ANTHROPOLOGY

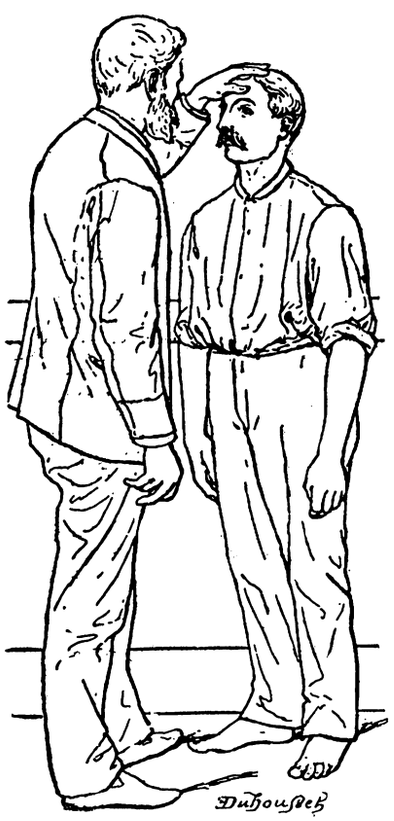
What Color Are Your Eyes?

"A Classic of Science"

Learn From the Great French Criminologist Whether Your Eyes Are Pigmented Orange or Pure Maroon

ALPHONSE BERTILLON'S METHOD FOR IDENTIFICATION OF CRIMINALS, anthropometric identifications. Translated from the French by Gallus Muller, clerk of the Illinois State Penitentiary. Joliet, Ill., 1887.

1. The prevalent confusion in designating the color of the eye arises largely from the necessity one is put to, while taking descriptions so called, to ascertain the color of the iris under different lights. Thus, for instance, a dark blue eye turned from the light, observed at a distance of several metres, appears black, owing to the contrast of the dark colored iris, with what is commonly called, the white of the eye.



EYE TO EYE WITH A CRIMINAL
Bertillon records color of the left eye only.

2. The so-called *"gray"* eye, is generally nothing else but a blue eye with a more or less yellowish tint, appearing gray on account of the shadow cast by the eyebrows.

3. All other qualificatives in use for designating the color of the eyes, participate in this confusion, and must be left out of consideration by the reader, from the very start of this study.

4. The first thing to be observed in analyzing in a uniform way the color of the iris, is that the examiner stand opposite his subject at a distance of about 30 centimetres, his back to the light so that the eye to be examined is struck by a full strong light (not the rays of the sun, however). Then he orders the subject to look him straight in the eye, and lifts lightly with his right hand the middle of the subject's eyelid.

5. It sometimes happens that the iris, observed in that way, presents notable differences in color and shade between the right and left eye. It is however recommended to base the observation exclusively on the left eye, which faces the right of the operator. The only exception to this rule is made when the left eye is permanently deteriorated either by a film or an inflammation, or by the socket being altogether vacuous while the right eye remains sound.

6. The examiner must not write down any of his observations, until he has closely examined the condition of the eyes of a certain number of individuals, and not until he is fully posted on the principles of the system of notations hereinafter explained.

7. The eye ball consists of a central circle, called *"pupil,"* and a colored circular band, called *"iris."*

8. Speaking of the color of the eye, it is the iris which is meant, the pupil always being black in the lightest as well as the darkest eyes.

9. On the iris two principle zones are distinguished, the color of which generally differs. 1. The *central* or *pupillary zone* sometimes called *"areola,"* or small circle, or *circle* simply. (It borders the pupil); 2. The *peripheric or external* zone (the part of the iris next to the white of the eye).

The basis of our notation rests upon this point, to wit: There is found in the human race but two fundamental types of eyes, the *blue* eyes and the *maroon* eyes. All other shades must be considered as intermediate between these two types.

11. We understand by *blue,* or better expressed, *impigmented* eyes (what follows will make this word more comprehensible), the pale blue, azure blue, violet blue and slate blue eyes. These adjectives are definite enough for themselves. We may add that these subdivisions are frequently difficult to define. Many eyes of more or less bluish tint may participate in two or three of these qualifications at once.

12. The *maroon* eyes have a unique tint, which reminds one of the shell of the *marron* (French Chestnut) when the fruit is ripe and fresh, and the shell slick and shining. It is the black eye, the eye of the Arab, the negro, and of people from southern climes generally. The shade of this eye is more or less deep, more or less light, but its general aspect is more uniform than that of the series of blue eyes.

13. As far as the intermediate eyes are concerned, which constitute three-fourths of the eyes of the Caucasian race, most of them clearly approach either the impigmented eye (pale, azure, violet or slate blue) or the maroon eye. The intensity of their pigmentation, however, is the base of their denomination, and of the classification ensuing therefrom.

Pigmentation

14. By *pigment of the eye* we mean the more or less yellowish-orange colored matter which is observed in most eyes, when they are examined under the conditions of light laid down at the beginning of this chapter (§ 4). The more abundant this pigment is in the eye, the darker it appears and the nearer it approaches the maroon.

15. In most cases this yellowish-orange colored matter is grouped in the shape of a circle or areola around the

pupil, and sometimes in little dots or small triangular spots in the peripheric zone.

16. The four varieties of pigmentation, which serve for the notation and classification of intermediate eyes, are yellow, orange, chestnut and maroon.

17. Eyes of an incomplete maroon color, in other words, those whose surface is not entirely covered with maroon, are subdivided as follows: 1. *Maroon circle,* where the maroon is grouped around the pupil. 2. *Irisated maroon,* where the pigment enters besides a portion of the peripheric zone, and leaves only exposed on the surface of the iris, small triangular or crescent shaped spots, either of greenish yellow or of dark slate-blue color.

18. This distinction between *circle* and *irisated* is also applicable to other pigmentations, but as a descriptive information only, without calling for subdivisions.

19. To resume: The sub-divisions finally obtained appear in the following classification, in which a place is found for eyes of every description:

1. Impigmented (that is, the iris is entirely without the yellowish-orange matter).
2. Pigmented yellow.
3. Pigmented orange.
4. Pigmented chestnut (incompletely).
5. Pigmented maroon in circle.
6. Pigmented maroon irisated.
7. Pigmented pure maroon.

This scale of colors must be learned by heart, so that it may be recited without hesitation, from top to bottom and vice versa. It is important to be closely posted on the meaning of each of these expressions.

20. The yellow pigment is very much alike to pulverized sulphur (pale yellow).

21. The orange is not exactly the color of the peel of that fruit but rather what the painter calls, yellow ochre.

22. The chestnut resembles burnt sienna, or the shell of a dry dusty chestnut.

23. In practice, and in the absence of a comparative scale, the varieties of pigmentation of the eye are classified by concentrating the observation on the following points:

1. The yellow is distinguished from the orange by the manifest absence of reddish tints or by a very scarce pigmentation.
2. The orange from the chestnut, by a more vivid shade, not tarnished with black.
3. The maroon is distinguished from the chestnut by a more velvety, more abundant and deeper pigmentation.

Science News Letter, November 22, 1930

PALEONTOLOGY

Seek More Evidence That Man Knew Extinct Animals

Will Search For New Clues in Gypsum Cave Where Bones of Sloth Were Found With Charcoal Possibly Left by Man

WITH high hopes of uncovering further data bearing on the last phases of the Pleistocene or ice age period in America, and especially on the association of man with animals now extinct, the joint expedition of the Southwest Museum of Los Angeles and the California Institute of Technology has resumed its exploration of Gypsum Cave near Las Vegas, Nev. The work is in charge of Curator M. R. Harrington of the Southwest Museum.

This is the cave which yielded, last spring, numerous bones of the ground-sloth Nothrotherium together with enormous claws with horny covering still intact and even masses of coarse tawny hair of the same animal; also bones of two species of American camels and at least one type of native horse. All these are well known Pleistocene or ice age species except the smaller of the two camels which seems to be new. This was a tiny variety related to the South American llama, with slender limbs like those of a gazelle.

Even more important was the finding, in every room of the cave, of evidence indicating the association of man with these extinct animals, in the form of charcoal, burnt sticks, flint dart-points and crude wooden dart-shafts decorated with painted designs. These objects were found in the same deposits as the bones of the extinct animals, in some cases at lower levels and in one instance a patch of charcoal, probably the remains of a campfire, was found beneath two layers of groundsloth dung about eight feet below the present surface.

Near the surface and far above the campfire were implements left by the Paiutes, the Pueblos and the Basket-makers, these last the earliest people hitherto known to have inhabited the southwest.

The finds were considered so important that the Carnegie Institution of Washington made a grant of money to the Southwest Museum.

It is hoped that during the present season evidence will be found bearing on the question now puzzling to archaeologists and paleontologists—whether man really existed in America twenty or thirty thousand years ago, the time usually assumed for Pleistocene, or whether some of the Pleistocene animals lived on until more recent times.

The scientists hope to find human bones in the older deposits from which it may be determined whether these early Americans were of the primitive type associated in Europe with the low-browed Neanderthal cave man who flourished in the Pleistocene period.

Science News Letter, November 22, 1930

ENGINEERING-PUBLIC HEALTH

Dust Avalanche Falls on London

THE world was shocked by the recent avalanches at Lyons, France, which resulted in many deaths, but last year thousands of tons of dirt, in the form of dust and soot, fell on London. A similar condition is true of any large city where considerable soft coal is burned.

Last year an average of 239 tons fell on each square mile in London. Even this is much less dirt than the Britishers have had to breathe, wash from their faces and clean out of their houses.

Science News Letter, November 22, 1930

Alkaline Earths

The metals of lime, magnesia, and other elements of Group II of the Periodic Table will be described in next week's

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