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Modern Human Diversity - Race and
Racism

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What Will You Learn?

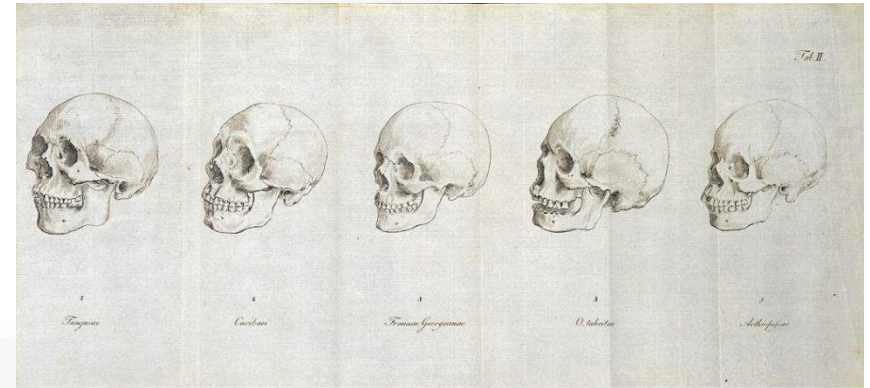
- Examine the history of human classification.
- Describe how the biological concept of race cannot be applied to humans.
- Recognize the conflation of biological race in theories that attempt to link race to behavior and intelligence.
- Discuss physical anthropological approaches to the study of human biological variation.
- Describe the role of adaptation as it applies to human skin color.
- Examine the interaction between biological and cultural components of the human adaptive complex.

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History of Human Classification

- Early European scholars tried to systematically classify *Homo sapiens* into subspecies, or races based on characteristics like;
 - Geographic location, skin color, body size, head shape, and hair texture.



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Race as a Biological Concept

- **Race** in biology is the taxonomic category of a subspecies that is not applicable to humans because the division of humans into discrete types does not represent the true nature of human biological variation. In some societies race is an important social category.

Definition of Race

1. Definition is arbitrary; no scientific criteria exist on how many differences it takes to make a race.
2. The biological definition of race does not mean that any one race has exclusive possession of any particular variant of any gene(s).
3. Differences among individuals within a so-called racial population are greater than the differences among separate populations.

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The Conflation of the Biological Into the Cultural Category of Race

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- While race is not a biological concept it is a significant cultural construct.
- In the U.S. the Census Bureau reflects and reinforces the conflation of the biological and cultural concept of race.
- In 2010 lists included large catchalls such as “white and black” as well as specific tribal affiliations of American Indians.

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Critical Thought

- Census asks people to identify Hispanic ethnicity, independent of the category of race but considers Arabs and Christians of Middle Eastern ancestry as white (Caucasian) despite the political relevance of their ancestry.
- In what ways can our system of human classification be confusing? Can it lead to racism, and if yes, how?

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The Social Significance of Race: Racism

- Despite the scientific understanding that race holds no biological validity, this does little to change cultural perceptions.
- **Racism** is the doctrine of superiority by which one group justifies the dehumanization of others based on their distinctive physical characteristics, and persists as a major political problem.
- [Eyes on the Prize Video](#)

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Genocide

- The physical extermination of one people by another, either as a deliberate act or as the accidental outcome of activities carried out by one people with little regard for their impact on others.
- [Genocide in World War II](#)

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Race and Behavior

- To date there are no inborn behavioral characteristic(s) that can be attributed to any group of people that can not otherwise be explained in terms of cultural practices.
- High crimes rates, alcoholism and drug use among certain groups can be explained with reference to culture rather than biology.

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Race and Behavior

- **Structural Violence** - physical and/or psychological harm caused by impersonal, exploitative, and unjust social, political and economic systems.
- Can you give an example of structural violence in our society?

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Race and Intelligence

- Limits of IQ testing include the measurement of performance (something that one does) rather than genetic disposition (something that an individual was born with).
- Performance also reflects past experiences and present motivational state, as well as innate ability.

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Race and Intelligence

- During WWI, draftees were regularly given IQ tests known as Alpha and Beta.
- Results showed that on average white Americans scored higher than African Americans.
- Further data showed African Americans from northern states scored higher than those from southern states.
- Even though many African Americans scored higher than white Americans, many mistook this for proof of the intellectual superiority of white Americans.

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Critical Thought

- Why do you suppose more white Americans scored higher than African Americans?
- Why do you suppose the northern African Americans scored higher than the southern African Americans?
- Do you suppose that the northern white Americans also would have scored higher than southern white Americans? Why?

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Studying Human Biological Diversity

- Anthropologists have abandoned the race concept as being of no utility in understanding human biological variation. Instead it is more productive to study *clines*- the distribution and significance of single, specific, genetically based characteristics and continuous traits related to adaptation.

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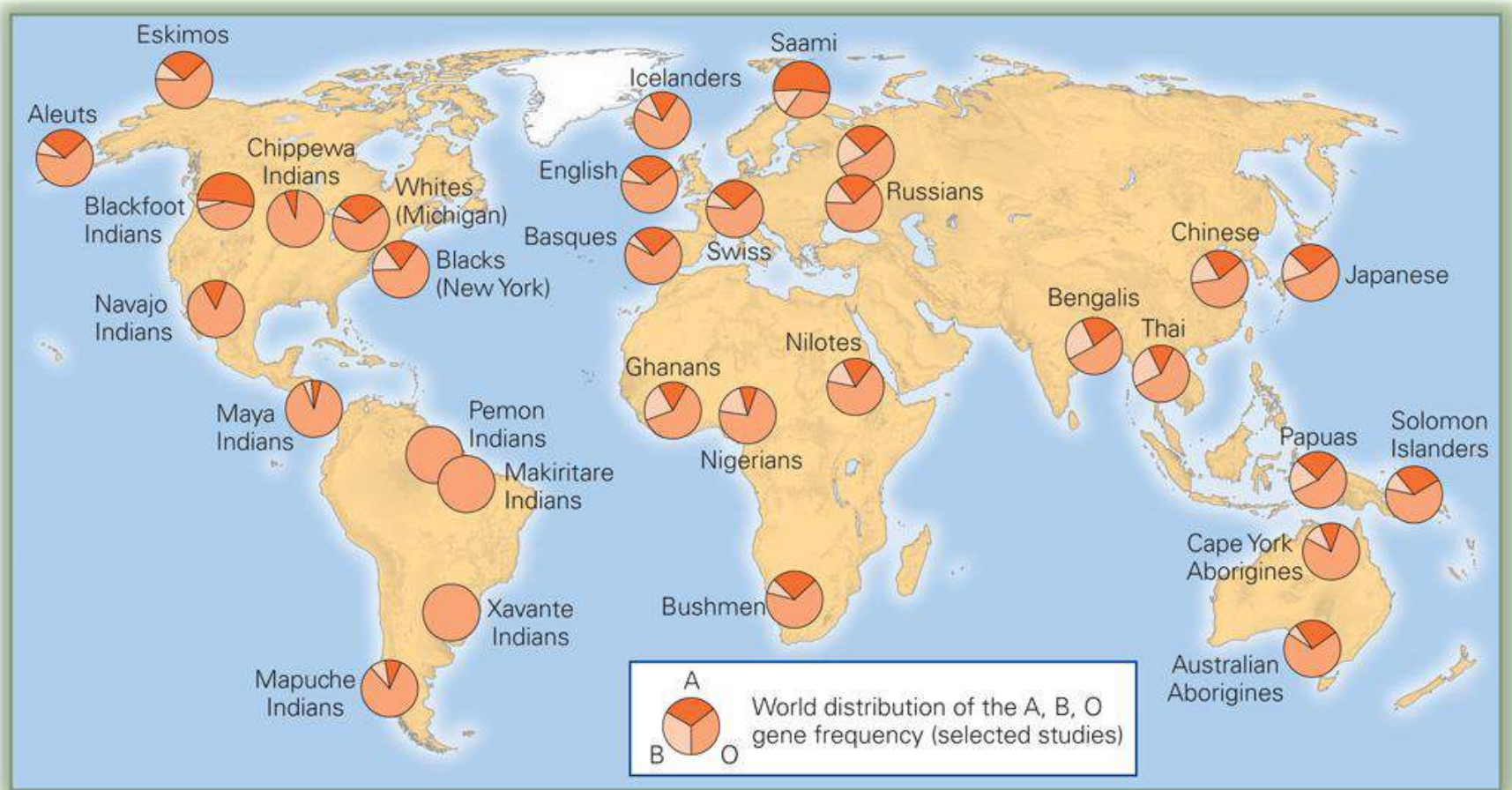
Studying Human Biological Diversity

- Species can be considered polymorphic, meaning there is wide variation among individuals beyond gender.
- Polymorphic traits will describe a species with alternative forms (alleles) of particular genes. It also refers to continuous phenotypic variation that may be genetically controlled by interactions among multiple different genes.

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World Blood Types

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Studying Human Biological Diversity

- When polymorphisms are distributed into geographically dispersed populations, biologists describe this species as **polytypic**.
 - Describing the expression of genetic variants in different frequencies in different populations of a species.

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Skin Color: A Case Study in Adaptation

- Skin color has a long history of being attributed to various “races” of peoples.
- Several key factors impact the variation of skin color.
- **Melanin** is the dark pigment produced in the outer layer of the skin that protects against damaging ultraviolet solar radiation.
- The more melanin your body has naturally, the darker the skin color.

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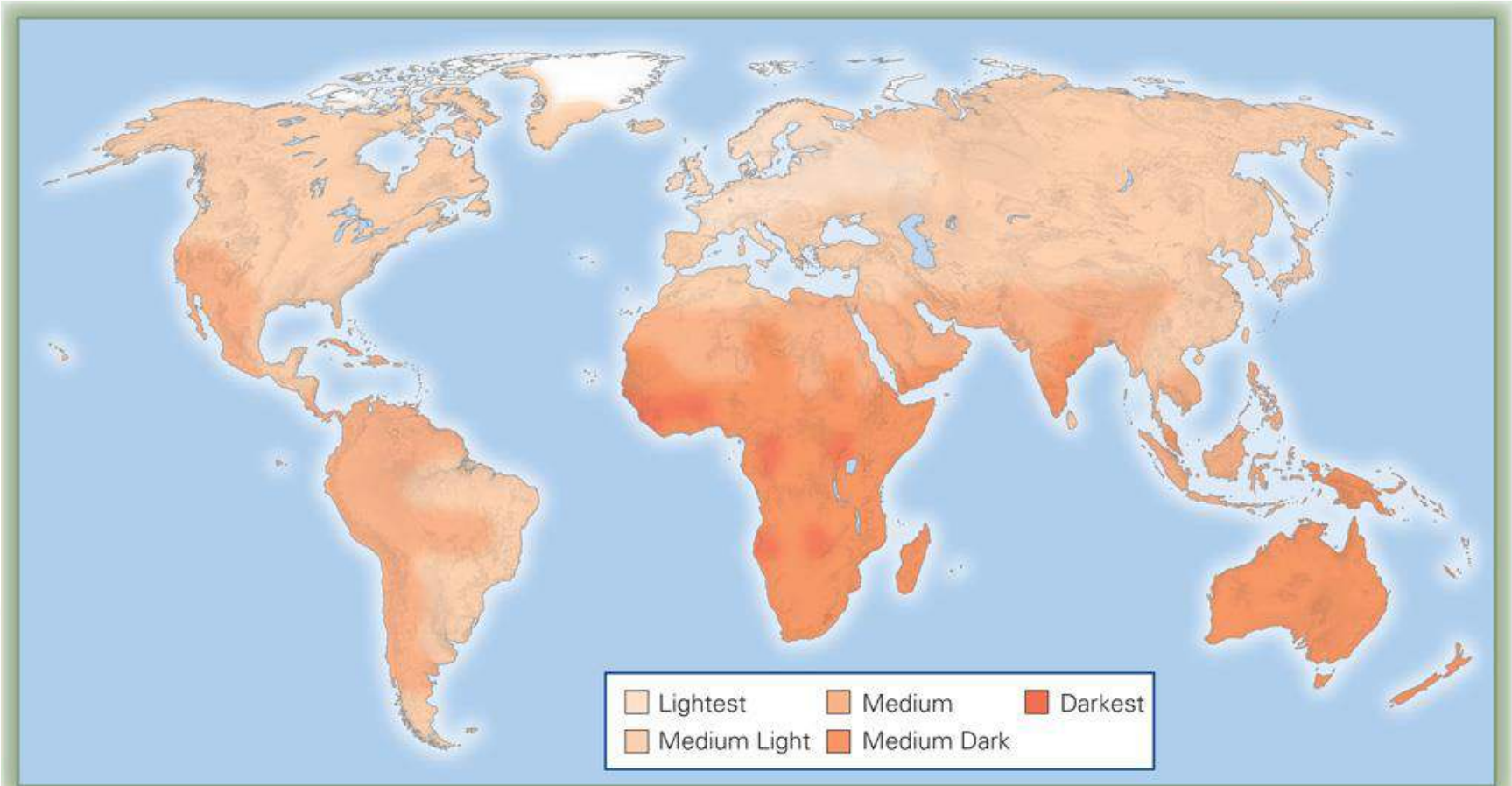
Skin Color: A Case Study in Adaptation

- It is thought that in northern latitudes lighter skin has an adaptive advantage because it allows for enough sunlight to penetrate the skin and stimulate the formation of vitamin D.
- Similarly in equatorial regions more melanin or darker skin will protect the body naturally from an over exposure to harmful sun as well as an over production of vitamin D.

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World Skin Color

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Culture and Biological Diversity

- Culture can also contribute directly to the development of disease.
- Diabetes is very common among overweight individuals who get little exercise. When people of traditional cultures adopt the Western high-sugar diet and low activity pattern, the incidence of diabetes and obesity skyrockets.

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Culture and Biological Diversity

- Scientists have attributed a tendency towards diabetes among American Indians to their thrifty genotype, a genotype thought to characterize all humans until about 6,000 years ago.
- **Thrifty genotype** - permits efficient storage of fat to draw on in times of food shortage and conservation of glucose and nitrogen.

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European Adaptive System?

- Among Europeans, cultural practices also acted as an agent of biological selection for lactose tolerance.
- Populations with a long tradition of dairying tend to remain lactose tolerant into adulthood.
- Many Asians, Australians, Native Americans, and African populations do not produce lactase after childhood.

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European Adaptive System?

- **Lactase** - An enzyme in the small intestine that enables humans to assimilate lactose
- **Lactose** - A sugar that is the primary constituent of fresh milk.

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Beans, Enzymes, and Adaptation to Malaria

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- Other adaptations to malaria take the form of cultural practices, such as local cuisine.
- In areas where the broad flat fava bean is a dietary staple, high incidences of malaria also exist.
- G-6-PD is an enzyme that serves to reduce one sugar, glucose-6-phosphate to another sugar in the process releasing an energy rich molecule.

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Beans, Enzymes, and Adaptation to Malaria

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- The malaria parasite lives in red blood cells off of energy produced by G-6-PD. Individuals with a mutation in this gene produce energy by an alternate pathway not involving this enzyme that the parasite cannot use.
- G-6-PD deficient RBCs turn over quickly which allows less time for the parasite to grow.
- Over consumption can be deadly.



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