Three Decades of SILLyness (including Key-letter Theory)

Zev bar-Lev
Professor Emeritus
Department of Linguistics
Asian and Middle-Eastern Languages
San Diego State University
San Diego, CA 92182 USA

Abstract

This article presents a variety of strategies for foreign language (FL) study and use. Language use includes, in particular, reading comprehension, as well as speaking (in separate modules). The strategies for speaking are the original core of the method as reviewed in Celce-Murcia (1991). That review called Sheltered Initiation Language Learning (SILL) "heretical," noting its use of highly unconventional techniques and procedures (inspiring the classroom nickname "SILLy Method"—a nickname which also disengages learners from grammar-based, linear learning that they may expect. This review at the same time noted that "future theories of language acquisition will have to account for its "manifest success," namely in imparting "confident, comprehensible, continuous, and creative speaking abilities. This claim is proved by student and teacher surveys, and more importantly by videos of live elementary lessons in various languages on the LARC portion of my homepage, languagebazaar.com. The confidence and fun shown by these live students should be the most convincing proof of the method, also seen by all who have witnessed it. (Most recently, see "Best in Hebrew Education" in the Jewish San Diego Journal, April 2014, p.30.)

Included here is also the most recent development of the method, the discovery of universal meaning units, best revealed in Key-letters, inspiring the students reaction that "meanings jump up from the page." The application of this insight beyond Hebrew, where it has been taught extensively for several decades, to other Semitic and Indo-European languages, is particularly suggestive of the frontiers that can await teachers and students alike, if they are willing to try out new ideas and techniques.

Three Decades of SILLyness

This article presents a variety of new strategies for foreign language (FL) study and use. Language use includes, in particular, reading comprehension, as well as speaking (in separate modules). A modest number of colleagues and I, in a small but representative variety of languages[1] and environments have found surprisingly good results over several decades, although starting from partly unconventional (but, I believe, reasonable) assumptions, as I will report here. One example is the focus on written language, in defiance of the axiom that "Language is Speech." But students of EFL, in particular, and some other languages as well, may be more interested in reading then speaking. For them, the primacy of speech may be satisfied by learning to pronounce adequately (although not necessarily perfectly), without going through a full "conversation"-oriented course. We should no more teach conversational English to someone who is learning English to read Shakespeare than the reverse.

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[1] The primary language has been Hebrew, which has many of the biggest difficulties found in other language; other languages such as Japanese, French and German have also been included, with important implications and results.

These strategies go much further[2] than placid platitudes about the importance of guessing from context, true and important as these are; throughout it seemed more interesting to try out specific and explicit techniques, even radical, untried specific novelties, rather than to merely refine a reasonable conventional platitude which is easier to pay lip service to than to implement. Sometimes the radical attempt was a glorious failure, but often it was a wholly new technique that could be built upon, often with similar success.[3]

Very generally, the proposals will attempt to fill out in specifics of the ever more popular of a SOLE—Self-Organized Learning Experience, How it can be created and nurtured, even among reluctant[4] students (and especially reluctant teachers)? As the stereotypical grandmother in American-Jewish literature knows, just because you're not talking about something doesn't mean that nothing is happening. So my discussion of strategies will include to actual linguistic structures. After all, even if one takes an extreme pro-immersion, anti-explicit-grammar stance, linguistic structures inevitably take on a defined part of any curriculum. For example, in Natural Approach, vocabulary has a larger place than in other methods, for better and worse[5]). My general goal is not only to encourage thinking by presenting unconventional challenges, but also to offer techniques that can be tried out on their own. So my motto is like that of Levi's Rye Bread: "Try them, you'll like them" (although probably only if you try them long enough to overcome your own skepticism, if they are worthy).[6]

How new are they?

The title "new method" is very common, especially among those advertising their own program. A few colleagues and I have used the strategies for several decades. (The research began in 1972.) But they remain very much out of the mainstream. They differ not only in asking teachers and students to develop wholly new attitudes towards language and its nature. Along the way the theory will break or contradict several basic assumptions (even "axioms") of linguistics (theoretical and applied). My skeptical attitude towards immersion[7] is probably the least of the reasons that mainstream teachers can find to label it "TLDR" (Washingtonese, "Too Long Didn't Read," i.e. to dismiss without being troubled by any of the questions that it is implicitly raising. But I also know that there are many individual teachers who already agree with one or another of similarly unconventional strategies and ideas, if not a quiet underground of teachers, who function easily and successfully, thriving with some bugaboos and, avoiding some mainstream "axioms" to an extent that might horrify mainstream teacher trainers and methodologists.

I might have offered these strategies as "food for thought." But I am not optimistic about the reasonableness of this approach, when the "food" might be perceived as broccoli. The only point of offering ideas is not as idle, ultimately useless mental exercise nor to teach people how to argue for their old truths, but rather to try new ones. As Will Rogers said, I'm bothered not by what others don't know, but by how much of what they know is simply wring. So my motto is like that of Levi's Rye Bread: "Try them, you may like them." But probably only if you try them long enough to overcome your own skepticism. Then you may react as did Alana Shuster after a few months: "In the beginning, I thought 'this guy is crazy.'

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[2] That is, they make specific claims about how to make foreign-language study and use more effective. Whether in theoretical or applied sciences, theories are supposed to make ambitious claims for its defined goals. They are not tasked with the need to conform to the preconceptions of lay-people or even experts.

[3] Lobachevski was a mathematician, the "Copernicus of geometry." He can fairly be considered a previously heretical mathematician, just as Galileo and Copernicus might be considered formerly heretical scientists—oddly, perhaps, since they are, in modern views, founders of modern science.

[4] While I have discovered a number of strategies to by-pass resistance before it starts (such as shouting in the first minutes of study, the very antithesis of a Silent Period), resistance remains the biggest problem for my teaching, with no general cure. Obviously, innovations evoke greater resistance, especially among teachers.

[5] While I happen to agree that lexicon (not memorization of vocabulary lists) should be the primary focus of FL study, some students are uncomfortable with a "spaghetti-on the-wall" approach to it, preferring to know more specifically what they "need to know." But my point here is only that even a laissez-faire attitude towards linguistic structure brings with it certain characteristic treatments of structures, which it is probably better to discuss explicitly in describing the method, even if not in class.

[6] The present article belongs to applied linguistics, defined as including language teaching. The underlying linguistic theory belong to the subfield of semantic theory, in particular lexicon.

[7] If I haven't lost all readers already, let me mention that I raised three children bilingual, with my monolingual wife. I believe in multilingualism for its various benefits, but have seen the limits of immersion, even for "native speakers."

But when I used the techniques, I saw the results." Of course these new techniques are offered not as established truths, but rather as new ideas but they were formulated with consideration of major ideas of language teaching and linguistics, albeit sometimes with a new twist.

For example, mainstream teachers tend to ask, "After how long does creativity emerge?" Of course I mean creativity in Chomsky's sense: new ideas formed out of old patterns and old vocabulary. For and even some curricula this is a relevant question, and at least the answer for some students is "only after a while" or even "never." (More below.) With the techniques to be described here, the answer is: immediately. Details will be given below.

Since strategies are often not based in rigorously formulated and tested theoretical claims. They may be like mini-myths (using myth is Joseph Campbell's sense): claims that are not necessarily true in a scientific or real-world sense, but which offer practical guidance for given tasks. Thus I use the term "True Lies" for them, and offer them as defense against the challenges of foreign languages, including so-called "False friends."

What is a lexical theory?

Lexicon = vocabulary. A lexical theory in psycholinguistics has the task of explaining how native speakers of any language learn and access, in language use, the thousands of words in their language. The vocabulary is not the million words listed in the Oxford English Dictionary, but rather the smaller vocabulary that any given single speaker know, which is probably in the range of 5,000 to 15,000 words.

A lexical theory in linguistics (as opposed to psycholinguistics) peels away the specifically psychological aspects of learning and use, productive (speaking and writing) and receptive (listening and reading).

The linguist, and even more the layperson, might think: What's the problem here? Isn't it obvious that when speakers hear or see a word, its meaning (a specific idea) pops up in their mind, and productively, they think of a concept they want to express, and simply say or write the corresponding word.

If there is a problem worth studying here, it must be how meanings combine in sentences and discourses, or perhaps the structure of concepts themselves. Is the meaning of the word *tree* a picture of a tree?

But this simple picture leaves out some obvious related complexities. How do speakers look up words? Are they listed in their brains as in a dictionary, by some sort of alphabetic order (presumably using phonemes for spoken language)? And how are ideas (concepts) listed? I suppose we must defer to cognitive psychologists, who tell us that ideas are semantic arrays, schemata, but how then are they listed?

The unstructured lexicon.

The usual linguistic assumption is that the lexicon is unstructured, that words are arbitrary sequences of phonemes (or letters) with arbitrary meanings, as we have known since de Saussure. The problem is that this assumption leaves the lexicon as psychologically impossible. Imagine yourself, as a metaphor of a speaker, standing in front of a pile of a few thousand words (index cards, with the sound or spelling on the front, and the schema for its meaning on the back. How do you use this pile of index cards? Apparently you would have to pick up single cards at random, until you found the one you need.[8]

This all implies that there is a "lexical problem," i.e. there is a need for a lexical theory that goes beyond the axioms of modern linguistics.

How New are They?

How new are they? A few colleagues and I have used them for several decades. (The research began in 1972.) But they remain very much out of the mainstream. They differ not only in asking teachers and students to develop wholly new attitudes towards language and its nature. Along the way it will break or contradict several basic assumptions (even "axioms") of linguistics (theoretical and applied).

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[8] On the level of theory (even applied theory), an open filing system is too UNRESTRICTED to be useful. This principle is most generally expressed in Occam's Razor, the principle of maximum simplicity, which forces "falsifiable predictions." Black Holes were such a prediction of Einstein's Theory of Relativity, thought to be purely theoretical…until they were discovered with improved telescopes.

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The word "new" is itself cause for skepticism. It was used a lot when I was trained to be a TA in Russian in 1965, learning two weeks of Indonesian via "Mim-Mem" i.e. mimicry memorization. And of course it is used extensively now for "Immersion" programs like Rosetta Stone and Pimsleur.

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False friends.

Foreign-language teachers are fond of warning about "false friends," like French *actuel*, which means "current," and not "actual"; or Hebrew *Dóv*, which means "bear" and not the bird "dove." or the verb *dove*.

But, as the Beatles sang, "I get along with some help from my friends." You need as many friends as you can get, in foreign language study and use as in life. Best of all is when enemies turn out to be friends, or (even better) when our own insight and efforts turn enemies into friends, or at least temporary allies. This article will exemplify the importance of "regular friends," but also various other kinds of friends—in foreign-language learning, of course, with special focus on vocabulary, the elephant in the living room of FLT.

The warning about false friends is of course based in truth. It is an unhelpful truth, a truth that might prevent you from doing something right and proper, such as comprehending an ordinary Spanish sentence, like *El angloparlante comprende un texto español facilmemte.* A True Lie is an idea that might not be literally or totally true, but helps you practically, e.g. the idea to make use of cognates wherever you can find them. "True Lies" as used here, in other words, are useful strategies for foreign language study and use, to be used whenever they work.

skip-reading

The first strategy to present is a one that I and others using my programs have taught for several decades in foreign languages including Hebrew, in which students comprehend texts beginning with the first weeks of study, in spite of the difficult alphabet (with no vowels in ordinary spelling). By "comprehend" I do not mean "translate" but rather, in the first instance, to make a hypothesis (aka "guess") about over-all meaning, filling in details later as appropriate.

It starts as a puzzle, a word-search puzzle. In fact, children (from age 5) search for words that they have learned in Torah-scrolls even as they are learning their first 4-5 words.

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[9] If I haven't lost all readers already, let me mention that I raised three children bilingual, with my monolingual wife. I believe in multilingualism for its various benefits, but have seen the limits of immersion, even for "native speakers."

"Skip-reading" is intended to echo "skim-reading," an ability of adult native speakers. But children and other beginners (and dyslexics, as well) can do skip-reading. The first step in skip-reading in a printed textbook is circling known words. This step is already the opposite of a natural tendency, encouraged by some teachers. The natural tendency is to stop at the first unknown word, and ask teachers or study partners, or even worse, to consult a dictionary. But the proposed True-Lie strategy goes "from strength to strength," developing the appropriate strategies by emphasizing the puzzle- or game-aspect of skip-reading. (Some whole types of words are specially ignored in the beginning, as I will explain in a moment.)

Once you have (as learner) circled known words, you will take the second step. But let me first explain that, while I do not use newspaper articles in a first semester, I also "break the law" (in California at least) to maintain 90% recognition vocabulary. In my texts, the ideal is *always* below 50% recognition. Even very few known words are enough to start the game (as with children reading a torah scroll, who may find less than five words that they know). Even in the very first texts, there must be some unknown words—because this is the one inevitable feature of any text that learners will ever encounter.

The "summary."

The second step is writing a summary. How can learners do this without knowing all the words, identifying topic sentences, etc.? Am I not putting the cart before the horse? Even professional-level "gisting" involves ignoring some words. How can the beginner know which words are important? In fact, for the beginner, the words most easily recognized are, naturally enough, the shortest most common words, prepositions, conjunctions, and articles, which students are here instructed to ignore until later. Here again my True Lies twist the truth, and focus on the useful. In doing so I am contradicting a natural tendency of language teachers to focus on grammatical material, even in preference to lexical material.

The summary is written very easily (in L1). The learner simply makes up any logical sentence using the translations of known words, adding others (but as few as possible, by the hoof-beats rule[10]) to make it a whole sentence. This process is not as easy as it sounds, e.g. because most students don't really have firm grasp of what a sentence is, but little guidance is needed. The very first time I tried it on a biblical text, the students came up with "Abraham goes somewhere, and God is his real-estate agent," which was fairly accurate. But the point is not accuracy at this stage. It is useful to have students write and read aloud their summaries without *any* teacher help, and then vote to choose the best. I am often amazed here by how intuitions leap beyond their narrow linguistic knowledge and abilities, once freed from parsing.

Using similarities, no matter how partial or coincidental.

For vocabulary learning or even guessing unknown words, not only should the cognate strategy be used. Any possible similarities with known words (in English or the L2) should be utilized, not as "keys" or decoder rings, of course, but as part of a strategy of guessing. And then in learning words, any larger similarities should be utilized, even when they are coincidences, like the Hebrew-English coincidences in The appendix, which are coincidences because they cannot be cognates, since Hebrew and English are known to be unrelated languages. (Similarly with other languages). So using the similarity between Hebrew *kalkalah* "economy" and English *calculate* is good learning practice. Even the initial consonant can be a helpful hook.

The initial-consonant strategy.

The initial-consonant strategy can be especially useful for learning after you know the meaning of a word. It's not as applicable to guessing unknown words: How can you know whether a given word with initial *B* means one or another of the possibilities? But sometimes context may give enough context to guess more reliably. For example, can you guess what Russian *Bolʸshoy* means in the phrase *Bolʸshoy teatr*? Hint: The Bolshoy Theater stands next to the *Malïy teatr*. (I won't reveal whether *Malïy* is a useful cognate: You'll have to figure it out by your SOLE self.)

On the appendix

In fact, I have formulated a list of meanings that can be associated with various consonants in what I call an "Onomat," this term being a portmanteau word combining onomatopoeia and automat.

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[10] If you hear hoof-beats, guess horses before zebras.

This set of letters[11] and meanings provides initial hypotheses for unknown words, and is thus a "mega-language" for comprehension, especially useful in reading.[12]

What is *Book* doing in the PUSHERS? Are all books supposed to be "big"? No, but they are all "Bountiful," full of *Blessings* for those who read them. The meaning of *B,* it turns out, is really quite clear, even in neologisms, whether *Berm, Boob, Butt,* or *Booyah, Boy-oh-Boy,* in which the original "Old Onomatopoeia that seems to be behind Key-letters, reasserts itself. *B* has all sorts of "bulging" meanings: *Bulge, Bump, Bountiful, Big, Beautiful, Book, Bible.*

Thus the Onomat assumes that the meanings given (tentatively, as in any theory or set of strategies) are based on an "Old Onomatopoeia," which seems to have been present when the alphabets were first invented. With centuries of subsequent sound-change, the letters of the various alphabets are left as a better guide to meaning than sounds, especially since these letters seem to have evolved, graphically, to reflect the meanings more iconically. This is not the place for a detailed study of the evolution of the letters. It may be enough to give a summary example with the C of English, which has evolved, through Latin, into its current "container" shape, reflecting the meaning of words with initial *C* as being "Catch, inClude, Collect, Contain" and the like. Support for this idea can be seen in the fact that the Hebrew *K,* which begins words referring to all sorts of containers (including "church" and "jail") and actions of containment, conquering, etc., looks like a backwards *C* (since Hebrew is written right to left[13]).

The meanings given in the tables here are tweaked a bit from bar-Lev 2013, as I expect them to be in future. But whether these first approximations require a little or a lot of tweaking themselves is less the point than those individual learners must do a lot of tweaking for the system to work. Tweaking is of course an ability that everyone uses all the time in comprehending their native language, but it is indispensible to use it even more in a foreign language, to compensate for them missing specific knowledge of the language.

So learners of Hebrew must tweak *Kaf* to decide whether it means "spoon, shovel, palm of hand" in each context. But they can, (if they dare!), also use "super-tweak" to guess whether any word with initial (or rather first consonant[14]) *K* means any of these or "pitcher, pocket, cup, skull-cap, chair, church" or a verb "contain, consume, annihilate," etc.

A small sample of the mega-letter examples (Key-letters) is given in table 2.[15]

Are Hebrew and English related?

Surely not like English and Spanish, with similar words like Father/Mother vs. Padre/Madre. But how about Hebrew *Lev* "heart" and English *Love*, or Hebrew *Kalkaláh* "economy" & *Calculate*? Or *Kipah* (*Kippah*) "skull-cap" and *Cap*? Are these and many other examples coincidences? See here exciting answer, which will reveal connections long hiding in plain view, long hiding in plain view, between many languages, like Spanish Pan "bread" and Pita (Aramaic), the Polish airline Lót "flight" and the Israeli airline *eL-aL* 'up to above," based on *L* "lift." These connections are not obscure coincidences that I have cherry-picked as curiosities but rather examples that have "popped out" by themselves, as predictions of the odd, even "heterodox" linguistic theory to be presented here.

The Joy of Guessing.

Tracy Terrell, in his model lesson of Greek, would ask students "How do you say 'shoe' in Greek?" The answers would often draw on Spanish or other languages that the learners knew from before.

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[11] While language is primarily speech, written language is sometimes a better medium in many ways. As Chomsky has shown, letters can also represent "deep phonemes." In fact, I would suggest, at least as a True Lie, is that written language is primary in many ways, practical and theoretical.

[12] Obviously aural comprehension is harder. But it is not difficult to imagine someone sitting in synagogue, hearing the sentence *yaamod haGolel.* Knowing that *G* means "roll" will be helpful, along with seeing someone "roll up" the Torah scroll.

[13] The Hebrew letter name *Kaf* means "spoon…" but I know of no Hebrew textbook to observe that many words for vessels and other containers have this initial letter. One example is *Klé zemer,* "vessels-of music, borrowed through Yiddish as *Klezmer.*

[14] Vowels and silent letters must be ignored.

Many examples are "hiding in plain view" in any dictionary (but perhaps as difficult to "see" as it is difficult to see that objects fall at the same rate, regardless of their size or weight).

(A "matching" format can also be used, as in my materials for Hebrew.) The skill of guessing is a good strategy for foreign-language learning, making Terrell's technique a "True Lie, —presupposing the obvious falsehood that the new learner can in fact guess the meaning of a word that she has never heard in a foreign language that she doesn't know.

Where the skill goal is reading comprehension rather than conversation, the reverse direction, L2 > L1, is more useful: "What do you think Russian *Bol'shoy* might mean? How about Farsi (Persian) *Bozorg* or *Panir?"* (Make sure that you, standing in for the learner, are playing the game by writing down answers. (Fortune doesn't smile on those who say no.))

Notes on Appendix A. the joy of guessing.

Table A in the appendix presents a matching exercise that I use in order to practice the "Joy of guessing" (as well as initial pronouncing practice, by-passing the alphabet). The reader (aka you) should do a few of these just to practice the reality of using learning strategies that you may not believe in (just for practice and empathy) or that you may teach but not practice).

"Mega-language."

A central focus here will be a set of strategies/structures for reading comprehension in foreign languages, which I call[16] "mega-language."

One starting example of Mega-language is the "international word" *Mama.* It does not mean "mother'" in all languages: In Japanese, Mama is *ha-ha,* and in Georgian *Mami* means "father." (Can you guess what Georgian *dedi* means? I won't even confirm your answer here.). But *Mama i*s a good example of the vocabulary of the Mega-language, which provides the best available initial hypothesis, in the absence of specific knowledge. Modern scientific or technological terms like *television* are also good vocabulary items for mega-language. They are best used receptively. "International words" can be quite different in other language domains. For example Arabic-based *ilm, shukriya* "science, thanks" are more likely to work in vast areas of Asia and Africa where Latin-based words will be of no use, and speaking English is a better practical strategy (albeit forbidden, as the "counsel of despair" by many language teachers). The lexical item *Mama* is a True Lie in the sense that it is not a truly universal word, in a scholarly or academic sense, but it is a good guess, a good strategy, in the absence of better information.

Assessment.

Any view of assessment as slapping numbers onto whole curricula in comparison with other curricula should be rejected as quickly as ads of the form "the greatest method for learning a language, guaranteed" (much less, "learn like a child," naturally" when the course is a set of fixed conversations,[17] with or without video.

Assessment should mean (as here, with the help of students, parents, etc.) assessing the positive and negative features of a given curriculum, with the primary goal of improving it. The choice of one curriculum over another, as suggested below, should be guided by goals, with a prima facie assessment of (1) what goals the curriculum aims at, and (2) how well it seems to address these goals. Of course expertise (hopefully uncorrupted by preconception) should help to formulate realistic goals, and to assessing whether a given curriculum aims at these goals via do-able study-steps. Recorded results,[18] as I offer at the languagebazaar.com, can play an important role here.

How many variables would have to be considered to assess a whole, articulated FLT method, or any of its parts? To shorten the process, let me refer to the "parable of coffee/" Within a week, the radio announced (1) that 4 or more cups of coffee per day tends to prevent Alzheimer's, and (2) that 5 or more cups shortens life. Of course we can opt for a compromise of 4 cups, but this is a brute force compromise, that may not work.

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[16] In bar-Lev 2013, it is called the "OnoMat," combining *Onomatopoeia* and *automatic*.

[17] See Bley-Vroman (1990). I suggest that the classic Chomskian view of the Language Acuwisition device as "shutting off" at about age 13, while over-simplified, is closer to the obvious empirical reality than the view that anyone can acquire via immersion at any age. Of course, fixed conversations cannot provide the raw material for immersion, even with videos. The spontaneous creativity (receptive and productive) of ordinary conversations is necessary, I suggest, for successful immersion. This is shown by the many American children of Israelis who acquire purely receptive competence in Hebrew.

[18] Sponsored by the Language Acquisition Resource Center at SDSU.

A better, "fifth-dimensional solution" to a 4-dimensional problem" is to realize that, for "me," long life with Alzheimer's is not a desired result. Values (the Fifth Dimension), in other words, trump the 4-dimensional facts. Of course there are no guarantees in any case. But a good strategy, whether in battle or in life (including language study), the best life- strategy is to choose life-goals carefully, and then choose the method or strategies that seem most likely to *aim* at those goals.

How many variables would have to be considered to assess a whole, articulated FLT method, or any of its parts? Let me take the shortcut of suggesting that the two most important variables in any such method are: (1) attitudes, and (2) goals. Attitudes are of course highly unpredictable,[19] leaving **goals** as the most important feature to assess in evaluating any curriculum.

Conventional assessment.

I realized the limits of conventional assessments while teaching ESL reading many years ago. The textbooks had TF comprehension questions following each reading. I noticed that one student seems to be skipping the reading. It turned out that the questions were so pointed that they gave away the entire content of the reading. That was when I began a more open "comprehension check," with improvised questions. For example, with a reading on Einstein, I thought to ask, "How did Einstein Die?" The students were reading the article for the third time when one of them dared to note that the answer wasn't in the article. So I guided them to the correct answer: old age, "in the regular way." This is an example of the well-known "hoof-beats" strategy: If you hear hoof-beats, guess horses, not zebras."

Sheltered initiation Language Learning.

The Key-letter system is the latest development (over the last several decades) of a method that I initially developed for the teaching of speaking. Its earlier speaking curricula offer a cautionary tale for any assessment, emphasizing my claim that goals are the primary criterion for assessment.

SILL was reviewed as "the most radical of new methods" in Hemispheres (United Airlines) November 2000. In 1991 it was reviewed as a "heretical[20] method" in view of its "unconventional techniques and procedures,[21] while noting that "future theories of language acquisition will have to explain [its] manifest success." However, the sample student production given in that review was not drawn from a real SILL class, but made up on the basis of the reviewer's understanding of the method, in particular the true feature that of the method, that teachers are forbidden to correct mistakes in Free Speech more below). (Videos of real students can be found at my website, LanguageBezaar.com. These students had up to 10 hours of class-time in the various languages.[22]) These are not rehearsed much less read from prepped scripts, as "Free Speech" in mainstream classes sometimes is! I encourage readers to view these videos, counting errors as they wish in language that they know. I think you will find that the errors are mostly very minor, "optimal errors," and., more important, that the free speech is free of the hesitations, self-corrects, and not-so-internal self-dialogue about what to say and how to say it. (In addition, of course, count of errors is not a proficiency test. Absence of errors is more likely a sign of memorization.)

The general stance of SILL is more proactive than natural methods relying on immersion, while sharing with the latter a skepticism towards grammar excesses in FIL teaching and /learning.[23]

The small errors to be found are more like what colleagues and I have seen.

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[19] While it might seem that the main emphasis should therefore be on engaging learners, it is also true that the teacher who wants to be "loved" by her students, probably won't be a good teacher.

[20] Of course scholars and teachers disdain the heresy-hunting of religious authorities. And, to be sure, it is an advantage that academicians have foregone death sentences. But the implication that academicians are therefore open-minded and open to consider new ideas might be questioned, in view of such teacher reactions as the one quoted in the natipn-wide project reported on here.

[21] In fact, SILL is nicknamed the "Silly Method" to emphasize its unconventional, fun nature, if taught correctly.

[22] It should also be noted that absence of errors is a sign of memorization, rather than proficiency. Compare my Q&D proficiency test described in this article, which these videos exemplify.)

[23] This is sell exemplified in the way in which I responded to my first daughter's difficulty with *Milk* in her L1 English, which she solved by never saying any word, instead pointing and grunting instead. When I supplied the neologism *Moo,* she happily used it, perhaps even learning something about the origins of milk. For my first grandson, I similarly supplied when he had trouble with Hebrew *Savta* (and didn't like *Sata,* my first suggestion *Sasa,* for "Grandma,").

To be outlined here. Along with individual teachers who have used SILL curricula successfully in ordinary college courses in German, I can mention the continued use over more than a decade in a formerly traditional Hebrew program at UCSD, Hebrew being a language with some of the traditional "baggage" of other languages that are often taught conservatively.

What about accuracy? A German teacher reported that his first-semester students did better handling the dative/accusative distinction after in/auf than his second-semester students, which he attributed to the change in curriculum. In another instance, a French teacher (non-native speaker) and French native speaker observed my students of French. The teacher was disturbed by "mistakes," but the native speaker whispered to me that "that's how we speak."[24]) Visitors have estimated accuracy in traditional problems (Mandarin tones, Arabic conjugational prefixes, as well as easier conjugational endings) at about 2/3. But it must be emphasized that this is spontaneous, Free Speech exercises ("Talkathons"), not replays of learned conversations with minor variations misleadingly named creativity.[25] Even native speakers make mistakes, of course, but it is a pathology of some speakers to self-correct, Hesitate, double-back or, worst of all, lose confidence altogether. SILL confronts this problem directly. Shortcuts are traditionally taught on the Superior leek of proficiency (where many are unable to use them, because of perfectionism), but they are more needed by beginners, who can use them to increase their confidence and range of imaginative expression, removing all self-consciousness.

I do avoid highly colloquial forms and slang, but always pick the easiest forms; there is a choice, sometimes pushing the envelope a bit if it will give more learnable structures. But the more important strategy (a rule, actually) of curriculum design is "asymmetric sequencing," whereby similar words and structures are never taught together. I also use carefully contrived or even forced translation to help accuracy in learning. For example, I teach Spanish *está* as "is located" first, leaving *es* for later. In general, "marked" forms are sequenced after unmarked, separated by a week or two. This sequence tends to give the student the shortcut of the unmarked firm to fall back on if the correct form doesn't pop up easily. Teachers' favorite "rules of thumb" can rarely work easily enough to allow continuous spontaneous speech.

A more unconventional shortcut (actually a "detour") is to initially teach the past tense using *did* instead of the simple past. This strategy will prevent the typical mistakes like *I didn't went,* and providing a basis for the complex syntax of the negative and interrogative that is otherwise lacking. *I did go* is of course pragmatically odd

This sequencing is the reverse of a conventional teaching strategy whereby you teach the hardest structures first. Common sense and Natural Acquisition theory agree with my strategy, I believe. Confidence is best nurtured by structures never being taught in "before their time," and likely to be lost *forever* if any structure is taught too early. Fossilization of attitudes is far more dangerous than fossilization of errors.

SILL differs most from Natural Approach is using sequencing intentionally, rather than depending on immersion (or pretending to). SILL uses explicit grammar, but under the strict constraint of asymmetric sequencing, one item at a time, mixed in with constant required Free Speech—correction completely forbidden.[26]

The most heretical part of the method is no doubt the "Talkathon," in which each student must speak for as long as possible without any interruption or correction, by the teacher or the students themselves.

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[24] I once had a Serbian teacher who corrected a student "mistake" by saying: "Don't say that. Native speakers say it all the time."

[25] The creativity of SILL follows Chomsky's definition. Some teachers seek creativity of different sorts, more focused on what they do, rather than what they teach their students to do.

[26] This constrained sequencing is the most distinctive feature of SILL curricula, and, I believe, the source of its power in achieving both confidence and fluency, along with optimal accuracy—not perfection. Many observers mistakenly think that the use of associations is the most distinctive feature of SILL, based on the fact that they are such an underground phenomenon in mainstream classes—but no more so, I think, than the rule never to correct in Free Speech. (In SILL, correction is limited to Pattern-Drills, and even then is restricted to one correction per turn. (The teacher should "collect, not correct" wrrors made in Talkathon to make up special exercises separately. Ultimately no mistake is serious enough to banish a student from the language, even indirectly, by intimidation or overemphasis on errors. Do we want Japanese people never to speak English, just because they may confuse *L* and *R*?(Or do we even want them to feel self-conscious whenever they say theses sounds?)

This "difficult" exercise encouraged by the first lesson, in which students rudely shout orders as in a restaurant, to overcome shyness and learn the confidence needed to speak spontaneously and creatively—in front of sometimes scary native speakers.

Creativity"

This term is one of those placid platitudes, like "spirituality" in other contexts, that is easily misused or abused, e.g. as a criterion that sounds good but may even play a negative role. (I certainly remember teachers who used to "show off" their own creativity, as a (poor) substitute for lesson planning. "Whose creativity" is the first question, and my suggested answer is given in the term SOLE. We want learners to be engaged and involved, as individually as possible, fitting the curriculum into their own learning style as a matter of course, not of bureaucratic multi-streaming of learners categorized by some formal test.

Glyphs.

The initial device in the SILLy method for Hebrew and other languages using radically different writing system is a set of specially drawn illustrations that I call "glyphs" (or "glyfs")[27], which blend graphic representation of the word's meaning, into the traditional spelling of the initial vocabulary taught with a for example (3+3) to represent the meaning "six," which is spelled שֵׁשׁ (or שש) and pronounced *shesh.* (This display perhaps shows why learning from glyphs allows students to read without vowels.) The glyph in effect teaches the word's spelling but as a sight word, to provide a meaningful context for letter learning as a subsequent step. Obviously learning sight-words as meaningful wholes enhances their recognition for skip-reading and reading comprehension, and is a chief reason why SILLy students of Hebrew easily learn to read and comprehend without vowels in the same time that most students of Hebrew are still struggling to "decode" (pronounce[28]) text, in order to access their vocabulary of Hebrew words by pronunciation. Most SILLy students report that reading for comprehension is about as easy with or without printed vowels, while many students find reading without vowels beyond their abilities, even single words.

Interestingly, glyphs provide an interesting recent case of resistance by students and especially parents. As noted, the glyph system and SILLy sequence has been used with children, college students, and adults, for 5-20 years, and has seemed to them as to us teachers to be an important factor in the unusual abilities of these students at all levels. Recently the Hebrew school parents staged a revolt, objecting most to glyphs (secondarily to Key-letters which, however, were not present in this series at all. Of course parents have the right and duty to monitor curriculum, but the curriculum developer must evaluate complaints. Apparently the parents objected to not being able to help their children study Hebrew (although they hadn't participated in efforts to help them do so) with on-line materials and meetings. (They also complained about the vocabulary choice, e.g. protesting that "England" is not needed (although "English" presumably is.[29]) We are now considering using more English translations and/or photos in years 3+ as partial alternative to the "SILLy pictures" that so far serve for this purpose. In fairness to the students and parents, photos may well serve better, and translation is not so terrible at higher levels of study, although I know from experience that even pictures can be ambiguous. A flash-card can't work well if you have discuss whether the picture is of the road or the intersection or the truck on it (some of this problem certainly occurs with the abstract line-drawings that are the glyphs. Even the glyph for "six" might be thought to be "hands." But the protestors were right to the extent that it is probably better to use fewer glyphs, and transition sooner into photos, spellings, and translations.

Learnability and teachability.

These two factors must be carefully distinguished, because they work rather differently, although attitude (the placebo affect and its opposite, "resistance") are more important than other factors. Generally speaking, I can safely (albeit immodestly) claim that virtually all students of SILL courses have learned to speak *confidently, continuously, creatively and comprehensibly* within the limits of the vocabulary learned.

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[27] cited in Brown-Azarowicz et al.

[28] a particularly inept term (although traditional among Hebrew teachers) since decoding usually means getting meaning, not just pronunciation.

[29] The ad-hoc committee of students (children) and parents also came up with general recommendations for "more Baskin and Robins"—and less Hebrew, both common desires of Hebrew school students and parents.

This vocabulary amounts to about 20 words per week in a college/adult environment (about half for children). Some 20 languages have been taught, especially in multi-language courses teaching up to 10 languages simultaneously. Once some ten languages were taught simultaneously to some 200 attendees at a special Leaning Annex workshop. This event covered just two lessons (5-6 swords each). Some 40 languages were taught every month or so at the Learning Annex in California, for some 15 years when it was live, with excellent student reviews.

More significant were the mini-courses, with vocabularies of about 200 words or so, taught by me and others in various environments, including regular college courses, as well as multi-language courses taught by me and one or two colleagues (and students).

Teachers who were willing to teach the program were able to do so, although some observation and training were useful. Even very able teachers weren't always able to completely refrain from correcting errors in Free Speech, as the method requires. Extreme proof of the teachability is glyphs for Hebrew is the fact that my younger daughter was the first teacher of the method, to two children, without previous background, experience, or knowledge of language teaching, except being a student of Spanish, and bilingual. (She was then a high-school student, and later went on to be a real-estate agent.)

In fact, the less background, the better. Teachers were even able to achieve similar results similar to mine, even when they didn't know the language. They usually end up able to speak as well as their students. One student taught Mandarin to a man going to China to bring back a wife. (He no doubt spoke English when there.) Students who have gone on to move to a country, e.g. Japan, do mention details in my courses that they would correct. (My contention is that the slight simplification gave them confidence and fluency that might be less if they had struggled with the traditionally preferred forms, much less a difficult distinction, e.g. between Japanese *e* and *ni*.

One qualification is an absolute sine-qua-non for teachers that some teachers simply do not have: willingness to experiment with a method that may strike them as wrong-headed. Teachers who are willing have turned out to be mostly trainable, but teachers with a lot of experience in other methods sometimes simply cannot make the leap and are best advised not to try. Resistance of students can be fatal too, of course, but I have found them mostly more amenable. I and my daughter, and a dozen teachers) have found that simply following the simple Study Steps brings adequate results from students…although getting them to the point where they can talk freely on any topic that they have enough vocabulary for, for 10 or more sentences continuously, requires a little more emotional engagement from both students and teachers.

Most teachers have the goal of combining fluency with accuracy, but end up overemphasizing accuracy. But any correction of spontaneous speech, and whether its effect on accuracy is large or small, permanent or temporary, its effect on spontaneity is decisive in the short term, and likely to become permanent, as in the millions (many more than Pimsleur claims fluency for) who simply cannot speak in their language of study.

My Q&D "proficiency test" is to point my finger at the learner and say, "Talk!" (After the rules are understood: the test stops as soon as there is any self-correction, long pause, or "umm").[30] SILL students average 10 or more sentences after a few weeks of study (at 2-3 hoarse per week). Students of the method have gone on to study and live in the foreign country, including Israel, Japan, and France (one marrying a French woman[31]).

How to assess Key-letters? How can we measure the ability of students to guess with so many degrees of informative context? Students of my adult-education Hebrew program, and my college program, which included them in its three semesters of integrated curriculum with a large speaking emphasis) which teaches reading comprehension throughout. In adult Sunday school classes they learn via Key-letters from the beginning, learning letter-meanings along with their pronunciation. Students report the negative that the meanings given are often abstract, so they sometimes have to strain to understand and use them. On the positive side, they appreciate how the Key-letters allow them to guess the meanings of entirely new roots with little context, for example the rabbi was surprised when one of my students guessed that *Peresh* means "interpret" on the basis of *P = open*. In classes at the university (SDSU and UCSD) students make these sorts of guesses routinely.

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[30] A higher level topic is to tell a story about a person who goes somewhere and has interesting adventures. It is sometimes surprising how few "successful" students can handle this at all. Some will repeat bits of memorized conversations, or respond as in an old cartoon: "I just got an A in Spanish!" "¡Muy bien!" —"What did you say?"

[31] He had dropped out of a regular French course, but found that he could speak much better than the students who remained in it.

I recall one class confronting the unknown root *Prsm* "publish, fame" three times in a single reading. They could not remember it from one time to the next (within a half-hour!), but were able to guess its meaning afresh each time.

Some students report that the "meanings jump off the page." And this is literally true, [32]since a circular Key-letter s marks words for spinning, e.g., and a letter that looks like someone smiling and saying "Shush!" gives meanings of "peace and quiet." The shape of Key-letters actually represent the meanings iconically, not for any mystical meanings, but simply because they evolved to do so, apparently under the subconscious influence of the meaning (this being interestingly strong although indirect evidence for the Key-letter meanings). In English and Hebrew, the meaning can be "read into" the letters with moderate imagination: *C* as CATCH, COLLECT (backwards *C* in Hebrew), *S* (a circle for Hebrew) for SPIN. Even if (as with Hebrew *Sh!*) I may be suspected of reading in an iconic quality that does not actually inhere in the letter, why, that is simply another True Lie, irrelevant to its usefulness.

Key-letters.

I suggest that the assessment can be short-circuited via focus on goals. In the typical "anti-semantic" (no pun intended) mainstream Hebrew curriculum,[33] pronunciation (misleadingly called "decoding") is the initial goal, with grammar study the main focus thereafter. Tri-literal roots are learned (or at least taught) along the way, of course, but as if unstructured (as lexicon is typically assumed to be), i.e. catch as can, depending on the readings used.[34] Students of Hebrew by Key-letters, in contrast, are learning roots with the help of the "filing system" provided by the Key-letter inventory, a sort of "semantic dictionary," organized both by Key-letter and concept.

The Key-letter system has been available for several decades, but few use it. A typical reaction when they hear about it is "It's nothing new and besides, it won't work." As it happens, the insight that letters have meaning in Hebrew is indeed not new. It was an idea bandied about in 10th-Century Andalucia. Modern versions of it can be bought in Jewish bookstores, as coffee-table books on the "Wisdom of the Aleph-Bet. But these books give no more than one example per word, and focus more on spiritual implications of the letters, e.g. that *Aleph,* the silent letter, teaches us modesty (a classic insight of Kabalah). In modern Hebrew curricula, it is taught that the letter-name *KEF* means "spoon, shovel, palm of hand," but not that this letter begins a large "brood" of words meanings CONTAINERS, including not only "pitcher, cup, cap, vessel, hair, assembly, church," and verbs "include, conquer, annihilate" and various other words with similar meanings, including "all, any."

The shape of meaning.

Letter	*sound*	*Graphic interpretation*	*sound*	*Sample word-meanings*
	s	circle	*S*	Spin, Surround, Sinai, travel, horse, a party
	,,	Meaning[35]	*Sh!,* Peace & quiet	peace, quiet, listen, keep, name, various numbers, judge

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[32] Of course you cannot read a page as Dickens' Pip did. You must know where the words are (and that the Key-letter is normally on the right). Prefixes are a big problem, which is generally true for Hebrew—for which the list of letters that are non-key offers a massive partial solution. Only once did I try to let a student face a whole page with nothing but a list of Key-letter-meanings. The result was over-imaginative" (but she did go one to become a rabbi).

[33] For example, while many Jews have heard and even said "the *Motzi*" many times and have experienced its pragmatic context well, many of them don't know the meaning of the word *motzi* itself. I was surprised when a Jewish day-school principal and a Torah reader (respectively) guessed "thanks" and "bread." (I was relieved when the first person to answer correctly was a beginning student of mine, recently converted.)

[34] Speaking Hebrew is less a priority in Hebrew curriculum than learning to say prayers and, if possible, read and study the Bible. "Speaking Hebrew" usually means memorizing conversations.

Summary: In Indo-European languages D means "down" or "see" or "know"; in Hebrew it means "press down" or "judge" or "know."

[35] Lest I seem to be claiming an unrealistic simplicity, note that all Key-letters have two main meanings, which are often very different, even near opposites: *S* = spin/close, *Z/Dh* = SPRAY and SHINE (including "identify, this, remember")

Letters vs. sounds. Soft C, Ch.

It is important to note that the system refers to Key-letters, rather than sounds, breaking the even more primary axiom of linguistics that language is speech. Of course, Chomsky/Halle showed letters often represent "deep phonemes"—which might be even more relevant to teaching than to linguistic theory. especially since written language is in many ways more important in EFL/ESL than speaking (along with it being the definition of "civilization.")

The arrangement of Key-letters and their sounds does explain historic sound-change, e.g. why Grimm's Law works the way it does, changing *P* to *F* or *B* rather than *K* being a change that, in qTheory, preserves meanings. But the basis of the system is non-phonetic, as shown most clearly in the Gliders, G/S. Indeed, I wondered why these letters were grouped at all, until very recently, when I noticed Glide and Slide, near synonyms. If one asks a theory to be predictive, such strange predictions are good test cases. In any case, Hebrew soft *C* (K) is pronounced like *Het,* but the meaning is in the letter not the sound. Similarly soft *C* and *Ch* have the meanings of *C/Km,* not of *S,* etc. It is obvious that thus must be so, since words in soft *C* and *Ch* all derive from words in hard *C*. The meanings of Key-letters will no doubt eventually migrate, but for the moment letters are a better guide to meaning.

Five axioms of linguistics.

The research here addresses five basic principles assumed in varying degrees in modern linguistics:

(1) Language is speech,
(2) The meanings of words (morphemes) are arbitrary, except for a handful of marginal onomatopoetic items—if not indeed they are definable at all, and thus subject to any sort of linguistic analysis.
(3) The lexicon is essentially unstructured, as opposed to the more or less coherent structure of other language subsystems. Connected with this third axiom is the older (hopefully out-of-date) assumption, preceding Katz & Fodor's (1963) classic compositional theory of semantic structure, namely that meaning essentially belongs to pragmatics,[36] and is thus outside of linguistic competence "proper."
(4) Genetic relationships between languages are shown by one-to-one sound-correspondences between basic words and morphemes in two languages. Grimm's Law thus relates the Indo-European languages, and the Semitic languages are similarly related among themselves. A very few words might suggest a possible genetic relationship between Indo-European families, but these are two few to allow for a sufficient set of systematic sound-correspondences between the two families.
(5) Theories of linguistic structure are generative theories, predicting linguistic structures by a series of generative rules.

Key-theory is an empirical hypothesis. It is based on certain relationships not generally noted, but obvious enough once pointed out. It is left for readers to judge how innovative the modifications to be proposed are. For some (especially (5)) much modern research in various sub-fields of linguistics (too diverse to be listed here) has already suggested parallel modifications. For others, linguistic observations have been made elsewhere, although often dismissed as "fringe" ideas, such as sub-morphemes[37] and "clang-relations," all swept out as ancient superstition by de Saussure's "axiomatic" and self-evident notion of the "arbitrariness of the sign."

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spill/peace, with many sub-meanings each. Thus a single root *S-p-q* gives both *Safeq* "mental spinning: doubt" and *Sipuq* "mental Closure: satisfaction." Of course ambiguity pervades human languages: You need *oversight* to avoid *oversights*. The practical solution is asymmetric sequencing, i.e. not trying to learn all words at once.

[36] Fodor and Katz can be said to have brought lexical semantics into linguistics (at least officially or nominally) on the strength of the single example *bachelor.* There remains an inevitable tension between the formalism that so appropriately characterizes syntax and phonology and the elusive nature of meaning, which seems to threaten or break the walls not only of linguistics but of science generally. There is no cure for this tension, but it should not justify a futile attempt to find supposedly objective" research methods of any domain. in our out of linguistics. (See further comments below.)

[37] These can all be included in the handy term "phonosemantics," which has a long tradition (mostly on the fringes and outside of linguistics) of assigning natural meanings to individual sounds. Such proposals are consistent with Magnus and Malik (2000), in which all consonants have their own meanings. The present theory is closer to Bolinger's theory of phonesthemes and rimes, but with single-segment phonesthemes as the main bearer of word/morpheme meaning, the remainder being an arbitrary sequence (except where echoed by rimes in other words).

What is this?

It is well known that concepts, entities, and even living creatures that stand on the line separating two contrasting categories fall into the non-category of taboo, and do not fare well in human communities. using "q" for its visual resemblance to an old skeleton key, I call it qTheory. So what field does qTheory belong to?

At least in hindsight, we can call Lobachevskian geometry a branch of geometry, even though his contemporaries may well have considered it "heretical" geometry. Today, in fact, we might be tempted to call it simply "geometry," since it is more inclusive, Euclidean geometry being limited to flat surfaces. Similarly, Newtonian physics is a narrower firm of physics, which now includes Einsteinian physics, quantum mechanics, and string theory (the last of which is often called "unscientific," especially by some whose knowledge of and practice of science may be limited to turning on a TV).[38]

The basic claim of qTheory, then, is that the first consonant of any morpheme is a determinative, giving a hint about the meaning of the whole morpheme. (Prefixes and suffixes all have their qLetters, which may, however, be preceded by a vowel or other prefix. Each qLetter has two main meanings, which can be regarded as the source of the various meanings of any root or word whose qLetter it is.

So what field does qTheory belong to?

One might be tempted to classify it as a study of metaphor, or etymology, or phonosemantics, or psycholinguistics, or psychiatry, or a set of practical tricks (strategies) for foreign-language study. —anything but linguistics. If one is an etymologist, one might be tempted classify it as not-etymology. After all, Grimm's Law typically accounts for two consonantal segments, even if its explanation of the vowels is often less than tight. But no one gave Grimm any sort of permission to incorporate a theory of phonetic change at all, much less to ignore vowels. On the contrary, Voltaire criticized etymology as "the science in which consonants count for little and vowels for nothing at all." He was guided by what I call the Everest Principle: the commitment to describe "what is there," which can be regarded as a modern formulation of Galileo's *Eppur si muove,* i.e. "Look at the darned data!"

In the first instance, it is a theory of lexicon in human language, claiming that the qLetter represents a single segment sub-morpheme—like Bolinger's phonesthemes but single segments instead of clusters. The rest of the word is what Bolinger calls a "rime," and it too may have a meaning.

The fact that phonosemantics is older than linguistics is not an argument against this appraisal of phonosemantics. Heresies often precede the councils that classify them as heretical. In general, however, phonosemantics in its literal meaning is actually an impeccable definition of the whole field of descriptive linguistics itself. That is, the goal of descriptive/theoretical linguistics is to explain the relationship between speech sounds (or letters) and the meanings they express. De Saussure's "axiom" is a massive claim,[39] saying the there is no relationship beneath the level of the word. Later linguists would modify it massively by introducing the notion of the morpheme. But even with this massive revision, counter-examples are as old as the theory, e.g. *cran* in *cranberry.* Bolinger's theory of sub-morphemes propped a further revision, but leaves us with an unknown number of phonesthemes with identifiable meaning, along with rimes with little or no meanings at all. (Where is Voltaire when w really needs him?) So we are left with linguists and etymologists, standing around scratching their heads, like farmers in 1900 America, wondering what kind of horse this "automobile" is—ignoring, of course, how useful it might be.
Of course, scientists all love to accuse each other's fields of being "not science," especially if they're not quantitative. They have learned the lessons of their long-ago high-school science fair!

It is not known on what grounds the Novgorod Academy of Sciences rejected Lobachevski's proposal to reject Euclid's Fifth Postulate. Was it because they thought that he was factually wrong? Or because they thought that his work, intriguing as it might be, was simply not geometry? Or were they just offended that he dared to disagree with Euclid's Flat-Earth axioms?

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[38] Lobachevskian geometry can be called "Round-Earth" geometry, where Euclidean geometry is Flat-Earth geometry.
[39] Saussurian linguistics is narrower than Lobachevskian linguistics, since it applies just to those languages in which only words (or in later amplification, morphemes) have meanings, and no sub-morphemes.

It is not known, because the Academy has been lost to history, except for their rejection of Lobachevski's work, while Lobachevski went on to fame (and poverty) as the "Copernicus of Geometry." Lobachevskian geometry not only became the foundation of the news field of "Foundations of Logic & Mathematics,"

(Their mistake: assuming axioms to define their field, like the linguists who once thought that disallowing overlapping phonemes "defines linguistics as a profession" (just as 3-piece suits define the legal profession, perhaps) with its new truth that axioms are not permanent. Self-evident truths, so evident that they need no proof, but rather conditional assumptions, justified by the logical systems in which they appear, and indirectly in the applied sciences that use these theories. Lobachevskian geometry (aka modern geometry) also has the practical benefit of allowing for flight plans on spherical planets, although that would no doubt have been discovered eventually, the spherical nature of Earth having been established long ago (by heretics like Galileo). Of course it might have taken a few airplane crashes to awaken scientists to the practical need. The potential of my "Lobachevskian Linguistics" would seem to be similarly broad albeit within linguistics (defined not as the field defined by adherence to de Saussure's axiom, but rather by the study of human language).

Does "science" require quantification and controlled experiments?

Some scientists and non-scientists believe that linguistics is not a science, because it is not quantitative. Quantitative experimentation belongs to the Information Age,

Some skeptical colleagues have purported to debunk my theory by looking at the sections for given letters in a dictionary one by one. I encourage readers to try this on their own. The first impression is likely to be of chaos, as you look at the seemingly endless variety of words in L. How can one meaning encompass both Large and Little? But as you keep looking, you may begin to see connections between words, and even little "broods" of words, like Lullaby, Lie down, Lock up, etc. But English speakers are long used to the seeming craziness of the prefix in- meaning two very different things, "in" and "un-." Of course the dictionary analysis should not be done in a vacuum, but in comparison with the theory offered, in which all Key-letters have two meanings. For example, N has the near opposites FOCUS and NEGATION, both found in multiple examples in English, Latin, and Hebrew. Similarly New, Now (with cognates in Greek and elsewhere is based on N1, while Nude is based on N2.

Perhaps strangest of all is *M,* in particular the group of sub-meanings *i.e. the "brood) that I call "mini-max *M,* in Latinate English, *Minimum* and *Maximum*. Hebrew has *me'at, me'od* "a little, very." Opposites arise in language, as a part of ambiguity, as in *oversights prevents oversights.* The mini-max brood is connected via the mediating word *Measure* (Hebrew *Madad.*)

Inspecting a dictionary without a theory would be like challenging the law of falling objects, when just discovered, by dropping pairs of objects, and observing "by eye" whether they observe the new law. The numerical investigation of qTheory is potentially interesting, but probably only to refine it, rather than to evaluate it. The problem is that we don't know enough about semantic features to count so specifically. Are "erase" and "kill" semantically related? In Hebrew there is the root *m=H-h* "erase, wipe out," which can be applied to both animates and inanimates. But does the relationship extend to other members of the "brood" for *fatal-M,* such as *Met* "dead," or *maHaq*, and *maHa*, both meaning "erase," and *Mush* "disappear." The answer is yes if Lexical keys are a structural reality, and otherwise a coincidence.

In any case, the theory defines the domain. One point would seem (to me, but apparently not to some others) is that the relationships, if real, are linguistic. If they are metaphor, they relate to the use of metaphor not in literature (a use of language) but in language. If they connect words in same and different languages, they are linguistic relationships, not physical or chemical. If psychological, they are psycholinguistic, not concerning learnability except as concerns language, or motivation at all (to exemplify other branches of psychology). When Whorf observed that fires were caused by pragmatic confusion that identified "empty" as implying lack of power.[40] His work is not considered an insight in physics. It is an insight relevant to insurability, to be sure, but that does not turn it into a theory of fire- insurance, MIT Press apparently considered it a work relevant to cognitive psychology. Would Whorf be hirable in a linguistics department? (NO, he didn't have a PhD from a recognized department.)

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[40] This is not a strange inference, given real lexical meanings and connection. Compare how *empty promise* means a promise that cannot be   actualized. So Whorf may have been criticizing real-language lexicon, much as marine biologists may criticize categorizing whales are fish.

I encourage the readers to investigate dictionaries of any Semitic or Indo-European language on their own, keeping in mind the cross-linguistic equivalences, e.g. Hebrew *Tz* vs. English *J*. English *J*, as well as C/K, or L words involving Lifting/Raiding or Loftiness.[41] . Of course thy must keep in mind the deeper question: How many C-words must be seen as involving Cutting (mm1) or Collecting/Containing (mm2)? If only 30% conform, does that debunk qTheory? That is like asking whether a conjugational theory is debunked by there being more irregular verbs than regular in languages that have conjugation at all. In fact, It is well known that the more common words in any language exhibit more irregularities than the uncommon. Does that mean that a theory of regularities is debunked?

qTheory claims that de Saussure's famous axiom (that words are arbitrary sequences of phonemes with a arbitrary meanings) is not the whole picture. (Of course many counter-examples have been known throughout, e.g. *cranberry*.) qTheory implies, consequently, that the lexicon is not an unstructured set of randomly varying items, but is organized around Lexical Keys. The implication is that ordinary dictionaries are primitive attempts to reproduce the subconscious organization of the lexicon, although they diverged in various ways that may or may not contribute to their practical usability.

Of course as a theory of lexicon it has implications for various subfields of linguistics: historical linguistics and language history and language families, including etymology, and applied linguistics, including the teaching of foreign languages (including English).

SA language is a complex system of relationships between meanings and speech-sounds (or, equivalently, letters). The history of languages therefore is a history of sound-changes and meaning-changes. (In language as in life, shift happens.)

As for its dismissal as "phonosemantics"—a heretical branch of linguistics that proposes e.g. that high vowels area associated with meanings of smallness and low vowels with largeness, as in little vs. large. Of course *small* is a counter-example to the generalization.[42]

In language history qTheory explains why sound-change happens in the way it does (e.g. *P* often becomes *F and rarely if ever K*. In meaning, the changes follow particular paths of metaphoric and other extensions, as shown in how specifically word-meanings "tweak."

finds many linguistic and cultural connections that have long been hiding in plain sight. Included are Spanish *pan* and Aramaic *Pita* based on tasty *P. the* Polish and Israeli airlines*, Lót* and *eL-aL* based on *L* "lift." Containers with Key-letter *C* or its equivalent including meanings "cap, cup, collect, contain, chair, church," etc. including English *Cap,* Hebrew *Kipah* "skull-cap," and Arabic *Kafiyah;* and Latin/Romance *Tu, Nos, Non,* vs. Hebrew *aTah, aNu, éN* "you, we, not."

Applied…requires quantitative, controlled experiment?

Again recall that the Pythagoreans were a sometimes fatal religious sect. It is a straight, although long line from the Pythagoreans to the Information Age, with statisticians (and "other liars"), and the belief among some physicists and psychologists that linguistics isn't a science because it's not primarily quantitative, But we are now graduating from the Information Sage to the Conceptual Age, with Cognitive Psychology offering all sorts of shortcuts to deeds that we want to so. Just as the screw offers an easy shortcut, an easy alternative, to carrying water up mountains in buckets (apparently water-locks were use to raise the blocks for pyramids). Alphabetic dictionaries are a better alternative than having to search for words without alphabetic order—but is hopefully not the best possible tool in a language, such as Hebrew, where words are not organized alphabetically (because of prefixes). A Key-letter-based dictionary would be shorter and easier to use, even in those cases where a specific word must be verified. But a greater simplification comes with the use of Key-letters, which constitutes a lexicon of so few items that you can carry them in your head, literally.

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[41] Of course it is important to ignore vowels preceding the first consonant, and prefixes. (In English, *S can be a meaningless* prefix, e.g. in *Smash*.)

[42] The *L* beginning little and large would similarly seem to mess up my theory of *L*. Like other Key-letters, *L* has two main meanings, as opposite as the others: *Lift* vs. *Lock*. The two meanings can be found in the IE root *Leg-,* which means "lay down" or "pick up," as in *legal,* vs. *select/elect.* See the table of examples for examples of *L* in both meanings, and similarly, in fact, for all Key-letters, including C/K as "cut" vs. "collect." In this any most cases, the mm2 can also be seen as the result of the action of mm1, e.g. spin > close for *G/S.*

The information age boasts quick access to information in our Information Age, so we can look up any words as quickly as we can spell it. Except if the dictionary isn't ordered alphabetically, as in Hebrew. Then, if you want to look up *motzi,* how do you know where to look? If you have a handy verb-table like Bolotzky's 500 Hebrew Verbs, you could find out that motzi is listed as yatza or *hotzi*, depending on the dictionary. Except that this book has no index. The verb-book tells you how to create *motzi* from the root *yatza,* but not the reverse.

But in qTheory, you simply look from the first letter, and check if it belongs to the list of "primary Keys." *Y* does not, so you move on to the next letter. *Motzi* is harder, because *M* does belong to the list of primary Keys, but it is one of 5 Key-letters that can also be a prefix. Their identity and possible meanings are easily learned. Take the longest word you can think of, e.g. *wehaBhi'enu,* and there is no further complexity, so it is found under *B*.
Such is the advantage of the Conceptual Age over the Information Age is parallel to the advantage of the Information Age over the preceding ages (such as the Age of Carrying Water up Mountains). So too an understanding of curricular goals can give u a shortcut, so we don't have to go through tedious controlled experiments that end up giving us no more than new dimensions of uncertainty to debate.

But are they mere tricks?

To paraphrase an old political trope, "I know tricks, Use them all the time. And these are not tricks." Verbal associations are tricks, e.g. the connection between *See you Dad* and Spanish *ciudad.*

The teaching method implied by qTheory should be evaluated like any other applied theory, by its results, as attempted here under "assessment." As a linguistic theory (a theory of lexicon) it should be evaluated by its internal logic and implications for linguistic relationships. Neither linguistically naïve native speakers nor experts and scholars can be asked directly to evaluate a theory subjectively, since they may be prejudiced by their own preconceptions, even where these preconceptions are memorialized in "well-established assumptions or even "axioms." As noted here, theories are not tasked with confirming to the subjective impressions or "well-established" ideas about the "Nature of language," any more than Pope Urban could legitimately complain that Galileo didn't get give enough credit to God, thus contradicting deeply-held ideas about the nature of the universe.

I may be accused of partisanship when I claim that the very possibility of such tricks, drawing on qThoery, is support for the theory. How many linguistic theories are applied in FL curriculum? Transformations? This was tried, with mixed success (less rather than more, it seems to me). (Tricks can work in the absence of a theory beneath them, as I will discuss below.)

Notes on Complete Table (appendix D).

The table lists translations of Hebrew words, many of which have Arabic cognates. E.g. Kamiah for Hebrew *Kipah "*skullcap," with the expected shift in reference. Most interesting is, of course, the many such translations that exhibit Key-letter meanings. These letters are capitalized. Notice that English words exhibit many examples in both the Germanic and Latinate strata, e.g. Latin *Lingua* vs. Germanic *Lip,* for "lifting" parts of the face. (Hebrew has *Lashón* tongue, language" but also *Leset* "jaw." English *Jaw,* like jowls, derives from *Jut, Jump,* which in Hebrew is represented as *Tz,* as in *MoTzi* (*mo-* being a prefix). The oddest of all the correspondences is Hebrew *Txahov, Ta'oq, Tza'ir* "Yellow, Yell, Young." The phonetic grouping of *Tz/Y//R* is not too strange, as language goes. What is strangest is that the letter *Tz* and the English letter *Y* are similar, but, given the way in which letter shapes follows meaning, it is not odd at all that both letter should have a similar "jumping" or "jutting" appearance.

These first approximations no doubt need refining, i.e.tweaking" via research. But the more important point is that individual learners must tweak the meanings themselves, as part of their own SOLE, even rejecting any meaning that doesn't work.

My new Hebrew curriculum for Americans.

My new curriculum for Hebrew takes advantage of several interesting although marginal features of qTheory, and seems to give new possible applications not in Hebrew and FL teaching, but even in teaching any alphabet to children in appealingly lively way, and possible therapy for various maladies of adults. But let me start with the curriculum for teaching Hebrew to Americans, which relies primarily on (1) the parallels between English and Hebrew letters in form, sound, and meaning, and the fact that the shape of any letter reflects its meaning in some degree.

Following one traditional practice, the curriculum starts by highlighting the "universal" features of the native language, e.g. that English words in C have meanings of Collection.[43] It is easy and useful to present C with two hands, or, even better, to have the learner imagine it as having two hands grabbing. Enough words can easily be found to demonstrate the meanings, which can then "jump off the page." Note that a *C* with hands as a graphic is not a trick, but rather a graphic way of representing a theory that has visual implications and dimensions (as many cognitive theories do).

Teaching Hebrew, the main jump is to turn the C backwards. Hebrew words can be taught (even guessed in matching exercises with multiple Key-letters) and verses taught (with fill-in or matching translating the key-words) in transliteration before the Hebrew letters are ever mentioned. The sequencing of learning letters and pronouncing is an interesting open question.

Won't it be hard to teach?

I think this is a tropical complaint against any novelty…and may explain why novelties are so rare in teaching. Even Natural Approach and immersion based methods, which explicitly rule out analysis or teaching of structures seems hard to preachers (and indeed it is, inevitably inviting recourse to traditional grammar (as long as it's taught "communicatively") and memorization of conversations (how else are the big commercial "immersion" programs to be used? Does mere leisurely listening and looking produce immersion (before boredom)? Is it any wonder that many teachers think they're modernized but aren't, or return to belief in the "good old ways" (after all, some say, if I can learn grammar, anyone can)?

In fact, however, teaching vocabulary by Key-letters has the same challenges as teaching affixes…or prefixes or even roots and even lexical ambiguity. Do students become overwhelmed with confusion and drop a language on their first encounter with an ambiguous word, or the first time that the teacher declines to provide an answer, and challenges the student to guess the appropriate meaning on their own? Some do, no doubt, but they also give up the joy of authentic foreign languages and their study.

How come no one ever noticed this before?

They probably did. Surely some teachers and teachers have noticed that *Kaf* begins words indicating vessels. But if they did, it remained a private, individual observation, its relevance awaiting systematization. In some ways, I think, the idea is so obvious that it's easy to dismiss. Not that it's easy to conceptualize a comprehensive system for a whole language, deriving all word-meanings by "tweaking" just two main meanings for each Key-letter. Indeed, students so not embrace it, being no more anxious to (gasp) think than their teachers—except as they begin to see the fun of tweaking instead of dictionary search and rite memorization. (It may, for some, be harder to think than to complain about the difficulty of dictionaries.[44])

Or perhaps they remembered the seminal idea, and began applying it more broadly as they noticed the initial letter of other words: "Pitcher makes sense as a vessel, but how can a hat or a chair or a church or a jail be a container? How can actions like contain, conquer, annihilate, eat, write[45] all be 'container words'? (Or they may have dismissed it, without pursuing it linguistically, as obvious proof that God designed the alphabet.)

The observation that Hebrew letters have meanings, which goes back a thousand years, You can find it in the Zohar, the 12th-Century work of Kabalah, and the even older *Sepher Yetzirah*. (You won't find the insight used in Hebrew textbooks. No textbook other than mine seems to mention that the letter *Kaf* meaning "spoon" is the initial letter of words meaning: "pitcher, etc.

How accurate are the qMeanings?

Hoe can a dozen-plus Key-letters be useful for guessing the meaning of unknown words in a dozen or more new languages? With two qMeanings per Key, it's

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[43] As is often the case, the mm2 is more interesting or more common than mm1.)

[44] Note that words are actually arranged alphabetically in a Hebrew dictionary, e.g. because of prefixes. A key-letter based dictionary would be easier to use for word look-up, especially because of "non-key" letters.

[45] Writing in Hebrew involves holding a "vessel of writing." Students sometimes expect "eat" to use the Key--letter *Peh* "mouth," which does mean "open." (Compare 'tasty P in Spanish *Pan* and Aramaic *Pitah, and Hebrew* pat morsel." But *C/K* more aptly captures the action, not the organ involved. Key-letters focus on actions, just as roots usually denote action rather than entities, especially in Hebrew. So Hebrew *Bayit* is based in Bountiful *B,* like English *Building.* English *House is based on Hugging H,* more like Romance *Casa, English Church.*

S not an "easy system, and certainly not a "magic decoder," especially because tweaking is variable, and can be surprising. Even my best students find surprises…as I do. But I find it usually possible, not necessarily to guess the meaning of *any* new word in any context (much less non e). But I find it usually fairly easy, And always possible, to find interesting (enlightening) semantic pathways. Am I the victim of my own self-hypnosis? Even if so, the point is that, in principle, anyone can go through the same kind of SOLE that I myself do, in exploring more and more languages (a hales-dozen so far, with some breadth of coverage. More important, if anyone can sometimes guess a word in context with the help of qMeanings, them everyone will be helped to *learn* new words, a less demanding but equally worthwhile.

C'est absurde!

Once there was a comedy sketch on *Saturday Night Live,* satirizing Existentialism. It went something like this:
"Why do we live a short and brutal life, and then die?—"C'est absurde!"
—Because it's meaningless."
"Why do tiny mosquitoes carry diseases that can kill?" —"because it's meaningless!"

How do words mean? Why do they mean what they do?

A person, or maybe only child might ask: why do they mean what they do? A linguist would never ask such an interesting question. On the contrary, he would answer: Because it's absurd. There is no reason. It's all arbitrary. The official, axiomatic answer can be dramatized imaginatively as follows (perhaps a comic sketch). A group of people, friendly with each other, for no reason, gathers together (on any arbitrary mountaintop, or perhaps in a little village café. Let's say they're sitting in front of a pile if bans. One of them chops her hand into the pile and sweeps some if in front of herself, saying some sound, let's say "KA." Now, at least in accord with traditional linguistic assumptions, a consensus is established. They can't say, "Ok, that's a good word. Ley's all use it!" because they don't have these words to agree with. So maybe they join hands and say "Mm."

IN language we in life, SHIFT happens, so KA may change to KO, or KOKA or KOPA, snd its meaning may change unpredictably. Add to this other people at other tables in other cafés inventing other words and you have the picture that linguists assume: Any sequence of spends can have any meaning in any language. Meanings are unpredictable. A single word might mean "handle of a cup or bottom of a shoe, but not the cup itself or the top of a shoe.

Presumably, the words of a language should be as variable as language itself. If you collected all the words for cup in all the languages in the world, you would expect their first consonants to be distributed randomly. If "bear, bee, honey? All begin Dv— in Hebrew, that would just be a random occurrence. And if Hebrew ˆ*TZahov, Tza'ir, Tza'oq Tzedeq* translated as *jaundiced, juvenile, justice, joke*[46] *w\hat p*ossible pattern could there be here?

raises a coffee cup and says an arbitrary sequence of sounds. It could be *Kós* or *Cup* or anything else. It could have bee *Tree* or *dostoprimechalnosti,* They all nod (some shake their heads side to side, but others don't understand what they mean, since signs haven't been invented and say *Mmmm,* which is a sound they use to express pleasure or satisfaction or other emotions, and go on to announce to the world that this new word. Of course other groups have invented other words. When they come out they *don't* agree in a larger community, so, for example, *dostoprimechalnosti* and form their own speech community, etc.

Language universals & theoretical possibilities.

The linguistic metatheory is a selection (which linguists attempt (via Occam's Razor) to define as narrowly as the facts of language allow. For example, while inversion of two specific words in a sentence is a common way to form a yes/no question, as in French *Palez-vous français?* "Do you speak French?" from *Vous parlez français* "You (do) speak French."

But there is no human language (apparently) that forms yrs/no question by saying sentences backwards, as exact mirror images (whether word by word or, still worse, sound by sound.

Can words of consist of any sequence of sounds/letters with any meanings at all? We can't lay out truly *impossible words,* but we can lay out highly improbable words. It is very improbable that the definite article in any language is a very long word.

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[46] Tza'oq means "shout," rather than the expected "joke."

It is likely that the word for "please" is somewhat long and difficult, apparently for functional reasons: because length and complexity express politeness, , e.g. *Could you please sit over here?* As opposed to *Sit!*

According to qTheory, words vary a lot, so we can say that "Dig" must begin with such-and-such a consonant, or anything similar. But the hidden secret is, while words for any meaning can make use of various metaphors to name entities and actions, the set of sounds that they choose from is a single set at least for Semitic and Indo-European languages. So English can call a dog the "down and Dirty animal," while Hebrew/Arabic and Latin/Greek call them "Cutting—scooping animals" *Kelev/Kalb, Canis/Kuón* , etc.

Summary: Phenotypes, phonotypes, and genotypes.

I have so far made a case for the potential usefulness of the proposed system of a dozen-plus Key-letters. Given the impossibility as well as probable irrelevance of a controlled experiment, I have created a "multi-anecdotal argument, summarizing the experiences of the handful of teachers and hundreds of students with whom the method has been used. Some useful numbers can be provided, if only suggestively. Students have routinely been polled in a few dozen classes, and in general, 19 out of 20 find the SILLy method somewhat or greatly superior to other methods that the subjects have experienced.[47] (The 1 out of 20 is typically a student who didn't want to speak the language in the first place.)

Let me summarize by introducing the three new but transparent terms: Genotype, Phonotype, and Phenotype. Genotype is the traditional language family, such as indo=European or Semitic. The weight of evidence has been and remains that Semitic and Indo-European do not form a larger family, or genotype. The term "Nostratic" has been used for a speculative family including these two families and perhaps additional languages. I have not provided evidence for such a family. But the term Nostratic can serve us nevertheless, as a cover term for these two families, and the relationship that I claim to have discovered between them. More specifically, I can claim on the basis of my arguments that there is a Nostratic Phenotype, from *Pheno-* "appear," referring to the presence, indeed the pervasive role that can be seen for parallel sets of Key-letters, such as the *C* of Indo=-European languages and the "backwards *C*" in Hebrew.[48]

qTheory suggests that Semitic and Indo-European languages belong to the same "phenotype," based on *Pheno-* "appear, pointing to the fact that the alphabetic representations of the Lexical keys are similar or equivalent. The sometimes surprising visual similarity derives Naturally (and in accord with the axiomatic primacy of speech over writing) by the development of the letters, as can be seen in *C*, or even more Hebrew *S* , Its form in Paleo-Hebrew[49] was like Greek *Xi* (Ξ), which is derived from it. But it evolved into its later completely circular shape. (Greek derived its Σ from a different letter, but Roman created two circles, parallel to the Hebrew development in its *S.*

It appears that the letters reflect an Old Onomatopoeia, which was in effect when the alphabets w were forming and developing, about three millennia ago. That is, the current phenotype reflects a former phonotype. They do not necessarily imply that Indo-European languages are genetically related, i.e. belong to the same genotype. The Nostratic languages, family or not, can be recognized as having been of the same or similar phonotype's c.3 millennia ago, which might have been accomplished by "borrowing," i.e. the Key-letters might have represented an onamotpoetic overlay on top of already established lexicons. This would explain why only the first consonant is often the only identity. The first consonant is of course, most salient. But the onomatopoetic tendencies might even be partly universal. I leave this as an open question, noting that very tentative examination of Chinese does show some parallels.

It should be noted that phenotypes, in the present sense, are used in traditional historical linguistics and etymology. For examples, Grimm's Law was established in part by peeling the sounds from under their spelling.

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[47] This is the proportion in classes that I have visited with sample lessons. In a nationwide project sponsored by the Language Acquisition Resource Center, SDSU, the majority of students (60=70%) considered the SILLy curricula superior or very superior to other programs that they had experience. A few teachers, however, complained that (as one wrote) the method "doesn't conform to my understanding of what language is" (or objected to its use of verbal associations for vocabulary learning).

[48] *K* can be regarded as an allograph of *C,* an alternative form for the same Lexical key.

[49] Aka Phoenician, used in Israel'/Judea (South Canaan) as well as Phoenicia (North Canaan) during the First Temple.

But even if there is a Nostratic phonotype, which does not necessarily imply a Nostratic proto-language. If there were such a language, it would seem to have consisted of single-consonant morphemes, or consonants consisting of a single consonant followed by an indistinct vowel.

Summary & implications.

The most radical implication of qTheory is its most basic theoretical claims: that the lexicon of any language is not a messy pile of words (or morphemes), but instead is organized around Key-consonants,[50] with meanings that refer to basic physical actions, such as "Lifting" for *L.* Where the lexicon is traditionally regarded as unstructured, the abstract equivalent of a pile of thousands of index cards in a pile, qTheory claims that it is organized something like an ordinary dictionary, around the 20 Key-consonants.[51]

qTheory differs from Bolinger. Malik, and Magnus in asserting that only the **first consonant** bears meaning, the rest being essentially arbitrary in de Saussure's sense (with some exceptions). Rimes, in particular, seem to be more of a secondary connector than having any meanings of their own. (In Hebrew, rimes even contain vowels, which distinguish words but have no meaning if their own.)

Comprehension (whether in listening or reading) is facilitated in obvious ways by having a lexicon consisting not of thousands of words, nor of hundreds of root-morphemes, but of the two-dozen keys, whose meanings are "tweaked" to fit different contexts (as a reflection of diachronic semantic shift). Thus, just as readers of Hebrew must tweak the word *Kaf* to decide between its meanings "spoon, palm of hand, shovel," so too (according to qTheory) they tweak any word beginning with the Key *CK,* to fit its specific meaning through a hierarchy of meanings and sub-meanings: CUT > COLLECT >> CONTAIN > CONTAINER > "cup, cap, chair, church,…" and verbs (cut, conquer, eat, annihilate) and other words (able, power, all).

Although they reassert themselves in modern spontaneous neologisms, the Old Onomatopoeia[52] behind the Lexical-keys is mostly hidden under centuries of sound-change. But the resulting loss of iconicity in sound has been compensated by a gain in the iconicity of the letters. Thus the modern form of the IE letter C and its mirror-image in Hebrew is clear enough. (See the Hebrew-English mirror in the appendix), but they both go back to a Paleo-Hebrew/Phoenician[53] form that more closely resembles K, which is less iconic. Modern Hebrew S is a circle, and modern IE S two (open) circle),both of which nicely represent SPINNING, but they have various original forms in Paleo-Hebrew, resembling Greek Ξ (Xi) and W (Hebrew *Shin,* neither of which represents spinning very well! (In bar-Lev 1990, I argued that Hebrew was the language in which the alphabet was first invented because of its especially prominent system of phonetic) Key-consonants.

A most interesting implication of qTheory is its potential use in teaching languages (foreign or native), both reading for native-speakers and reading/speaking for non-native speakers). In my Hebrew program, students are often able to guess the meanings of unknown words in context simply by tweaking the two main meanings.[54]

The point is that., given the iconic quality of letters, meaningful comprehension of languages can be based (in curriculum) on seeing how "the meanings jump off the page," as a Hebrew student of mine once put it. That is, the Key-letters can be taught as the first curricular step, along with tweaking, in any covered language. For native speakers, they allow beginning readers to "animate" the page, by seeing the letters as cartoons of the action that they imply, e.g. Lifting, "Lofty L," and "Catching C." Key-letters are no less subject to irregularities than any other aspect of language, but meaning irregularities are more interesting (and more meaningful), in general, than morphological irregularities.

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[50] There is at least one Key-vowel: *O* in *Obese,* Russian *Obo, Ostrov* "about, island."

[51] A conplete qlexicon would be an expansion of the table of Keys. Wgere dyuctionaries are typical of the Information Age, it would fit better into our Conceptual Age, and would thus work more easily. In Hebrew ductionaries, morpheologcal prefixes prevent alphabet order, e.g. a written word *wayoTzi'enu* (*wywcy'nw*) has to be looked up under *h* or *y*)(depending on the style of dictionary). In a qLexicon, the first two letters in this word are automatically ignored, the whole process of look-up being more nearly algorithmic.

[52] The Keys odd group of *G, S,* so not seem to have any onomatopoetic basis, but are seen in English *Glide/Slide,* and of course many examples in Hebrew, etc.

[53] The alphabet might be properly called "Canaanite." The Greek alphabet gives ambiguous evidence for a choice between the two.

[54] Of course this varies and requires practice, but the very possibility strongly suggests that qTheory makes vocabulary acquisition and retention more effective.

This curricular possibility in turn shows how qTheory implies a reappraisal of written language as a part of linguistic competence for the literate speaker, of course). This implication was implicit is Chomsky/Halle's Sound Pattern of English, of course. Even there, spelling turns out to be in certain ways closer to mental representations, i.e. more basic. qTheory brings this implication out further, by emphasizing that the basic meanings of which are presented ("hiding in plain view") in the visual form of words on the page, leaving to the conclusion—for all languages covered—that "the meanings jump off the page" (as one student of Hebrew put it, but no less applicable to English, etc. This reappraisal reserves the primacy of speech phylogenetically, of course, just as clearly emphasizes the cultural primacy of written language.

In language as in life, Shift happens, and the shifts leave their traces, diachrony leaving interesting "synchronicities" throughout and between languages. In individual languages, they crate complex articulated systems of sounds in relation to meanings, reflected integrally in written language as well.

qTheory in itself, as a descriptive linguistic theory, exhibits a high level of predictivity. albeit not of the sort of Grimm's law, which is more narrowly }generative" in that sense, often requiring pencil and paper to apply, where qTheory is easily applied (as a guessing strategy) to words in any covered language in context. Thus, while it would be risky to guess the meaning of Russian *bol^{ly}shoy* in isolation, you may not even have to see the physical contrast of the *Bol^{ly}shoy teatr* with the *Malïy teatr* next to it, to guess what it means.[55]

- . The "higher-level predictivity" of qTheory is reflected in its breadth of coverage, and also in the way it suddenly revealed itself to be superior to an analysis that I had done for Arabic by plowing through a 1000-page dictionary as I had done for Hebrew(bar-Lev 2005-6). But this DE deductive leap was possible only after the system had suddenly revealed itself (quite by accident) to be applicable to English. Smaller examples of predictivity include the analysis of Hebrew *W* as meaning hook, "and" being a derivative meaning (cf. bar-Lev & Palacas). and also the analysis of *N* as FOCUS/NEGATION in Hebrew and Indo-European, including the ambiguous Latinate prefix *in-* of English, as well as a variety of further example in various languages. Many other examples have popped up, predicted by the theory, much as black holes appeared on telescope only after they had been generated by the theory. One example is the connection between Hebrew *Yah* "God" and English *Yes, You,* which will be no surprise to anyone who has studied Buber's "I-thou." A more recent example: I hadn't seen any English equivalent to Hebrew *Tza'oq* "shout," so I opened a small dictionary and looked under *J,* the Key equivalent of Hebrew *Tz,* and quickly found *Joke.* Examples are constantly popping up. While I had known that the first morpheme *Hima-laya* is cognate with Russian *Zima* "winter," but it took my wife to hypothesize that *Laya* might be based on *L* lift, as the *Alps* presumably is; similarly the parallel between the Polish and Israeli airlines: *Lo, eL-aL.* (Compare natural Compare how *D* to proliferates in names of rivers (*Don, Dnepr, Dnestr,*[56] *Danube;* but *Ganges* seems no less apt, from *G* ROLL)

These are examples of the cultural connections that qTheory recognizes, along with the well known *Wine,* as well as *Vodka,* from *W* WIFGGLE. Of course Spanish *Pan,* Aramaic *Pita* "bread," are based on *TASTY P*, next to Russian *Bulki* "rolls" and English *Bread, based on TASTY B.* And still another example, one of many that pop up constantly; the first part of Sanskrit *eKa-pad-asana* "one-foot-stance" and Hebrew *eHad* "one" as in "God is One." (In Hinduism there is also a saying: "all the thousands of gods are but one God.")

While the most important tweaking is the tweaking that the learners must do for themselves, as part of their SOLE "Self-Organized Learning Experience," I should also note that qTheory itself is in need of its own tweaking in several areas. Obviously the meanings of the Lexical Keys are subject to refinement, especially *D, T.* The status of secondary Keys and prefixes needs clarification (although quite neat and clear within Hebrew). For example, in *veNi, viDi, viCi,* the initial *W* is clearly meaningless, *N-D,C* meaning "focus, see/know, cut/conquer." But *Wine, Water* exemplify *W* as "wiggle."

Since qTheory is a lexical theory, it is not surprising that so many etymological implications flow from it, just as they did from Grimm's Law. which was only a theory of historical sound-change.

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[55] *Malïy* exemplifies the other end of *Mini-Max M.*
[56] Cf. also the Greek name for themselves , *Danoi.* At the endpoint of downward flow of rivers. The *Jordan i*s based on Hebrew yrd "descend," in whivh, hwoever, the *D* is not the Key, but rather *R* STRETCH, as it id the Key of numerois geographical entities: city, country, mountain, ruver, forrest.

Etymological and cultural connections depend, of course, on lexical theory, since etymology and "lang0culture" both depend on the broader domain of linguistics: how meaning is expressed in sounds (and letters); and of course it should not be not shocking if applied linguistics, including foreign-language teaching , might be able to develop innovative applications, from an innovative lexical theory. Oliver Sacks uses the image if a "Martian anthropologist," to demonstrate an objective perspective, unencumbered by human misconceptions. How would a Martian "anthropolinguist" see human language? If she were telepathic and/or communicated by somehow transmitting schemata directly, the big mystery to her would no doubt be curious how meanings are encoded in these barbaric noises from the human mouth. This is the "field" defined by "phonosemantics" in the literal sense. One thing is clear: She would not, as a Martian, be fooled into thinking that words or morphemes are arbitrary sequences or letters with equally arbitrary meanings. If she encountered this "axiom" of Saussurian linguistics (perhaps by secretly auditing linguistics classes on Earth), it is doubtful that she would be fooled by it—even if her Earthling professor didn't mention known counter-examples, as many do (like Novgorod academicians ignoring the parallel roads meeting on the hill in front of the Academy).

Where does the prejudice come from, that morphemes must be sequences of sounds? Some morphemes consist of a single segment: the plural ending of English, some prepositions and conjunctions in various languages (e.g. Russian "in," Spanish "and").

The conceptual stumbling block is no doubt my claim that one and only one segment in a morpheme has a Key meaning. Linguists, being logical *if not hyperlogical) would perhaps prefer a language like BABM, invented by a Japanese philosopher, in which each letter has its own meaning, and the meaning of a word is calculated by combining the various letters' meanings—which may account for the fact that no one has ever spoken BBM (probably even its creator). Magnus analyzes English as similar to this pattern, and indeed a student or two of mine have wanted to find meanings in consonants beyond the initial one in Hebrew. Of course there is bi-literal theory of Hebrew, an occasional diversion of an occasional Hebrew linguist. Whether diachronically or synchronically, such analyses can no more hold water than other similarly a-priori schemes, unsuitable even for invented artificial languages. The solution to this quandary is really very simple: the Everest principle, what language is actually like. Of course we can maintain rigidly that only words or morphemes can have meaning—but only by sticking metaphoric fingers in our ears and shout "nya-nya," and "turn a deaf ear" to the quiet but insistent "voice" of the many obvious counter-examples to de Saussure's imperious dogma. In fact, my Martian anthropolinguist, attempting to learn or analyze earth languages, being visual, would probably be helped by qTheory.[57]

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[57] (if indeed she didn't invent it on a previous visit to Earth, three millennia ago).

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Appendix.

This appendix contains a very small sample of the Hebrew-Emglish "coincidences" predicted by Key-letter theory, including the odd group 3, based on the phonetically strange equivalence of English *J* to Henrew (and Slavic) *Tz.* As listed in bar-Lev 2013, there are 7 groups of Key=letters, with many examples for each letter in them stretching across (at least) Semitic (Hebrew and Arabic) and English including both Germanic and Latinate roots, with examples easily found by speakers of Russian, etc.

group 1.

Hebrew	kipah	laqeq	qol	kova	kos	qaw	qiwah
meaning	skull-cap	lick	voice	hat	glass	line	hope
English	cap	lick	call	cap	cup	queue	quest

group 2.

Hebrew	Lev	Led	Hay		Gadal	Gadol
Meaning	heart	birth	alive		grow	great
English	Love	Live	Hail	Hearty	Grow	Great

Table 1: Hebrew-English coincidences:

Table1.1.

tzahov	Tza'oq	Tza'ir	aNu		éN
Jaundiced	Joke	Juvenile	Noster		Non, uN-
			iN, On, New, Now		
			WE-		
			With		

Tza'ir	Tza'oq	Tzahov				Tzedeq
Young	Yell	Yellow				