

Case Histories and the Comprehension Hypothesis

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ABSTRACT

There are three major views of language acquisition. The Comprehension Hypothesis, the Comprehensible Output Hypothesis, and the Skill-Building Hypothesis. Only the Comprehension Hypothesis is fully consistent with all case histories of language acquirers, including cases of polyglots and those who have acquired language despite handicaps.

Are Case Histories Scientific?

In recent years, there has been an emphasis on controlled experimental studies, and a de-emphasis of other forms of inquiry. What about case histories? My view is that case histories can be valid forms of scientific research.

For the case histories to be presented here, we will ask, in each case, whether the experiences described are consistent with central hypotheses about language acquisition, and, most important, whether some hypothesis are consistent with all cases, while others are consistent with some but not others. Of course, for a hypothesis to be valid, it must be consistent with all cases.

The hypotheses to be considered are these:

The Comprehension Hypothesis, the view that we acquire language and develop literacy when we understand what we hear and what we read.

The Comprehensible Output Hypothesis, which claims that language acquisition occurs when we are forced to produce language beyond our current competence. We change our hypotheses about grammatical rules and word meanings when we are not understood and have to “try again.”

The Output plus Correction Hypothesis says that we improve when we make mistakes and are corrected, thus changing our conscious idea of what the rules of the language are. The Learning becomes Acquisition Hypothesis, the claim that we first consciously learn about language, that is, study the rules and vocabulary, Through output practice the vocabulary and grammar become automatic.

The Output plus Correction and Learning becomes Acquisition hypotheses together make up what is known as “skill-building.” Comprehensible Output appears to be the basis for the “communicative approach” to language teaching.

In the discussion that follows, I will assume strong versions of each hypothesis, that is, I will assume that each is proposed as the only way language is acquired. This is clearly not the assumption of some writers, who propose that comprehensible input is crucial and that one or more of the other hypotheses can serve as a supplement, increasing the power of comprehensible input (e.g. Swain, 1980). We begin with a case from first language development.

Richard Boydell: Acquisition from Input Alone

The Comprehension Hypothesis maintains that language acquisition is the result of

comprehensible input, not output. Evidence for this includes cases of the “silent period,” which is quite common among children in a new country faced with a new language. They are typically silent for quite a while, their output limited to a few set phrases they hear frequently (and whose meaning they may not understand completely). “True” language production may not emerge for several months, and is, according to the Comprehension hypothesis, the result of the comprehensible input the children get during the silent period.

A spectacular case of the silent period, one that does not allow for any alternative explanation for the emergence of competence, is Richard Boydell, described in Fourcin (1975). Boydell contributed the introduction to Fourcin’s paper and tells his own story: “Like every child, I was born without language. Unfortunately, I was also born with cerebral palsy which, in my case, means that although my intelligence is unimpaired, I have a very severe speech defect and no use in my hands and arms. So, to start with, I acquired an understanding of language by listening to those around me. Later, thanks to my mother’s tireless, patient work I began learning to read and so became familiar with written, as well as spoken, language. As my interests developed – particularly in the field of science, I read books and listened to educational programs on radio and, later, television which were at a level that was normal, or sometimes rather above, for my age. Also when people visited us ... I enjoyed listening to the conversation even though I could only play a passive role and could not take an active part in any discussion or argument. Even this may, however, have had its compensation, for I was often reminded of the rhyme:

There was an old owl who lived in a tree
And the more he heard the less said he
And the less he said the more he heard
Now wasn’t he a wise old bird!

But, even so, it was sometimes very frustrating not to be able to express my own opinion except to my parents afterward, as they were, at that time, the only people who had the patience to try to understand my speech ... “ (pp. 263-4).

Boydell was educated at home by his parents until, he reports, he was old enough to study on his own: “As well as reading books and listening to radio and television to continue my general education, I read the newspaper every day to keep in touch with current events” (p. 264).

When he was thirty, Boydell was provided with a foot-controlled electric typewriter that he was able to use. Only nine days after receiving the typewriter, he produced his first letter. According to Fourcin, it was “elegantly phrased” and also made suggestions for improving the typewriter (that were eventually accepted).

The Comprehension hypothesis provides an explanation for Boydell’s ability to suddenly produce “elegantly phrased” English without any significant previous production practice. He had built up a great deal of competence over the years via listening and reading. He was, when very young, able to communicate enough to indicate to his parents when he understood and when he did not. As Fourcin noted, “by the age of 4 1/2 he could produce vocally only versions of no and yes, but his head and body movements appeared to indicate, to his mother, good speech comprehension and from that age she started systematically to teach him, using these movements as responses to spoken questions” (p. 265). After a while, his competence was high enough for him to be able to understand input from the “mainstream.” The special typewriter allowed him to display his real competence for the first time.

Table 1, presented at the end of this paper, will serve as a scorecard for these case histories. For Richard Boydell, we can agree, I think, that he had plenty of comprehensible input, but produced no comprehensible output, was not corrected, and never engaged in the study of vocabulary or grammar or any other aspect of language.

Indigenous People of the Vaupes River

Hill (1970) warns us against making assumptions about language acquisition based only on our own culture, and presents Sorenson's studies of the indigenous people living in the Vaupes River area in the Amazon basin in Columbia and Brazil as an example. Multilingualism in this group is the norm: About two dozen languages are (or were, in the 1960's) spoken by only 10,000 people, and multilingualism is stimulated by an unusual custom: People are required to marry someone who does not speak the same language!

Sorenson points out that although some of the languages spoken in this area were mutually intelligible, requiring only a few days to understand (p. 675), others are not, even some of those that are closely genetically related (p. 674). Sorenson also emphasizes that the people of the Vaupes do not exaggerate their competence: When a speaker from this area says he knows "some" of a language, with the same competence, we would say we know it "quite well" (p. 679).

Children grow up with the father's and mother's languages, but during adolescence, according to Sorenson, an individual "actively and almost suddenly" begins to speak the two or three other languages he or she has been exposed to. "In adulthood he may acquire more languages; as he approaches old age ... he will go on to perfect his knowledge of all the languages at his disposal" (p. 678).

Most interesting for this discussion is how these multilinguals go about the task of language acquisition. According to Sorenson, "The Indians do not practice speaking a language they do not know well yet. Instead, they passively learn lists of words, forms, phrases in it and familiarize themselves with the sound of its pronunciation... They may make an occasional attempt to speak a new language in an appropriate situation, but if it does not come easily, they will not try to force it." (p. 679-80). Sorenson was told that "it takes from at least one to two years to learn a new language fluently" (p. 680).

Of great interest is the observation that "It is rare for speakers to correct one another, and then it is usually only done with embarrassment" (Jackson, cited in Grimes, 1985, p. 392).

Returning to our scorecard (table 1), it is clear that the Vaupes multilinguals got plenty of comprehensible input, produced little or no forced speech, and were rarely corrected. It is possible that they did some conscious learning: Recall that they learned "lists of words, forms, phrases ..." before attempting to speak.

Francois Gouin

We turn now to case histories of those who say they did not focus on getting comprehensible input but "studied hard."

The all-time champion of hard study was Francois Gouin, who describes his efforts to learn (not acquire) German in his book *The Art of Teaching and Studying Languages*, published in 1892 and translated into English from French.

When a young man, Gouin traveled to Germany to study German philosophy, but had

no knowledge of German. Expecting to acquire German in a few weeks, he attended a lecture and understood nothing. He then “set to work” (p. 10), using the only method he knew: The “classical process,” the way he had studied Greek and Latin. He began by applying himself “resolutely to the study of the grammar” of German, and he claims it took him only ten days to fully master it. He then returned to the university, but again understood nothing: “... not a word, not a single word would penetrate to my understanding. Nay, more than this, I did not even distinguish a single one of the irregular verbs freshly learnt, though they must have certainly fallen in crowds from the lips of the speakers” (p. 11).

Gouin decided that the problem was that he had only memorized verbs. The real solution was to memorize verb roots, which he found in an obscure book. But after learning 800 roots in four days, the result was the same: Zero comprehension.

He then turned to conversation. He would spend hours in his hosts’ hairdresser salon, trying to understand what was being said, “hazarding from time to time a sentence carefully prepared beforehand, awkwardly constructed with the aid of my roots and grammar, and apparently always possessing the property of astonishing and hugely amusing the customers” (p. 14).

Gouin became aware that memorized knowledge of language was fragile: “Studied in this manner, a language appeared to me under the guise of Penelope’s web, where the work of the night destroyed the work of the day” (p. 15). Undaunted, he returned to reading, not comprehensible texts but those he needed to translate with the use of a dictionary – the works of Goethe and Schiller. The study of verbs and roots, however, didn’t help: In reading the texts, he could hardly recognize anything he had studied.

One extremely interesting observation provides a useful description, in my view, of the difference between acquiring and learning: Even when he had determined the meaning of a word from the dictionary, the meaning of words on the page appeared lifeless, in contrast to the vocabulary he acquired in his first language. “The word was always as a dead body stretched on the paper. Its meaning shone not forth under my gaze; I could draw forth neither the idea nor the life” (p. 16).

Gouin didn’t give up on the classical method. The next quote reminds me of all those the hard-working researchers determined to show that hard study of grammar and vocabulary is the path to second language proficiency:

“So my work on the roots and irregular verbs seemed to have been in vain. Nevertheless I could not bring myself to believe this seriously. ‘The fire smolders under the ashes,’ I assured myself, ‘and will brighten up little by little. We must read, read, day in and day out; translate, translate continually; hunt, hunt a hundred times after the same word in the dictionary, catch it a hundred times, after a hundred times release it; we shall finish by taming it’” (p. 16).

But after a full week, “I had hardly interpreted the meaning of eight pages, and the ninth did not promise to be less obscure or less laborious than the preceding” (p. 16). Gouin then gave up on translation and turned to several popular books that promised to teach the reader German, and found that they gave contradictory advice. None of them worked. Gouin’s evaluation of another book, *Systematic Vocabulary*, is interesting: “The book made the fortune of its author without producing the results sought for by him” (p. 24).

On meeting his professors in Berlin, Gouin noted that they spoke French quite well,

and “ ... never ceased wondering how all these people had learnt this language” (p. 25).

But Gouin still didn't get it, doing everything except find comprehensible input: He spent a full week listening to lectures in German, seven to eight hours per day, and concluded that “I might attend the German university for a thousand years under these conditions without learning German” (p. 26). But his next step was the strangest of all: He actually memorized the entire dictionary, 300 pages and 30,000 words, ten pages a day, over one month. But the result was the same: When Gouin returned to the university, he still understood nothing. Nor was reading any easier: Gouin tells us that it took half a day to read two to three pages of Goethe and Schiller, “and then I was not absolutely sure of having found the real meaning of the sentences” (p. 31). Gouin then spent another two weeks reviewing the dictionary, convinced that he had not learned it thoroughly enough the first time. And after time off because what he described as “a disease to the eyesight,” he went through the dictionary again, reviewing “only” one-seventh of it each day of the week. The result was the same.

After this ten month ordeal, Gouin returned home to France. While he was gone, his nephew, two and a half years old when he left, had learned to speak French, his first language, and spoke it with “so much ease, applied to everything with so much surety, so much precision, so much relevancy ...” (p. 34), and acquired it as a result of “playing round with his mother, running after flowers, butterflies, and birds, without weariness, without apparent effort, without even being conscious of his work ...” (p 34), quite a contrast with Gouin's experience.

(It should be noted that Gouin's experiences with German led him to develop an early version of the “direct method” for foreign language teaching, which was consistent in some ways with the Comprehension hypothesis, known as the Series Method.)

Gouin thus had little comprehensible input; in fact, he seemed to have avoided it. He appears to have engaged in some forced speech at the hairdresser's salon, but does not tell us whether his errors were corrected. His main effort, of course, was conscious learning of grammar and vocabulary, which he hoped would become automatic language. One can, of course, argue that Gouin's learning did not become automatic because he did not practice enough, i.e. he did not produce enough, did not try to apply the rules and words he learned in oral and written output.

Heinrich Schliemann

My interest in the next case, Heinrich Schliemann, was stimulated by a claim made by McLaughlin (1987), that cases exist of people who had developed high levels of competence in language “without any opportunity for ‘acquiring’ it” (p. 30). Horner (1987) claims that Heinrich Schliemann was such a person, that Schliemann “mastered English in six months ... by writing, having corrected and memorizing essays while working as an office boy” (p. 340), in other words using only Output plus Correction.

This one line is Horner's entire discussion of Schliemann. A look at other sources shows that Schliemann, although he did in fact “study” English, got plenty of comprehensible input. He studied with a native speaker of English every day for one hour, “read out loud for extended periods of time” (Jahn, 1979, p. 273), and attended two church in English services every Sunday. He not only memorized his own corrected essays, he also claimed to have memorized *The Vicar of Wakefield* and *Ivanhoe* (Ludwig, 1932, p. 63)! Schliemann said that he only needed three readings to memorize a

text, averaging 20 pages per day.

Schliemann devoted every spare moment to language study, reading and memorizing while on errands and while waiting in line. Jahn (1979) estimated that in six months Schliemann was exposed to about 1350 hours of English, the equivalent of seven years of formal study.

Schliemann's methods were not, according to the Comprehension Hypothesis, the most efficient. If, however, he understood even some of what he read aloud, his corrected essays, and the texts he memorized, and even partly understood the sermons he heard, he obtained a great deal of comprehensible input, enough to attain at least a reasonable level of proficiency in English.

Of course, it would be impossible to investigate every proposed case of second language acquisition without comprehensible input. But the case of Heinrich Schliemann is not one of them. For more common are cases like Gouin's, where massive amounts of study led to nothing. (Of course we have no test results verifying Schliemann's competence in English and other languages, but even his critics concede that he was very good at languages, see Traill, 1986, p. 64).

Lee Kuan Yew

Lee Kuan Yew, president of Singapore from 1959 to 1990, was born in Singapore and grew up in an English-speaking family. His education was in English, and he studied law in Cambridge. His book, *Keeping My Mandarin Alive*, describes his decades-long efforts to acquire Mandarin, beginning at age 32.

He describes his competence at the time of the writing of the book (published in 2005) as good but not perfect: "Before I go to China, I practice Mandarin for three or four lessons. The first few exchanges with the mayor or others, I can do in Mandarin without difficulty. When we start serious discussions, I will still be able to understand three-quarters of what is said, then I will answer in English" (p. 83). One of his teachers, Prof. Chew Chang Hai, felt that Yew "can practically use Mandarin to discuss any topic" (p. 157).

It is clear that Yew relied on traditional methods. He began with six months of self-study, working through traditional textbooks written in English, focusing primarily on mastering the writing system, and the basic meaning of the characters, in a way reminiscent of Gouin. Realizing the limitations of this method, he hired a teacher, but when he discovered that his teacher did not have the correct accent in Mandarin (Beijing), but spoke a dialect. Yew said he "erased" what he had learned (p. 19). About ten years later, he tried again, taking lessons for a few days a week over eight to nine months. Yew tells us little about the method used, only that he tape recorded the lessons. His teacher did not approve of this, and the lessons ended, giving Yew only a "slight basis" in Mandarin (p. 20).

A few years later, his political career and his post as secretary-general of his party forced him to get more serious about Mandarin, and he had lessons with a private teacher every day for an hour. Again, Yew does not provide details, probably because the method was the usual prescription for those days. He clearly made progress: "By 1959, I could make speeches in Mandarin without difficulty" (p. 27) although he acknowledged that there were gaps in his competence.

Lee Kuan Yew and Output plus Correction

Soon after, around 1961, Yew devoted some time to acquiring another Chinese language, Hokkien, again for political reasons, and reported that he was able to give a simple but imperfect speech after three months of study. His method was “output plus correction”: Yew would often give the same speech several times; a colleague would listen to him, and provide him with corrections, “so that by the time I got on television, I would be almost word perfect” (p. 30).

Yew is very explicit about this: “The quickest way I learnt was when I had to make a speech. I have to translate the words, the phrases I need, then I have to memorize them and use them. Because I use them, they get deeper in” (p. 52). Yew makes it clear that he thinks that speaking is the key to language acquisition. Input, at best, will only help you keep what you have acquired. According to Yew, reading is just “passive learning, not active, but it keeps it up” (p. 52). He recommended that his son take some Chinese novels with him when he went to England to study, “to read and to keep his familiarity with words” (pp. 53-54).

I suspect that Yew was really thinking about ease of retrieval rather than language acquisition in his praise of output practice. He notes that his son, after returning from England, “had to warm up his Mandarin again, but it came back easily because it was embedded deep in his hard disk” (p. 54), a.k.a. it was acquired.

At no time did Yew or any of his teachers mention extensive reading, reading for pleasure, listening to the radio, watching TV or films for pleasure, except for the following: “... After a trip to Beijing, we went on a plane to different provinces. I asked (the interpreters) what they did to keep up with their English. They said they read, listened to tapes, and if they didn’t interpret and didn’t read, then they were unable to keep it up” (p. 41). In other words: Input.

He notes, nearly in passing, that input was a part of his approach to language acquisition: “... very seldom do I make speeches in Malay. When I had to meet Suharto, I would listen to his tapes, his speeches, to refresh my memory of his accent, the way he pronounced words and the words he used. So, when I met him, I had no difficulty understanding him ...” (p. 58).

Lee Kwan Yew and grammar study

Yew understands that acquisition is real, that we can “pick up” language, but feels that in the absence of living in the environment “where a language comes alive” (p. 68), we have to rely on teachers. And he clearly feels that conscious knowledge of grammar is central. His advice to teachers: “if we can, we should teach them grammar, syntax – in English, you say it this way, in Mandarin you say it this other way ...” (p. 79).

Lee Kwan Yew and forced speech

“I once told the English-educated MPs who were learning Mandarin, to have a luncheon club once a week or once a fortnight, to meet and get the Chinese MPs together and speak nothing but Mandarin. Force yourself and you will keep it up. That was the way I learnt” (p. 89)

Lee Kwan Yew and reading

Yew sees some role for reading as a means of language acquisition and not just maintenance, but his version of reading differs profoundly from that implied by the

Comprehension hypothesis: “Don’t just read passively, silently: Read aloud, you must be able to pronounce it correctly” (p. 115). Reading aloud was a part of the Mandarin lessons Yew received (pp. 166-167), with Yew repeating a paragraph read to him by his instructor.

The reading activities provided by one of his instructors had the advantage of dealing with topics Yew was interested in, but the approach was clearly intensive, not extensive, with a glossary provided of new words and fill-in-the-blank and similar exercises (p. 177).

Of course, as a public speaker, Yew has good reason to focus on speech production and to make sure his speeches are reasonably error-free. In his situation, I would certainly do the same, that is, present the same speech several times, and have the errors corrected. The error is the assumption that this how language is acquired.

Lee Kuan Yew appeared to have done everything wrong: Like Gouin, he had great respect for study of grammar and vocabulary, and a deep concern for correctness. He relied on output plus correction and promoted the use of forced speech, and barely mentioned input in the entire book.

Yew claimed that his approach was necessary for someone attempting to improve in a language not spoken in the community. But Mandarin is spoken in Singapore. It is one of the official languages, and the ethnic Chinese are by far the largest subgroup in Singapore. In fact, the percentage of Mandarin speakers among Chinese language speakers in Singapore has increased noticeably in the last few decades, thanks to Mr. Yew’s efforts as prime minister.

In addition, Mr. Yew’s language lessons, despite their focus on form, provided him with a considerable amount of comprehensible input, including both the readings mentioned earlier and conversation. They were not like Gouin’s sessions. They may have allowed him to progress to the point where at least some input outside of class was comprehensible, and continuous exposure to comprehensible spoken and written Mandarin did the rest of the job.

Neither Yew nor any of the three instructors interviewed in the book appear to have any awareness of the reality of subconscious language acquisition. His accomplishments could have come a lot easier.

Lomb Kato

I gathered some of the data for this case history on my own. I heard about Lomb Kato when I was teaching, briefly, in Hungary, in 1995. My students told me that I should really meet Lomb Kato (her name would be Kato Lomb in English), a professional interpreter living in Budapest considered by Hungarians to be the world’s greatest living polyglot. I visited Dr. Lomb several times. One of my students read her book, *This is How I Learn Languages*, written in Hungarian, and gave me a summary of the important points, which were confirmed in our conversations.

Dr. Lomb lived in Budapest her entire life, and yet has acquired 17 languages. She did not grow up bilingual. She got interested in languages after receiving her PhD in Chemistry, first studying French and then studying and teaching English.

The Core Novel method

Her primary method of acquisition, and means of staying in touch with her languages,

was reading. When possible, she utilized aural input, from conversation, from radio, and on the job as an interpreter.

It was often been very difficult to get aural input. When she began Russian, for example, it was during the Russian occupation of Hungary, and use of Russian was forbidden. In addition, books were not plentiful. She thus evolved an alternative, her “core novel” method.

She selected one novel in the target language and read it very thoroughly, preferring novels to language textbooks because of the artificial language used in the latter. Often, it was a difficult novel (the first English author she read was Galsworthy), but when easier reading was available, she took advantage of it.

When she started working on Russian, she tried some “serious” novels but found them difficult. Then she and her husband moved into an apartment that had been previously occupied by a Russian family that had to leave hastily and she discovered that a number of Russian romance novels had been left behind. She read them eagerly: “Without hesitation, I started reading them ... I worked so hard to understand them that even today I remember some passages” (Lomb, 1970, p. 12, passage translated by N. Kiss). Because of the romance novels, her Russian improved, and eventually she was able to read Gogol. She occasionally rereads the “core novel” years later, in order to bring back her knowledge of the language.

Dr. Lomb told me that she does nearly all her pleasure reading in other languages. Of course, she is aware that reading alone will not suffice to fully understand oral, everyday language. She notes that those who rely exclusively on reading “may find difficulty in the oral language” (p. 87). In combination with aural input, however, reading is of enormous help.

Lomb Kato and comprehensible input

Dr. Lomb used a number of strategies to make sure she got comprehensible input. One was to use a teacher. What she expected from a language teacher “is what I cannot get from either books or from the radio ... I ask the teacher to speak at a slower than average speed so that I can catch as many words as possible from the context ...” (Alkire, p. 21).

A strategy she used in reading was to select literature published before 1950: “... (I can have trouble understanding the style of modern novels, even in my native Hungarian.) I always buy books in pairs: this increases the chance that at least one will be comprehensible” (Alkire, p. 19). She did not insist on reading “authentic” literature, and preferred to read “adapted” texts when first starting out in another language.

Lomb also understood how helpful background knowledge can be: When listening to the news in another language, she first listens to it in a language she is familiar with. This, she says, gives her a “key” to what to expect (Alkire, p. 20).

Her strategies for taking advantage of being in the country where the language is spoken include going on guided tours and going to the movies: “Studying a language provides an excellent excuse for going to the movies” (Alkire, p. 22). She also notes, in agreement with the Comprehension Hypothesis, that residence in the country works best for those at the intermediate level: “Those who know nothing at the outset will probably return with virgin minds. For those at a very advanced level, improvement will be difficult to detect. The best results will show ... at the intermediate level” (p. 22). In terms of the Comprehension Hypothesis, the intermediate has the best chance of getting

comprehensible input containing aspects of language that have not yet been acquired (Krashen, 1982).

Dr. Lomb told me that she was deeply interested in both vocabulary and grammar. She had an excellent collection of dictionaries, and even read them for pleasure from time to time! But she did not look up words when she read, unless the word kept coming back and she still did not know its meaning. She advises language students that when they are reading for pleasure in another language, “do not get obsessed with words you don’t know or structures you don’t understand. Build comprehension on what you already know. Do not automatically reach for the dictionary if you encounter a word or two that you don’t understand. If the expression is important, it will reappear and explain itself; if it is not so important, it is no big loss to gloss over it (Alkire, p. 24).

Lomb Kato and grammar

She included grammar study as part of her personal program in working on new languages, but she considered herself to be an average language student (!); for this reason she tried to find grammar books that gave answers to the exercises (Alkire, 2005; p. 19).

In her view, however, grammar is not the most important aspect of developing competence in languages; grammar study should be optional for adults, and should consist only of the most straight-forward rules. Requiring children to study grammar was, in her opinion, “absurd” (Krashen and Kiss, 1996).

Nevertheless, she valued being corrected: When doing free writing in another language, “On the basis of the teacher’s corrections, I verify whether I grasped their meanings and functions properly” (Alkire, p. 21).

In fact, she stated that “Uncorrected mistakes are very perilous! If one keeps repeating wrong formulas, they take root in the mind and one will be inclined to accept them as authentic” (Alkire, p. 21). In other words, the fear is that we can acquire from our own imperfect output.

Like others, e.g. Lee Kuan Yew, Lomb Kato valued grammar study, and was interested in vocabulary. But she de-emphasized their importance, and her main focus was clearly comprehensible input.

Daniel Tammet

The case of Daniel Tammet became well-known after a documentary, *Brainman*, was made. It has been shown world-wide since May, 2005. Tammet suffers from savant syndrome, a form of autism characterized by “an obsessive need to order and routine” (Tammet, 2006) and in his case, and extraordinary ability to deal with numbers. The documentary featured his linguistic abilities: After ten days of study of Icelandic, Tammet was able to converse in the language with two native speakers for 15 minutes.

Tammet tells his own story in his autobiography, *Born on a Blue Day*. His interest in languages, he tells us, began when he did a report for school on the Seoul Olympics when he was nine years old, and discovered a book about the writing systems used in different languages.

Much of his ability in language acquisition is, without question, really a profound ability in language learning, not acquisition: Tammet has an incredible memory. He holds the European and British record for memorizing pi, at 22, 514 digits. (This is,

incidentally, fifth in the world. The world record is held by Chao Lu, 67,890; see <http://www.pi-world-ranking-list.com>).

Unfortunately, Tammet doesn't tell us too much about how he goes about mastering a language (he says he now knows ten languages, and has even invented a language). His comments about language, however, scattered through his book, show that Tammet is clearly in favor of both learning and acquisition.

While studying Lithuanian, while working as an English teacher in Lithuania, he worked with a teacher: "I wrote words down as I learned them to help me visualize and remember them" (conscious learning) and read children's books ... (acquisition)" (p. 134). (Parenthetical notes added by SK.)

When he started working on Icelandic, he read texts outloud so his teacher could check his pronunciation (conscious learning), but he also stated that "the large amount of reading helped me to develop an intuitive sense of the language's grammar (acquisition)" (pp. 208-209).

"When I'm learning a language there are a number of things that I consider essential materials to begin with. The first is a good-size dictionary. I also need a variety of texts in the language, such as children's books, stories and newspaper articles, because I prefer to learn words within whole sentences to help give me a feeling for how the language works" (p. 161). This appears to me to combine acquisition and learning.

In his study of Welsh, Tammet is clearly deeply involved with grammar; he discusses Welsh word order and morphophonemics. He also pays attention to acquisition, noting that "an invaluable resource for my Welsh study has been the Welsh language television channel S4C, which I'm able to watch through my satellite receiver. Programs are varied and interesting, from the soap opera *Pobol y Cwm* (People of the Valley) to the *newyddian* (news.) It has proven an excellent way for me to improve my comprehension and pronunciation skills" (p. 160).

Tammet has set up a website, selling lessons in beginning and intermediate Spanish and French (<http://www.optinnem.co.uk>). An inspection of the syllabi, available without charge, reveals a clear orientation toward grammar: The focus of each lesson is a point of grammar, e.g. possessives, reflexive sentences, comparisons, "this/that/those/these," etc.

Before we conclude from this case that the best approach is a combination of acquisition and learning, we have to remember that Daniel Tammet has memorized pi to 22,512 digits. A safer conclusion is that conscious learning works well for those with the prodigious mental powers of Daniel Tammet, those with savant syndrome, a very rare condition.

Andrew Weil

Andrew Weil is well-known as an expert on nutrition, and his view of combining the best of mainstream and alternative medicine. In his book, *The Marriage of the Sun and the Moon*, he describes his experiences with Spanish at an experimental school in Tepoztlan, run by Marco Polanksy:

"Marco's philosophy of learning languages was out of the ordinary but struck me as correct. He said that we all had the capacity to learn languages, since we did it as infants, that it had nothing to do with intellect but rather was an operation of the unconscious mind. The only abilities it depended upon were accurate listening and accurate imitating. Therefore, the way to learn a new language is to want to learn it badly and immerse

yourself in it, letting as much of it flow into the unconscious mind as possible. Whether you understand it or not is irrelevant. Forget about grammar books and formal instruction, Marco said. Just listen and imitate.

'Classes' at the Colegio de Tepoztlan were bizarre. Sometimes Marco would have us fall into trance states to the accompaniment of recorded chamber music while he intoned vocabulary words from a Spanish comic book. When pressed for more-structured help, he would decline, saying that there was no way to teach another person a language. He did arrange for us to be apprenticed to local people to force us to talk. I was placed in the care of the village carpenter and spent many pleasant afternoons with him in an outdoor shop, helping to make furniture.

I must say that the Polansky method worked like a charm. In three months I was speaking passable Spanish and three months after that I was speaking good Spanish. The only other language I ever learned as well was German, and that took four years of painful work in high school. I would never again attempt to learn a language by studying it and I have no doubt that I can learn any language now just by really wanting to and placing myself in the right part of the world. I am grateful to Marco for teaching me that lesson" (pp. 5-6).

Polansky's method is clearly a version of Suggestopedia, and his focus on the unconscious mind is also consistent with the Comprehension Hypothesis. Inconsistent is the "forced speech" aspect – getting students "apprenticed ... to force us to talk," but this is clearly a way of getting comprehensible input, after the student is beyond the beginning stages. Also, of course, the claim that an acquirer need not understand the input appears to be contradictory to the Comprehension Hypothesis, but it is likely that Polansky was simply trying to get his students to relax. What is clear is that Dr. Weil made good gains without grammar study.

Armando

A reporter from the Los Angeles Times asked me to meet Armando, a 29-year-old immigrant from Mexico who had lived in the United States for 12 years. Armando, who attended school in Mexico up to grade nine, worked in an Israeli restaurant in Los Angeles nearly the entire time he has lived in the United States. While Armando speaks English quite well, he says he speaks Hebrew better.

According to the article in the Times (Silverstein, 1999), Armando picked up Hebrew "by observing and listening to co-workers and friends," through interaction and conversation, occasionally asking for the meanings of unknown words. According to the "patriarch" of the family-owned restaurant, Armando "speaks Hebrew like an Israeli" (p. 1).

Armando's experience

I interviewed Armando, in English, at the restaurant where he worked. Armando told me that it was two or three years until he was comfortable in conversation even though he heard Hebrew all day on the job. He said that he never forced or pushed himself with Hebrew, that his approach was relaxed. He also informed me that he had a very friendly relationship with the other restaurant staff, with the owners, and enjoyed chatting with Hebrew-speaking customers. Armando's good relationship with speakers of Hebrew was confirmed by Times reporter, who noted that Armando formed "close friendships" with the family that owns the restaurant, his Israeli-born co-workers, and many customers.

When Armando was seriously injured in a car accident in Arizona, several members of the family visited him in the hospital, there were calls "nearly every day," and prayers were said for him at nearby synagogues.

Armando told me that he had never learned to read Hebrew, never studied Hebrew grammar, had no idea of what the rules of Hebrew grammar were, and certainly did not think about grammar when speaking. He said that he received about five corrections a day, but none of these were aimed at grammar; it was all vocabulary.

An informal evaluation

I conducted an informal evaluation of Armando's Hebrew competence. I tape-recorded a brief conversation, somewhat contrived, but the best that could be done under the circumstances. (It would be have much better to obtain some completely unmonitored speech, recorded when Armando was not aware it was being recorded; this, of course, would hardly be ethical.) At my request, Armando chatted with a native speaker, an Israeli friend of his, about what he did the day before (it was the Sabbath). The conversation lasted about five minutes.

I played the recording was played the next day for four adult native speakers of Hebrew: two employees of the Israeli consulate and two employees of the Israeli tourist office in Los Angeles. I did not indicate who the speaker was but only asked them to listen and evaluate Armando's Hebrew. The judges listened to about two minutes of Armando talking about his activities on Saturday. The listening was done in a corridor in an office building (because of tight security in the consulate), and the recording was not of high quality. The judges were not told anything about Armando until after they made their judgment.

Here are the results: One judge felt that the speaker was a native speaker of Hebrew, had no accent, and made no grammatical errors. Armando's language, however, was judged to be "unsophisticated." The second judge felt that Armando was a long time resident of Israel and could have been born there. He thought that Armando might speak Hebrew as a second language and speaks another language at home. Armando's Hebrew was "not quite standard" but was acceptable. This judge guessed that Armando was Moroccan, which is quite interesting, because the owners of the restaurant are from Morocco. The third judge decided that Armando was not a native speaker of Hebrew, but felt that he was very good: "He can clearly say anything he wants to say," but shows "some hesitancy." This judge guessed that Armando had lived in Israel "perhaps one or two years" and has had lots of interaction with Israelis. The fourth judge thought that Armando was Ethiopian. She felt that he was not a native speaker of Hebrew but is clearly very good, clearly fluent. He is, she felt, obviously "comfortable" in Hebrew and speaks like someone who has lived in Israel for a few years. He uses slang but uses it appropriately.

The range is thus from "very good but nonnative" to native.

The case is quite consistent with the Comprehension Hypothesis and shows that "acquisition" alone can lead to impressive levels of competence in a second language.

An additional interesting aspect of this case, in my opinion, is the support it provides for the notion of club membership, the idea that we "talk like the people we perceive ourselves to be." (Smith, 1988, p. 4; see also Beebe, 1985). Armando, it can be hypothesized, made the extraordinary progress he did because he had comprehensible

input; but his progress was greatly aided because he joined the club of speakers who used the language. (Note that the "club" in this case was a circle of friends, not a national or ethnic group; Armando has not converted to Judaism.)

Of course, Hebrew was not comprehensible for him right away. His great accomplishment was due to patience, being willing to acquire slowly and gradually with a long silent period (or period of reduced output). With a "natural approach" or TPRS language class Armando would have had comprehensible input right away and would have moved through the beginning stages more quickly, and real conversational Hebrew would have been comprehensible earlier. I predict that a traditional class focusing on grammar would not have had this effect.

Armando's case also shows us that one can do quite well in second language acquisition without living in the country in which the language is spoken and without formal instruction. The crucial variables appear to be comprehensible input and having a good relationship with speakers of the language.

Conclusion

Table one presents the cases discussed here. The only column that perfectly correlates with success is the first one, comprehensible input.

Table 1

Case Histories

Hypotheses tested (see text)	Comp Input	Comp Output	Output + Corr	Lng > Acq
Richard Boydell*	Yes	no	no	no
Vaupes Multilinguals*	yes	no	no	?
Francois Gouin	no	some	?	yes
H. Schliemann*	yes	?	yes	yes
Lee Kuan Yew*	yes	?	yes	yes
Lomb Kato*	yes	?	yes	yes
Daniel Tammet*	yes	?	?	yes
Andrew Weil*	yes	yes	no	no
Armando*	yes	?	no	no

* = successful language acquisition

This conclusion is consistent with the view that the Comprehension Hypothesis is correct and that comprehensible input is the true cause of language acquisition. As noted, however, the case is not airtight: The case histories allow the possibility that alternative hypotheses function as a supplement to comprehensible input. The results of experimental studies, however, suggest that the alternatives do not contribute to language acquisition, but contribute to language learning, which has a limited role in language performance (Krashen, 2003). Additional case histories might shed light on these issues.

Clearly, case histories can be very helpful, but they need to be considered as a group, not in isolation: Only then are we able to use them to test hypotheses about language acquisition.

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