fore, nothing to look forward to but the gradual formation of a kind of dead level of correctness, with all faults and all beauties too polished away by cold-blooded aim at Dry-asdust precision.

Note.—The quotations (except A.V.) are taken from *The English Hexapla*. (Samuel Bagster and Sons, 1841.)

V.—TITIN. A STUDY OF CHILD LANGUAGE.

By Sr. D. A. MACHADO Y ÁLVAREZ, of Seville.

[Translated from the Spanish by the Rev. WALTER GREGOR, *Pitsligo*, with the help of the Author.]

TITIN is the name of my youngest son; high priest, he baptized himself, calling himself *Titin*, parodying the name by which he was baptized—Joaquin, in memory of his maternal uncle and of the day on which he was born. He calls himself *Titin*, his uncles call him *Titin*, his mother and his little brothers call him *Titin*, and *Titin* we all call him. . . . How has the word *Joaquin* been turned into *Titin*? What analogy is there between the phonetic elements of the two words? By what process have the aspirated *j* and *q* or the hard *c* (the Greek κ) passed into the dental *t*? What is the extraordinary reduction of the diphthong *oa* into the first *i* of *Titin*? From the utterance of the infant, who is a *savant*, because he is the faithful representative of nature, that teaches us through him, his father, who is an ignoramus, that represents the tiresome and useless accomplishments of a conventional and deficient culture, has formed an hypothesis which I wish to communicate, if the confutation of the gravest errors which it contains could throw any light upon what I consider the still obscure problem of the formation of child-language, and of the infinite series of unintelligible words, preserved at present with such scrupulous fidelity and attention by mythographs and philologists of all countries.

The language of children, as all language, as everything, is not formed in a moment, as Genesis tells us light was formed, וַיֵּאמֶר —“Let there be light, and there was light.”

Child-language is formed by a series of growths and transformations, internal and external, which are, as the stages of all growth, slow and imperceptible. Already in the cry, with which the child salutes its entrance into the world, which is the simple result of the change of temperature it suffers on emerging from the warm abode in which it was into the free air, are the germs of human language. From that first cry of pain to the age of three years or thereabouts, the child forms for itself its first vocabulary, a complete language; from that moment to that age it will be necessary to watch it without interruption every moment, and to go on carefully marking all the sounds and all the articulations it gives forth. In them philologists and students of phonetics will meet with most important materials for their studies, and perhaps the key to open important problems. For that undertaking, without doubt, is required a series of very special conditions—time, patience, love for the work, education both of the ear and the voice, and modes of writing capable of preserving and of being able to reproduce what has been heard.

According to my imperfect observations, or, it may be, the fancies that I have formed on them, beyond the crying and the first wailings, a union of sounds and perhaps of very light articulations, which I cannot decipher or distinguish, comes for three or four months, the classic one of *aj . . . jóo*, with which the mother, the scholar of the infant, encourages it to complete the effort to which nature calls it. The first indication by which the first perceptible germ of human language is shown is, then, not what we call a vowel or a consonant, or a monosyllable. That interesting sound, which has no recognized signification we know of, and has no other origin than the desire of the mother to help the natural attempts of the child to pronounce it, it is not possible to discuss with fit linguistic knowledge. It may be allowed us to call attention to the strong guttural character (Greek χ) of the first consonant employed, and to the *a* which precedes it, and to the *o* which terminates it. From the *a* to the *o* there is a real scale of sounds and an infinity of inappreciable

shades of sound bound by the guttural which serves as the connecting link. Before pronouncing the *aj . . . jóo*, which the mother says to it, the child has repeated a thousand times something that may perhaps be represented by an *ah . . . hoo*, *ag . . . goo*. The *aj . . . jóo*, which is, if not the first, one of the first of the elegancies of the *acquisitions*—*habilidades*—(artificial works) of the child, is for me a datum which leads me to think that the organism does not produce in the first stage of life those phonic phenomena which we call vowels and consonants. In children, at least in my own, I have noticed sounds which I might call *gutturalizations*, as a kind of *ghghgh-gghgghgh*, at the end of which I believe I always heard, as it were, the sound of a vowel. There is in all these gutturalizations something analogous to the steps expressed by the Arabic letters, which Glaire in his grammar calls ج, ح, خ (which here we call *já*) and غ, and something resembling also the Æolic *F*. Be that as it may, it appears that the gutturals are the first letters that are formed in the first months of infant life; guttural letters or forced sounds (*esfuerzos*), I do not know whether instinctive or voluntary, conscious or unconscious, which prepare the vocal organs for the performance of their complicated functions. After these first manifestations, which have something of the grunt, more or less plain, of certain mammals; which appear movements rather of a reflex than conscious kind, and under which at times the plexus of phonetic elements seem to show themselves, which have to be one day words with a fixed value, such as *aghua-agua*, succeeds a second period, which commonly begins at ten or twelve months.

At that age or somewhat later, according to the degree of development, children begin to pronounce isolated monosyllables of a labial kind; *pa-pa*, *ma-ma*, and sometimes *me* or *pe* occupies a longer or shorter period in which one is wearied making observations without noting any progress. The child appears a torpid scholar that makes no effort to join syllables. This seems to be the period of monosyllabic

language; *pa* and *ma*, and *ta* and *te*, which come after the teeth are formed, sound clearly, distinctly, with precision, as certain notes and syllables of parrots.

The employment of the monosyllabic labials *pa*, *ma*, *ba*, the last of which is the origin of the infantile sport, which consists in the mother or nurse giving little slaps on the mouth with the palm of the hand, making it say, *ba baa baaa baaa baa baaa*, and the dentals *tá* or *té* is followed by the pronunciation of other consonants, whose order of appearance we have neither sufficient power nor patience to observe. In that period, or from the age of eighteen months (onwards) they begin, not merely to pronounce a few more consonants than those indicated (*b, p, m, t*), but to repeat monosyllables by joining them, e.g. *papá—mama—tata*.

My son Pepe, at the age of twenty months, spoke the following words:

1. <i>papa</i> .	9. <i>fo</i> .
2. <i>mama</i> .	10. <i>osa</i> .
3. <i>tete</i> .	11. <i>oncha</i> .
4. <i>tata</i> .	12. <i>pá</i> .
5. <i>eche</i> .	13. <i>má</i> .
6. <i>omo</i> .	14. <i>apa</i> .
7. <i>oche</i> .	15. <i>uchacha</i> .
8. <i>fá</i> .	16. <i>aba</i> .

On these sixteen words, which formed, with the exception of a slight omission, the vocabulary of my son Pepe, at the age of twenty months, I have only the following observations to make: by *fo* he meant to say *flor*; by *tata*, *bota*; *uchacha*, *muchacha*; *aba*, *agua*; *pa*, *pan*; *Ocha*, *Oncha*, *Concha* (the name of the maid), and by *tete*, *tio Pepe*. *C*, as one sees, and other consonants, he did not pronounce at all; *f* was, of those quoted, the last he pronounced, and he had as his teacher of that a fine black cat, that scratched him several times, at the same time uttering *ffff*, a sound which he pretended to imitate.

My son Joaquín's vocabulary, at the age of nineteen

months, was as follows, which I give with the usual meanings of the words :

1. Papá.		16. cocos.	mocos.
2. Mamá.		17. cocon.	} Encarnacion.
3. Papa.		18. canción.	
4. Nene.		19. cocó.	
5. Titín.	} Joaquín.	20. cacón.	
6. Tetín		21. ashón.	
7. Caquin.		22. mi.	Zo
8. baar.	bajar.	23. Tete.	Pepe y carrete.
9. caé.	caer.	24. no.	
10. Pepe.	Pepe.	25. aya.	silla.
11. ubí.	subir.	26. erá.	cerrar.
12. riná.	orinar.	27. coca.	toca.
13. ahua.	} agua.	28. Quica.	Francisca.
14. aba.		29. ntá.	sentár.
15. abí.	abrir.	30. Tata.	Zapatos.

On this vocabulary, likewise broken, and the former, we wish to make some slight observations :

Both infants at the age of eleven months pronounced *p*, *m* and *t*; the one did not pronounce *f* till he was twenty months old, and the other, till he was twenty-two. The former pronounced *ch* in the word *eche*, *leche*, and *ocha*, *Concha*, forcing himself to repeat the name of the maid from that time, *Concha*; the latter in exchange pronounced *c* sooner than the former, being forced to do so by calling the girl who had the charge of him, whom he named *Cocón*, *Cancón* and *Ashón* (Encarnacion). In the language of the first, *f* predominates, and then *ch*, which is found in the word *Concha*; in that of the latter, *q* or hard *c*, which forms part of the word *Encarnacion*. In the second vocabulary *f* is wanting, and instead of it figure *c*, which was absent from the former; soft *r*; *n*, which was found in the former only in the word *oncha*; *sh*, analogous to the English *sh*, in the words *she*, *short*, etc., and *y* in the place of *ll*, in the word *silla*, which the Andalusians pronounce *siya*.

As to the vowel elements, the second vocabulary is much richer than the first, since in it they can be reduced to :

<i>a-á-ó</i>	<i>o o</i>
<i>a a</i>	<i>o e</i>
<i>a á</i>	<i>o a</i>
<i>e e</i>	<i>u aa</i>

while in the second

<i>a-i-o</i>	<i>ad</i>	<i>ei</i>	<i>oo</i>
	<i>aa</i>	<i>ai</i>	<i>ao</i>
	<i>ee</i>	<i>ui</i>	<i>ea</i>
	<i>ii</i>	<i>ia</i>	<i>oa</i>

On the preceding facts, which must certainly appear as very small and prolix to those not interested in such subjects, as poor and scanty to philologists, rests that which we should have called more than a hypothesis—the explication of the word *Titin*.

We believe, in fact we can affirm, in view of the above-mentioned vocabularies, that into all these infantile words both *monosyllabic* and *dissyllabic*, there enters but one single component consonant, isolated as in *pa*, but repeated as in *papa*; children at the period to which we allude say *papa*, *mama*, *tata*, but never *pata*, *tapa*, *mata*. In saying *Joaquin*, therefore, to imitate the word, my younger child was under the necessity of using some repeated consonant; but which consonant? Clearly one of those which he pronounced when he for the first time formed the word, that is, *p*, *m*, or *t*, and not *f*, *n*, or soft *r*, or hard *c*, or *q*, which he pronounced at a later period. *p*, *m*, *t*, was the fonetic material at his disposal when he pronounced that word for the first time. With respect to the vowels, it is plain he had to employ the sound which dominated in the word *Joaquin*, that is, *i*, and in employing it, he had to repeat it in the two syllables as was the case in *papa*, *mama*, and *tata*, which then formed his whole language. Why did he prefer *t* to *m* and *p*? In my opinion for two reasons; first, because that dental articulation is more nearly allied to *j* and *q* than the labials *b* and *m*;

second, because *t* being the letter he had last begun to pronounce, he used it most frequently.

I did not mark definitely the day on which he began to pronounce the word *Titin*, but this much is certain that that word preceded *Tetin* and *Caquin*.

The words *Tetin* and *Caquin* (the latter being much nearer Joaquin than the former) mark two important steps in what may be called almost the phonetic biology of a name.

Tetin supposes a progress over *Titin*, because the children (I mean my own) as they say in the first stage of their language *tata* and *papa* and not *pata* and *tapa*, they say *tata* and *tete* and not *teta* and *tate*. Thus to say *Tetin* is an advance compared to saying *Tete* and *Titin*. *Tetin* was in fact the second name by which my son tried to imitate his own name and *e-in* certainly appears nearer *oa-in* than *i-in*. *E-in* supposes with respect to *i-in* a differentiation (*diferenciación*), an increase, an advance, imperceptible if you wish, still a step towards the end.

Later, my son, in attempting to pronounce 'Encarnacion,' the name of a young woman that was fond of him, pronounced *c*. I remember that during those days he pronounced many little words with *c*; the letter did not fall from his mouth in its common use, he said *coca* instead of *toca*, *cocos*, instead of *mocos*, etc. Then he called himself *Caquin*, a word, which, under the same law as the former, supposes a new and more marked step in advance, in that one of the syllables *quin* coincides exactly with the second syllable imitated, and in *a-in* being much more analogous to *oa-in* than *e-in*.

The words *cocón*, *cacón*, *cancon*, and also *ashón* (Andalusians pronounce *c* as *s* and say *Encarnasion* in the place of *Encarnacion*) and *Quica*, in place of *Francisca*, obey the law which we believe ruled the formation of the words *Caquin*, *Tetin* and *Titin*, words which I am anxious to engrave on the hearts of all good mothers, and to turn into a motive of study for all the philologists of Europe.