## Language 'depth': Deep first language acquisition versus shallow second/foreign language learning, and the presence of the 'embammic seal' in the embammic language-nonembammic language dichotomy

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**Abstract:** First language acquisition differs radically from second/foreign language learning in that it not only consists in the acquisition of formal aspects of language (structure and functions), which is mandatorily the case with any second/foreign language, but that it is also immersed in what is termed here the (elusive) 'embammic dimension'. Together, the formal and the automatic embammic elements, constitute the core of any native (first) language command. Subsequently, a native (first) language which always occurs in its 'deep state' must be fully distinguished from a second/foreign language which always occurs in various degrees of its 'shallow state'.

Abstrakt: Nabywanie języka pierwszego różni się radykalnie od uczenia się języka drugiego/nierodzimego w taki sposób, że w przypadku tego pierwszego mamy do czynienia nie tylko ze stopniowym nabywaniem formalnych elementów jęyka pierwszego (struktury i funkcji), jak to ma obowiązkowo także miejsce w przypadku języka drugiego/nierodzimego, ale dodatkowo nabywanie języka pierwszego ma miejsce w nieuchwytnym dla dydaktyki języka drugiego/nierodzimego wymiarze ,embamicznym'. Elementy formalne i embamiczne stanowią wespół rdzeń znajomości każdego pierwszego języka. Ten ,głęboki stan' języka pierwszego należy wyróżnić od bardziej ,płytkiego stanu' każdego języka drugiego/nierodzimego.

**Key words:** native (first) language acquisition, second/foreign language learning, language depth, native 'flavour', deep native language immersion matrix, gift paradigm, language gifting, formal social contract paradigm, complete familiarity, proximate familiarity, first language embammic parameters, embammic seal, embammic language (language in deep state), non-embammic language (language in shallow state)

**Slowa kluczowe:** nabywanie języka rodzimego (pierwszego), uczenie sie języka drugiego/ nierodzimego, głębia językowa, "smak" języka rodzimego, matryca głębokiego zanurzenia języka rodzimego, paradygmat darowania, darowanie języka, formalny paradygmat kontraktu społecznego, całkowita znajomość, niepełna znajomość, parametry embamiczne języka pierwszego, pieczęć embamiczna, język embamiczny (język w stanie głębokim), język nieembamiczny (język w stanie płytkim).

## 1. Introduction

Language is the most profound and most distinctive indicator of humanness, and, agreeing with Steven Pinker, it is affirmed that *possessing a language is the quintessentially human trait* (Pinker, 1995). It is the result of millions of years of micro steps, starting from the primary vocal-gestural beginnings to its present-day most advanced and hybrid (oral/spoken - written/printed and technologized) stage. During the process of its emergence, no matter how mysterious, intractable and incomprehensible it happens to be, it has been performed and expressed by members of an endless 'evolutionary parade' of hominoid and hominin groups through time and space (on human evolution, see e.g. such valuable sources as Jones et al., 1994; Delson et al., 1999; Rose, 2006; Fitch, 2010; Wood, 2011; Tallerman and Gibson, 2012; Hauser et al., 2014; Vaneechoutte, 2014).

As the final result of all the evolutionary stages which have been postulated in an immensely vast research on the origins of human language, it has finally become established as a very unique communication system, exquisitely structured, complex, diverse, and at the same time most powerful engine of human behaviour. It has become a phenomenon which is most naturally and universally shared by all the members of the genus *Homo sapiens sapiens* across the expanse of the globe. Put simply, language has become the most distinctive indicator of the most recent era of 'anthropocene', or the rule of mankind, with all of its consequences, where the dominating relevance of language in shaping the fate of the planet as the carrier of humanity has been most critical (on the concept of 'anthropocene', see especially Crutzen, 2002; 2006, who authored the concept).

At the same time, language (or. more precisely, natural language defined as any language which occurs within a process of constant use, repetition, change and intergenerational transmission, see e.g. Lyons, 1991; Hauser, 1997) has become a phenomenon which has been in continuous use in a number of intertwined dimensions, or more precisely, always in socially (e.g. ethnically, professionally) and geographically marked circumstances. This allows us to express the view that every single member of the genus *Homo sapiens sapiens* uses language both as a universal and distinctly genus-specific system of communication (where the term 'genus-specific' comprises, among others, the necessarily intertwined semiotic complexity of indexical, iconic and dominating symbolic parameters, see especially Liszka, 1996; Deacon, 1997, for a comprehensive analysis of these parameters).

Subsequently, a view is expressed here that natural language is a necessarily 'cohabitational-interactive' system of communication (proposition: 'a human communicating agent is by definition not alone and interacts with other human communicating agents'). This indicates that it represents the total synergy of the following constraints: ethnic constraints (proposition: 'a communicator belongs to a particular ethnicity and interacts with its members'), professional constraints (proposition: 'a communicator belongs to a particular professional group and interacts with its members') and geographic constraints (proposition: 'a communicator lives in a particular geographic region and interacts with all those individuals who inhabit that particular region'). These constraints, combined together, are known in linguistics as the 'relativity hypothesis' (better known as the 'Sapir-Whorf hypothesis', see e.g. Ottenheimer, 2009; Ahearn, 2012; Fedorak, 2014). They serve to specify the uniqueness of a particular natural language visa-vis other natural languages.

In other words, every human being, whether s/he wants it or not, cannot omit language in his/her existentiality and is, furthermore, characterized by what may be referred to here as the phenomenon of 'logoepithymia' (or the 'desire for language') as indeed the most distinctive indicator of humanness, and is totally immersed in language. This means that every human being 'resides' in language, and is, as a result, identified as a communicator by means of its unique species-specific and universal parameters which are always realized *in situ*, as it were, and in a variety of social appearances (i.e. public displays of all kinds) and social functions (see Hockett, 1963; Ottenheimer and Pine, 2018; Puppel, 2022).

Especially, the '*in situ* parameters' of a particular natural language make it rather difficult to learn by members of other communities which happen to be situated either in the geographical region(s) other than the region where members of a particular ethnicity reside, in distant (non-adjacent) ethnic environments or even in neighbouring (adjacent) ethnicities. Subsequently, we may postulate that in order to admit that one has a 'native command' of a particular natural language in its entirety, and is, therefore, capable of its native rendition, we must not forget that it is additionally characterized by what may be referred to as its 'depth'.

## 2. Language depth, first language acquisition and first language gifting

It is assumed here that 'language depth' is determined by the following elements: the human genus-specific (therefore, unique) universality of language as a means of communication, the subsequent universality of its constituents (ie. structure and functions), the entirety of the multi-agent communicators who use language as a means of communication, on the one hand. and by a whole volume of the ethnic parameters which exclusively belong to the particular ethnicity (irrespective of how big or how small it happens to be), on the other. It must immediately be added here that it is the ethnic parameters which in their overwhelming totality form a really serious obstacle to getting to know any natural language as an addition to the native (first) language. Therefore, the additional language can only occur as a second/foreign language. More precisely, the obstacle occurs if the latter language is positioned vis-a-vis another natural language in which case the second/foreign language can only undergo the process of learning. It is in this case that such a language is referred to as a language whose degree of depth cannot be equal to the primary and native (first) language. Subsequently, one may venture to emphasize that first language-second/foreign language inequality in terms of their respective depths is a fact which characterizes the acquisition-learning setup.

Furthermore, it is argued here that the notion of full 'language depth' (or, 'language in deep state'), especially in its oral/spoken manifestation, can only, as a rule, be attributed to the 'native' (first) language, or, simply, the language which has been installed in the particular communicator as a result of what has been referred to as a set of operations carried out within the domain of 'first language acquisition' and during the predominantly intergenerational transmission of the native (first) language (see e.g. Sullivan et al., 2021).

One may also approach first language acquisition as additionally referred to as 'first language gifting', that is, first language installation due to the process of the primary caretakers' (i.e. donors') unselfish supply of that language to the child (i.e. a donee beneficiary) in the form of gift giving (nb. the magnitude of research on first language acquisition has been most amply demonstrated in Puppel, 2001a; also Lust, 2006; Ambridge and Lieven 2011; Brooks and Kempe, 2014; Kennison, 2014; Levey, 2019).

It is assumed that the primary gifting character of first language installation in the child, especially in its spoken manifestation, is contained within the broad domain of 'gift culture', and more specifically, within what may be referred to as 'gift economy'. Within this perspective, the child's linguistic-communicative abilities are built and increased due to the caretakers' unselfish and immensely significant efforts in developing the child's ties (attachment) to the other communicators (in this case, the primary caretakers) as well as in developing the child's abilities to reciprocate linguistically in the most natural conditions of the small world of the family, and only later in a larger social milieu. Simply, the primary caretaker as Homo donans, no matter how expert and committed to first language gifting s/he happens to be, may be regarded as the primary and dominant 'first language officer' working solely within the confines of the gift paradigm (on 'gift economy' see e.g. the classic work on gifting by Mauss, 1954; also Cheal, 1988; Vaughan, 2006) and whose unselfish linguistic service to the child as a donee is very fortunately coupled with the child's natural (i.e. genetically determined) zest for delving into the process of first language acquisition. This happens during the sensitive and neurologically and cognitively critical period (on the critical/sensitive period in first language acquisition, see e.g. Curtiss, 1977; Puppel, 2001b; Hart and Risley, 2003).

It should also be borne in mind that decades of intense research have established beyond any doubt that the process of native language acquisition is, first and foremost, determined by human biology, in particular by the human brain, owing to the degree of its species-determined complexity (see e.g. the classic accounts by Lenneberg, 1967; and Lenneberg and Lenneberg, 1975; also Houston, 1972, and a summative account in Schnelle, 2010). First language acquisition process (including, most importantly, first language gifting) should, therefore, be most naturally opposed to the process of second language learning in which fully planned and appropriately professional procedural steps (or 'strategies') are at the core of the process (see e.g. Cook. 2016). Simply, the most natural institution of *Homo donans* of the gift paradigm is later on replaced by the institution of *Homo docens* within the 'formal social contract paradigm', or the paradigm in which language acquisition is smoothly passed over to fully licensed language officers/instructors who organize formal language learning at the school level (both primary and secondary) as a formal educational institution (which we may collectively refer to as the 'schooling environment').

Besides, it needs to be emphasized that the growing human brain works in liaison with the various strains of social pressure exerted on the infant/child at the outset and further course of the process of first language acquisition, in fact fortified by and executed via the afore mentioned 'first language gifting'. That is why such traditional notions as 'mother tongue' or 'Muttersprache' obtain their full justification. Those two notions, very much in use as fully justified linguistic terms (see e.g. Kouritzin, 2000; Skutnabb-Kangas, 2000) are those notions which are profoundly involved in emphasizing the primary caretakers' efforts, usually accompanied by the entourage of all the other members of the family (such as siblings, grandparents, other relatives), in a more or less steady and unselfish involvement in the process of gifting the native (first) language to the child. The coupling of the uniquely human proclivity of the brain for language with the various social pressures which the child happens to receive in situ (or is 'pounded with' collectively by the direct social environment and necessarily within the gift paradigm), therefore, results in what one may refer to as the generation of the otherwise highly elusive (and, therefore, highly intractable) phenomenon of 'native flavour' which is added automatically to the first language, both in the course of its acquisition and in its further use.

# **3.** First language 'depth' necessarily has 'native flavour', and its fully oral/spoken parameters most naturally and firmly remain outside the reach of second/foreign language learners

The confrontation of the native (first) language with other languages, that is any language which is placed vis-vis the native one (where the 'other' language has been traditionally branded 'second/foreign' language), if it is selected to become familiar to anyone who wishes to know it, can only proceed by the process of 'learning' (or more precisely, second/foreign language learning, as briefly defined above). That is, such a language, which is provided to the learner by a more or less fully licensed 'formal language officer/instructor' or a group/network of 'formal language officers' operating within the formal social contract and schooling environment, is most clearly and naturally deprived of the privilege of being immersed in the native flavour. It is, therefore, also quite naturally deprived of ever gaining complete depth, or ever being placed in deep state, as is the case with every native (first) language acquisition. Simply, a second/foreign language is placed in 'language in shallow state' and remains there in later use, obviously including the inevitable processes of second/foreign language attrition, especially "once the period of formal instruction is over" (Schöpper-Grabe, 1998: 231; on second language attrition, see e.g. De Bot and Weltens, 1995; Schmid, 2006; Köpke et all, 2007).

It needs to be emphasized here again that, as regards the most important expedient of native (first) language, that is, its oral/spoken manifestation, if a natural (first) language is acquired, it becomes simultaneously immersed in 'native language flavour' (or, it necessarily becomes 'embammic', that is, it is suspended in the most natural embammic (or non-linguistic) dimension, from the Greek word *embamma*, indicating 'sauce, suspension'), that is, it is supplied to the child in the entirety of its various embammic parameters. The latter constitute an intricate mosaic supplied to the child in the process of native (first) language acquisition in his/her journey through the early years (most importantly, during the first three years of life, see Hart and Risley, 2003). These parameters comprise, among others, the following ones:

- the overall physical and mental quality of the native language acquirer (donee),
- the presence of the primary caretaker(s) (donors),
- the primary caretakers' overall physical and intellectual fitness,
- the number of other offspring (siblings) in the first language acquirer's direct vicinity, their overall physical and mental quality, as well as the presence and intensity of contact,
- the degree of the primary caretakers' overall monitoring of the child's first language productions (e.g. sensitivity of the primary caretakers to the child's degree of language skill performance and language skill expression in their overall linguistic-communicative behaviour, as indicated by the frequency of the caretakers' corrective intrusions into the child's language productions),
- quality of first language input supplied by the primary and secondary caretakers (involving the caretakers' awareness of the quality of first language supply which has been referred to as 'first language gifting') to the child,
- intensity of first language supply (gifting) by the first caretakers to the child,
- presence and intensity of physical contact (physical attachment) between the primary/secondary caretakers and the child in the course of the child's development of his/her interactivity potential (i.e. showing the primary and secondary caretakers' affection to the child, e.g. by way of using such affectionate behaviours as: smiling, hugging, kissing, hand-holding, tickling, caressing, singing lullabies, especially using nursery rhymes, see e.g. Kenney, 2005; Gauthier and Lejeune, 2008; Schön et al., 2008;

Smith, 2010; Gűneş and Gűneş, 2012; Music, 2016; Mullen, 2017; Sabey et al., 2018),

- the socio-economic status of the family,
- intensity of first language supply by secondary caretakers to the child,
- the presence and overall quality of various other 'first language paraphernalia', or elements of physical imminence (see e.g. the 'presumption of imminence' as defined by Hatab (2020: 11): "immediate reality is life in the midst of a world of perceptible things") such as, among others, the overall spatial characteristics, including the dwelling conditions, quality of food supplies, lighting, shape of surrounding furniture, but also scents and odours in first language acquisition (see e.g. Boesveldt and Parma, 20210, etc., in the child's overall exposure to the general technology of social interaction in the native (first) language gifting scenario,
- the final outcome of the afore discussed embammic parameters in the form of either initial rich first language potential oversus initial empoverished first language potential with which the child enters the formal native (first) language instruction process in the framework of the formal social contract paradigm (i.e. by being placed in the schooling environment).

Taken together, the above mentioned set of parameters constitutes what may be called 'the deep native language immersion matrix', which, further, contributes significantly to the afore mentioned 'embammic' native (first) language acquisition. The latter supplies the child with the early-established native/first language 'key performance indicators', thus providing the child with the benefit of 'nativeness', or native access to language as a means of efficient, successful and comfortable oral communication.

Apart from the cumulative presence of the afore mentioned parameters in first language acquisition, one should also agree with the fact that there occurs an equally universal phenomenon of language learnability (proposition: 'all natural languages are learnable', see e.g. Pinker, 1979, 1984; 1995), although with differing and individual-centred degrees of effectiveness. This allows one to set forth the following important statement: there has always existed a dichotomy in the oral/spoken order of communication, though not clearly articulated: '(deep) native (first) language' versus '(more or less shallow) second/foreign language'. It is, therefore, quite natural to advocate a view according to which in the domain of the native (first) language, the immune (i.e. deep and irremovable) self of the native communicator is established. It is in this particular domain that overall native/first language communicative success, which comprises both he embammic and structural elements, is attained.

The above dichotomy seems both naturally unavoidable and naturally quite impenetrable (intractable) owing to its fuzzy character. It is, therefore, indeed difficult to define in precise terms, although a particular individual communicator may (and in many cases, does) succeed in familiarizing the foreign language in some selected dimensions (or indicators, for example, as regards the structure and functions of the afore mentioned native language immersion matrix), thus gaining some degree of 'nativeness' which is most easily observed and which is also expected as one of the goals of second/foreign language instruction. This type of naturally occurring incomplete knowledge of a second/foreign language may, therefore, be called 'proximate familiarity', as opposed to 'complete familiarity' which characterizes the native (first) language user.

## 4. Some conclusions

A set of conclusions may be afforded here. They are as follows:

- (a) Native (first) language acquisition is a complex process of the acquisition of the formal (structural and functional) parameters of oral/spoken language coupled with the equally important acquisition of its depth. This combined task is accomplished by following a 'deep path', that is, by way of a natural process of orchestrating (or tightly integrating) the formal and the 'embammic' parameters of the native (first) language. In this way, every native (first) language not only obtains its elusive and irremovable 'embammic seal' within the native language immersion matrix which not only contributes to the early benefit of access to language as a means of communication, but is also reflected in further native use in the oral order of communication. The embammic aspects which are present in any native (first) language obviously are decisive for its non-decomposability through the life span of every single communicator.
- (b) Second/foreign language learning expectedly focuses on the learning of a second/foreign language formal setup (structural and functional) within the formal social contract paradigm and with a radically decreased involvement (if any) of the learner in the deep 'embammic' dimensions which are most naturally assigned to a particular natural language. Therefore, only partial success as regards the immersion of a second/foreign language learner in this language can be achieved.
- (c) Since the learning of a second/foreign language most clearly follows the 'shallow path', the embammic seal is visibly lacking in it. As a result, it is postulated that second/foreign language can be characterized by the learner's only partial/proximal familiarity with the entirety of the native (first) language. This happens irrespective of whether it is the result of a more or less rich and varied formal supply of a second/foreign language to a particular learner (ar a group of learners) by a licensed and fully professional second/foreign language officer/instructor (or a group of instructors) or due to the presence, duration and intensity of some other factors in second/foreign language learning (e.g. predictably incomplete self-instruction, formal business contacts,

informal peer contacts, etc.). Due to the lack of the embammic dimension in the formal social contract paradigm, any second/foreign language is assumed to be more easily decomposable in a second/foreign language user vis-a-vis the native (first) language use. This is especially visible in the domain of the oral order of communication, with L2 learner emphasis on intelligibility and comprehensibility, rather than on native-like renditions of the L1 phonetic material (see e.g. Wang, 2020).

- (d) As briefly explained above, it is assumed that the deep embammic dimension within which the native (first) language is most naturally acquired allows one to place any natural (first) language firmly in the deep state perspective (language in deep state). In this way, the language in deep state perspective must be clearly distinguished from the shallow non-embammic second/foreign language learning perspective. The latter most distinctly places such a language in shallow state (or language in shallow state).
- (e) Last but not least. the discussion presented therein allows one to postulate the following general typology as regards the presence of the embammic dimension in which any natural language is encapsulated: native (first) language is both an acquirable, deep embammic and non-decomposable language. In this type of language, immune self (with our body image and body schema being the essential components of body integrity) of the comunicator is firmly established. This type of language is opposed to other natural languages which are both learnable, non-embammic (i.e. shallow), decomposable second/foreign language(s), maintained and used basically for the combined purpose of functional intelligibility and comprehensibility. As such, all second languages are, additionally, subject to various (habitual and expected) attrition processes.

## Bibliography

- Ahearn, L. M. (2017). Living language: An introduction to linguistic anthropology (2nd ed.). Malden, MA: Wiley.
- Ambridge, B., & Lieven, E. V. (2011). Child language acquisition: Contrasting theoretical approaches. Cambridge: Cambridge University Press.
- Boesveldt, S., & Parma, V. (2021). The importance of the olfactory system in human well-being, through nutrition and social behavior. *Cell and Tissue Research*. https://doi.org/10.1007/ s00441-020-03367-7
- Brooks, P. J., & Kempe, V. (Eds.). (2014). *Encyclopedia of language development*. London: SAGE Publications.
- Cheal, D. (1988). The gift economy. London: Routledge.
- Cook, V. (2016). Second language learning and language teaching (5th ed.). New York: Routledge.
- Crutzen, P. J. (2002). Geology of mankind. Nature, 415(6867), 23. https://doi.org/10.1038/415023a
- Crutzen, P. J. (2006). The 'Anthropocene'. In E. Ehlers & T. Krafft (Eds.), *Earth system science in the Anthropocene* (pp. 24–29). Berlin: Springer-Verlag.
- Curtiss, S. (1977). *Genie: A psycholinguistic study of a modern-day "wild" child*. New York: Academic Press.

- Deacon, T. (1997). *The symbolic species: The co-evolution of language and the human brain*. New York: W. W. Norton.
- De Bot, K., & Weltens, B. (1995). Foreign language attrition. Annual Review of Applied Linguistics, 15, 151–164. https://doi.org/10.1017/S0267190500002654
- Delson, E., Tattersall, I., Van Couvering, J., & Brooks, A. S. (Eds.). (1999). Encyclopedia of human evolution and prehistory. London and New York: Routledge.

Fedorak, S.A. (2014). Global issues: A cross-cultural perspective. Toronto: University of Toronto Press.

- Fitch, W. T. (2010). The evolution of language. Cambridge: Cambridge University Press.
- Gauthier, J. M., & Lejeune, C. (2008). Nursery rhymes and their usefulness in the child's development. *Neuropsychiatrie de l'Enfance et de l'Adolescence*, 56, 413–421. https://doi.org/10.1016/j.neurenf.2008.03.002
- Güneş, H., & Güneş, N. (2012). The effects of lullabies on children. International Journal of Business and Social Science, 3(7), 316–321.
- Hart, B., & Risley, T. R. (2003). The early catastrophe: The 30 million word gap by age 3. *American Educator*, 27(1), 4–9.
- Hatab, L. J. (2020). *Proto-phenomenology, language acquisition, orality, and literacy*. London: Rowman & Littlefield International.
- Hauser, M. D. (1997). The evolution of communication. Cambridge, MA: The MIT Press.
- Hauser, M. D., Yang, C., Berwick, R. C., Tattersall, I., Ryan, M. J., Watumull, J., Chomsky, N., & Lewontin, R. C. (2014). The mystery of language evolution. *Frontiers in Psychology*, 5, Article 401. https://doi.org/10.3389/fpsyg.2014.00401
- Hockett, C. F. (1963). The problem of universals in language. In J. H. Greenberg (Ed.), Universals of language (pp. 1–22). Cambridge, MA: The MIT Press.
- Houston, S. H. (1972). The biological basis of language. In *A survey of psycholinguistics* (pp. 172–183). The Hague: Mouton.
- Jones, S., Martin, R. D., Pilbeam, D. R., & Bunney, S. (Eds.). (1994). The Cambridge encyclopedia of human evolution. Cambridge: Cambridge University Press.
- Kenney, S. (2005). Nursery rhymes: Foundation for learning. General Music Today, 19, 28–31. https://doi.org/10.1177/10483713050190020106
- Kennison, S. M. (2014). Introduction to language development. London: SAGE Publications.
- Kouritzin, S. G. (2000). A mother's tongue. *TESOL Quarterly*, 34(2), 311–324. https://doi. org/10.2307/3587953
- Köpke, B., Schmid, M. S., Keijzer, M., & Dostert, S. (Eds.). (2007). Language attrition: Theoretical perspectives. Amsterdam: John Benjamins.
- Krashen, S. (1981). Second language acquisition and second language learning. Oxford: Pergamon Press.
- Krashen, S. (1982). Principles and practice in second language acquisition. Oxford: Pergamon Press.
- Lenneberg, E. H. (1967). Biological foundations of language. New York: Wiley.
- Lenneberg, E. H., & Lenneberg, E. (1975). Foundations of language development: A multidisciplinary approach. New York: Academic Press.
- Levey, S. (2019). Introduction to language development. San Diego, CA: Plural Publishing.
- Liszka, J. J. (1996). A general introduction to the semiotics of Charles S. Peirce. Bloomington: Indiana University Press.
- Lyons, J. (1991). Natural language and universal grammar. Cambridge: Cambridge University Press.
- Lust, B. C. (2006). Child language: Acquisition and growth. Cambridge: Cambridge University Press.

- Mauss, M. (2002). *The gift: The form and reason for exchange in archaic societies* (Original work published 1954). London: Routledge.
- Mullen, G. (2017). More than words: Using nursery rhymes and songs to support domains of child development. *Journal of Childhood Studies*, 42(2), 42–53. https://doi.org/10.18357/jcs. v42i2.17890
- Music, G. (2016). *Nurturing natures: Attachment and children's emotional, sociocultural, and brain development* (2nd ed.). London and New York: Routledge.
- Ottenheimer, H. J. (2009). *The anthropology of language: An introduction to linguistic anthropology* (3rd ed.). Belmont, CA: Wadsworth.
- Ottenheimer, H. J., & Pine, J. M. S. (2018). *The anthropology of language: An introduction to linguistic anthropology* (4th ed.). Belmont, CA: Wadsworth Cengage Learning.
- Pinker, S. (1979). Formal models of language learning. *Cognition*, 7, 217–283. https://doi. org/10.1016/0010-0277(79)90003-9
- Pinker, S. (1996). Language learnability and language development (Original work published 1984). Cambridge, MA: Harvard University Press.
- Pinker, S. (1995). Language acquisition. In L. R. Gleitman, M. Liberman, & D. N. Osherson (Eds.), An invitation to cognitive science. Vol. 1: Language (pp. 135–182). Cambridge, MA: The MIT Press.
- Puppel, S. (2001a). A bibliography of writings on the acquisition of first language. Poznań: Wydawnictwo Naukowe UAM.
- Puppel, S. (2001b). A concise guide to psycholinguistics. Poznań: Wydawnictwo Poznańskie.
- Puppel, S. (2022). Habent sua fata linguae (czyli szkic o tym, że wszyscy mamy język, że "mieszkamy w nim" i co się z nim dzieje). Scripta de Communicatione Posnaniensi. Prace Naukowe Zakładu Ekolingwistyki i Komunikologii UAM. Poznań: UAM.
- Rose, D. (2006). A systematic functional approach to language evolution. Cambridge Archaeological Journal, 16, 73–96. https://doi.org/10.1017/S0959774306000058
- Sabey, A. K., Rauer, A. J., Haselschwerdt, M. I., & Volling, B. (2018). Beyond "lots of hugs and kisses": Expressions of parental love from parents and their young children in two-parent, financially stable families. *Family Process*, 57(3), 737–751. https://doi.org/10.1111/famp.12392
- Schnelle, H. (2010). Language in the brain. Cambridge: Cambridge University Press.
- Schmid, M. S. (2006). Second language attrition. In K. Brown (Ed.), *The encyclopedia of language and linguistics* (Vol. 11, pp. 74–81). Amsterdam: Elsevier.
- Schön, D., Boyer, M., Morena, S., Besson, M., Peretz, I., & Kolinsky, R. (2008). Songs as an aid for language acquisition. *Cognition*, 106(2), 975–983. https://doi.org/10.1016/j.cognition.2007.03.005
- Schöpper-Grabe, S. (1998). Use it or lose it? Zum Phänomen der foreign language attrition. Zeitschrift für Fremdsprachenforschung, 9(2), 231–263.
- Skutnabb-Kangas, T. (2000). Linguistic genocide or worldwide diversity and human rights. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Smith, M. (2010). Good parenting: making a difference. *Early Human Development*, 86(11), 689–693. https://doi.org/10.1016/j.earlhumdev.2010.08.005
- Sullivan, A., Moulton, V., & Fitzsimons, E. (2021). The intergenerational transmission of language skill. *British Journal of Sociology*, 72(2), 1–26. https://doi.org/10.1111/1468-4446.12818
- Tallerman, M., & Gibson, K. R. (Eds.). (2012). The Oxford handbook of language evolution. Oxford: Oxford University Press.
- Vaneechoutte, M. (2014). The origin of articulate language revisited: the potential of a semi-aquatic past of human ancestors to explain the origin of human musicality and articulate language. *Human Evolution*, 29(1-3), 1–33. https://doi.org/10.1007/s11598-014-0102-1

Vaughan, G. (2006). Homo donans: for a maternal economy. Austin, TX: Anomaly Press.

- Wang, X. (2020). L2 speech learning: perception, production and training. *Cadernos de Linguistica, 1*(1), 1–20. https://doi.org/10.25189/2675-4916.2020.v1.n1.id268
- Wood, B. (Ed.). (2011). *Wiley-Blackwell encyclopedia of human evolution* (2 vols.). Hoboken, N.J.: John Wiley and Sons.