Presentation, Workshop on Systemic Boundaries, Riverside, CA, March 5, 2016

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Afroeurasian Systemic Connections

E. N. Anderson

Dept. of Anthropology

University of California, Riverside

gene@ucr.edu

[www.krazykioti.com](http://www.krazykioti.com)

“In that day shall there be a highway out of Egypt to Assyria, and the Assyrian shall come into Egypt, and the Edgyptian into Assyria,and the Egyptians shall serve with the Assyrians.

In that day shall Israel be the third with Egypt and with Asyria, even a blessing in the midst of the land.”

Isaiah 19:23-24.

Abstract

 The systemic connections between Eurasia and Africa will be examined here in the light of three brief pictures: the rise of civilization from the Neolithic to the beginning of civilization in the Near East and Egypt, with the coming of Near Eastern crops to the latter and African domesticates to the former; the very important period around 1500-1200 BCE, when the systems fused into one; and the late Roman Empire and just after, when Egypt imported major south Asian plants and began to raise many of them. These show that defining the beginning of systems is very difficult, because of the undocumented flow of vitally important commodities and even staple goods in a time when literary sources either did not exist or were confined largely to elite matters.

 Isaiah knew a great deal about the connections between the Near East and Egypt, since he was writing during one of the long periods when Israel was desperately trying to survive by playing off one against the other. Most of the prophets favored Syrian or Mesopotamian rulers when they had to choose, though some saw Egypt as deliverance. Isaiah in this passage invokes a rare hope of cooperation.

 The Sinai and, more importantly, the sea routes from Alexandria to the Levant were indeed the highway that linked Africa and Eurasia. The land route was the major one by which early humans got out of Africa, on repeated occasions, notable being the journeys about 70,000 years ago that populated Eurasia with modern *Homo sapiens sapiens*. This highway remained the main link between Africa and Eurasia until air travel.

 In this paper it is impossible to give even an outline summary of the connections between Eurasia and Africa, so I will concentrate on a few topics that seem revealing of early connections and that I can comment on with some knowledge.

 It seems reasonable to deal especially with the very early millennia, when connections between Africa and Eurasia were developing, eventually reaching the level where at least the northern part of Afirca can be considered part of the western world-system. Also, my interest and expertise is in human ecology, so I will restrict myself largely to ecological questions.

I will provide three cameos that illustrate critical periods in the fusion of the African and Near Eastern worlds. First will be the domesticated plants and animals, since their flow along the route transformed both continents. Second, I will look at the 14th century, particularly the critical Amarna period. Third, I will look at the development of Roman trade. The major purpose of this paper is to demonstrate how much more contact there was than we used to believe, and how tenuous was the survival of the proofs of that. Sheer good luck preserved critical documents.

Just Before Civilization

 Agriculture was invented in the northern Near East around 10,000 BCE. More and more evidence points specifically to the area around Karaca Dag in southeast Turkey, where the huge site of Göbekli Tepe stands just at the door of agriculture. There is genetic evidence that chickpeas and at least one form of wheat were domesticated exactly there; direct wild ancestors live on Karaca Dag (Zohary et al. 2012). That peak (“Dark Mountain”) a volcano that is basaltic and thus has much more fertile and productive soil than the limestone terrain around it. Couple that fertile soil with the feasting needs of Göbekli Tepe, a ceremonial site with much archaeological evidence of feasts, and you have the beginnings of a drive to farm.

Meanwhile, barley was domesticated about the same time, not too far away, possibly in several places at once. At least one other wheat was domesticated, and soon more joined the group. Not long after, management of wild sheep and goat stocks merged into outright domestication, with cattle following soon (Zeder 2012). Milking began by 6500 BCE in the Near East, 5000 in Egypt (Broodbank 2013:170, 205). These innovations came to Egypt at some uncertain time, along with grapes, wine, beer, and thus fermenting technology and brewers’ yeast. All this was long before civilization arose.

Egypt, or more accurately the Sahara Desert, gave back the cat. It is almost certainly an Egyptian domesticate, for religious as well as mousing reasons. However, the first evidence of domestic cats is from Cyprus, at 7000 BC (Broodbank 2013:177); the cats look wild but are not native to the island, and one was carefully buried, so they were brought in as tame animals—whether from Egypt or the Levant. They do not appear as clearly domesticated animals till much later, in the Egyptian record, but that record is notoriously poor because the Nile floods have buried all the early sites in many feet of silt. Some five million cat mummies were found at the cat temple of Bubastis, a figure dwarfed by over seven million dog and jackal mummies at the temple of the jackal god Anubis, along with assorted tame and wild cats and mongooses (Nicholson et al. 2015).

Later, Egypt and the Sahara gave the world the donkey (before 3500 BCE; Broodbank 2013:289), and probably a different strain of cattle. (They seem to have been independently domesticated in the Sahara when it was still grassland after the Ice Age; Broodbank 2013:205.) Sorghum was domesticated farther south and rather later, but it spread through Arabia to India by 1750 BC (at which time it was well established there). This is almost as early as wheat, barley, and rice in India. Other African grains, and the watermelon, reached India not long after. The dates of early agriculture in Africa are very obscure. (Sesame, once thought to be from Africa, comes from the northwestern part of the Indian subcontinent, where it was apparently domesticated by the Indus civilization around 2500 BCE, spreading to Mesopotamia and China soon after; Hirst 2016.)

 Ancient Egypt subsisted on the Near Eastern crops: wheat, barley, chickpeas, broad beans (now the main ingredient of the signature dish of Egypt, *ful medames*), flax, and other crops. When the Israelites escaping from the fleshpots of Egypt made the first recorded complaint of the troops about the food, they named only Near Eastern vegetables: “We remember the fish, which we did eat in Egypt freely; the cucumbers, and the melons, and the leeks, and the onions, and the garlick; but now our soul is dried away; there is nothing at all, beside this manna, before our eyes” Numbers 11:5-8; of course the passage is fictional, but those crops did indeed exist in Egypt at the time).

 This is important because nothing shows contact better than sharing crops. Crops that originated in one area but are growing in another are absolute proof of hand-to-hand contact, however indirect. Conversely, when an area does not grow the staple crops of another that has a similar climate, it is virtually ironclad proof that there was *no* contact. People love to grow each other’s crops and add new crops to their list.

 Egypt, however, remained a very African civilization. It was initially, and remained at its core, an African society that came from the south and maintained southern roots and contacts. This is attested by the vast pantheon of animal and animal-humanoid gods, including such pan-African favorites as the crocodile. The art style was distinctive, and shows similarities to the much older rock art of the Sahara. The art also shows that the people were small, red-brown in color, and fine-featured, almost exactly similar to the Nubians of the Sudan today. They were not much like the modern Egyptians, who are largely Arabic in descent.

Language is another interesting point. Ancient Egyptian is related to the Semitic languages of the Near East, but is not one of them; it is in its own family within the vast Afroasiatic language phylum (see Patrick Manning’s paper for this workshop). That phylum clearly has its home in Ethiopia, probably south-central Ethiopia, and the radiation of Semitic into the Near East seems to have happened about 2500 BCE—another clear African influence before historical records say anything about connections.

I am emphasizing these African links because it has been too common in the past to say, or at least talk as if, Egypt were not “really” African but more “Near Eastern.” No, it wasn’t. Influence from the south continued. In the Delta, “all signs point to a unilateral direction of influence, from south to north…in the final assesment…the strident message [is one of] of political and cultural annexation from the African interior over this corner of the Mediterranean coast” in the 4th millennium BCE (Broodbank 2013:272-273).

 Writing was invented, apparently independently, in both Egypt and Mesopotamia, around 3200 BCE. There is no similarity between Egyptian hieroglyphics and early Mesopotamian cuneiform. But as writing developed, influences spread widely. Highly modified Egyptian hieroglyphs became the source of the original alphabetic letters, invented by the Phoenicians or their ancestors for trading purposes around 1700 BCE. This was the *only* case in all history of actual invention of an alphabetic script; all other alphabets derive directly or indirectly from it. (The Korean hangul script is even more sophisticated, though, and quite independent. Like most phonetic scripts in the world, it is syllabic, not phonemic or quasi-phonemic like the alphabet.)

Critical Period: the 16th-14th centuries BCE

 Wilkinson dates the fusion of Egypt with the central PMN at Pharaoh Thutmose’s invasion of Syria, around 1505 BCE (Chase-Dunn et al. 2016:5). This was followed by 150 years of further incursion, peaceful and military, including the establishment of tributary relations with some local states. This was the period when Palestine first came under Egyptian sway, though the incursions that led to the fulminations of the major prophets were much later.

An earlier step in the integration of Egypt into the Near Eastern world-system was the invasion of the Hyksos (Egyption *heqa khasut*, “rulers of foreign lands”) in the period of disunion in the 17th century BCE. They were finally expelled around 1530 (Broodbank 2013:383).

Trade was important from the dawn of Egyptian civilization, but was probably in luxury goods. However, one absolute necessity for a full-scale civilization had to be imported: Timber. Egypt produces essentially nothing except palms, whose fibrous trunks do not make good timber, and a few acacias, whose wood is excellent but whose trunks are small. The finest and most prized timber available in the ancient Near East was the cedar timber from Lebanon, which was critical to Egypt from early civilized times, for shipbuilding and constructing large halls and temples.

Another critical item for civilization was metal, which in early times meant copper and tin for bronze, with iron added later (after 1500-1300). Copper came largely from Cyprus (in fact the root is the same: *kypros*) and was imported in quantity, as will appear. Iron came from Anatolia and later from sub-Saharan Africa, where ironworking was quite sophisticated from early times.

Egypt was not alone in having to import timber and metal. The great city-states and empires of Mesopotamia had to do it, also. There is no metal, no stone, and almost no usable timber in Mesopotamia or anywhere near it. Scholars have long pointed out that one main reason for the rise of civilization, conquest, and trade was to insure supplies of these absolutely necessary commodities in the alluvial valleys that were the most agriculturally rich and productive landscapes but the least well endowed with other necessities.

After the Hyksos invasion, trade leaped forward. Egypt’s adventuring in Palestine and neighboring areas was partly to secure those cedars, partly to forestall further invasions, partly to seize food and land. This was the beginning of the back-and-forth warfare between Egyptian and Mesopotamian rulers that kept reducing Israel and Judah to rubble, over and over, to the despair of kings and prophets.

 The cedars of Lebanon were a critical industrial good for the entire ancient Near East, from Mesopotamia to the Upper Nile. The timber was apparently dressed in Lebanon and shipped out as planks or beams, though whole logs could have been shipped at times. The Epic of Gilgamesh (Gardner and Maier 1984) centers on a huge expedition by Gilgamesh and his sidekick Enkidu to wrest control of the cedars from the Guardian of the Cedar Forest, portrayed as a monstrous wild man known as Humbaba. A recently discovered fragment of the epic shows Humbaba enjoying the bird songs and animal sounds of the forest. This is an important finding. It shows that Humbaba was not a fictional monster, but a trope for the very real guardians of the forest—the human beings who enforced sustainable forestry so rigorously that there are still cedars on Lebanon, in spite of the constant war, exploitation, and rapine characteristic of that most blood-drenched part of the earth. Countless real men and women must have died, as Humbaba did, to protect those cedars. One of these early guardians is actually known by name to us; the prophet Nehemiah wanted to repair Jerusalem, and asked his king for “a letter unto Asaph the keeper of the king’s forest, that he may give me timber to make beams for the gates of the palace…and for the wall of the city, and for the house that I shall enter into.” Nehemiah 2:8, with Nehemiah speaking, around 400-500 BCE. There are 23 other mentions of cedars in the Bible, most of them concerning timber.

My point here is to emphasize the vital importance of the cedar trade in linking the formerly separate systems into one.

 An amazing insight into the early days of the joined world-system was provided by the discovery of 350 tablets at El Amarna, capital city of Akhenaten (r. 1352-1336 BCE). The city was abandoned after his death and the fall of his radical religious reform. The sand covered it, preserving a vast store of documentation unavailable elsewhere (Moran 1992). These tablets are in the Babylonian language and cuneiform script. They are diplomatic messages back and forth between Egypt and the Levantine and Mesopotamian states, and even as far afield as Anatolia. They record a very complex world of strategies, both martial and marital. (Is it an accident that those words are spelled almost the same?) The Egyptians wanted to stockpile princesses for security reasons; hopefully, no one would want to go to war with their own princess and her husband. The letters show that the princesses in question acted as diplomats, not to speak of their information-gathering (and even outright spying) possibilities. Near Eastern kings wanted to, but rarely if ever could, marry Egyptian princesses; the pharaohs, however, wanted to keep their blood lines pure, so tended to palm off elite but servile women on the Near Eastern rulers, who sometimes discovered the trick and wrote annoyed letters, duly preserved in the Amarna files. The letters also include a great deal about trade, tribute, and strategic gifting. Those cedars crop up over and over, and so do precious objects and precious metals; the gold and silver trade was large. Silver was widely available, but gold was quite sharply localized (mainly in sub-Saharan Africa and the eastern Black Sea region).

 Some of the requests were crass: “To Milkilu, the ruler of Gazru…the king..sends to you Hanya,…along with everything for the acquisition of beautiful feamle cupbearers: 9-14 silver [pieces], gold, linen garments…carnelian, all sorts of (precious) stones, an ebony chair, all alike, fine things…. Send extremely beautiful female cupbearers….” (Moran 1992:366). This gives a good idea of the preciosities trade in those days.

 More revealing if less salacious are two “Inventor[ies] of gifts from Tušratta,” the king of Mitanni. Most of them were gold, lapis lazuli, and silver, along with many other precious stones, aromatics, woods, and fabrics (Moran 1992:51-61, 72-84). One would not expect gross items like copper and wood in these lists, so they do not imply that all trade was in preciosities. Egypt sent many of its own valuables, including craft items, to vassals (e.g. Moran 1992:24-37).

Above all, however, the letters speak of military alliance. Every aspect of diplomacy is covered: war, peace, truce, threats, aid (and stalling off on it), strategic negotiation, spying, treachery, defection, gift politics, marriage politics, ambassadors and envoys. Small Near Eastern states, in particular, constantly and sometimes desperately begged Egypt for financial and military help. In a few cases, we get increasingly desperate messages from embattled city-states, and then sudden silence…. One can only lament the tragedies that are so mutely attested.

It is doubtful if we would suspect the level of interaction between Egypt, the Levant, and Anatolia if we did not have these documents. They confirm, and extend well back into the past, the impression given by the Biblical prophets of continual political activity—peaceful, violent, or both at once.

 Similar archives from the contemporary city of Ugarit (see Broodbank 2013:391-396) reveal a great deal more about merchants and trade, as well as politics. They confirm the image of a world-system bound together by constant trade in both luxuries and staple goods, and by constant intermarriage. And of course the documentation from Mesopotamia, where we have hiundreds of thousands of cuneiform tablets ranging from epics to cookbooks (Bottéro 2004) and from account ttallies to poetry, reveal many of the same patterns. The Hebrew Bible tells of a somewhat later period, but also is a uniquely copious source, even though it is less than trustworthy to those who are more concerned with facts than with divine inspiration.

 A dramatic snapshot of the trade in this key period is the Uluburun shipwreck, a wreck from 1325 BCE of a ship carrying a cargo that ranged from Sudanese blackwood and elephant and hippo ivory to Cypriot copper. Greek jars, Egyptian glass idols, Levantine pottery, and assorted other goods show that a single boat could carry both precious and staple goods from every part of the east Mediterranean world (Broodbank 2013:399-402). The main cargo was ten tons of copper and one of tin, reflecting the 10:1 ratio typical of bronze at that time (Broodbank 2013:402).

 Another snapshot from a completely different realm of endeavor is provided by poetry. Akhenaten’s Hymn to the Sun is one of the greatest poems of any age, anywhere on earth. It clearly was part of the inspiration behind Psalm 104 in the Hebrew Bible. I wish I could quote the whole texts, but this will give some flavor:

“Your appearing is beautiful on heaven’s horizon,

O living Aten, who initiated life!

As you shine forth in the Eastern Horizon,

(so) you have filled every land with your beauty….

When you set on the Western horizon,

The land is in darkness as if in death.

(Among) those asleep in (their) chamber(s), heads covered,

Not one eye can see another….

Every lion sallies forth from his lair,

And all snakes bite.

Darkness is a tomb?/blanket?, the land is silent…

Day dawns, (as) you rise on the horizon,

As you shine as the Sun-disc, by day.

You thrust back the darknes, send forth your rays,

So the land is in festivity, for the populace.

Awake and on (their) feet, you have got them up,

Washed are their bodies, they…go about their appointed tasks….The ships ply downstream and upstream alike,

And every road lies open at your appearing.

Fishes in the river leap up at your presence,

(while) your rays (reach even) into the Great Green (Sea)….

The chick in the egg cheeps in(side) the shell,

You give him breath within it, to sustain him….’ (Kitchen 1999:256).

Now compare that with part of Psalm 104:

“Thou makest darkness, and it is night: wherein all the beasts of the forest do creep forth.
The young lions roar after their prey, and seek their meat from God.

The sun ariseth, they gather themselves together, and lay them down in their dens.

Man goeth forth unto his work and to his labour until the evening….

So is this great and wide sea, wherein are things creeping innumerable, both small and great beasts.

There go the ships: there is that leviathan, whom thou hast made to play therein.

These wait all upon thee; that thou mayest give them their meat in due season.” (Psalm 104:20-27).

These are only the clearest of the many parallels. It seems fairly obvious that the psalmist knew Akhenaten’s hymn quite well.

 This is not the only parallel among Amarna documents. Other poems show great similarities also, with clear parallels in love poetry, *carpe diem* themes, and philosophy. Vast numbers of fascinating papyri written in Egyptian were excavated at Amarna, and they include everything from laundry lists to love letters by schoolboys to their girlfriends (McDowell 1999). You can actually find out how much it cost to get your underwear washed. One amazing thing is that literacy was so widespread—somehow, we do not expect ancient schoolboys and laundresses to write fluently. Here, the parallels with the Near East are more generic. The documents are the same type, stuylistically not dissimilar, and topically very similar indeed. By this time the world-system was one, so far as north Africa and the Near East were concerned.

Later Expansion of Trade

 At this time, Phoenician and other traders fanned out all over the Mediterranean, bringing urbanization to the remote west and even to the Atlantic coasts. After that, the Greek and Roman Empires, or at least some Mediterranean-based empires, were inevitable. Western north Africa was thoroughly integrated into the western world-system.

Meanwhile, expansion to and from the south became slowly more important. Gold, ivory and slaves were probably the main trade goods, but a wealth of products ranging from exotic animals to rare woods and fragrances came down the Nile. In the western Sahara, trade routes soon opened up to bring West African gold to the Mediterranean world. The “Gold Coast” and neighboring areas were the main source of gold for the west through much of early history—hence the name “guinea” for the old-time British gold coin.

In the Roman Empire, Egypt became important again, but as a granary and a trading station. The spice trade of the orient (Miller 1969) funneled through Berenike (Sidebotham 2010). Trade included “gemstones, spices, textiles, baskets, coconuts, mung beans, rice,m bamboo, and glass beads,” as well as pepper, cinnamon, cloves, nutmeg, timber and even elephants, which were exported from Berenike to military users in the Near East (Cunliffe 2015:291-292). James Miller’s (1969) history, showing that the spice trade was enormous and long-lasting, was challenged, but the Berenike investigations have proved him right. Rome did indeed import tons of spices. Whether it ruined itself in the process, as Roman senators argued, is most dubious, but it did spend a lot of money. Berenike is a port at the end of a long wadi (dry river), where digging will produce a good flow of subsurface water, making the place habitable in an otherwise uninhabitable desert. But then spices had to be hauled up the wadi and across to the Nile on camel caravans. More difficult was the traffic the other way: food, construction materials, and sometimes even water for the isolated outpost. Only a fantastically large and valuable trade could have made this possible. They even brought elephants from the Nile to Berenike, for export. How they managed this, carrying the water for them, remains a mystery.

Following this, the rise of Islam and the Arab empires led to a huge flow of new products from India, and from China and southeast Asia via India. Bitter orange, lime, sugar cane, rice, water buffaloes, and many other products came to Egypt the early medieval period (Watson 2008). By the 1200s, the agricultural system of Eurasia had more or less free access to all the crops from every part of the system. Many minor crops never left home, but anything useful and widely valued had become generally known. Africa had by this time contributed all the major crops it could do—the remaining African crops, still to be properly valued in the wider world, were either tropical forest plants or Ethiopian highland plants that did not do well away from home.

Conclusions

 What are we to make of these brief snapshots of the past? One lesson is that L. S. Hartley was only partly right when he wrote “The past is a foreign country. They do things differently there” (from *The Go-Between,* 1953). It may be a foreign country, but it sure is a lot like this one. The El Amarna letters read pretty much like Hillary Clinton’s infamous emails. The Amarna documents about schoolkids, laundry, bread, and repairing the roof could come from any American town today. They also prove that literacy was far more widespread and deeply-rooted than we used to think. (This has also been shown from the other end of Eurasia by recent discoveries of soldiers’ letters to and from home in the Han Dynasty; even common soldiers could write decent letters, or at least find scribes who could do it for them.)

This blends into the perception that trade and contact were far more extensive and basic to life than we used to think. The Uluburun shipwreck and later wrecks prove that trade in bulk staples was very extensive much earlier than we thought—indeed, we should have known already that trade must have been enormous, from the sheer quantity of metal found in the cities of the time. The spread of domestic plants and animals, including cats to Cyprus in very early times, proves that contact involving exchange and transfer of basic staple foods was very extensive by 5000-6000 BCE.

The most important realization is that every time a new major find comes out, we learn that there was more trade and communication, earlier, than we thought. We also find that the past gets less foreign. The Amarna documents prove that people then were very much like people now—not the mystical beings, trapped in a timeless world of ritual and worship, that textbooks of 50 years ago used to describe.

Economic plants and animals are keys to integration of regions into wider systems. They prove contact on a significant scale. They usually release production and trade. They become staples, and are traded widely—often long before any documentation of trade exists. For instance, we have little idea of when rice spread westward, even though that occurred well within historic times—unlike the prehistoric origins of the crop.

 In terms of our working group’s recent standards for judging systemic connections (Chase-Dunn et al. 2016), there is no question that after 1500 BCE, and really after 1600, Egypt was politically and militarily a part of the Near East, and the information network was fully systematic too. As to trade—our “high bar” standards are very high bar indeed. The proposal is that 5% of the bulk goods should come from or go to the target country or countries. It is highly questionable if any one country supplied 5% of Egypt’s bulk goods, or if Egypt supplied 5% of anyone else’s, before the massive grain trade with imperial Greece and Rome developed. In fact, I doubt if it is the case today. In any case, we cannot know. The Uluburun shipwreck and the Ugarit letters attest to an enormous and otherwise very poorly documented trade in bulk staple commodities in the east Mediterranean at the time Egypt was joining the central PMN. We have no idea how big it was—surely not enough to provide anyone with 5% of their bulk goods (though possibly with 5% of their *imported* goods). As to the precious goods trade, the bar here is also 5%. I doubt if Egypt provided anyone with 5% of anything, except probably faience ware, and it is certainly doubtful if anyone provided Egypt with 5% of anything. Those cedars, if counted as precious trade, would qualify, and Lebanon would thus be a system partner, but the cedars were clearly in the bulk necessities category, not luxury trade. One interesting exception, showing just how wide-flung the trade networks were, is lapis lazuli, which comes from northeast Afghanistan and which Egypt imported in quantity from the very earliest civilized centuries. It is testimony to an enormously wide-flung and reliable trade network existing long before we have any other evidence.

Of course, if we are to take the 5% figure commodity by commodity, we find that Egypt depended on imports for 100% of its quality timber and almost 100% of its metal. Later, in the Berenike days, India must have provided ancient Rome with nearly 100% of its pepper, and most of its cardamom, cinnamon, and other spices. The Moluccas presumably supplied 100% of cloves and nutmeg, since those crops had not been planted away from home at that early date. But of course we have no way of knowing the real figures.

 This gives me to wonder if 5% and 5% are realistic figures. How many countries supply the US today with 5% of bulk consumption of anything? Canada certainly (oil and timber), Mexico maybe (oil and manufactured goods). Other countries supply less than 5%, except for manufactures and a few small-scale though important items such as rare earth metals from China. Precious trades must be even less important. Gold and diamonds from southern Africa would count, and possibly gourmet foodstuffs from France and Italy, but nothing else occurs to mind. I fear these figures are unrealistically high. I would vote for something more like 1%. Even that would work only if each item were considered separately, which I assume was the intended idea.

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