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Child Language Acquisition: Cross-linguistic Evidence for Universal Grammar

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One of the most enduring puzzles encountered in the study of humans is the astonishing ability of the human child to acquire her native language(s). How does the child extract this knowledge from the continuous, noisy stream of speech that she is exposed to, break it down into a set of sounds, determine the rules for combining those sounds to form legitimate words, and arrive at the set of comprehensive rules that allow the combination of those words into sentences in order to convey meaning? In other words, how does a child come to 'know' a large set of complex and interrelated rules that the speaker of that language is subconsciously aware of?

Although in popular understanding, the earliest point in time that parents or caregivers unanimously mark as the beginning of a child's linguistic journey is when she utters her first word, the last six decades of research into children's language acquisition has revealed that the actual development of language begins much earlier than this landmark. Moreover, cross-linguistic evidence has shown that the perception and discrimination of speech sounds, syllables and words far outpaces the production of the same. This essay discusses the popularly held myth that children learn to comprehend and speak a language by imitation and presents a synopsis of how the deceptively simple feat of uttering first words and expressions by a child is the result of a complex process that involves activating the grammar of one (or more) individual languages, using a biologically innate endowment common to our species.

Language Acquisition is not an 'Imitation Game'

As adults, we expect all human children to take a linguistic turn early in their life, so much so that we consider a delay in this expected developmental stage to be a sign of 'abnormal' development—a child failing to utter her first words by the age of about two years, or not appearing to follow the expected path of language development thereafter, is often a cause of concern, leading anxious parents and caregivers to consult doctors and therapists.

Despite the traditionally held belief that there is a biologically timed 'window' in the child's life during which language must begin to be expressed, popular understanding does not usually make the obvious connections that this programmed 'emergence' of language would seem to require. Thinking about language emergence in the child often leads us to connect it with the other abilities that also emerge in children in a programmed manner, such as standing upright and walking. Like language, this ability is not expressed for months after a child's birth and is a milestone that all typically developing children achieve around the same time in their lives.

However, unlike in the case of language, the popular understanding of the child achieving the walking milestone rarely attributes the emergence of walking to a desire in the child to imitate walking adults and older children around her, or puts it down to instruction by mature individuals in her environment. Yet we believe exactly this about language, assuming that children learn language by imitation of the linguistic input provided by linguistically mature persons in their environment. We do not pause to think that were this belief founded in fact, this ability to imitate would be a puzzling one indeed, as mimicry is not generally a property that children at a young age provide evidence for in any other aspect of their development. After all, despite being taught almost daily by parents, children do not learn to eat their food by themselves, wash their hair, tie their shoelaces until quite late in the developmental cycle.

Moreover, how could such young humans form the sophisticated generalisations that speaking a language entail, based on pure imitation? While adult humans have the ability to mimic vocal sounds uttered by other beings quite well, that mimicry does not enable them to actually divine the rules by which that string of sounds is constructed. For example, while a mimic can reproduce sentences that sound like a language foreign to her—say, Swedish—quite effectively, this ability does not make her a speaker of Swedish who can use rules to form meaningful utterances in the language. Given this, if children as young as a year-and-a-half old exhibit this extraordinary ability of language learning through mimicry, then why would this ability disappear in adulthood?

From the social perspective as well, the 'imitation game' theory of language acquisition would lead us to expect that parents would be mindful of the quality and the nature of the input they provide to the developing child. They would be expected to speak with clarity, providing explicit instruction about the rules of grammar that the child is supposed to learn, and to provide both negative and positive reinforcement to the child for the linguistic output she produces. Decades of research have, however, revealed that adults do not even attempt to keep their side of the bargain of the imitation game, and the empirical reality of the actual process is that the language input a child receives is, in fact, highly impoverished.

Far from being careful and didactic, the adult speech that a child receives as language input is often degraded. It is full of performance errors, that is, disfluencies, stutters, half utterances, self-corrected utterances, and so on; so much so, that if a child was indeed imitating adult speech as it is produced, she would make a rather poor speaker. Further, adults rarely explicitly correct children's grammatical mistakes (Brown and Hanlon 1970). With infants, adults respond positively to their communicative intent rather than the correctness of their grammatical output, encouraging them to play an interactive role. As the example of an exchange between a mother and her thirteen-month-old child shows, the prototypical parental response from the very outset is to encourage the child to communicate, rather than to correct either form or content:

1. MOTHER: Look!
   CHILD: (*Touches picture*)

MOTHER: What are those?
CHILD: (*Vocalizes a babble string and smiles*)
MOTHER: Yes, they are rabbits.
CHILD: *(Vocalizes, smiles, and looks up at mother)*
MOTHER: (*Laughs*) Yes, rabbit. (Bruner; P. 78))

Even as the child grows, her utterances are rarely reinforced with explicit approval ('that's right', 'correct', and so on) or disapproval ('that's wrong', 'no', and so on). Rather, parents tend to make occasional and indirect responses, which cannot be meaningfully correlated with the grammaticality of the child's utterances. Chouinard and Clark (2003) show that parents tend to prefer more oblique routes such as reformulation of the child's utterance into a grammatical string. Nevertheless, even such indirect correction does not lead to the intended goal, as proven by the following exchange between a parent and a child (Braine 1971: 160-61) CHILDES database, where it appears that the child's grammar is almost immune to the correction (of syntax) that is intended.

2. CHILD: Want other one spoon, Daddy.
   FATHER: You mean, you want the other spoon.
   CHILD: Yes, I want other one spoon, please, Daddy.
   FATHER: Can you say "the other spoon"?
   FATHER: Other . . . one . . . spoon.
   CHILD: Say "other."
   FATHER: Other
   FATHER: "Spoon."
   CHILD: Spoon.
   FATHER: "Other spoon."
   CHILD: Other . . . spoon. Now give me other one spoon? (pp. 160-61)

In fact, a critical examination of parent–child interactions shows that even in cases where explicit correction is attempted, what is sought to be corrected is not understood by the child. Consider one such attempt, where the parent's correction of the child's incorrect use of the *do* verb ultimately results in the child revising the parent's original utterance, but such that the incorrect usage is left uncorrected and a new one is added to the original sentence!

3. CHILD: Nobody don't like me.
   MOTHER: No, say "Nobody likes me."
   CHILD: Nobody don't like me.
   (*dialogue repeated eight times*)
   MOTHER: Now, listen carefully, say "Nobody likes me."
   CHILD: Oh, nobody don't likes me. (McNeill p. 69)

Compelling evidence that imitation of adults' speech is not the source of children's language also comes from the way new 'languages' or codes devised entirely by children, without any adult input, have been known to come into being. The emergence of Nicaraguan Sign Language in the 1970s and 80s (Senghas 1995) because of an unusual conjuncture of events is a fascinating example. Until the 1970s, deaf children in Nicaragua had no means of communication available to them—isolated from other deaf children and largely confined to their homes, unable to hear or understand the Spanish spoken around them. Such children had no access to any kind of sign language. It was only In the 1970s that these children first started interacting with each other, once there was a rapid and sustained expansion of day-school programmes in special education. What was then observed was the birth of a spontaneous sign language amongst them, which, as the population of deaf children grew, ultimately converged into a shared and stable linguistic system that came to be known as Nicaraguan Sign Language.

For these reasons (and many more besides, which we do not address here due to considerations of space), we may conclude that the 'imitation game' hypothesis about language acquisition is a non-starter. What then could be the source of this extraordinary species-wide ability?

The Innateness Hypothesis and Universal Grammar

In nature, some properties are species-specific, that is, they are expressions of what is imprinted in the DNA of the chromosomes of the species. Honeybees, for example, in any part of the world, are capable of determining the distance and direction of flowers, which is their source of food, from the orientation of the hive and the position of the sun (Dyer and Dickinson 1996). The idea that something similar is at work as far as a language is concerned seems to be intuitively correct, and this is the first claim that the Innateness Hypothesis advances—human linguistic ability is the expression of a species-specific, genetically encoded and heritable endowment. The second claim goes beyond a mere assertion of humans' biological predisposition to language to suggest that the initial state of the human innate linguistic endowment guides the child's acquisition of the language(s) that she comes to speak in such a way that it precludes the need for any instruction by linguistically mature individuals.

The first aspect of the Innateness Hypothesis is relatively uncontroversial, as it has long been observed that in the animal kingdom, there exists a 'window' between birth and a few months or years in which the young of several species acquire particular survival and adaptive skills that were not present at birth. The acquisition of these skills may or may not be a result of their interaction with the social groups they inhabit, and in many cases may be subject to a 'sensitive' or 'critical' period in which such learning must take place. The most well-known example of such age-limited learning is of birdsong, which is displayed by some species of songbirds (Marler 1970). For example, sparrows' acquisition of birdsong must take place within a critical period starting at the age of about twenty days and ending between four to six weeks (Nelson

1997): if the bird does not learn to sing in this period (because of deafness or isolation), any vocalisations of song that it subsequently produces are significantly degraded and abnormal.

There is a plethora of evidence to suggest that human language acquisition is similarly age-restricted and acquirable only within a critical or sensitive period, which Lenneberg (1969) surmised to be upto the age of twelve. Through the centuries, scholars (such as Linnaeus, for example) have pointed to the unusual linguistic impairments of feral children discovered, but the most conclusive case for a critical period of language acquisition comes from the 1970s study of a young girl, Genie (Curtiss 1977). Genie was rescued at the age of 13 years, 9 months from an abusive environment that she had lived in since birth, where she was subjected to extreme social isolation and experiential and linguistic deprivation. When Genie was discovered, she was mute and socially unresponsive; within a year however, as her overall health improved, she began to produce strings of words. Researchers, however, unanimously agreed that her language abilities (both production and comprehension) never approximated the abilities of normally reared children, and such development as there was, remained at a rudimentary level and was outstripped by the progress she showed in developing other cognitive skills. In language acquisition literature, Genie's case is cited as evidence for the critical period hypothesis, because her case represents a singular documented instance wherein language acquisition began once the window had closed.

The innateness hypothesis also squares well with the observation that irrespective of the language being acquired, the path that children take in the acquisition of language is remarkably uniform. Cross-linguistically, children across cultures have been found to achieve the same milestones in the acquisition of their individual respective native languages as they grow, leading Lenneberg to argue that 'the development of language in children can best be understood in the context of developmental biology' (xx). Table 3.1 lays out these milestones.

Table 3.1: Milestones in language acquisition

Stage	Typical Age	Description
Cooing	3–5 months	Vowel-like sounds
Babbling	6–10 months	Repetitive CV patterns and combinations of such syllables
One-word stage	12–18 months	Single open-class words or word stems, typically for everyday objects such as 'milk', 'cookie', 'cat'
Two-word stage	18–20 months	Vocabulary moves beyond 50 words, and production of mini-sentences with simple semantic relations such as 'mommy eat'
Telegraphic stage	24–30 months	Production of multi-word speech and discernible sentences, such as 'this shoe all wet', 'cat drink milk', 'daddy go bye-bye', functional and grammatical morphemes are generally omitted completely

Later multiword stage	30+ months	Production of sentences with grammatical and functional structures

These stages are steadily incremental and punctuated by several internal thresholds: for example, in the cooing stage, all children produce vowel-like sounds at the outset and move to the production of velar consonants by the end of the stage. Similarly, it is only at the end of the babbling stage that children attempt complex syllable combinations (for example, ma-da-ga-ba). All other stages show a similar steady progression until about five years of age when, for all practical purposes, the child can be deemed a 'linguistic adult' as far as the knowledge of the syntactic rules of her language is concerned (although acquisition of lexis and other idiosyncratic linguistic properties of individual languages may go on for much longer, perhaps through the lifetime).

This surprising uniformity in the language-acquisition path of children of our species is one of the reasons why generativists consider the second part of the Innateness Hypothesis a conceptual necessity, since if all children had an instinctual predilection to language, there would be much greater variability in children's acquisition paths, both within a language and across languages. The postulation of an innate mechanism that guides the order, path and manner of the child's acquisition of a language—where the child reflexively receives the primary linguistic data presented to it in the environment, and unconsciously uses the genetically embedded innate endowment it has to acquire—enables linguists to explain the cross-linguistic and intra-language regularities observed in language acquisition by the young of the species. No conscious 'learning' by the child, either by way of instruction by others or conscious efforts, is implicated in this process, which could then be thought of as similar to a newborn's acquisition of the ability to breathe. Before birth, the infant's lungs are not inflated and it cannot breathe on its own, but about ten seconds after birth when the child draws the first breath, several transformative changes occur—for example, the inflation of the lungs, an increase in blood flow resistance in the blood vessels, and the birth of a functioning pulmonary system. Therefore, thinking of language acquisition as marked by a similar moment, where the linguistic experience presented by the environment acts as a 'trigger' for the activation of Universal Grammar (UG) in the child, is in accordance with how nature works.

Generative linguists such as Chomsky adopt a biolinguistics approach, according to which the development of language is similar to that of other biological systems: partially shaped by the experience provided by one's external environment in the form of primary linguistic data, and partially by an internal genetically endowed system that defines the common properties that hold across all linguistic structures. Dubbed 'Universal Grammar', this initial endowment is not hypothesised as embodying a particular human language, but rather as encoding the principles that underlie the structure of all human languages. Using this theoretical construct, generative linguists can make sense of the many otherwise puzzling properties that child language acquisition across languages displays. Some of these are discussed in the sections below.

The systemic nature of children's innate knowledge: Evidence from children's errors

A robust observation in studies on this subject has been that in child languages, children's perception far outpaces their production. At the level of acquisition of sounds, children have greater ability to distinguish between speech sounds of various languages when they are infants, and they have been found to progressively lose this ability as they advance in age in the first year of life. Infants (1–4 months of age) are popularly known to be 'universal listeners', that is, they are capable of distinguishing speech sounds (vowels and consonants) of both languages that are present in their native environment as well as those that are not (Eimas et al. 1971, Werker et al. 1981). By the age of around ten months, however, the perceptual discrimination of all but the sounds of the native language(s) vanishes. Instead, only the distinctions present in the infant's home language are maintained (Werker 1995). This process by which wide-ranging perceptual abilities are developmentally particularised in the face of language-specific experience strongly suggests that the initial endowment is universal in scope, to begin with.

It has also been found that well before children produce sentences of even minimal complexity, they 'know' how to distinguish between grammatical and ungrammatical sentences. In a recent demonstration of this fact, Leela (2016) tested children'scomprehension of Hindi sentences with the aid of eye-tracking equipment. In the experiment, young children were shown video clips of animal puppets, accompanied by auditory cues in the form of grammatical and ungrammatical (with ungrammatical word order) sentences with pseudo-verbs. It was found that across the board, children even as young as nineteen months preferred to look at the clip with grammatical sentences for a longer duration than the one with ungrammatical sentences. Leela argues that this indicates that even though the verbs were unfamiliar, children were able to parse the grammatical word order and preferred to look at the image which accurately represented the characters in the sentence as subject or object.

At later developmental stages, children also know the correct forms before they can reliably use them, as this exchange between psycholinguist Tom Bever and his child shows:

4. TOM: Where's Mommy?
   CHILD: Mommy goed to the store.
   TOM: Mommy goed to the store?
   CHILD: NO! (*annoyed*) Daddy, I say it that way, not you. (192)

The same metalinguistic awareness that the child shows in this exchange—that his developing grammar does not allow him to arrive at the correct output (in this case the irregular plural *went*)—is also illustrated by the following example, which is from psycholinguist Dan Slobin's interaction with his child, where the child corrects his intentional use of the incorrect irregular form, even as the child's production falls short of the target:

5. CHILD: You readed some of it too . . . she readed all the rest.
   DAN: She read the whole thing to you, huh?
   CHILD: Nu-uh, you read some.
   DAN: Oh, that's right, yeah; I readed the beginning of it...
   CHILD: Readed? (*annoyed surprise*) Read! (pronounced /rEd/)
   DAN: Oh, yeah, read.
   CHILD: Will you stop that, Papa? (52-3)

In both examples (4) and (5), it is clear that the child comprehends what the intended target form is but is unable to employ them in naturalistic production. The reason for this inability is that children's acquisition of language is not driven by merely targeting the correct form by memorisation. Rather, the way that children acquire language is by abstracting general rules from the input and applying them to other items in the same category of words. At the stage of the acquisition of English that the children in examples (4) and (5) are at, the general rule that they follow is that the past tense in English is formed by adding '*-ed'* at the end of the verb. Until this internalised rule system is rejigged to allow for the exceptions that the irregular forms represent, the child is unable to put her knowledge of these irregular forms to use.

The rule-governed and system-based nature of children's language acquisition is also exemplified by the kind of 'errors' children make, as many of these involve similar overgeneralisations. In Hindi-Urdu, forming the plurals of many *-aa* ending nouns involves changing the final vowel to /-e/. In the following example[i] from Hindi-Urdu in (6),[ii] the child pluralises the loan word 'banana', overgeneralising the rule even though it actually does not apply to this case, and therefore ends up failing to meet the target 'bananas'.

6. ADULT: ab ye kyaa ho rahaa hE
   now this what happen stay be.PRS
   'Now what is this that is happening?'
   CHILD: ye giraaa rahaa hE banaane
   this drop stay be banana.PL
   'He is dropping the bananas'
   ADULT: kyaa giraa rahaa hE
   what drop stay be.PRS
   'what is (he) dropping?'
   CHILD: banaane
   banana.PL
   'bananas'

The utterances of a child acquiring Tamil, as in the examples below, also show rule-governed and system-based acquisition at work. Here, the child wrongly assigns the feminine gender to a subject noun (where both 'night' and 'fire' are neuter gender nouns in adult grammar) and then goes on to correctly apply the subject–verb agreement rules of the language. This shows

that children do not memorise verb inflections, but rather use rules to arrive at the ultimate output.

7. a. CHILD: sinimaa tuungi-TT-aal-aa
cinema(*F) sleep-PST-3SF-Q
'Has the cinema slept (closed for the night)?'

b. CHILD: raatri neruppu vara-maaTT-aal-aa
Night fire(*F) come-NEG-3SF-Q
'Won't the fire come at night?' (Sarma 122)

The postulation of a system of rules guiding child language acquisition can also explain the many, often humorous, examples of childish creativity. Children often make up novel words and expressions which they have never heard in their environment. What facilitates this creativity is often the overextension of some grammatical rule. In example (8) below, the child takes the fact that the words 'somebody' and 'nobody' are compounds formed with a lexeme *X+body,* and then substitutes the antonym of 'no' for it.

8. CHILD: Somebody's at the door.
MOTHER: There is nobody at the door.
CHILD: There is yesbody at the door.

As a final example, consider the following 'error' that a Hindi-speaking child, aged 4;9, makes (Pareek 2018: 101). In a descriptive response to the pictorial stimuli of a fairy kissing a magician, the child demonstrates the ability to apply the familiar rules of grammar to create a new word, and further apply a familiar morpho-syntactic rule to this novel word. The child refers to the magician as *paraa* (a male fairy), by assuming the existence of an *–aa* ending masculine counterpart for the *–ii* ending feminine *parii.* This noun then appears in the oblique form, as the grammar rule requires for all *–aa* ending masculine singular nouns when followed by a postposition.

9. CHILD: ek parii ne ek pare ko kiss kiyaa
one fairy ERG one fairy.M ACC kiss did
'A fairy kissed a (masculine) fairy'

The systemic nature of innate knowledge: Evidence from the errors children never make

Equally, if not more, compelling evidence for the existence of a pre-specified UG guiding language acquisition comes from a consideration of the kinds of errors that children do *not* make; errors that would be expected if the child were indeed accomplishing the task of language acquisition solely by inferring the grammatical rules from linguistic experiences in her environment.

The definitive piece of evidence that children operate on a system of rules that are based on prespecified notions of grammatical structure and relations comes from a famous experiment conducted by Crain and Nakayama (1987). They conducted an experiment to elicit yes/no questions from thirty 3- to 5-year-olds (this experiment has been replicated several times since, with identical results).

Yes/no questions can be explained by both structure-dependent and structure-independent analyses. For example, consider (10) below. The questions, 'Is the man tall?', and 'Can I go?' can be said to have been formed by the leftmost verbal element of a declarative ('is', 'can', and so on) having been moved to the front of a sentence. This is the structure-independent hypothesis (Hypothesis 1), since it is based on the linear order of elements in the sentence.

10. a. The man is tall à Is the man tall?
    b. I can go à Can I go?

While Hypothesis 1 gives the correct result for question formation from simple sentences like those in (10), it fails to generate the right question, (11b), for complex ones like (11a). Rather if our hypothesis (Hypothesis 2) were to be that we move the auxiliary verb in the *main clause* of a declarative to the front, it would yield the correct result (11c). Hypothesis 2 is dependent on the hierarchical structure of the clause, which includes the dependency of the subordinate clause on the main clause.

11. a. The man who is tall is in the other room.
    b. *Is the man who ___ tall is in the other room?
    c. Is the man who is tall ___ in the other room?

Hypothesis 2 accounts for both simple as well as complex sentences. Children who were made to elicit complex yes/no questions used the subject–auxiliary inversion rule productively and did not entertain Hypothesis 1.

More evidence for the child being guided in her language acquisition comes from the fact that cross-linguistically, children seem to make no errors in determining the order of words that their languages follow. As is well known, the languages of the world fix the order of Subject, Object and Verb in different permutations as a default order. For example, English is an SVO language, whereas Hindi is an SOV one. Fixing this order has consequences for the determination of several other dependent word order parameters, such as the position of the indirect object, the presence of postpositions or prepositions, and the ordering of auxiliaries relative to the main verb. Research has found that very young children fix these parameters effortlessly, never making errors that would allow postpositions in an SVO order or allow auxiliaries to follow main verbs.

The following facts from the acquisition of Hindi-Urdu point to quite a fine-grained specification of the knowledge that UG encodes as prespecified. In the adult Hindi-Urdu grammar, the rules governing subject–verb agreement require that only bare subjects—that is noun phrases not marked with a postposition *(-ne, -ko, -se*, and so on)—may govern verb

agreement. Pareek (2018) finds that children's language acquisition is guided by this rule. While children below two years of age were observed to use each of these postpositions accurately on the subject, they were observed to not violate this rule—that is, irrespective of the postposition used, the grammar only allows verb agreement with the bare subject.

Another example, from Roy (in prep.) is the following. Hindi-Urdu is a language that has two ways of marking possession—either by a possessive reflexive or by a possessive pronoun. In a language like Hindi, the choice between using either option is dependent on whether the objective is to indicate possession by the subject or by some other entity: if it's the former then the possessive reflexive '*apna'* must be used, and if it's the latter, then it must be '*uskaa'*. As example (12)—an exchange with a Hindi-speaking infant (2;1)—shows, this knowledge seems to guide the child's use of the correct form, knowledge that appears to be prespecified.

11. Context: picture of boy scrubbing his feet

RES:	ye	dekho	laDkaa	kyaa	kar	rahaa	hE
	this	see.IMP	boy	what	we	stay	be.PRS
	'Look here! What is the boy doing?'						
CHILD:	(*inaudible*)						
RES:	kis	pe					
	what	on					
	'on what?'						
CHILD:	pEr	pe					
	foot	on					
	'on the foot'						
RES:	kiske	pEr	pe				
	whose	foot	on				
	'on whose foot?'						
CHILD:	apne	pEr	pe				
	self.GEN	foot	on				
	'on self's foot'						

Conclusion

In conclusion, it must be noted that the field of language acquisition studies is by no means exclusively dominated by a Chomskyan approach, and that there also exist other hypotheses about children's acquisition of language. Prominent amongst these is the *usage-based* hypothesis, which argues that children's early language competence is item-based, rather than rule-based, and is driven by analogy, and that language acquisition proceeds in 'a piecemeal fashion' (Tomasello 156 156). In such approaches, the nature of input the child receives becomes the central focus of inquiry, because it is based on this that the child is expected to analogise a new form. Other approaches, such as the variationist approach to language acquisition (Yang 2004), even as they maintain the centrality of the idea of

UG, focus on cognitive principles that enable a child to choose between multiple competing grammars that are consistent with the input.

Studying children's acquisition of language enables these theoretical questions to be raised and underscores the significance of this area of inquiry for our theories regarding human behaviour—cognitive, evolutionary, social—and its implications for the human condition.

NOTES

[1] The non-English examples have been spelt with using the following orthographic conventions given along with their approximate English pronunciation example: /a/ as in 'cup', /aa/ as in 'cart', /i/ as in 'ink', /ii/ as in 'eat', /u/ as in 'put', /uu/ as in 'root', /e/ as in 'net', /E/ as in 'fairy', /o/ as in 'boat', /au/ as in 'boss', /N/ as in 'king', /k/ as in 'king', /c/ as in 'chat', /j/ as in 'jug', /T/ as in 'tomato', /D/ as in 'damage, /t/ as in the French 'tu', /d/ as in 'them', /y/ as in 'yard', /v/ as in 'vase', /sh/ as in 'shoot'.

[1] The following abbreviations have been used in this article: ACC=Accusative, GEN=Genitive, ERG=Ergative, IMP=Imperative, PRS=Present Tense, PL=Plural, PST=Past Tense, 1=First Person, SG=Singular, Q=Question, F=Feminine, M=Masculine, NEG=Negative, EMPH=Emphatic

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[i] The non-English examples have been spelt with using the following orthographic conventions given along with their approximate English pronunciation example: /a/ as in 'cup', /aa/ as in 'cart', /i/ as in 'ink', /ii/ as in 'eat', /u/ as in 'put', /uu/ as in 'root', /e/ as in 'net', /E/ as in 'fairy', /o/ as in 'boat', /au/ as in 'boss', /N/ as in 'king', /k/ as in 'king', /c/ as in 'chat', /j/ as in 'jug', /T/ as in 'tomato', /D/ as in 'damage, /t/ as in the French 'tu' ,/d/ as in 'them', /y/ as in 'yard', /v/ as in 'vase', /sh/ as in 'shoot'.

[ii] The following abbreviations have been used in this article: ACC=Accusative, GEN=Genitive, ERG=Ergative, IMP=Imperative, PRS=Present Tense, PL=Plural, PST=Past Tense, 1=First Person, SG=Singular, Q=Question, F=Feminine, M=Masculine, NEG=Negative, EMPH=Emphatic