

How the Tomatis Method Accelerates Learning Foreign Languages

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«On March 25, 1957, the French Academy of Sciences listened to an intriguing speech. They heard about the discoveries of a young ear specialist by the name of Alfred A. Tomatis. He had discovered laws that correlate hearing and speaking. His findings would have a lasting impact in many areas, among them the learning of languages. He discovered why it is so difficult for some people to learn and speak a foreign language. And more importantly, he developed a method and the equipment to overcome this difficulty.

Professor Tomatis has been honored repeatedly for his discoveries. Among other distinctions, he was awarded the gold medal for Scientific Research (Brussels, 1958), and became Knight of Public Health of France (1951).

Professor Tomatis has also established Tomatis Centers all over the world, so that an increasing number of people can benefit from his inventions.

The thrust of the Tomatis method is to train your ears before you start learning a language. As a result, you will be able to learn a language much faster. Or, if you already speak the foreign language, it will improve your accent significantly.

This document will give you an insight into the theories upon which the Tomatis method is based. It will also outline how it works in practice.

Tomatis' Discovery

The original experiment by Professor Tomatis had nothing to do with learning languages. Nor was it one of those serious and complicated tests you often read about. In fact it was quite an amusing experiment. Professor Tomatis asked a well known opera singer to sing a song. As he was singing, Professor Tomatis blocked his ears with a special device. That device, an acoustical filter, blocked the sound of a specific frequency. Soon thereafter the singer's voice deteriorated. What happened was that the voice started to lose the sound blocked by the filter. This experiment, and many others, formed the basis of the First Law of Tomatis:

You Cannot Reproduce a Sound You Cannot Hear

You may ask what the connection is between this law and learning of languages. To understand that, we will have to first explore some of the fundamental differences between languages.

The Charm of a Language

Have you ever wondered why a piano sounds so different from a violin, even when you play the same notes? Have you ever noticed that American spoken by a Spaniard often does not sound American at all? In both cases, the reason is basically the same. We will therefore first look at the difference between a piano and a violin, and then come back to languages.

When you strike a key of a piano, you generate a tone. At the same time, however, several other tones, also called overtones, are produced. The overtones are much less intense than the base tone; so you will mostly hear the base tone. When you play the same base tone on a violin, different overtones will be formed. Therefore, a violin sounds completely different from a piano.

One of the reasons a piano creates different overtones than a violin is that the soundboards are so different. A piano has a large, heavy soundboard, while the soundboard of a violin is a small, delicate case. Hence, different overtones are formed.

Now back to the differences between languages. Like musical instruments, all languages use the same base tones. These range from 125 to 250 Hertz. The overtones, however, differ from language to language. English uses a lot of high pitch sounds, ranging from 2,000 to 12,000 Hertz. If you listen carefully, you will be able to distinguish these high pitch tones. Listen to all the S's (as in SeSSionS) and to the «TH» sounds (as in THanks). French, on the other hand, rarely uses such high pitched sounds. For example, the S at the end of a French word is hardly ever pronounced.

You may ask why English and French have different overtones. Here the analogy with the soundboard comes in handy. The base tones are generated by the vocal chords. These tones travel through the mouth cavity, where the overtones are formed. The mouth cavity acts as our «sounding board». In fact, we have two «sounding boards» because the mouth cavity is split in two by the tongue. As you may know, you have to position your tongue differently when speaking a foreign language. We thus use different «sounding boards» when speaking foreign languages, and thus generate different overtones. The tongue position makes all the difference! That is why we call our own language our «mother tongue." That is also why we say that speaking a foreign language is a «tongue twisting exercise.»

The main idea to retain from the preceding paragraphs is that most languages have different sets of overtones.

Our ears, by constantly listening to ourselves and to those around us, are most attuned to the frequencies of our native tongue. For the foreign frequencies, we are, so to speak, deaf. And here comes the connection with the discovery of Professor Tomatis: because we cannot hear foreign tones, we cannot pronounce them correctly. What is worse, we can not memorize them easily. An almost hopeless situation, until Professor Tomatis found a way to train your ears to hear different tones.

By having your ears trained first, you can reduce significantly the time required to learn a new language. Once your ears have been trained, you will be able to hear the new language

correctly. Therefore, you will be able to memorize the words quickly and pronounce them well. In the next section we will explain how we can train your ears.

Ear Training: in Theory

Once again, an analogy might help explain how your ears can be trained. But before that, you have to know why the ear cannot hear certain tones. It is because the two tiny muscles of the middle ear, the muscle of the hammer and the muscle of the stirrup, are not prepared to focus on sounds rarely used in our mother tongue. They need to be exercised to do so.

Professor Tomatis came up with an ingenious way to do just that. Oversimplified it can be explained as follows: You are made to listen to a tone, or frequency, that you cannot hear well. This tone is continuously switched on and off. The muscles of the middle ear are so forced to stretch and relax. This strengthens these muscles and enables your ear, after several sessions, to perceive the tone better.

There is surprisingly little difference from sit-ups. However, the movements are so gentle that you will not have sore muscles. Nor will the training wear you out. In fact, it may revitalize you. (see also «Overview of the Tomatis Method.»)

Ear Training: in Practice

Now, how does this work in practice? First, a Tomatis practitioner will measure which frequencies you can or cannot hear well. This test is called the «listening test," and takes about 30 minutes. From the listening test she or he can see which frequencies have to be «learned».

At the next session, you will listen to a tape recording of music. However, some of the frequencies that your ear can already hear well have been filtered out. The frequencies left on the tape are those you have to learn. This modified recording is then entered into an electronic device that was developed by Professor Tomatis. It continuously switches the sound on and off. The sound that comes out of the Electronic Ear is fed into headphones, and adjusted to a comfortable level. It is a strange sound, but not unpleasant. You will listen to this «music» for about two hours per session. During that time, you may sleep; play chess, knit or draw.

The Syllable Hurdle

Languages not only differ in the frequencies they use, they also differ in the length of the syllables. Pronouncing them within the right time frame is the second most important factor in speaking a foreign language well. On average it takes 75 milliseconds to pronounce an American syllable, much longer than the emission time of a French syllable (50 milliseconds). If you want to learn French, for instance, you will have to learn to pronounce the syllables more quickly. According to Tomatis that means that your ears have to react more rapidly. This can be achieved by retraining the ear. So, you will take the «syllable hurdle» at the same time as the «frequency hurdle».

The Linguistic Rebirth

There is more to languages than words alone. We also need to learn the order in which to put the words, which words to stress, with which rhythm to speak, etc. That is called the structure of the language. Professor Tomatis also developed a method to learn the structure of the language more easily.

A few paragraphs earlier, we talked about the phrase «mother tongue», stressing the importance of the word «tongue». Now let's look at the word «mother» in «mother tongue». It has been known for quite some time that the very structure of our «mother tongue» was ingrained in us while growing in our mother's womb. During the last five months of her pregnancy, we were able to hear the voice of our mother. Her voice sounded, however, quite different from her real one. Her voice had to pass through the amniotic fluid around the fetus, and this acted as a sound filter. It lets only the high pitch sounds, the ones above 8,000 Hertz, through. The constant exposure to these high pitch sounds ingrained in us the very structure of our «mother tongue».

Likewise, through the Tomatis method, we can simulate this process. All you have to do is to listen to a text, spoken in the foreign language, and filtered through an 8000 Hertz filter. That imitates what you would have heard in the womb. After several sessions, we will gradually add lower pitch tones to simulate the «birth» into the new language.

Once born into the new language, you will begin to speak it. You will start by repeating words, after a model. Later, you will repeat full sentences and learn to control your pronunciation and intonation. How to control your voice most effectively is the subject of the next section.

The Leading Ear

We are all aware that some people are right handed, while others are left handed. But not many know that we also have a dominant ear. Some hear mostly with their right ear, whereas others listen mostly with their left ear. Professor Tomatis discovered that it is most advantageous to listen predominantly with your right ear, especially when you want to learn a language. That is because your right ear is directly connected with your left brain, the center for language abilities. If you listen with your left ear, the information is fed into the right brain and has to be rerouted to the left brain before it can be processed. That takes time. In addition, by this route, the sound gets deformed slightly, especially the high pitch tones. It would thus be a major advantage if we all could become «right hearing».

The good news is that it is possible to retrain your right ear to become the dominant one. It goes as follows. As the program proceeds, the sounds are fed more and more into your right ear. As you practice vocal exercises, your voice is fed back to your right ear to create a feedback loop that teaches you to control your voice. Little by little, you will start to listen more with your right ear.

The Coomen Experiment: the Proof

In 1976, the efficacy of the Tomatis method was tested in a school in Coomen, Belgium. A class of 30 high school students was divided into two groups, well balanced for their listening abilities, as determined by the listening test. None of these French speaking students had previously learned English. The first group was taught English as usual for the entire school year. The other group received Tomatis training for three months, followed by six months of regular English lessons. At the end of the school year, all students were tested by an independent judge for comprehension as well as for pronunciation. The Tomatis group clearly outperformed the control group. Following the school vacation, the two groups were tested again, and the difference had become more pronounced. The Tomatis group retained what it learned, while the control group forgot a great deal. The results of this test prove the validity of the Tomatis method. Since then, many students and professionals throughout the world have benefited from the Tomatis approach. Some Centers, in particular in Japan, specialize in helping their clients to overcome their difficulties in mastering a foreign language.

Language Training in a Big Company

Since 1989, Eurocopter, one of the largest company in the world building helicopters, uses the Tomatis Method to train its employees to learn languages. The nature of its international business requires that people that are sent abroad speak fluently the language of the foreign counterparts. Talking the language of the business partners facilitates communication but also creates ties that may lead to further contracts. Eurocopter has devoted a significant budget to educate its people. Between 1989 and 1995, 580 people took the Tomatis Language Training, and their progress was carefully monitored.

While the European Council estimates that it takes about 700 hours to become fluent in a foreign language, Eurocopter had set a rather aggressive objective to achieve fluency in 620 hours. However, employees who received the Tomatis method, along with a regular schedule of classes, reached this goal after only 520 hours. A substantial economy of 180 hours.

25% of the employees surveyed found the approach very effective; 63% effective; 14% moderately effective. None of the employees found it ineffective.

After they had completed the training with the Tomatis Method,

An unexpected benefit was that 83% of the people felt that they now communicated better with others and that they were motivated to take responsibilities.

In an environment where foreign competition is everyday harsher, speaking a foreign language may give you an edge over other competitors. The Tomatis Method is certainly worth exploring for anyone who wants to gain that edge or enjoy the pleasure of speaking like the natives while traveling abroad.