Baby Talk in Greek[1]

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1. Introduction.

Baby talk may be broadly defined as that form of speech, culture for culture, considered appropriate in talking to very young children. But adult intuitions as to what is to count as 'appropriate' seem to vary over a very wide spectrum of possibilities, some extreme varieties of which I now consider under appropriate mottos.

1.1. "Treat children as if they were adults learning a second language."

An example of this attitude is the slowed and over-careful pronunciation seen in Hidatsa 'Mother language' (Voegelin, 1954). The blocking of fast and even normal-speed speech processes in such a case is of course important evidence concerning the accessibility, i.e., the psychological reality of those processes.[2]

1.2. "Speak as though you were also a child."

An examination of this extreme interpretation is suggestive in another way: Kelkar's (1964) 'generative protocol' for Marathi baby talk shows us the operation of a codified set of adult intuitions concerning child-language processes of simplification (see Section 2.3 below).

1.3. Formally, I include the possibility converse to the above, viz., "Speak as though the child were in fact a perfectly comprehending adult." So far as content and complexity of sentences is concerned, this is of course impractical: and though many parents (and even perhaps cultures) consciously avoid the use of markedly 'child-like' forms of speech, at least so far as vocabulary items and syntax are concerned, it is also probably the case that every language possesses one or other linguistic mechanism corresponding to the special relation between protector/nurturer and protected/nurturant.

1.4. For Greek, as perhaps for most languages, (Cf. Comanche, in Casagrande 1948; Arabic and Spanish, in Ferguson, 1956, 1964; Gilyak, in Austerlitz 1956), a fourth, and mixed situation in fact obtains--namely the use of (1) suprasegmentals, i.e., special intonations, etc., (2) carressive suffixes (I.b below),

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and (3) a special set of lexical items. These last may be
utilized either as one-word sentences (the child's only
contribution for the earliest stage), or embedded in sentences
of the type "Do you want some water?", or "Let's go for a walk"
(the parent's code-switching contribution".[3]

I confine myself here to the lexical items themselves,[4]
whose semantic content ranges quite narrowly over the terms
for kin, parts of the body[5], food, clothing, etc., most crucially
including hypocoristics (carressive forms of first names (I.c.
below)), and whose sources may be taxonomized (I.d below). However,
for exegetical purposes, I shall distinguish between hypocoristics
(hereafter, hypo-forms) and the rest (hereafter, bt-forms).

I. Elements of Greek Baby-Talk
    (a) Suprasegmentals
    (b) Hypocoristic suffixes.

          1. -áki; makes non-Human Nouns → Neuter Diminutive/Affective.
                  [o kóstas : i kostákis : : o skílos : to skiláki].

          2. -úla; makes Animate Nouns → Feminine Affective.
                  [o kóstas : i kostúla : : i ána : i anúla.]

          3. -ítsa; makes Animate Feminine Nouns → Affective.
                  [i eléni : i elenítsa].

    (c) Semantic content of Greek Baby-Talk (sporadic occurrences
         bracketed).

          1. Kin: mummy, daddy, granny, baby, baptizer (brother,
              sister).
          2. Body: breast/teat, sex organ, backside.
          3. Body-functions: urinate, defecate, sleep, walk, kiss,
              eat, bite, hurt, hit, pick up (sit, fall, carress,
              cut, bathe).
          4. Food: food, bread, water, sweet thing, egg, meat.
          5. Clothes: dress, shoes.
          6. Animals: horse, dog, cat, hen, bird (sheep, cow).
          7. Adjectives: hot, all gone (dirty).
          8. Names: hypocoristics [i.e., shortened, and/or suffixed.]
          9. Misc.: car, train, peek-a-boo (toy, doll, fire,
              bogey, 'bye).

    (d) Taxonomy of Baby-Talk sources.

          1. Forms related to and derivable from a corresponding
              (fuller) adult form: papá < papútsia 'shoes';
              kokó < avgó 'egg'; kokó < yilikó 'sweet'.
          2. Adult forms 'transferred' in meaning (including taboo-
              replacements: puláki 'female sex organ' (= 'little bird').

3. Forms apparently onomatopoetic, usually reduplicating morphemes: γὰν-γάv 'bow-wow'; t^si̧ù-t^si̧ú 'tweet-tweet'.

4. Forms resembling so-called 'international' bt-words, usually reduplicating syllables: mamá 'mammy'; babás 'daddy'.

5. Forms representing loans,[6] often widely diffused: náni 'sleep'; bwa 'drink'; pápa 'bread'.

6. Other forms of unknown source: t^sísa 'urinate'; d^ziz 'hot'; máki̧a 'kiss'.

It is with the phonological analysis of the whole set of lexical items that this paper is mainly concerned. Using Greek data,[7] I shall attempt in a principled way to disentangle three elements involved in the transmission of baby-talk words from generation to generation: namely (1) 'blurred childhood memory'--that is, intuitions about child language somehow surviving in the adult; (2) 'Substrate' pressure, i.e., the influence of the adult's language; and, (3) Stereotyped and culture-given adult notions about children's language capabilities.

2. Phonological-Strata in bt forms.

2.1. Blurred childhood memory.

2.1.1. Putative universals of bt-shapes.

In "Why mamma and papa?", Jakobson (1960) outlined some typological predictions concerning the shape of baby-talk words. Let me survey the Greek forms from his criteria, which constitute my five 'universals of baby-talk'. For each universal, I give (only) the exceptions occurring in Greek.

II. (a) CV syllables predominate--
   but Standard (St.) Greek also has: am 'eat'; mam 'bread'; áta 'walk'; ópa 'pick up'; babás 'daddy'. Cypriot has: áγa 'granny'; uv·á 'pain'; áγ·u 'carress'.

(b) Clusters absent--
   but St. Greek also has: stráta 'walk'; psìpsí 'cat'; plìt^s-plát^s 'bathe'. Cypriot has: steté 'granny'; brúa 'water'.

(c) All CVCV are sequences of identical syllables--
   but St. Greek also has: bébis/béba 'baby'; náni 'sleep'; t^sísa 'urinate'. Arta has: vávu 'granny'.

(d) Labial and dental stops and nasals dominate--
   but St. Greek also has:
   (1) kaká 'defecation'; kokó 'sweet thing'; kaká 'hen cackling'; mákia 'kiss'; nanáki̧a 'sleep'.

(2) tˢísa 'urinate'; tˢitˢí 'meat'; dᶻiz 'hot';
(3) vavá 'hurt'; γàv-γáv 'dog'
and Cypriot also has: čil·ín 'tummy'; pis·á
'urine'; píči-píči 'bath'; túču 'sit'; kíxi 'cut';
áγ·u 'carress'; ax·á 'dirty'; úf·u 'food'.

(e) Vowels assimilate to preceding consonants (Labial/Velar
consonants take back vowels, Dental/Palatal consonants
take front vowels)--
but St. Greek also has:
bébis 'baby'; memé 'breast'; nonós 'baptizer'; pipí
'dress'; (be)bé 'sheep'; and dᶻa 'peek-a-boo'.
Cypriot also has: túču 'sit'; učá 'peek-a-boo'; kíxi
'cut'; píči-píči 'bath'; us·í 'horse'.

2.1.2. Explanatory-theory--from variants.

Now it might be insisted that Jakobson was concerned with
statistical dominance rather than absolute universality. Still, the
fair number of exceptions to his dicta which the data presents were
perhaps better explained than dismissed as a statistical minority.

An attempt at an explanation might well begin with the
examination of the forms for which there are variants within even
single idiolects, and in particular those variants which are
apparently related by something I will call 'degree of complexity'.
III gives these latter forms, where 'degree of complexity' is
assumed to correspond to the notion that one (on the right) may be
derived from the other (on the left).

III. 'Derived' variants.

(a)	papútˢia	→	papá			'shoes'
	γlikó	→	kokó			'sweet'
	avγó	→	kokó			'egg'
(b)	stráta	→	táta	→	áta	'walk'
	dedéni	→	déni	→	de	'horse'
	pápala	→	pápa	→	pa	'all gone'
	nanákia	→	náni			'sleep'
	mákia	→	ma			'kiss'
(c)	dadá	? →	da			'hit'
	vavá	? →	va			'pain'
	γàv-γáv	? →	waụ			'dog'

Under a, 'shoes' shows syllable loss, while 'sweet' and 'egg'
show cluster reduction and consonant harmony and reduplication
respectively. Under b, a steady attrition of unstressed syllables
is seen.[8] The forms under c might (though I doubt it) have to do
with replication of an original monosyllable [Cf. data in Roussey
(1899) for French] rather than an original disyllable. Waụ 'bow-wow',

finally, may be a separate etymon from γὰv-γάv.

2.1.3. Extension to all bt-forms.

The fact that child language processes apparently connect these forms suggests that the shorter forms result from the operation of processes on the longer ones, and are thus to be looked upon as filter-products of the latter. We may then attempt to extend this notion to bt-forms in general, by assuming a source [X] for any form of unknown origin and asking, of the output shape, what filter processes might have operated to produce it from [X].

IV shows the types of filter process involved:

IV. 1. Losses of unstressed syllables.
2. Consonant degradation--a matter of strength and place: a 'strong' consonant is preferred, Lab/Dent articulations are preferred.
3. Vowel strength: sonorance and color are preferred.
4. Clusters: the stronger of two consonant types is preferred, the weaker being assimilated or eliminated.[9]
5. Trans-syllabic assimilations (inertial or anticipatory), give vowel or consonant harmony.

In V below I give, as Stage I (reading from the left of the chart) the results of the operation of the full train of filter processes, describing in the second column the surface shapes allowed. In the following stages (reading down the chart), I describe the successive limitations and blocking of processes, again in terms of the outputs they permit. Thus I have distributed the Greek bt-forms as though they were the outputs for a fairly small number of successive stages (roughly as in I-IV) in the maturation of the child's systematic pronunciation ability. It will be noticed that the unusual question implicit here is: "At what stage (not to be equated with age) can a given form be pronounced, taking account of its total make up, rather than dealing with segments individually?". It is I think a question relevant for language-development stages (as here) when distant-assimilation processes are still common, and often bleed regular substitution processes, as I shall illustrate (2.1.4. below).

V. Bt-forms as supposed outputs of 'process-filters'.

Stage	Developments	Athenian
I	CV ($C_I V_I$) C= Stop, N. V= [a], or allophonic to Lab. or Dent.	ma, ba, pa, ta, d^{z}a, da, de mamá, papá, popó, pápa dedé, d^{z}id^{z}í, niní, dadá tatá.
II	VC(V), CV(N), CVCVC V$_2$ may break harmony. Final s/n.[10]	am, mam, ham kaká, kukú, kokó, pipí, bebé~be, memé, tutú, náni, mána, babás, papús, monós, bébis~béba, d^{z}iz, yayá, áta, ópa.
III	Spirants in all positions C$_2$ may break harmony simple trisyllabics	fu, va~vavá, t^{s}isa, γàv~γáv puláki, pápala, mákị̂a. dedḗni, nanákị̂a.
IV	Some initial clusters	blùm-blúm, plìt^s-plát^s, psì-psí, stráta

2.1.4. Application to hypocoristics.

The semi-abstract appearance of this analysis of bt-forms seems fairly justified when we turn to the shapes of hypo-forms, which are found to correspond to an analogous sequence of developmental stages (VI below).

But instead of the meagre number of bt-variants, we now face a remarkable abundance of hypo-variants. This is partly due to the fact that the full forms of Greek names are mostly polysyllabic [a sample of some 70 names I used, one tenth = disyllabic, one fifth tri-syllabic, leaving seventy-percent tetrasyllabic], so that the more 'stages' are involved for each name. But it is also due to fairly free stress-shifts,[11] each shift of course affecting the vulnerability of particular syllables and segments to degradation and loss.

For present purposes, compare simply No. 4--δímos vs. mítsos, for δimítrios; No. 10 pérso vs. fóni for persefóni. VI shows some of the variants for eleven sample forms, stage by stage as before. For typical degradation processes consider:

1. syll losses--No. 1 - afroδíti--títi
2. For stops from spirants--No. 3 - γórγos--dódos
3. Clusters--No. i.--δéspina, dépo; 4. dimítrios, mít^{s}os.

Most interesting, perhaps, is the intervention of a vowel and consonant harmony, bleeding normal degradation processes. Observe these processes, e.g., in No. 1 afroδíti gives fríδo: the derivation must be afroδíti - afriδíti by harmony then stress shift (afríδiti); only then may syllable loss and suffix switch occur! For the consonants, consider No. 4 δimítrios. If stress shift occurs we ought to get δímis for an early stage: but at such a stage the initial delta is weak, and medial m is not achievable except after vowels, h, or another nasal: both problems are solved by nasal harmony, giving mímis.

VI. Hypocoristic forms as supposed outputs of 'process-filters'.

	Stage I	Stage II	Stage III	Stage IV	Adult form
1	títi	díti	fífi, δíti	afró, fríti, afríti, fríδo	afroδíti
2	níni	tóto	éfi, fofó	fróso, frosíni	efrosíni
3		dódos, lólos, gógos	γátsis, γóγos γólios	γóris	γóryos
4		mímis, tákis	δímos, mítsos mítlis		δimítrios
5		téti, néno, ténis	δímos	sténis, mosténis	δimosθénis
6		kókos, níno	kótias, dínos	kósta, kandís, kotandís	kostandínos
7		táti, nóta, dóta nótis, pána, pános	γótu, panáγos		panaγótis
8		pipína, pípi, pépi, dépi, γépo	δépo, δéspo	zéspina, péspina	δéspina
9		nína, tína, lína, niníka	katína	terína, rína, rinúla	katerína
10		nóni	fofó, fóni sifón'	pérsa, persón'	persefóni
11			viví, tseví palása, sioví	paráskis, skeví	paraskeví

The distribution of forms over the above stages supports the notion that both bt- and hypo-shapes correspond to (overlapping) ranges of stages in child language acquisition rather than to the single (and

very early) stage that Jakobson's criteria seem to define. I have thus not only explained why there are so many exceptions to those criteria, but have also given some substance to the notion 'blurred child-language memory in adults.'

2.2. "Substratum" influence.

If it were the case that bt-forms showed only the influence of child language processes, then they would probably be of the same difficulty the world over, insofar as their shapes everywhere seem to reflect very early processes. They should show very great similarity of form, and thus of degree of 'difficulty'.

In this light, consider the bt-forms for two dialects of Greek quite different from Athenian—those of Cyprus and Arcarnania.

2.2.1. Cypriot.

So far as Cypriot is concerned (VII below) there seems to be more difficulty than for St. Greek. The forms cluster strongly over stages II-III as against I-II for St. Greek (cf. V). This shift is in part attributable to the trend to closed syllables, both final and (by gemination) medially, and in part to the occurrence of palatal consonants. But these three features are in fact characteristics of the adult dialect of Cyprus and distinguish it from St. Greek.

It thus appears that some of the content and shape of bt-forms must be attributed to the influence of the adult language substratum. This substratum, I suggest, in fact controls what I will call the "threshold" of the filter-function which I characterized (with Kelkar) as 'blurred childhood memory'. The threshold varies from dialect to dialect, as I have shown for Greek, and even more obviously from language to language [e.g. where Athenian bt-forms sweep the stages I-II and Cypriot the stages II-III, the Gilyak forms (Austerlitz 1956) seem to cover stages III-IV.] This reflects the fact that adult intuitions of 'ease of pronunciation' are grounded in the complexity of the substratum.[12]

VII. Bt-forms as supposed outputs of 'process-filters'.

Stage	Developments	Cypriot
I	CV ($C_I V_I$) C= Stop, N. V= [a], or allophonic to Lab. or Dent.	m.a., mám·a, mam·á~mám·a, niní, tét·e.
II	VC(V), CV(N), CVCVC V_2 may break harmony. Final s/n.	kaká, kaká~kak·á, kok·ó, kaụ, be, púa, náni, papú, papás, tatás, pop·ón, t^{s}it^s·ín, áγa~aγá, áta~át·a, óp·a, ám·u, ám·a.
III	Spirants in all positions. C_2 may break harmony. Simple trisyllabics	fu, úf·u~uf·ú, uv·á, vaụ, γalín, put^s·ín, pis·ín mis·ín, ax·á, ax·á, pis·á, us·í, ucá, pĭci-pĭci, pul·ín, pul·ú, páp·al·a, papal·ís, min·á, mákịa, óp·ala, kol·ín.
IV	Some initial clusters	brúa, steté, stráta.

2.2.2. Acarnanian.

For my second example (see VIII below) I take the stressing
of bt-forms. In Greek, stress alternations are common, the two
most important causes being the trisyllabic rule and the stress-
attraction rule.

(1) Tri-syllabic rule: simply put, stress may not (for most
dialects) lie further back than the third syllable from the end
of the phonological word. Thus Nom. Sg. 'name' = ónoma
but Nom. Pl. (as in 'I gave the name') ta onómata (and not ta
ónomata).

(2) Stress-attraction: certain suffixes such as Genitive sing.
-u behave as stress-attractants--o ánθropos, tu anθrópu ('the
men, of the men').

A threefold situation has evolved in this respect. At the
one extreme, the adjective has everywhere in Greek adopted rizotonic
stress, which may contradict the stress-attraction rule.[13] At the
other extreme stands the verb, which for a few dialects has adopted
rizotonic stress. Importantly, Acarnanian is among these: we
find for St. Greek érxome: erxómaste 'I'm coming, we're coming', cf.
Acarnanian érxome: érxomaste.

But the noun stands between: to different degrees, both dialects and idiolects begin to show stress leveling here too, so that we find beside Acc. Pl. tus anthrópus, also (optional) tus ánthropus.

It is thus of interest that in Acarnanian, with obligatory rizotonic stress for both the Adjective and the verb, all the disyllabic bt-forms (though not the hypo-forms) are stressed on the first syllable. It is as though they were interpreted as containing a stem to be stressed (the first syllable), and a suffix (the second syllable): and in fact they strongly resemble disyllabic imperatives (cf. Cypriot ax·á: áx·a, fn. 3).

Stress retraction (and stabilization?) thus seems under the influence of the dialect, just as the overall 'threshold of difficulty' proved to be. It may be that bt-forms, as a marginal system within language, are especially sensitive to the trend of the adult language. In such an interpretation, they here constitute an 'advance guard' Noun sub-system showing stress leveling by retraction.[14]

VIII. Acarnanian stress-shift (relevant variants only, for Athens).

Gloss	Athens	Acarn.	Gloss	Athens	Acarn.
mummy	mána	mána	horse	dedé	dédi
daddy	babás	tátas	pick up	ópa	ápa
granny	yayá	váva	egg	kokó	kóko
baby	béba~bébis	bébe	sweet	kokó	kóko
sister	aδelfí	yáya	defecate	kaká	káka
brother	aδelfós	lólos	shoes	papá	pápa
meat	t^{s}it^{s}í	t^{s}it^{s}i	sheep	bebé	bébe

2.3. Adult conventions.

Not only 'blurred childhood memory' and substratum, but also conventionalized mock-child processes may influence baby-talk. The most interesting case, is that of the Marathi Baby Talk (MBT),[15] already referred to above.

Now it is perfectly reasonable to hold that most of the 'processes' codified by Kelkar resemble typical sound changes as described in historical linguistics, and (more to the present point) that they also resemble child language processes. There are processes describable as constraining the vowel-system; simplification of consonant-types (e.g., partial elimination of

the retroflex consonants); cluster-reduction; and even a solitary
rule assimilating a lateral to a later nasal in the same word.

But there are aspects of MBT that do not remind one of child
language at all. A few examples must suffice. First, there are
some wierd hierarchies, e.g., while /k/ becomes more child-like
(as /t/) unconditionally, /v/ becomes a stop only before /y/ or
/i/; second, vowel-length is lost unconditionally at the first
degree of Marathi babyishness; whereas in normal acquisition,
length-distinctions are made quite early, e.g., by 24 months for
one study of Norwegian (Vanvik 1971)[16]; third, the rich variety
of consonant and vowel harmony processes that normally takes a
child into his fourth year and beyond, is here represented by a
single process (the nasal-harmony I mentioned). Lastly, surely
no self-respecting child still substituting dentals for velars
would hesitate to drop the occasional unstressed vowel--yet no
suggestion of syllable loss occurs in the Marathi description.[17]

I conclude that, though perhaps quite systematic in its way,
MBT must be characterized as non-authentic child language at a
variety of apparently quite arbitrary points.

3. Conclusions.

3.1. The 'success' and dangers of baby-talk.

If we look upon Baby-talk as a kind of Pidgin language, we
are tempted to ask two questions: how 'successful' is the particular
Pidgin,language by language; and, conversely, how far is the charge
justified that the child's language development may actually be
retarded by teaching him the Pidgin in the first place?

For both questions, the answer must take account of the type
of Pidgin. First consider the languages exemplified by Greek,
where Pidginization extends only to lexical items, and even then
only covers some fifty terms. It is not difficult to compare the
difficulty of bt-forms with the corresponding adult forms. By simply
extending the grid of developmental stages already discussed
(section 2.1.3 above), we may assign the adult forms as follows:

Stage I: No forms.
Stage II: possibly kei̯, pai̯ (ignoring the forms for granny,
            baptizer, and peek-a-boo, which are identical with
            the bt-forms).
Stage III: poná, kóta, filí, síko, ɣáta, x́ézo, vizí, peðí, kimáme,
            pisinó.
Stage IV: moró, neró, tróɣo, tréno, kréas, stíθos, psomí, xtipó,
            ɣlikó, skílo, svíno, avɣó, kúkla, áloɣo.
Stave V: ɣavɣ́izo, peɣníði, patéras, faɣitó, próvato, kókoras,
            katuró, foréma, ɣái̯ðaros, mitéra.
Stage VI: perípato, nanurízo, akáθarto, papút^{s}i̯a, aɣeláða, telíose,
            aftokínito.

In that the bulk of the corresponding adult forms clearly
represent later stages in the child's articulatory maturity, the
bt-forms may be said to be successful, and this is presumably true
for the lexical part of baby-talk generally. It is also reasonable
to assert that the (numerically) slight burden on memory represented
by this vocabulary having to be re-learned later hardly takes away
from its useful function for very young children.

On the other hand, more extreme versions of pidginization, such
as Marathi Baby-talk, might be expected to present a more serious
problem to the child at a later stage.[18] MBT, with its consistent
but arbitrary 'mergers' (Cf. the question of vowel-length mentioned
above) puts the child in the position of (say) a speaker of early
Slavic trying to master the cognate vocabulary of an (for him
contemporary) Indic language, for which he must learn (e.g.) which
of his initial /b/'s correspond to /b/, and which to /bh/.

3.2. The survival of child-language processes.

If it is granted that the transmission of baby-talk depends
partly on adult intuitions concerning child-language processes, it
is tempting to seek other kinds of evidence for this beyond early
childhood. In children, a fertile field of investigation might be
the question of language-regression, as found in psychotic regression
or (less drastically perhaps) in stuttering; compare remarks on
psychosis among the Pilaga Indians in Henry and Henry (1940), and
on speech defects in Stinchfield and Young (1938).

Though the methodological problems are formidable, it is also
worthwhile to try to tap adult intuitions concerning child processes
directly, by asking them to say words 'as if you were talking to a
baby', as in the (forthcoming) work of Schourup.

3.3. Adult conventions.

The difficult problem of distinguishing between child and
adult processes is perhaps to be illuminated by (e.g.) comparing
child abbreviation in hypocoristics (Cf. Hoffman 1969, Drachman
forthcoming) with those of adults in advertising, laboratory jargon,
etc. The conventions for drunken speech, conventions for speaking
like a foreigner or dialect speaker, etc., would also no doubt repay
study, as would those employed in 'instant Pidgin'--i.e., making
oneself understood to a near-monolingual foreigner.

Footnotes

1. This paper is a slightly expanded version of that read at the Christmas 1972 meeting of the Linguistic Society of America in Atlanta. It grew out of current research on the acquisition of Greek as a native language, work which was partly supported by Grants-in-Aid (summers of 1971 and 1972) and by the award of a Research Quarter for Autumn 1972 by the College of Humanities, The Ohio State University.

2. Caution is required, for it is also true of 'Mother language' that (e.g.) stress distinctions are often wiped out, and that occasional loss of sequences, possible loss of fortis-lenis contrast, etc., occur.

3. For Greek, the only syntactically interesting facts are the existence of (1) an occasional adult verb, e.g., kakaróno 'to die' (from kaká, 'defecate'?), and (2) rare cases of stress retraction to distinguish the imperative, as in Cypriot ax·á 'dirty' vs. áx·a 'throw it away!' (cf. 2.2.2. below). Compare the possibility of inflection in Comanche (Casagrande 1948)--but this is for use with older children.

4. Additions arise sporadically within individual families, either from the child's assignment of an (apparently) arbitrary phonetic shape to denote some more or less broad semantic field, or by adoption of a child degradation of an adult form.

5. The sizes of the sub-classes varies from language to language. That for body-parts, for instance, contains 3 items for Greek but 13 for Gilyak--perhaps reflecting varying ranges of taboo.

6. The question of accidental resemblance is a serious one for bt-forms. Not only is the number of possible shapes most constrained, as will be seen (sections 2.1.2-3 below), but the range of ideas to be expressed is extremely small. As a result, the possibility of chance shape-resemblances for the same meaning is correspondingly high. For example:

(i) Greek-Comanche: Greek niní: Comanche niní 'baby'; Gk. kokó: Com. kokó? 'sweet thing'; Gk. (Cypriot) ax·á: Com. ?ax 'dirty'; Gk. d^zid^zí: Com. cicí 'breast'. (Cf. Casagrande 1948).

(ii) Greek-Gilyak: Gk. niní: Gil. nene 'baby'; Gk. t^sísa: Gil. s̃isa 'urinate'; Gk. ópa: Gil. (b)upa 'carry'. (Cf. Austerlitz 1956).

On the other hand, the very large proportion of forms in common between Greek and Arabic is suggestive of diffusion, as Ferguson has pointed out. I list the 14 Greek (including Cypriot) forms that are relevant (Cf. Ferguson 1956): bébis 'baby', mam~ma 'food', bwa~búa 'water', náni 'sleep', kaká 'defecate', dadá 'hit', vavá 'hurt', d^zid^zí 'breast', mamá 'mother', babás 'father', γàv-γáv 'dog', pisín 'cat', tutú 'vehicle', steté 'granny'.

7. The baby-talk forms were elicited from St. Greek and dialect speakers in Athens. Among the latter, special thanks are due to Mr. Panayotis Kontos for the Acarnanian forms. The hypocoristic forms were taken from the collection in Boutouras (1912).

8. Náni shows 'allophony' whereby the unstressed front vowel corresponds to the dental consonant [n]: this is the underlying shape--the suffix -áki always replaces a final vowel, cf. xéri - xeráki - xerákia 'hand, little hand, little hands'; and thus náni - nanáki - nanákia 'sleep'.

9. These processes may be bled by processes destroying clusters, such as syllabification (if a resonant is present as one member) or vowel-epenthesis.

10. It will be interesting to see, from projected child-language studies, how the acquisition of final consonants is keyed to the production of case-endings, for languages (like Greek) with so-called 'free word order'. While -s belongs to Nominative singular and plural, and -n to Accusative singular and Genitive plural in the standard language, Cypriot requires -n for Nom. Sg. also.

11. Even secondary stress shift is involved: Cf. melpoméni - mélpo, but also melpó. For a full treatment of such stress-shifts, see my "Greek Hypocoristics" (in preparation).

12. Note the aspects of baby-talk shapes that in fact contradict the adult substratum: in particular, the presence of (1) 'rare' segments, and (2) 'marginal' sounds.

(1) The adult native speaker's feeling of what is 'difficult' is of course partly conditioned by frequency of occurrence, which helps to explain the frequent presence of velars in bt-forms for both Arabic and Gilyak.

The opposed psychological attitude, that what is exotic or unusual is more suitably 'affective' (Cf. Jakobson's 'the expressive value of the extraordinary', 1968, 26) might in turn relate to the use of labial emphatics in Arabic bt-forms, against the frequency criterion. Such a view applies also to the Twana use of Puget Sound loan words containing (non-Twana) g^w and d^z in the bt-forms (e.g.) for 'navel, bogey-man' respectively (Drachman 1969), as also perhaps to the 'survival' of [pbm] in Iroquoian baby talk (Chamberlain 1890), and the survival of proto-Salish [l] in Nootka bt-forms (Sapir

In the same vein, Salish forms containing the segments m, k/k' might have survived the sound shift giving b, č/č' respectively, in words considered affective such as the bt-forms in Twana for

(a) daddy, defecate, backside, thin, few--for Salish [m] (Cf. also /m/ in Quileute (Frachtenberg 1920)
(b) urinate, mummy, granny, spank, small--for Salish [k/k'].

For Greek, the solitary form [be·] 'sheep' is of interest as a putative historical survival, since from approximately the time of Koine (4th century BC) stops because spirants and we would expect *[ve·]. It would be interesting to hold that the apparent survival

simply reflects the tenacity of child-language processes, but that the (admittedly, much later borrowed) form [vavá] 'pain' did not revert to *[babá] by the same process.

(2) The so-called Mediterranean word for 'water' (Ferguson 1964; cf. Heraeus (1904)) has the shape [m*] (a bilabial trill). Against the onomatopoetic view concerning such child forms, I believe this example to constitute a concession to very early child-hood: I have watched several babies of some 12 months crying with just such a sound.

Similarly there are violations of Greek phonotactics in some bt-forms. While there are (see Kourmoulis, 1967) no native noun forms in final [-é], we find it in bt-forms as bebé 'sheep' memé 'breast', dedé 'horse'; likewise, while there is only one native noun in final [-ú] (alepú 'wolf'), it occurs in the bt-forms pul·ú 'sex organ', uf·ú 'food', fú 'fire', tutú 'motor car'. But it is interesting to compare the 'affective' attitude towards final [-ú] even in the adult language, which has forms like γlosú 'long tongue', kamomatú 'coquette'. There are also bt-forms with final consonants 'forbidden' in the native vocabulary, as mam 'eat', blùm-blúm 'bath', γàv-γáv 'bow-wow'.

13. Thus o ánθropos: Gen. sg. tu anθrópu 'of the man', but o apánθropos: Gen. sg. tu apánθropu (not *apanθrópu) 'of the inhuman one'.

14. Cf. Acarnanian—all 18 disyllabic forms have initial stress; for Athenian - 7 of 30 disyllabic forms have initial stress; for Cypriot - 12 of 38 disyllabic forms have initial stress.

15. Cf. the many and various secret languages invented by children.

16. Cf. the data for the acquisition of differential vowel-length in English, in Velten (1943) and Naeser (1970).

17. It is hard, especially in the absence of relevant data in Kelkar's paper, to concede that (p. 50, fn. 8) no items occur which are child-speech but not baby-talk.

18. The status of the over-careful speech of Hidatsa Mother language in this respect is more difficult to assess. Cf. Voegelin's strictures.

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