**Duluth Campus** 

Department of Sociology -Anthropology

College of Liberal Arts

228 Cina Hall 1123 University Drive Duluth, Minnesota 55812-3306

Office:218-726-7551 Fax: 218-726-7759

18 September 2012

CE Prehistoric Cultures Week 3:

# Heredity and Evolution / Variation and Adaptation

Patterns of Variation Journey of Man

This week we're going to have a closer look at genetics, DNA, and the work of Spencer Wells and the Genographic Project team at National Geographic.

Before we return to the Genographic Project we'll have close look at one of the **main related concepts** in Anthropology, and Prehistoric Cultures in particular . . .

## variation.

The video *Patterns of Variation* briefly discusses the **concept of "race"** then explains **how today anthropologists and scholars "... analyze genetics and DNA, the cornerstone of genetic studies, to describe and understand human diversity"** (Coast Learning Systems). *Patterns of Variation* will discuss a few more basic terms and ideas relating to Ch. 4 of the text *Understanding Humans*: "Human Variation and Adaptation."

It's a long journey, and a long video—it will take 120 minutes. So be prepared.

"JOURNEY OF MAN tells the remarkable story of the human journey out of Africa and into the rest of the world, tracing history through evidence uncovered in the Y-chromosome of man's DNA. Traversing six continents, the film takes viewers on a fascinating journey into the hidden world of their ancestry and offers a modern look at our ancestor's lives." -- National Geographic

And as time permits we'll have a look at **my DNA results as part of the National Genographic Project**'s *Journey*. We'll briefly compare the "journey" of my Roufs ancestors with the DNA results of Professor Emeritus **Tom Bacig**, and interesting comparison as Prof. Bacig is part Canadian Metís.

Over the next three or four weeks we'll continue on and off to look at slide materials aimed at setting the basic analytic, theoretical and historical framework for the course, as time permits. We'll get back to that next week . . . and in the weeks that follow. And in-between we'll have a look at "How to Study for Exams."

Don't forget that your **Case Study is due Friday, 21 September 2012**. Details of the Case Study are at <a href="http://www.d.umn.edu/cla/faculty/troufs/anth1602/case\_studies/pcCS-01.html#title">http://www.d.umn.edu/cla/faculty/troufs/anth1602/case\_studies/pcCS-01.html#title</a>. As mentioned last week, it is basically a short summary of (A) your view of "What's New" in the world of anthropology, and (B) what news you personally find most interesting (and why).

If you have any questions about anthropology, or about the class and the assignments, please let me know: <a href="mailto:troufs@d.umn.edu">mailto:troufs@d.umn.edu</a>.

Be sure to check the details of the activities and assignments each week on your moodle HomePage.

Try to coordinate your Week 3 forum posts with this week's video presentation *Patterns of Variation* . . .

• Forum: "Black as Barack" (Due by Friday, 28 September 2012)

Don't forget to share your ideas, including study-questions with your classmates. Discuss them on-line with the others in class . . .

f2012 CE 1602

- Live chat for Project Collaboration
- General Student Discussion Area

Your **moodle** Class Topics and Reading Assignments for Week 3 will look something like the information at the end of this memo. There are a lot of materials assigned, so **be sure to read the** *avisos* that come with the assignments for Chs. 3-4-5...

- read and study for basic concepts and definitions
- the main concepts and definitions will be reviewed in class
- do not worry too much about the biochemistry and biostatistics

Best Regards,

Tim Roufs

Anth 1602 Prehistoric Cultures

Week 3 — Heredity and Evolution / Variation and Adaptation



CE Week 3 Memo

CE Week 3, Monday, 24 September 2012 nlt 5:42 video:

### Patterns of Variation

(28 min., 2008, UM DULUTH Library Multimedia QH431 .P377 2008 DVD)

film HomePage transcript

we will have a look at the sister concept Week 13 video:

Patterns of Adaptation (28 min., 2008, UM DULUTH Library Multimedia QP82 .P38 2008 DVD)

film HomePage transcript

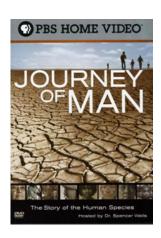
DNA STRUCTURE AND FUNCTION 41 DNA double helix Original double-stranded DNA molecule Original strands Replication under way Two identical doublestranded DNA molecules Unattached nucleotides are attracted to their complementary nucleotides and thereby form a new strand New strands Replication complete **DNA** 



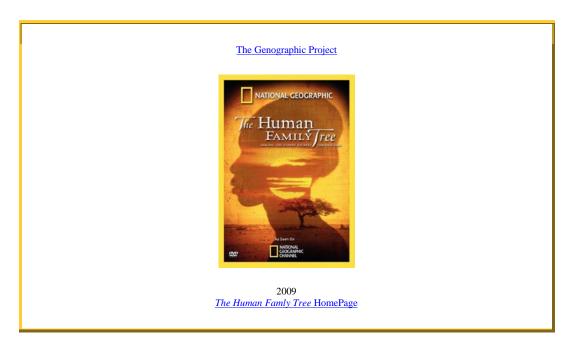
CE Week 3, Monday, 24 September 2012 nlt 6:25 video:

**Journey of Man** . . . (120 min., 2003, UM DULUTH Library Multimedia GN281 .J687 2003 DVD)

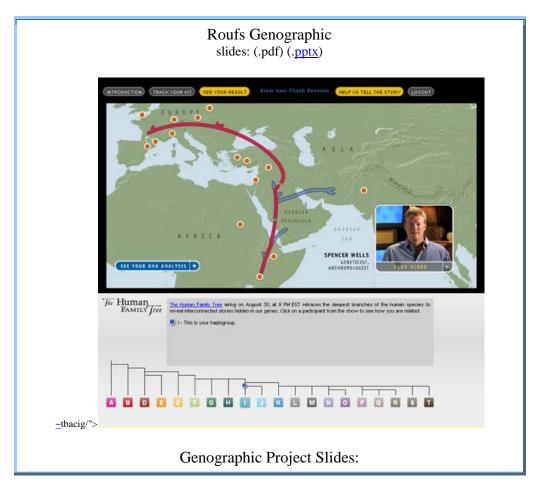
film HomePage course viewing guide



**DNA** 



Heredity and Evolution: The National Geographic Genographic Project



## (Genographic\_Roufs.pptx)



Venus of Willendorf

For Week 3 Activities see moodle

### assignment:

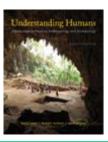
This is a lot of material for the week, but with this material the major points will be covered in class. When you are done looking over Chs. 3-5 you should know what an item is; you do not have to know all of the details of how it works--except for the items that we go over in class.

- ~ Ch. 3, "Heredity and Evolution" pp. 37-68
- ~ Ch. 4, "Modern Human Variation and Adaptation," pp. 69-94
- ~ Ch. 5, "Macroevolution: Processes of Vertebrate and Mammalian Evolution," pp. 95 -114

### **NOTE:**

- · read and study for basic concepts and definitions
- the main concepts and definitions will be reviewed in class and on the class handouts
- do not worry too much about the biochemistry and biostatistics
- ~ Page through "Appendix C: Population Genetics," pp. 428-430

(Check the Week 03 Assignments page for list of terms) see note in Moodle



assignment:

### ¤ Case Study

CE <u>Case Study "What's New? Current Trends and New Discoveries"</u> is due Friday, 21 September 2012, 11:55 p.m.

-- Web: Texas A&M News

For Week 3 Activities see moodle
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