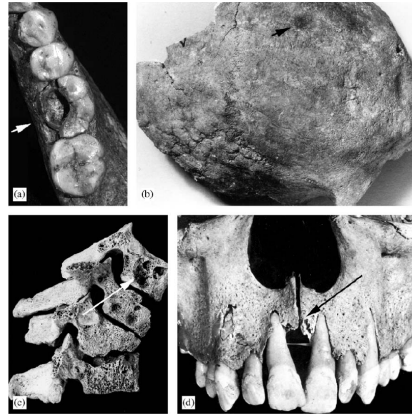


## Health during the Neolithic

Alan R. Rogers

October 19, 2021

1 / 10



### Infectious disease

a, tooth decay:  
carbohydrate diet

b, endemic (non-venereal)  
syphilis; c, TB; d, leprosy:  
population size ↗  
infectious disease.

2 / 10

## Porotic hyperostosis



Anemia.

Sedentism and  
crowding →  
hookworm → blood  
loss.

Agricultural diets  
tend to be low in  
iron. (See lecture  
on  
hemochromatosis.)

3 / 10

## Reduced stature

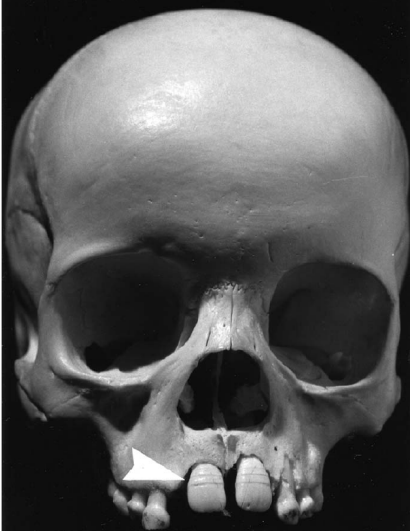
Infections and malnutrition can reduce stature.

Stature declined in many regions with onset of agriculture.

(But this is not entirely convincing, because invading agriculturists  
may have had alleles for low stature.)

4 / 10

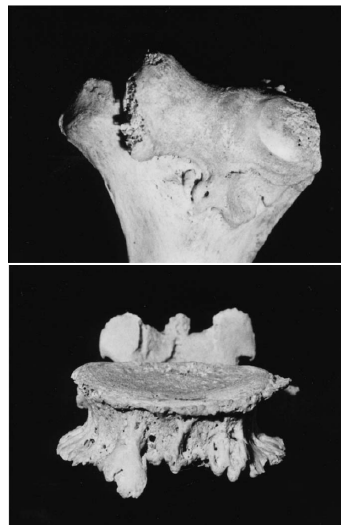
## Harris lines (enamel hypoplasia) in teeth



Nutritional crisis and/or  
infection during childhood,  
when teeth are forming.

Becomes more common  
with agriculture.

5 / 10



### Osteoarthritis

Hard work over many years.

More common among foragers  
than farmers.

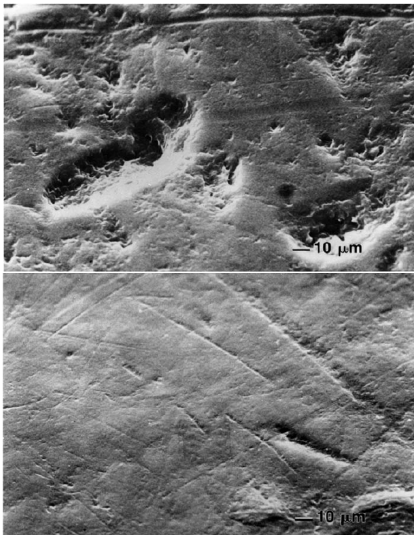
Farmers either had (a) lighter  
workload or (b) shorter lives.

Skeleton becomes smaller and  
more gracile across Holocene:  
supports hypothesis a.

6 / 10

### Meat and health

- ▶ Hominin body size ↗ 1.8 mya, as we begin to see evidence of animal foods in archaeology.
- ▶ 33% increase in male stature, 37% in female stature.
- ▶ Human body size ↘ during Holocene, as agriculture spread.



### Tooth wear

Forager above farmer.

Farmers didn't chew as hard → reduced size of jaw and face.

Crooked teeth appear with Neolithic

### Scalp marks



Violence ↗ as populations grow and compete.

### An opposing view: the "osteological paradox"

Among Kalahari Bushmen, mobile foragers look healthy but don't live as long as sedentary ones.

Perhaps agriculture *allows* you to survive illness, so that signs of illness show up in archaeology.

This hypothesis suggests that agriculture allowed populations to grow. (However, we have already seen that the population that became agricultural grew earlier, while they were still foragers.)