Social and Political Consequences of the Agricultural Revolution

Aztec men sharing a meal. 
Florentine Codex, late 16th century

Anthropology of Food
University of Minnesota Duluth
Tim Roufs
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this is a major work on the social, political, and nutritional consequences of “The Agricultural Revolution” . . . and it’s a very good read
and Reay Tannahill’s work is also excellent . . .

Reay Tannahill,
(NY: Three Rivers Press, 1988)
Food in Historical Perspective: Dietary Revolutions

- Development of Agriculture in the Tehuacán Valley
- Nutritional Consequences of the Agricultural Revolution: A Comparison of Foragers and Agriculturalists

Social and Political Consequences of the Agricultural Revolution

- Highlight: Vegetarian Diets: Then and Now
The far-reaching consequences of food production began with the "Neolithic Revolution" aka outside of the Near East as the "Agricultural Revolution"
as a result of the Agricultural Revolution people began to have and see . . .

- surplus food
- trade and trade networks
- specialization of production
- specialized laborers
- increased social interaction
- food storage for times of shortage
- surplus is “taxed”
- monumental architecture
- competition for limited resources
- private property
- class systems
- organized governments (political / religious / military hierarchies)
- and the list goes on . . .
as a result of the Agricultural Revolution
people began to have and see . . .

• **surplus food promotes cultural change**
  • trade and trade networks
  • specialization of production
  • specialized laborers
  • increased social interaction
  • food storage for times of shortage
  • surplus is “taxed”
  • monumental architecture
  • competition for limited resources
  • private property
  • class systems
  • **organized governments** (political / religious / military hierarchies)
  • and the list goes on . . .
surplus food

• fostered trade with people in other ecological zones

• allowed access to previously unknown commodities

• for the first time in history not everyone had to be involved in food-getting activities
Surplus food

- fostered trade with people in other ecological zones
- allowed access to previously unknown commodities
- for the first time in history not everyone had to be involved in food-getting activities
diffusion
occurred from all of the centers
of agricultural domestication

“A dialectical model of Neolithic Origins”
www.archatlas.dept.shef.ac.uk/OriginsFarming/Farming.php
and the maize, beans, squash, chili “complex” **spread** throughout much of North and northern South America . . .
in prehistoric America, for e.g., various regions began to have new foods from other regions, and after contact with Europeans their foods were even more widely traded (throughout most of the world), and, in come cases, becoming central to the cuisines of other cultures . . .
in prehistoric America, for e.g., various regions began to have new foods from other regions, and after contact with Europeans their foods were even more widely traded (throughout most of the world), and, in some cases, becoming central to the cuisines of other cultures . . .

it’s difficult, for e.g., to even imagine Italian food without tomatoes

America’s First Cuisines, Chs. 2 and 3
• barter and exchange flourished

• new social order distinguished landowners and tenant farmers
Eight Food “Revolutions”

1. Invention of Cooking
2. Discovery that Food is More Than Sustenance
3. The “Herding Revolution”
4. Snail Farming
5. Use of Food as a Means and Index of Social Differentiation
6. Long-Range Exchange of Culture
7. Ecological Revolution of last 500 years
8. Industrial Revolution of the 19th and 20th Centuries
Aztec Pochteca, for e.g., travelled far and wide
(professional long-distance traveling merchants)
Florentine Codex
late 16th century
as a result of the Agricultural Revolution
people began to have and see . . .

- surplus food
- **trade and trade networks developed**
  - specialization of production
  - specialized laborers
  - increased social interaction
  - food storage for times of shortage
  - surplus is “taxed”
  - monumental architecture
  - competition for limited resources
  - private property
  - class systems
  - **organized governments** (political / religious / military hierarchies)
  - and the list goes on . . .
Maya trade
Bonampak
Village farming cultures of the American Southwest, showing trade routes (red)

*Understanding Physical Anthropology and Archaeology, 9th Ed.*, p. 359
Obsidian trade
4th millennium B.C.

http://commons.wikimedia.org/wiki/File:Obsidian_trade_4528IV_millennium_BC%29.png
Social and Political Consequences of the Agricultural Revolution

- some people also succeeded in trade and the acquisition of surplus wealth
  - giving rise in many places to an affluent and powerful merchant class

*The Cultural Feast, 2nd Ed., p. 55*
A group portrait of three sons of William Money (1738–96), an early director of the East India Company. Left to right: Robert (1775–1803), William (1769–1834), and James (1772–1833) (1788–92)

[▼] John Francis Rigaud (1742–1810)

• barter and exchange flourished

• new social order distinguished landowners and tenant farmers . . .
"Peasant Woman with Buckets and Child"
(1912)
Kazimir Malevich (1878-1935)

http://max.mmlc.northwestern.edu/~mdenner/Drama/visualarts/avant-garde/peasant_women14.html
“Farmer Codex: In the Aztec world, the majority of people were farmers such as this man, harvesting his crop.”
Florentine Codex, Vol. 4, Folia 73L

• barter and exchange flourished

• new social order distinguished landowners and tenant farmers . . . and eventually masters were distinguished from servants and slaves . . .
Funerary stele of Mnesarete a young servant (left) is facing her dead mistress

Attica
circa 380 B.C.
(Glyptothek, Munich, Germany)
Le marché aux esclaves
(The Slave Market)
before 1882
Gustave Clarence Rodolphe Boulanger (1824-1888)
http://commons.wikimedia.org/wiki/File:Boulanger_Gustave_Clarence_Rudolphe_The_Slave_Market.jpg
I supplicanti. Espulsione dei Gitanos dalla Spagna

1872
Edwin Longsden Long

http://commons.wikimedia.org/wiki/File:Supplicants_expulsion_gypsies_hi.jpg
Social and Political Consequences of the Agricultural Revolution

• surplus food
  • fostered trade with people in other ecological zones
  • allowed access to previously unknown commodities
• for the first time in history not everyone had to be involved in food-getting activities

*The Cultural Feast, 2nd Ed.*, p. 55
as a result of the Agricultural Revolution people began to have and see . . .

• surplus food
• trade and trade networks

• specialization of production and
• specialized laborers appeared
• increased social interaction
• food storage for times of shortage
• surplus is “taxed”
• monumental architecture
• competition for limited resources
• private property
• class systems
• organized governments (political / religious / military hierarchies)
• and the list goes on . . .
non-farmers could engage in specialized gathering activities . . .
Aztecs Fishing

Florentine Codex
late 16th century
non-farmers could even specialize in gathering just one thing . . .
and non-farmers could engage in specialized crafts . . .
Social and Political Consequences of the Agricultural Revolution

- people began to master crafts like . . .

- basket making
  - ceramics
  - bronze and metal casting
  - brick making
  - masonry
  - other skills

_The Cultural Feast, 2nd Ed., p. 55_
economic system allows individuals to devote full time to occupations like . . .

basket making

Prehistoric basketry techniques
(Jean Connor)
Pima baskets, photographed around 1907 by Edward S. Curtis

Social and Political Consequences of the Agricultural Revolution

- people began to master crafts like . . .
  - basket making
  - **ceramics**
    - bronze and metal casting
    - brick making
    - masonry
    - other skills

*The Cultural Feast, 2nd Ed.*, p. 55
you saw the importance of pottery and pottery analysis in the “Chocolate” Forum
The history of pottery in this region begins in the Late Neolithic period, sometimes known as Pottery Neolithic (PN) or occasionally, based on a supposed local sequence of the site of Jericho, Pottery Neolithic A.

**Pre-pottery Neolithic (ca. 8300–ca. 5500 BC)**

There is no good evidence for pottery production in Early Neolithic (Pre-pottery Neolithic/PP) times, but the existence of pyrotechnology that allowed humans to attain temperatures in excess of 1000 °C for reducing limestone ceramic repertoire of this period.

**Pottery Neolithic (ca. 5500–ca. 4500 BC)**

By the earliest PN phase pottery was ubiquitous and it remained so for virtually all periods in the southern Levant until modern times. Exceptions were in desert areas where semi-nomads favored less heavy, fragile and bulky arrangements. Pottery styles, based mostly on form, fabric and decorative elements have been used to help identify chrono-cultural phases. White ware remained in use, but it seems to have remained rare and the vessels were often small and rather delicate. It is possible that not a few such vessels were found and identified as pottery.

The earliest PN phase is associated with the site of Shkar HaGolan in the Jordan Valley (the short segment of the

http://en.wikipedia.org/wiki/History_of_pottery_in_the_Southern_Levant#Pre-pottery_Neolithic_28ca_. _8300_ _E2_. _80_. _93_ _ca_. _5500_ _BC.29
pottery in the Neolithic develops by about 5500 B.C."
• basket and skin containers were replaced with ceramic vessels
  • baskets were likely lined with clay, and eventually fired
  • fire pits likely naturally were fired as part of the cooking process
Biocultural Consequences: Technology

- pottery made it easier to prepare and boil grains into digestible foods
Biocultural Consequences: Technology

- pottery made it easier to prepare and boil grains into digestible foods

and in Europe, for e.g., up until relatively recent times grains — a primary food since the Neolithic Revolution — were probably eaten as a form of porridge or gruel by everyone except the upper class . . .
pottery appears in the 16th century Spanish manuscripts . . .

Aztec woman preparing tortillas — pottery jar . . .

Codex Mendoza, folio 60r
pottery appears in the 16th century Spanish manuscripts . . .

Aztec woman preparing tortillas — comal(li) . .

Codex Mendoza, folio 60r
The three hearthstones support the traditional ceramic *comal(li)*

Codex Mendoza, folio 60r
the *comal* is a flat pre-Conquest pottery griddle . . .
the likes of which are still used in Mesoamerica today . . .
economic system allows individuals to devote full time to occupations like . . .

pottery making

Classic Maya cylindrical jar with bird motif and glyphs,

*Understanding Physical Anthropology and Archaeology, 9th Ed.*, p. 411
• prehistoric decorated pottery vessel from Arizona
• Decorated predynastic pottery jar, Nile valley, Egypt
bandkeramic

- “lined pottery,” referring to a Neolithic ceramic ware widely encountered in central Europe and to the culture that produced it.
A “seriation graph” shows the evolution of pottery types from Deh Luran, Iran.

Hole, Flannery and Neely, “Prehistory and Human Ecology Of the Deh Luran Plain: An Early Village Sequence from Khuzistan, Iran.” Ann Arbor: 1969, fig. 69
Social and Political Consequences of the Agricultural Revolution

• people began to master crafts like . . .
  • ceramics
  • bronze and metal casting appear
  • brick making
  • masonry
  • other skills
Bronze Age

- period of early Old World civilizations associated with the widespread use of metal tools after 5,500 ybp

Cast bronze ritual vessel of the Shang dynasty, China
Copper Age

"Ötzi" "The Iceman"
about 5,300 ybp

Wikipedia
Mycenaean Bronze Age axe, or winged palstave

*Understanding Physical Anthropology and Archaeology, 8th Ed.,* p. 473
economic system allows individuals to devote full time to occupations like . . .

metalworking

Inca gold
and these objects become an important part of the developing trading networks

Inca gold artifact in the Central Bank Museum, Quito, Ecuador
© D. Donne Bryant
as a result of the Agricultural Revolution
people began to have and see . . .

• surplus food
• trade and trade networks
• specialization of production
• specialized laborers

• **increased social interaction develops**
• food storage for times of shortage
• surplus is “taxed”
• monumental architecture
• competition for limited resources
• private property
• class systems
• **organized governments** (political / religious / military hierarchies)
• and the list goes on . . .
Social and Political Consequences of the Agricultural Revolution

- population growth
- the establishment of large, sedentary villages provides . . .
  - the opportunity for increased social interaction
- but with added health risks

*The Cultural Feast, 2nd Ed.*, p. 55
"Community Life“ at Cahokia
Michael Hampshire
Cahokia Mounds State Historic Site
Collinsville, Illinois
as a result of the Agricultural Revolution people began to have and see . . .

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**food storage for times of shortage appears**
- surplus is “taxed”
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Social and Political Consequences of the Agricultural Revolution

- surplus food

- food surplus could be used in times of shortages
some of these are very well known

Joseph interprets the dream of the Pharaoh
Painting by Peter von Cornelius

Seven Years of Plenty, Seven Years of Famine

www.mycatholictradition.com/saints-of-old-joseph2.html
and some have been going on “forever,”
like the storing the annual maize crop

Hidalgo, Mexico
and some have been going on “forever,”
like the storing the annual maize crop
(in the backyard)
Hidalgo, Mexico
Grain storage structure and clay pots, southeast Sénégal (west Africa)
Large Grain Storage Jar
(Mohen-jo-daro, India)
SATURDAY, JULY 25, 2009

Prehistoric Granaries: Humans Have Been Eating Grain For A Long Time

What were humans eating before they domesticated grain? An exciting discovery in Jordan reveals that ... they were eating grain ... at least 1000 years before grain was domesticated. Specifically, wild oats and wild barley.

The finding was described in an article published in last month's Proceedings of the National Academy of Sciences:

Evidence For Food Storage And Predomestication Granaries 11,000 Years Ago In The Jordan Valley
Here's a reconstruction of the structure above:

Click to enlarge.

The cut out in the wall is for illustration purposes only. Entry was had by that little hole to the right. The picture shows:

"... upright stones supporting larger beams, with smaller

coming up that reminds me of one of yours. Soon."

Autumn Hoverter, MS, RD commented on anthony hopkins I lost too much:

“You’re back! How lovely. I’ve missed you Bix! RE: Anthony: I’d be curious to know what he starting weight was.”

Family Nutritionist commented on six food myths: “The omega-3 content of an egg depends on the hen’s diet. A free-range hen might be eating more high-omega-3 foods than a factory-caged hen. Or...”

Family Nutritionist commented on calcium prostate cancer now heart:

“What is the effect of

http://fanaticcoook.blogspot.com/2009/07/prehistoric-granaries-humans-have-been.html
Here’s a reconstruction of the structure above:

![Image of reconstruction](http://fanaticcook.blogspot.com/2009/07/prehistoric-granaries-humans-have-been.html)

Click to enlarge.

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Family Nutritionist commented on calcium prostate cancer now heart: “What is the effect of..."
Food As Commodity Fosters Social Inequality

There's another aspect to this story. Food storage, as evidenced by these granaries, contributed to a marked change in human way-of-life - a bump in the civilization curve. Successful storage of grain led to domestication of cereals and to farming, but also to:

- Sedentary lifestyles (and a "built landscape")
- Population growth
- New social organizations

The authors describe how food storage "represented a critical evolutionary shift in the relationship between people:"

"Food storage, population growth, sedentism, and social inequality are often interlinked. With greater sedentism, increased birth rates, and increased quality and quantity of domesticated foods we see the foundation for economic developments."
Aztecs Storing Maize
Florentine Codex
late 16th century
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• and the list goes on . . .
Social and Political Consequences of the Agricultural Revolution

• surplus food

• and “collecting” the tax and keeping track of crop exchanges led to early forms and eventual development of writing . . .

*The Cultural Feast, 2nd Ed.*, p. 55
Ten Classic Characteristics of Early Civilization

2. Social means of collecting “surplus” production

Small Sumerian clay tablet is a 4,000-year-old tax receipt with cuneiform impressions on both sides

*Understanding Physical Anthropology and Archaeology, 9th Ed., p. 389*
“Roman writing tablet from the Vindolanda Roman fort of Hadrian's Wall, in Northumberland (1st — 2nd century A.D.) requesting money to buy 5,000 measures of cereal used for brewing beer”

Department of Prehistory and Europe, British Museum

Social and Political Consequences of the Agricultural Revolution

- surplus food

- excess production served as capital that fostered new socioeconomic transactions — including barter
"The Barter"
Kibuuka

“This work immortalizes a local village market set in rural Uganda. Evoking a tradition that predates the notion of monetary wealth, goods in abundance are exchanged for those more scarce. These interactions reinforce complex social bonds while they reaffirm one's relationship to the local community and its shared resources.”

"The Barter"
Kibuuka
An 1874 newspaper illustration from Harper's Weekly, showing a man engaging in barter: offering chickens in exchange for his yearly newspaper subscription
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- food storage for times of shortage
- surplus is “taxed”
- monumental architecture

- **competition for limited resources developed**
- private property
- class systems
- **organized governments** (political / religious / military hierarchies)
- and the list goes on . . .
Social and Political Consequences of the Agricultural Revolution

- as population increased
  - competition for limited resources occurred . . . for . . .
    - water
    - land
    - other basic resources
Social and Political Consequences of the Agricultural Revolution

• as population increased
  • competition for limited resources occurred . . . for . . .
  • water
    • land
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*The Cultural Feast, 2nd Ed.*, p. 55
Social and Political Consequences of the Agricultural Revolution

• as population increased
  • competition for limited resources occurred . . . for . . .
    • water
    • land
    • other basic resources
Land activist killed in Brazilian Amazon

A Brazilian land reform activist has been killed in the Amazon state of Para amid ongoing land disputes in the area.

Police said two men on motorbikes shot Pedro Alcantara de Souza five times in the head as he was riding a bicycle.

Mr Souza, the head of a union of landless farmers in Para, had led the occupations of large farms by peasants.

American nun Dorothy Stang was killed in the same region in 2005,

http://news.bbc.co.uk/2/hi/americas/8600353.stm
Social and Political Consequences of the Agricultural Revolution

• as population increased
  • competition for limited resources occurred . . . for . . .
    • water
    • land
  • other basic resources
Orangutan survival and the shopping trolley

The challenge of saving the orangutan - man's closest relative - from extinction is trickling down to the weekly shop.

Many of the biscuits, margarines, breads, crisps and even bars of soap that consumers pick off supermarket shelves contain an ingredient that is feeding a growth industry that conservationists say is killing the orangutans.

The mystery ingredient in the mix is palm oil - the cheapest source of vegetable oil available - and one that rarely appears on the label of most products.

http://news.bbc.co.uk/panorama/hi/front_page/newsid_8523000/8523999.stm
Social and Political Consequences of the Agricultural Revolution

- political / religious / military hierarchies took over the tasks of . . .
  - organizing production
  - maintaining order in an increasingly complex society
  - defending the community

*The Cultural Feast, 2nd Ed.*, pp. 55-56
Social and Political Consequences of the Agricultural Revolution

• political / religious / military hierarchies took over the tasks of . . .

• and this led to the rise of states and empires . . .
Social and Political Consequences of the Agricultural Revolution

• political / religious / military hierarchies took over the tasks of . . .

• and this led to the rise of states and empires . . .

James A. Michener says there were about 75 major civilizations in the “history” of the world
(with a typical rise-fall cycle of 200 – 400 years, with the “fall” often related to food production and distribution)

*The Cultural Feast, 2nd Ed.*, pp. 55-56
Social and Political Consequences of the Agricultural Revolution

- states and empires began to have . . .
  - specialized laborers
  - private property
  - class systems
  - organized governments
Social and Political Consequences of the Agricultural Revolution

- states and empires began to have . . .
- specialized laborers
- private property
- class systems
- organized governments

The Cultural Feast, 2nd Ed., p. 56
as a result of the Agricultural Revolution
people began to have and see . . .

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• specialized laborers
• increased social interaction
• food storage for times of shortage
• surplus is “taxed”
• monumental architecture
• competition for limited resources
• private property

• **class systems develop**
  • organized governments (political / religious / military hierarchies)
  • and the list goes on . . .
Social and Political Consequences of the Agricultural Revolution

• people became divided for the first time into . . .

• priests, warriors, and artisans groups
• rich and poor
• upper and lower classes
• rulers and ruled
• master and slave
REM Eight Food “Revolutions”

1. Invention of Cooking
2. Discovery that Food is More Than Sustenance
3. The “Herding Revolution”
4. Snail Farming
5. Use of Food as a Means and Index of Social Differentiation
6. Long-Range Exchange of Culture
7. Ecological Revolution of last 500 years
8. Industrial Revolution of the 19th and 20th Centuries

Simon & Schuster 2003
Ten Classic Characteristics of Early Civilization

10. A privileged ruling class of religious, political, and military leaders organizes and directs the entire system

Hieroglyphic inscription of a royal Egyptian hunting marsh birds from a papyrus boat

King Tut

9th Ed. p. 393
King “Tut”

www.ctv.ca/servlet/ArticleNews/story/CTVNews/20071104/King_Tut_071104/20071104?hub=CTVNewsAt11
Mochezuma II
a classic in the Anth of Food is . . .

“Montezuma’s Dinner: An Essay on the Tribal Society of the North American Indians”

Lewis Henry Morgan

NY: Heritage Press
1876

Mocezuma II
Aztecs stone altar dedicated to corn
Museum of Anthropology
Social and Political Consequences of the Agricultural Revolution

with social stratification heterogeneous diets appeared . . .

• not everyone who lived in the same area ate similar foods
Social and Political Consequences of the Agricultural Revolution

with social stratification heterogeneous diets appeared . . .

• not everyone who lived in the same area ate similar foods

• food patterns of a region varied considerably among people of different rank or status
Social and Political Consequences of the Agricultural Revolution

by the end of the 15th century . . .

• agriculture had brought cities and complex political systems to most parts of the world

• trade networks linked many parts of the world

• the age of exploration was about to begin

*The Cultural Feast, 2nd Ed.*, p. 56
Social and Political Consequences of the Agricultural Revolution

... and food played a critical role in the political developments of almost every era from then until present-day ...
Social and Political Consequences of the Agricultural Revolution

- by the end of the 15th century . . .

- agriculture had brought cities and complex political systems to most parts of the world
- trade networks linked many parts of the world
- the age of exploration was about to begin

have a look at

“The Search for Spices”

and

“The Scientific Revolution”

and

“Modern-Day Adaptations”

slide sets . . .

but first, speaking of modern-day . . .

• the age of exploration was about to begin

*The Cultural Feast, 2nd Ed., p. 56*
the agricultural revolution also played a critical role in the development of modern-day era specialty foods that changed America (and Americans) . . .
Social and Political Consequences of the Agricultural Revolution

... and, of course, the agricultural revolution ultimately played a critical role in the development of modern-day era specialty foods that changed America (and Americans) including in Minnesota and Wisconsin...
In case you didn’t recognize it, this is Spam on a stick . . .

http://www.impactlab.net/2009/08/10/top-10-foods-on-a-stick/
not to be confused with the “Toronto Potato” on a stick . . .
and finally, most cultural behaviors associated with food (including drink) **can trace their roots all the way back to the Agricultural Revolution of Neolithic times . . .**

and some, maybe even all the way back before that, to “cave man” days . . .