KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI

UNIA EUROPEJSKA
EUROPEJSKI FUNDUSZ SPOŁECZNY

"PWP: Uniwersytet Julia: Umiędzynarodowienie szkolenia w Uniwersytecie Gdańskim poprzez współpracę z Uniwersytetem Houston-Downtown"
Projekt współfinansowany ze środków Unii Europejskiej w ramach Europejskiego Funduszu Społecznego

Introduction to Human Genetics

Module 1 Mendelian genetics

Mendelian inheritance in humans

UNIWERSYTET GDAŃSKI

Dr Ewa Piotrowska
Department of Molecular Biology

KBM
KATEDRA BIOLOGII MOLEKULARNEJ

Mail Online

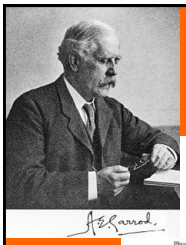
The VERY odd couple: Shortest man ever (21.5ins) meets tallest living person (8ft 1in) outside the Houses of Parliament for Guinness World Record Day

1	4	8	10	16	16	15	15	14	13	13	11	9	8	8	5	1	2
Number of individuals																	
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77
Height (inches)																	

https://youngbloodbiology.wikispaces.com/Patterns+of+Inheritance+Notes

CONTINUOUS VARIATION

a distribution of phenotypic characters
that is distributed from one extreme to another
in an overlapping, or continuous fashion



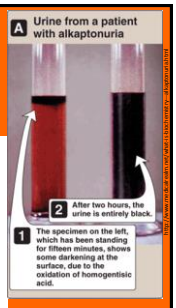
Garrod, Archibald E. 1902. The Incidence of Alkaptonuria: A Study in Chemical Individuality. *Lancet*, vol. ii, pp. 1616-1620.

THE INCIDENCE OF ALKAPTONURIA:
A STUDY IN CHEMICAL INDIVIDUALITY

ARCHIBALD E. GARROD

Physician to the Hospital for Sick Children, Great Ormond-street; Demonstrator of Chemical Pathology at St. Bartholomew's Hospital

ALL THE MORE RECENT WORK on alkaptonuria has tended to show that the constant feature of that condition is the excretion of homogentisic acid, to the presence of which substance the special properties of alkapton urine, the darkening with alkalies and on exposure to air, the power of staining fabrics deeply, and that of reducing metallic salts, are alike due. In every case which has been fully investigated since Wolkow and Baumann[1] first isolated and described this acid its presence has been demonstrated and re-examination of the material from some of the earlier cases also has led to its detection. The second allied alkapton acid, uroleucic, has hitherto only been found in the cases investigated by Kirk and in them in association with larger amounts of homogentisic acid.[2] By the kindness of Dr. R. Kirk I have recently been enabled to examine fresh specimens of the urines of his patients who have now reached manhood and was able to satisfy myself that at the present time even they are no longer excreting uroleucic acid. After as much of the homogentisic acid as possible had been allowed to separate out as the lead salt the small residue of alkapton acid was converted into the

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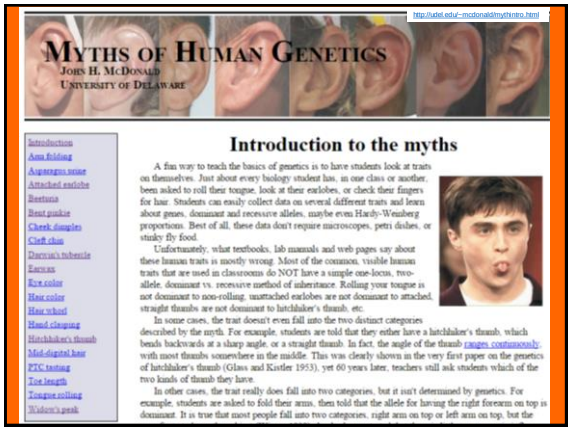
http://udel.edu/~mcdonald/mythintro.html
MYTHS OF HUMAN GENETICS
JOHN H. MCDONALD
UNIVERSITY OF DELAWARE
Introduction
Arm folding
Asparagus urine
Attached earlobe
Beeturia
Bent pinkie
Cheek dimples
Cleft chin
Darwin's tubercle
Earwax
Eye color
Hair color
Hair whorl
Hand clasping
Hitchhiker's thumb
Mid-digital hair
PTC tasting
Toe length
Tongue rolling
Widow's peak
Introduction to the myths
A fun way to teach the basics of genetics is to have students look at traits on themselves. Just about every biology student has, in one class or another, been asked to roll their tongue, look at their earlobes, or check their fingers for hair. Students can easily collect data on several different traits and learn about genes, dominant and recessive alleles, maybe even Hardy-Weinberg proportions. Best of all, these data don't require microscopes, petri dishes, or stinky fly food.
Unfortunately, what textbooks, lab manuals and web pages say about these human traits is mostly wrong. Most of the common, visible human traits that are used in classrooms do NOT have a simple one-locus, two-allele, dominant vs. recessive method of inheritance. Rolling your tongue is not dominant to non-rolling, unattached earlobes are not dominant to attached, straight thumbs are not dominant to hitchhiker's thumb, etc.
In some cases, the trait doesn't even fall into the two distinct categories described by the myth. For example, students are told that they either have a hitchhiker's thumb, which bends backwards at a sharp angle, or a straight thumb. In fact, the angle of the thumb ranges continuously with most thumbs somewhere in the middle. This was clearly shown in the very first paper on the genetics of hitchhiker's thumb (Glass and Kistler 1953), yet 60 years later, teachers still ask students which of the two kinds of thumb they have.
In other cases, the trait really does fall into two categories, but it isn't determined by genetics. For example, students are asked to fold their arms, then told that the allele for having the right forearm on top is dominant. It is true that most people fall into two categories, right arm on top or left arm on top, but the