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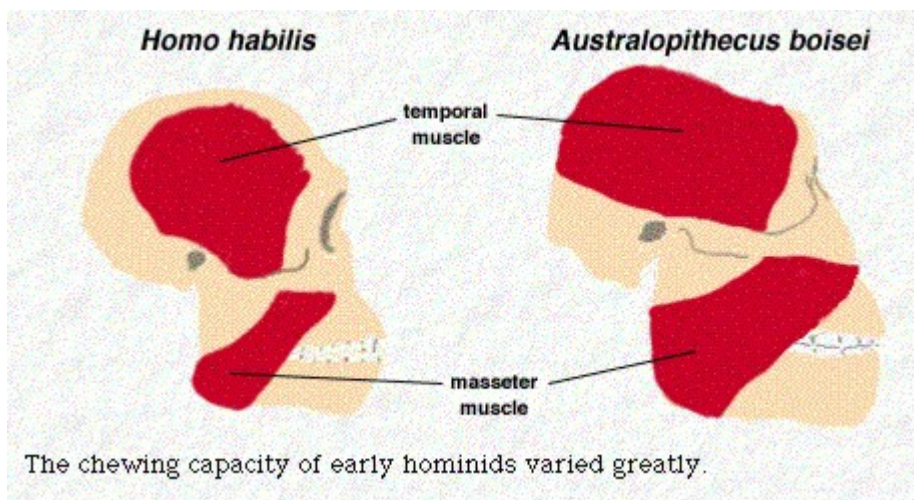
## PERFORMANCE AND NUTRITIONAL ASPECTS (1)

Nutrition and supplementation have a big influence on who you are, what the result of your training will be, your motivation and finally your performance. Nowadays you'll probably get a lot of information about what to consume. Many products you'll find in the stores will make you believe that they are healthy or at least ok to use. Their composition is often simple as compared to the complexity in which the same ingredients are found in their natural environment. These products are not made because someone is concerned about your health (or skate performance) but because someone wants to make money. They especially lack important ingredients. Advertisement doesn't make you choose a particular product but makes you think in a certain way about what you need. To optimize performance etc. we need other information. The information you need should also be about your type of sport, the phase in the training process, the goals you set and, about... You!. Note that we found typical personal differences between skaters that are of same age etc etc. and these differences are of consequence to what you need in connection with a particular type of training.

Here are three aspects of handling nutrition in order to optimize your performance.

### 1) USE A DIET TO GET ENOUGH AMOUNTS OF NUTRIENTS

This is a very difficult task. Exactly how much of a certain mineral does this vegetable contain? In other words, on what soil did it grow, and another thing is, how much is enough? Vitamin C is a good example. In the Netherlands 70 mg is considered enough... in other countries this value differs. Is this the optimal amount so that you get the best results from your training? Well I'm a trainer too so I can tell you it is not. It's more in the range of 1-2 grams on top of a general healthy diet.



## 2) USE SUPPLEMENTS TO GET THE OPTIMAL AMOUNT OF NUTRIENTS

If you read the above, you'll understand that you might need them. Not only to get a certain amount of a particular substance you need in connection with the type of training that is dominating the training process but also to change the ratio of one nutrient to another. Sometimes I change ratios to get a certain effect.... Is this manipulation? Yes, it is... but it's not different from how I manipulate you when I tell you to do squats.

## 3) USE SUPPLEMENTS OF SUBSTANCES THAT ARE KNOWN TO YOUR BODY BUT CAN NOT BE FOUND IN ORDINARY DIET IN THIS FORM

One example is creatine. Fish can contain up to 4 grams a kilo, but some sportsmen seem to respond even to a low dose of 2 grams of creatine in a negative way but do not show such a response to 500 grams of fish, or meat containing the same amount of creatine.

Another example is glucosamine, only in the diet if you eat bone and cartilage daily.

I give these examples because the Dutch tradition and culture is *not* to use any supplements, but these are examples of substances that are somehow accepted by everybody. In other words, these two got so much attention and proof that nobody dares to ignore.

If you want to understand this and next issues articles about how to make choices in foods and supplementation I'll first present you a new framework of thinking... Consider this: you and I are still (and will always be) part of nature that surrounds us, in fact we and everything around us are made of the same building blocks as e.g. the stars. The stars formed (and are forming) the basic substances that we are made of... But come on now, I hear you thinking. There is a big difference between the earth we're standing on and me! Well, the basic materials are the same but they are differently ordered! To keep this order the way we like it (alive, healthy and performing) costs a lot of energy. On top of that we want to do a lot of nice things like skating. I admit, it's been a long process before building blocks are ordered the way you are, and you and I are new basic material of an even bigger process. So nature doesn't mind that the order of material called YOU is slowly deteriorating as long as you are replaced by a new process, your kids. So stardust we are and to stardust we shall return...

This evolutionary process on earth has been going on for about 4 billion years and came up with a pretty complex process called you. Along the way it used the substances that were available... to keep it simple, there was e.g. a lot (sea)water around so it's no coincidence that we are more than 50% water... with the minerals you'll find in the sea. Here your first clue... cause some substances that were always there are now lacking from our processed food. Your machinery has to get used to certain nutrients not being there, last 50 years or so, while millions of years before that there was more than enough.

Lets look at vitamin C again. Nearly all mammals (animals like us) make their own vitamin C. But we and our nephews like the gorillas can't. This means that vitamin C has to be part of our diet so we get what we need. Other apes that are not so closely related still have this (biochemical) skill. That is why we think that we lost this skill ourselves about 10 million years ago. It could have been a coincidence because it didn't really matter, there was a lot of C in our environment, the warm climate of Africa. You can still see this with the gorillas, they eat so much leaves that they take in many grams(!) of C every day. But we are the descendants of people that moved to the northern parts only since two hundred thousand years. This meant a change in our diet but we've had some time to get (more or less) used to it... There have been bigger changes in our diet and some of these changes happened very recently. We are not used to these changes.... yet. Of course we will adapt to the new situation... only not in your lifetime!

## **There are three major changes in our evolutionary history that you should know of.**

### **1) WE BECAME PREDATORS ON OTHER ANIMALS 1.8 - 2.4 million years ago.**

This is very important, and long ago. If you want to get an impression of what happened, look at the skulls of the Australopitici, the species (7 to 2 million years ago) that preceded ours: the genus Homo that led to the Homo Sapiens, us. Compare the skulls with e.g. that of the Homo Erectus, Homo Habilis etc. The Australopiticus was built like a real vegetarian, although probably eating some meat too just as today's chimpanzees do. The skull shows massive jaws with teeth to grind, and big attachments for jaw muscles on top of the skull. But all kinds of animals became much more important and we are the descendants of people that survived on meat! Two million years is a long time. You wanna be a vegetarian? Think again, because animal sources in our food give us more than specific amino acids, vitamin B12, iron etc., things you can NOT replace using non animal sources. Imagine the situation during 2 million years!! If a hunter came home with meat, he and others could survive for much longer than if he had been gathering nuts in the woods. Meat was and is a concentrated form of energy, minerals, and our most fundamental building blocks: amino acids. Do you wanna know more about their diet? Look for: paleontology - hunters / gatherers - paleolithic diet. So fruit and nuts were still part of the diet but meat was a very important factor in surviving. In fact, this switch to eating meat (and having lots of saturated fat in the diet!) initiated the development of the brain, or the other way around cause we're not sure yet what started what, to finally the homo sapiens, us! There is also much evidence that we were cannibals until a few thousand years ago. If someone tells you that saturated (animal) fats are unhealthy think about this: we have been eating these fats throughout our entire evolutionary history. We ourselves consist of these fats... so if I decide to grill a steak from your (well trained) upper leg, all of a sudden my diet would be considered unhealthy..... There is only one thing you should know, the meat (fatty acid composition) and constituents of animals we are breeding is different from wild animals. Yes, we are changing the diet of these animals too.....

**2) WE STARTED AGRICULTURE (Western European situation) About 18.000 years ago.** Agriculture changed our diet a lot. Carbohydrates entered the scene since we cultivated more and more wheats. Now these wheats were there already for a long time, but it wasn't easy to consume them. It needed a lot of work because these wild(!) wheats went through an evolutionary process that resulted in a plant that was difficult to eat for any animal and we already turned to carnivores long before that. Just think of how much work it is to make bread out of the wheat that comes from the land. Since it is not long ago that we started to eat so much carbohydrates we're only partially adapted to it. Another thing is dairy products. Now that we started to lock up animals, all their products came available easy. So dairy products, milk butter cheese, are quite new but the type of fat and protein were already familiar to us. Still about one out of every ten of us seem to have some trouble digesting milk related products.

### **3) THE INDUSTRIAL REVOLUTION                      End of 19th century**

Here's a big change that was, evolutionary speaking, just yesterday. We're not used to some of the products that were invented these last 100 years. The industrialization of our food boosted our diet again in favor of carbohydrates. This time our diet became more and more dependent on fast digesting carbs like sugar. Many health problems today are related to this last sudden change in our diet. For instance, high cholesterol values or coronary heart diseases (CHD) don't exist in people that still eat natural, I mean just like before our agriculture and industry. Some of these groups have a diet consisting of more than 90% meat and saturated fats. This is in agreement with the fact that our high cholesterol is caused by (fast)

carbohydrates and not of the fats we eat.. except..... Another new product that the industry came up with is a synthetic fat. This fat has great benefits for anyone selling it but for you consuming it. It causes direct worsening of you condition. It has a spacial structure that is unknown to nature (trans-configuration on the wrong spot in its carbon chain) does in fact heighten your cholesterol and it plays a big role in our CHD problems. I personally think that the information we get about animal vs. vegetable and saturated vs. (poly) unsaturated fats, protein etc. started only to get our attention off the synthetic fats and fast carbos that have entered our diet in big amounts after world war two.

How will this benefit you? Our experience is that an athlete will be able to increase his training load and adapt better, leading to better results if his diet is changed to proportions occurring naturally before major changes 2) or 3). More about this and the importance of fats in general in the next issue.

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