STS.089 — Technology and Innovation in Africa

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Lecture 4 - Food Production in Africa

Rice: The Transatlantic Slave Trade as Technological Process

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Our special focus here is rice and how this crop made it to these shores.

The Atlantic Slave Trade: Timeline

- 1502: First reported African slaves in the New World
- 1640-1680: Large-scale introduction of African slave labor in the British Caribbean for sugar production begins.
- 1791: The Haitian Revolution begins
- 1794: The French National Convention emancipates all slaves in the French colonies
- 1804: January 1: The Republic of Haiti is proclaimed
- 1807: British Parliament bans the Atlantic slave trade
- 1820: May 15: U.S. law makes slave trading piracy, punishable by the death penalty, dispatches four vessels to patrol the coast of West Africa for slaves. This lasted four months and was recalled after Anglo-American disagreement.
- 1831: A large-scale slave revolt breaks out in Jamaica –brutally repressed.
- 1833: Great Britain passes the Abolition of Slavery Act, providing for emancipation in the British West Indes –set to take effect August 1834. (Following emancipation, a 6 year period of apprenticeship is permitted.)
- 1837: Britain invites the U.S. and France to create an international patrol to interdict slaving. The U.S. declines to participate.
- 1888: Slavery abolished in Brazil, ending slavery in the Americas.

Slavery in America: A Selective Timeline

- 1619: First Africans arrive in Virginia
- 1640-1680: Beginning of large-scale introduction of African slave labor in the British Caribbean for sugar production
- 1774: Connecticut and Rhode Island prohibit further importation of slaves (although Rhode Island merchants remain in slave trade to other colonies).
- 1776: Society of Friends (Quakers) abolishes slavery among members
- 1777: Vermont Constitution prohibits slavery
- 1780: Massachusetts Constitution adopted with freedom clause interpreted as prohibiting slavery. Pennsylvania adopts gradual emancipation, freeing slaves born after 1780 upon their 28th birthday.
- 1784: Connecticut and Rhode Island pass gradual emancipation laws.

- 1788: Connecticut prohibits residents from participating in slave trade.
- 1789: U.S. Constitution ratified with clause equating slaves to 3/5ths of a white citizen and provision that slave trade would end within 20 years.
- 1793: Eli Whitney's invention of the cotton gin sets the stage for expansion of slavery in the American South and short-staple cotton becomes an economical product.
- 1798-1808: Decade of greatest importation of African slaves into U.S., totaling approximately 200,000.

The transatlantic slave trade was not only a traumatic mobility of Africans as dehumanized people only, but also their technologies or knowledge. The enslaved Africans were being captured and turned into exchange commodities for their labor value, and exported across the Atlantic as such. The dehumanizing nature of this trade has been and continues to be explored.

Triangular trade

The slave trade was one site of a trade triangle, which went as follows:

guns were invented in China \rightarrow guns were perfected in Europe \rightarrow guns were exported to Africa to buy African captives as slaves \rightarrow slaves were exported to the Spanish, Portuguese, French, and English colonies to grow crops (namely sugar, tobacco, and cotton) to Europe to fire the Industrial Revolution \rightarrow the Industrial Revolution produced more guns \rightarrow guns were exported to Africa to buy even more slaves

The Role of Music: Lightening the Burden of Work

My concern here is to focus more on the mobility of ideas, with the trade acting as a conveyor belt for the transfer of technology by Africans to the New World. This enquiry is part of two knowledge mobilities: between Africans and Europeans and Africans and Native Americans. This was so because Native Americans and enslaved Africans worked in the plantations side-by-side, and shared agricultural knowledge.

The plantation fields and slave quarters are most revealing about the cultural innovations Africans brought from Africa, which they now used as coping devices in a changed, coercive environment. In indigenous African religion, one calls his or her ancestors in times of trouble or hardship, and asks them to guide the way. After triumph, music, religion, and celebration also go together. People from Cameroon, the Ivory Coast, Guinea, Cape Verde, and Senegal bought their beliefs to places such as New Orleans.

The enslaved were a diverse culture, each with its own musical repertoires. They included music rituals like the "ring," whereby people gathered, played instruments, sang in a call-and-response, and danced. Music was inseparable from prayer and communion with the ancestral spirits; now it eased the pain of captivity. Aboard slave ships, captains forced slaves to sing and dance to keep them in good shape so that they could arrive alive and sellable. But they were also wary lest drums incite rebellion or be used as technologies of secret communication. So the slave masters banned them. Interestingly, the drumming continued without the drums –through hand clapping and foot-tapping. Bodies became instruments, drums.

Food and Rice

The debt that America owes to the technologies of the enslaved rival in the area of agricultural innovations is significant. Whereas Europeans had brought the spade and the plow to the New World, the African introduced the hoe to turn over the soil. The hoe was a product of the African mining and metallurgical traditions of the ancestors back in Africa. Here it was entering Western science-based engineering and manufacturing now via the plantations. The hoe was also used in preparing a cornmeal dish called fufu, perhaps the most widespread meal in Africa. It has many names, each according to the language of its makers and eaters: fufu in West Africa, ugali in Kenya, and Tanzania, nshima in Zambia, nsima in Malawi, sadza in Zimbabwe,

papa in South Africa, phaletshe in Botswana, posho in Uganda, and luku, moteke, semoule, and bugari in DR Congo. Most of the Africans enslaved in America came from Africa's western littoral, where this corn-based meal was called fufu. The enslaved Africans had brought no pots or pans and owned none, so they cooked, better yet fried, on the hoe what came to be called hoecakes. To add taste and hold the cornmeal together, they mixed it in plantains.

Africans may have been severed from the lands they farmed but the European enslaver did not sever the knowledge of farming from the Africans' heads. They carried it with them in their to the Americas. This role of Africans as organic vehicles and architects of technology transfer to the New World has only been recently appreciated. The story of rice in South Carolina's plantations is a good example. Previously, scholars like Peter Wood, author of Black Majority, characterized the relationship between the enslaved Africans and rice as a "parallel" and "temporal" association, hence his depiction of the cereal as "White Rice." Some had simply spoken of the enslaved's "contributions." Those that said the most could only remark about "slaves who had experience growing rice in West Africa were probably instrumental in the successful creation of early rice plantations." The narrative remained one of white planters as the innovators and pioneers against amazing odds.

In Black Rice, Judith Carney declared that America owes enslaved Africans, and indeed West Africa, a huge debt of gratitude for bringing expertise in rice cultivation to its shores. Where Wood had talked of "White Rice," Carney defiantly inserted to concept of "Black Rice" to specify who the inventors were. For the first three decades since the establishment of the English settlement in South Carolina in 1670, settlers had realized that rice imported from Asia thrived in the inland valley swamps. Throughout the 1700s, rice became the mainstay of South Carolina's economy; the rice economy subsequently extended to Georgia. Being at first ignorant of swamp rice production initially, these planters quickly saw that the Africans they had enslaved from the traditional rice-growing region of West Africa possessed this rare expertise. Soon, they started transferring this technology from Africa in a more deliberate way, targeting for capture and shipment women and some men specifically from those rice-growing regions. These imports from the "Rice Coast," the "Windward Coast," the Gambia, and Sierra Leone, possessed a double technological value (labor and knowledge) and therefore fetched higher prices on the slave market and were advertised as "accustomed to the planting of rice." These technical experts were then deployed to transfer their technical knowledge of rice growing through their hard labor for no personal beneficiation. They prepared the land into irrigation canals, selected and planted the seed, tended the crops against pests and weeds, reaped and processed the grain. At planting time they line up on the edges of the field, and then, with their ancestral call-and-response singing style, they rhythmically paced themselves, hoeing in unison. Come harvest time and it was the women who pounded the grain with pestles in large wooden mortars, then separated the chaff from the grain using winnowing baskets.

The narrative of the plantation owner as the rice planter yielded to another that now centered on the enslaved as the carriers riziculture from Africa to South Carolina. In fact, the enslaved were the link in the physical continuity of rice growing; they linked, through the coerced mobility of their bodies between two continents, two sites of rice-growing: their erstwhile mangrove-lined fields in West Africa and the plantations of South Carolina. All technologies they carried in their heads from West Africa and transferred to the white man's plantation. They had also cultivated rice in sluices, ditches, and banks in the rain-fed wetland and tidal ecosystems of the Niger and Gambia rivers of West Africa. Now they did the same in South Carolina and Georgia.

As Carney shows, ancestral knowledge of rice cultivation played a critical role in the enslavement, shipment, and plantation experiences of Africans. The question is whether they were in fact recruited "as skilled laborers in a cropping system planters had already ingeniously developed, or whether slaves expert in rice cultivation" so that they could show Carolina planters "how to adapt a preferred dietary staple to diverse lowland settings." Carney says two things to this: not only was the origin of rice cultivation in South Carolina African; enslaved Africans from West Africa?s rice region "tutored planters in growing the crop." Because

they already had a vast reservoir of knowledge of mangrove rice, enslaved Africans became the critical actors in the transition from swamp cultivation to floodplain, irrigated rice in South Carolina. It was only the enslaved, women more so, who knew the art of rice milling, the only efficient way to extract the grain from its shell before the coming of the mechanized mill.

The example of rice encourages us to think of Africans as not mere "users" of technology or beneficiaries of technology transfer, but also as originators that transferred technology to the West. The Jola (Diola) people of Senegal, Gambia, and Guinea-Bissau had tilled the soil, and to make dikes and furrows, for rice planting using the *kajandu* or *kayendo*, a long-handled fulcrum shovel. The men worked with the long-handled, large concave-bladed hoe, while the women spread the manure, sowed (casting) the seed, transplanted seedlings, and cut the ripe rice.

Why this matters today?

- the diffusion of knowledge in a time of heightened global mobilities (migration) and mobile technologies
- rethinking the contribution of Africa to global technologies and its building blocks.

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