

The Founders: A Novella

Unpublished essay, 2021

Prologue

This investigation of the early days of human speech enters relatively uncharted terrain. My presentation here is an outline, a first attempt to speculate on the processes and adventures of the early days of human speech. Inspiration for this effort comes especially from [Derek Bickerton](#), who analyzed and speculated on the earliest days of human speech, as indicated in the attachment. In addition, [Christoph Antweiler's](#) overview of evolutionary studies presents a framework that encourages study of language.

Essay

Of the households or families who lived all across Africa, 70,000 years ago, those in hilly regions along the Blue Nile came to have a special place in human history. They were the ones who developed syntactic language and enabled humans to spread throughout the world. Members of these households lived as parents with their children and nearby relatives, gathering plants and animals, with their hearth and fire as a central place. Households averaged 20 members, from infants to the elderly.¹ Their daily life involved work to feed and care for themselves, but they also had time for leisure. Men and women conducted both foraging and hunting; older adults worked near the hearth, as on making tools. Adolescent children had tasks but maybe not much to do. The members of these households, in their physical and emotional makeup, were very much like people of today, with the major exception that they did not have the capacity for syntactic speech that is now shared so widely. They communicated by touch, gesture, eye contact, and by voicing a few basic but unconnected words in what scholars now call “protolanguage.”

The historical transition began with the decision of several adolescents to meet regularly for imaginative play. In it they began experimenting with their voices, developing words in games. They may have begun as just a couple of teens—innovative and playful siblings, no doubt—from a single household. They knew of children in other households and could imagine meeting with them to play.

Generation 1, Years 1–30: Specialists in Speech

Years 1–5. Once the young people found each other and a place to meet, they opened up the first steps of play—running, throwing, hiding, discovering, and calling to each other in their simple protolanguage. They began to rehearse new sounds, to see what was possible. While they played in many ways, they found the games with their voices to be most intriguing. They could practice making up names for their body parts or parts of the landscape; they had to expand a new sort of practice to memorize the growing number of terms.

¹ I assume that a household of 20 people occupied 100 square kilometers of land (or a square of 10 kilometers on a side). Household members (categorized in 5-year age groups) included 5 children from birth through 9 years, 2 adolescents from 10 to 14 years, 9 adults from 15 to 44, and 4 seniors over 45. I simplify the accounting by assuming that participants moved from one 5-year age-group to the next only once every five years.

For the games to convince these youths to return regularly, the challenges had to be exciting. The learning needed to include issues in cultural interaction, not just steps in their material existence. Could the games be organized for separate groups or could groups challenge each other? Somehow, complex sentences and inventing words become central to the games. And somehow, the games brought back the same participants and brought new participants as well.

The logistics of the periodic meetings were tricky. Once the founders had assembled the initial group of youths, they had all those aged 10-14 within the nine contiguous households: 18 youths in total out of 180 people in the households. I assume that the households each occupied a square terrain of 10 by 10 kilometers, so that a set of 3 by 3 households would occupy 30 by 30 kilometers, or 900 square kilometers. It's simplest to assume that the hearth for each household was at the center of that terrain. For the youths to meet up at a common space, near to the center of the lands of the nine households, each person would need to walk an average of about 10 km (6.2 miles). It would have taken about 120 minutes to make the walk (though the young people may have stopped along the way, as do schoolchildren today). That timing still gave them several hours to play, with time to return home before the end of the day. But meeting every day was not feasible, so they needed to find a way to identify the time and place of their gathering. As the name of their group and for the place of their meeting, I assume they chose the single term "Us." They had little experience in counting, so I assume that they arranged to meet every five days, using the fingers of one hand. Even then, did they visit each other's households to arrange meetings? What if a household had moved its hearth some distance? How did these youths feed themselves during the long days of their gatherings? Did they forage as a group?

Further, how did parents feel about children leaving to meet as a group? This was more complicated because neither the parents nor the children (at first) had the language skills to make an explanation of the adventure, or to ask for permission to go. How did parents feel about their children speaking and acting in strange ways? Did the parents seek to halt the group of children? What tasks were children escaping by meeting as a group? Nonetheless, I assume, the experience was exciting enough for the children pursue it for as many as five years.

Years 6–10. Oath-taking, the biggest early step in language-learning, began in the sixth year of the gatherings. At the beginning of the period from years 6 through 10, the initial 18 had grown to ages 15-19, while another 18 were joining, at ages 10-14, for a total of 36 participants. At that moment, as the new cohort was learning rapidly, it was time to invent the formalization of membership in the group. For the new cohort, they took an oath with simple but unmistakable syntax. They were to adopt a name and pronounce it, and then say,

"Name join Us."

The syntax is that of subject-verb-object: it gives identity to the individual as the subject, identifies the group ("Us") as object and it includes an action ("join") as verb to link the subject and object. This was a complete sentence—which was the innovation of syntactic speech. The recruits had to pronounce the oath correctly in order to gain and maintain their membership. Then, for the more experienced cohort, the oath took a more complex form:

"Name join Us for sharing."

This version of the oath added the task of Us—the syntax added the object complement "sharing" and also added the preposition "for." The preposition of this oath was a new complexity, a type of connection not possible with protolanguage. The oaths can be seen as the initial ritual to formalize the cohesion of the speaking community and its members; it made clear the difference between the beginners and the more advanced levels in language.

Especially among the more experienced cohort, there was an opportunity for more imaginative discourse. What higher-level games did they create? Telling stories? Joining with others to agree on meanings and pronunciations? Memorizing and rehearsing words? Taking turns at expressing rhetoric? The participants did not argue about grammar but worked to agree on syntax that had an order that could be understood by speakers.

Years 10–14. In years 10-14, the group of speaking young people grew to 45 members, nine of whom were of ages

20-24. One type of new activity was that some became teachers. In years 10-14, if not before, members the cohort aged 15–19 could begin teaching words and syntax to their younger siblings while in the household. These younger siblings would not need to take the oath until they reached age 10. The teachers could also undertake coaching of older people who sought to learn language; such migrants needed to take the oath to affirm their seriousness.

Also in years 10-14 of the gathering, the nine members of the group who were ages 20-24, as well as some of those aged 15-19, might become parents of children. As persons with children, they became adult members of their household and gained in responsibilities. There were now three ways in which speech came to the household—through speech among speaking adolescents, through instruction of younger siblings, and now through instruction of one’s own infants. Through this process, speech gradually became a normal part of household activity.

Years 16–30. In years from 16 to 30, the youthful speaking community consolidated itself, expanding from 45 to 90 members out of the 180 members in the nine original households. The most experienced of the speakers, now in their twenties and thirties, became heads of households and began reforming the nature of household activities to fit into the larger speaking community. A new balance had to develop between the old pattern of life focused overwhelmingly on separate households and a new pattern that maintained household life yet focused substantially on connections across the whole community of speakers.

Meanwhile, discussions centering on language continued in the gatherings of young people. For those at early stages of their participation, vocabulary-building included learning words on plants, animals, sky, landscape, food, tools, social groups, fire, decoration, colors, sizes, smells, hunting, foraging, speaking, and singing. For the more experienced, verbal practice included memorization, recitation, stories, poems, rhetoric, and histories. Some discussions could enter the realm of philosophy (e.g., What are the differences between humans and other animals?). More practically, the continuing discussions led to development of finer points in syntax, such as a fuller list of qualifiers, pronouns, and prepositions, ways to express time and conditionality, and improved use of sounds.

Migration, another important type of innovation, arose in the years from 16 to 30. Both out-migration and in-migration were to have substantial importance. In out-migration, small numbers of skilled speakers, especially aged 15-19, could migrate a distance, settle among non-speaking households, and re-enact the creation of speaking through adolescent play that they had experienced themselves. If their effort succeeded, they would create new youth-based speaking communities, with a lag of about 20 years after that of the initial speech community. I assume that perhaps two persons migrated outward in each 5-year period.

Secondly, in-migration was a larger process. The news of changes and excitement brought by the expansion of syntactic language must have spread, even if that news had to be spread by means other than spoken language. As a result, additional young people from more distant households found a way to join the principal group that was building language skills. I estimate that from 6 to 10 such in-migrants arrived in each five-year period from year 16 to year 30.

Generation 2, Years 31–60: A Community Led by Syntactic Speech

Years 31–45. In year 31, the speaking population now included 100 persons of ages up to 44 among the 180 persons in the eight founding households, including speakers 18 who were ages 5-9. In addition, about 15 in-migrants had joined the community by this time. Language had now become a new social structure, cutting across the boundaries of previous family limits. The fundamental outlook of the speaking group was different from that of the households with which it coexisted: speaking people had new tasks, new relationships, and a new scale of life. Yet the expanded language community incorporated the households from which it had emerged.

In this second generation, the process of migration increased in significance. As noted, migrants could move out of the initial speech community or into the initial community. Both processes were necessary in order for language to

spread. Migration out from the initial community gave rise to the gradual development of new communities. The spoken language of the new communities diverged from that of the home community, to the degree that close contacts declined, thereby launching a process of divergence among related languages that would continue ever after.

Migration into the initial community led to segmentation and split of the initial community, presumably at a point in years 30-45. Success of this migratory process surely brought larger numbers, perhaps 20 immigrants for each five-year period, in years 45 through 59. For this reason, the total population of the nine core households rose, by year 45, from 180 to 240. This growth in the speaking community (including its non-speaking elderly family members) had gone well beyond the level of 150 members, a level that represented the optimum size for language communities. For this reason, it was to be expected that the language community would divide into two separate communities, each with about 120 members, at a point between years 40 and 45. Such a split in the community was doubtless traumatic: it meant separation of friends and relatives, the decisions of who would stay and leave, and the creation of rituals to establish the new communities. Yet such divisions were inherent in the rapid process of developing and expanding speech communities. Indeed, such segmentation would continue to occur for thousands of years, so that it would gradually be seen as natural process in life rather than a disaster.

Years 45–60. In a further change, after year 45 the formal and institutional recognition of marriage and family began to be adopted, in a way that clarified the difference between mating of individuals and marriage of members of families. The roles of households had now clarified, within one's own language community and in neighboring communities—households may have taken on names. The selection of mates, which had almost always been from different households, now involved not only the mates but also agreement of senior members of the two households, and likely involving a ceremony. Thus, the institution of speech enabled marriage too to become an institution, one that provided the couple with wider alliances.

Generation 3, Years 61–90: Expansion of Speaking Communities

By year 100, during Generation 4, a speaking population of roughly a thousand persons had formed. This unique set of language communities resulted from a process that yielded steady expansion of speaking populations through several overlapping processes. The processes included devotion of individuals to language learning, regular interactions among households (even though they were dispersed) to maintain contact and sustain the language, migration across community lines including through marriage, steady incorporation of non-speaking households into speaking communities, and periodic segmentation of language communities to keep them from growing beyond their optimum size of about 150 members. The original community had split into four, having grown especially because of in-migration and the children of immigrants. In addition, the out-migration of small numbers of speakers, and the foundation of new speaking communities, had brought parallel processes of language expansion in each of the regions where the migrants settled, though with a delay of from 20 years to 60 years. Within a hundred years, seven or eight language communities had arisen, each with roughly 150 members, plus smaller language communities in formation by the processes shown here.

Generation 30: A Millennium of Speaking Humans

After 900 or 1000 years of syntactic speech, the initial Human System had arisen. Thirty generations of elaborating spoken language and passing it from parents to children—and from native speakers to the neighboring humans that were steadily absorbed—had created a remarkable new network of communities. This network consisted of a population of several thousand, united by speech but divided by numerous language communities of roughly 150 each. Exchange among these speaking communities led to innovation and further expansion, as migratory groups filled niches in varying environments. This was the social system that expanded, innovated, and eventually occupied all of Africa, Eurasia, and Sunda within 40 millennia, and occupied the Americas within the 10 millennia thereafter. The Human System expanded until it reached the ends of the Earth.

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INSPIRATION FOR THIS ESSAY:

Derek Bickerton, *Adam's Tongue*.

Derek Bickerton, *Adam's Tongue: How Humans Made Language, How Language Made Humans* (New York: Hill and Wang, 2009), 16, 23, 40, 187–188.

Note: This extract compares animal communication systems (ACS), protolanguage (including pidgin and creole variants), and full human languages. *Merge* is a logic that enables speakers of full human languages to create a “hierarchical, treelike structure” within sentences.

A decade ago, Marc Hauser published what is still the most thorough and complete study of animal communication systems (ACSs) . . . He found that all the information conveyed by ACSs falls into three broad categories. There are signals that relate to individual survival, signals that relate to mating and reproduction, and signals that relate to other kinds of interactions among members of the same species. . . There must have been a time when the first system that broke the ACS mold—the first *protolanguage*, let's call it—had ten units or fewer. Think of any ten words or signs that, singly or in combination, would increase the survival changes and/or procreative capacities of their user.

Languages combine lawfully and protolanguages combine lawlessly. In other words, languages have all kinds of constraints on what you may put together with what; protolanguages don't. Where things can be put together, languages have rules about which goes first; for instance, adjective before noun in English, noun before adjective in French. . . . Pidgins and other forms of protolanguage don't have such rules. You can put anything with anything, in any order, provided that the combination is meaningful in some way. But the bottom line is, you can still combine.

ACS can't. So far as we know, yet. And I would say that no matter how long or how hard we look, we'll never find an ACS that can combine stuff.

I had the advantage of coming to language evolution from the study of pidgins and creoles, and the most certain thing I'd derived from that study was the fact that pidgin and creole speakers put words together in different ways. Creole speakers put words together the way everyone else who speaks a full human language puts words together, that is hierarchically, in a treelike structure—schematically, A + B goes to [A B], [A B] + c goes to [[A B] C], and so on. Pidgin speakers, on the other hand, put words together like beads on a string, A + B + C, etc., so that, in contrast with *Merge*, the relationship between A and B is no different from the relationship between B and C.

But {the associativity principle} doesn't apply in any shape or form in language, otherwise [English [language teacher]] would mean the same as an [[English language] teacher], and it doesn't: the first means a teacher of languages who happens to be English, and the second, someone of any nationality who teaches the English language. Change the brackets here, you change the meaning; remove them, you just make the phrase ambiguous. Or take a more famous example: [old [men and women]] versus [[old men]]. The differences between such pairs can be spelled out by intonation features . . .

But in protolanguage, for example in an early-stage pidgin, there are no structural relationships among words—only semantic ones, so there's no equivalent way to disambiguate stuff. Moreover, you don't have to go as far as pidgin or protolanguage to find beads-on-a-string joining things together. *Merge* operates only up to the level of the sentence. Phrases have to be properly merged with phrases, clauses with clauses, but once you get up to sentence level, beads-on-a-string takes over. . . .

Grammatical relations, relations created via the *Merge* process, are found only *within* sentences. There are no grammatical relations *among* sentences. There are no agreement phenomena that link one sentence with another,

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no sentence serves as subject or object of another . . . Sentences are linked only in terms of discourse coherence, which in turn is determined by semantic and pragmatic, not grammatical, factors.

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INSPIRATION FOR THIS ESSAY:

Christoph Antweiler, “On Cultural Evolution”

Christoph Antweiler, “On Cultural Evolution: A Review of Current Research toward a Unified Theory of Societal Change,” *Anthropos* 107: 217–227.

Darwin’s 200th birthday and the 150th anniversary of his “Origins” are gone, but the proliferation of books inspired by Darwin goes on. This cumulative review discusses fourteen monographs and edited volumes published in German and English

What are the main topics studied currently in evolutionary theorizing about culture, cultures, and societal change? What are the main theories used in recent studies? Which are the main open questions within current debate and the main issues worthy of study theoretically and even empirically?

Firstly, some authors, beyond Darwin himself, seem to be especially productive in establishing truly evolutionary approaches in the social sciences: these are Marion Blute, Robert Boyd, Luigi Cavalli-Sforza, Richard Dawkins, Robin I. M. Dunbar, William Durham, Marcus Feldman, Peter Richerson, Michael Tomasello, Andrew Whiten, and especially Donald Thomas Campbell. These and some other authors have produced insights that have a potential to hold this research field together. On the other hand, the research field is still quite scattered and lacks systematization. The problem remains that evolutionary approaches are still (or again) marginal against the antinaturalist respective constructivist mainstream. In consequence, there is no real scientific, evolution-minded community existing but only several small circles. They do not reach a certain “critical mass” and thus sometimes are not knowing much about their respective work. . . .

Secondly, this reviewer would argue that the more complex bio-cultural phenomena are the more analytical we should be. Thus, we should, e.g., distinguish more clearly between describing origins and change, on the one hand, and explanatory mechanisms on the other. Furthermore, a clear analytical distinction between (a) the evolution of culture as an organic *capacity* and need of human beings and (b) the long-term (transgenerational) change of *societal entities* and their material products would be helpful. . . .

Thirdly, the issue of explaining directional evolution is far from being closed. Most of the classical theories of social evolution of the 19th century clearly were flawed. They were teleological, sometimes racist, often barely mentioned devolution, and—mostly important here—did not really explain trends. But these classical evolutionists brought an important phenomenon into focus. It is worth reading them in detail as their theories were not as crude as they are usually portrayed.