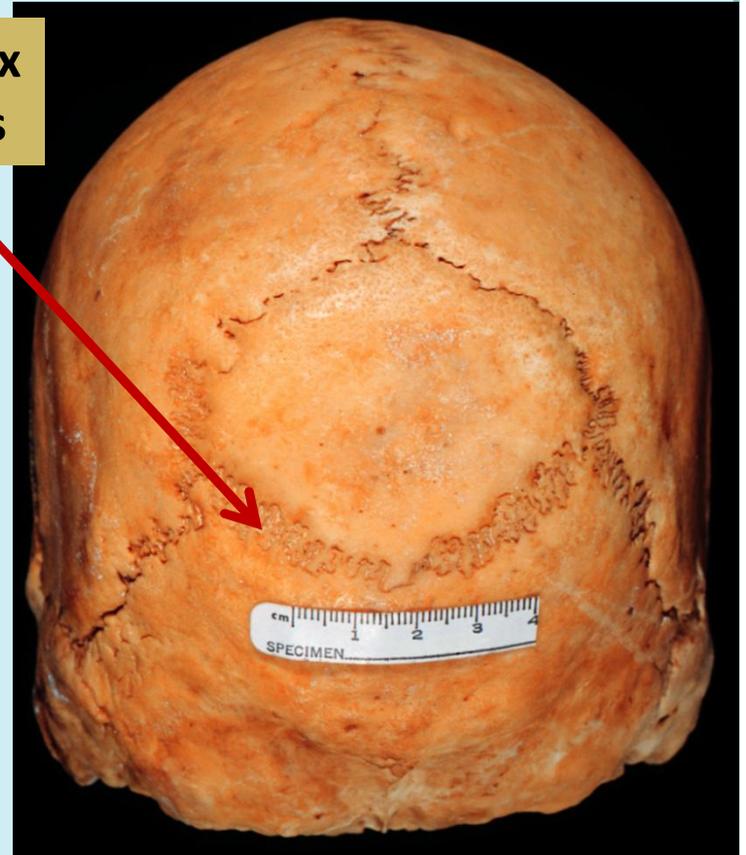
Image courtesy of Dr. Ann H. Ross

# Ancestry Estimation: Cranial Landmarks



**Wormian  
bones**

**Complex  
sutures**



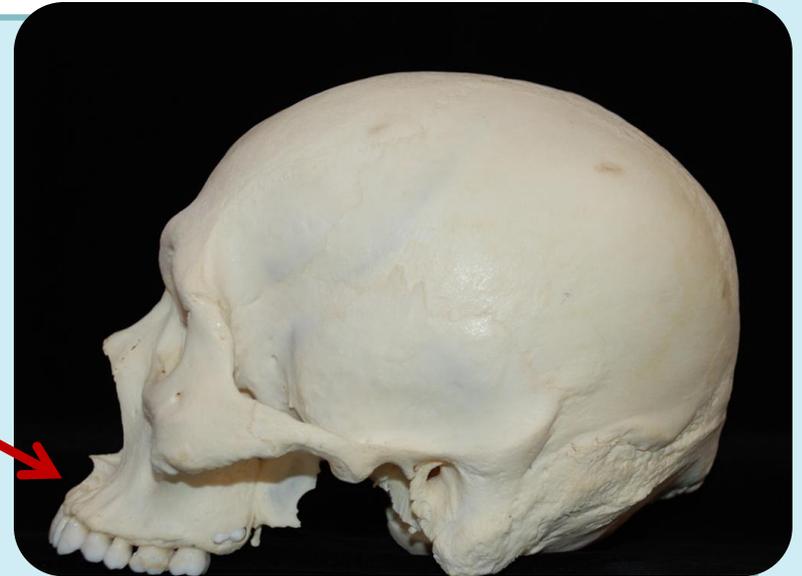
**Asian or Indigenous Ancestry**

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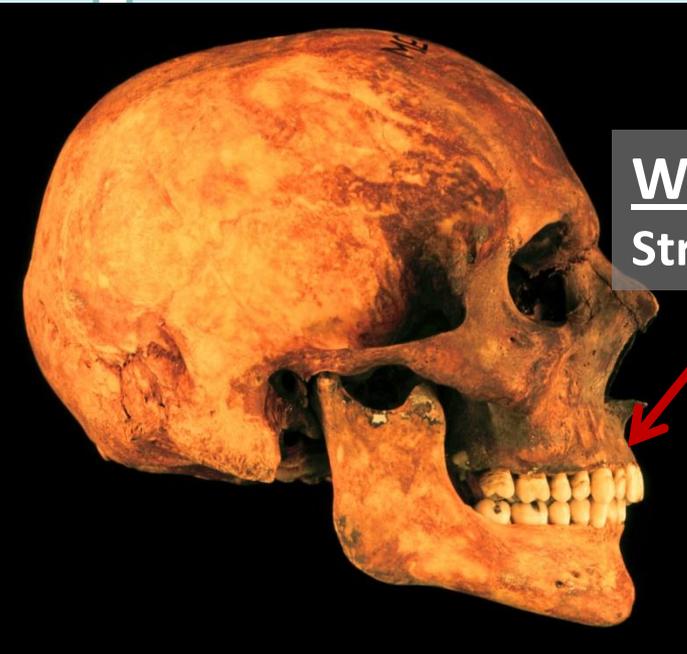
Images courtesy of Dr. Ann H. Ross

# Ancestry Estimation: Face Shape

Asian:  
Intermediate  
profile



White/Hispanic  
Straight profile



African:  
Projecting  
profile

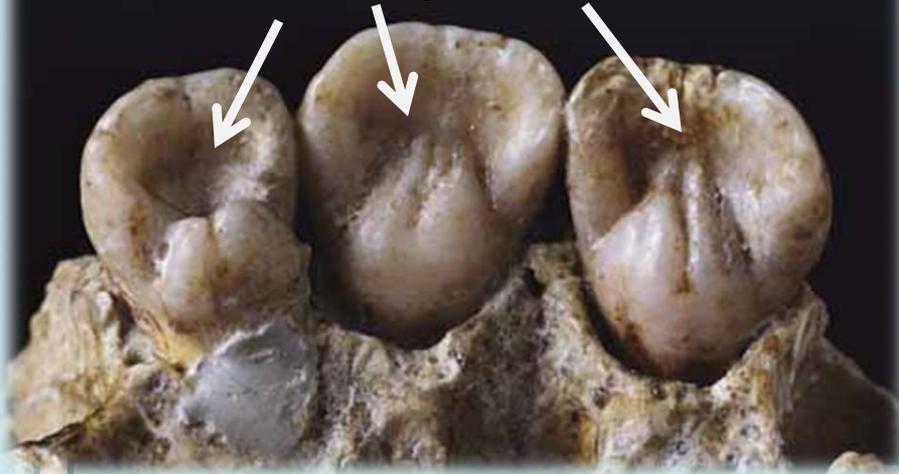


Images courtesy of Dr. Ann H. Ross

# Ancestry Estimation: Teeth

Asian

Shovel-shaped incisors



European / African

Spatulate-shaped incisors



Molar cusp pattern:  
Smooth  
European / Asian



Molar cusp pattern:  
Crenulate  
African

Images courtesy of Dr. Ann H. Ross

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# ***Ancestry Estimation: Cranial Landmarks***

**European / Asian:**

**No depression**



**African:**  
**Post-bregmatic  
depression**



Images courtesy of Dr. Ann H. Ross

- Panamanians are very similar to Mexicans, Ecuadorians, and West Indian Panamanians in cranial shape
- This similarity is distinct from the African and European affinities of modern Cubans
- Craniometric variation in contemporary “Hispanics” reflects their diverse ancestry



Image from <http://satelliteradioplayground.com/2011/03/08/sirius-xm-nasdaq-siri-hispanics-are-valuable-digital-targets/>  
Accessed July 6, 2011

# ***Ancestry Determination***

- **Nonmetric (present to absent traits)**
  - Cranial and postcranial morphology
- **Metric (continuous and measurable)**
  - Application of multivariate statistical methods to sets of defined linear distances
  - Utilizes cranial and postcranial material
- **Population-level differences derived almost exclusively from adult skeletal material**
  - Due to confounding effect of ontogenetic allometric changes

# ***Cited Scientific References***

***American Anthropological Association Statement on “Race” (May 17, 1998).***

***<http://www.aaanet.org/stmts/racepp.htm> (accessed Jun 24, 2011).***

***Cresce, A.R.; Schmidley, A.D.; Ramirez, R.R. Identification of Hispanic Ethnicity in Census 2000: Analysis of Data Quality for the Question on Hispanic Origin; Working Paper No. 75.***

***<http://www.census.gov/population/www/documentation/twps0075/twps0075.pdf> (accessed Jun 23, 2011), page 20, internet release date: July 27, 2004. NOTE: This Figure Reproduced from General Accounting Office Report GAO-03-228, “Methods for Collecting and Reporting Hispanic Subgroup Data Need Refinement,” published February 2003.***

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***Nawrocki , S.P. The Concept of Race in Contemporary Physical Anthropology. In The Natural History of Paradigms: Science and the Process of Intellectual Evolution, Langdon, J.; McGann, M., Eds. University of Indianapolis: Indianapolis, IN, 1993; pp 222-234.***

***Race and Hispanic Origin Population Density of the United States: 1990 (by County as a Percentage of Total Population).*** ***<http://www.census.gov/geo/www/mapGallery/RHOriginPD-1990.html> (accessed Jun 24, 2011).*** Boundaries as of January 1, 1990. Prepared by the Geography Division in cooperation with the Data Preparation Division, U.S. Department of Commerce, Economics and Statistics Administration, Bureau of Census.

# Questions?

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# ***Contact Information***

**Ann H. Ross, Ph.D.**  
**North Carolina State University**  
**CB 8107, Raleigh NC 27695**  
**919-515-9021**  
**ann\_ross@ncsu.edu**