

## The Scientific Basis for Metabolic Typing Part 1 (of a 2 part series)

By Justin Smith

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### The Need for Customized Nutrition

It is widely accepted that each person has his own individual nutritional requirements, but the significance of this, and the extent that it influences what is achievable with a particular client, is often not fully appreciated. Each person has profoundly different requirements for both macronutrients (proportions of proteins, fats and carbohydrates) and micronutrients (vitamins, minerals etc); if this is not taken into account, the results will be limited. This basic physiological fact can be understood from an evolutionary perspective.

Researchers with an interest in traditional diets have found a huge variation in the types of foods eaten by humans from different parts of the world. For example, the amount of meat that was traditionally eaten ranges from 270 grams to 1,400 grams per person per day (1).

During the 1920's and 1930's Dr. Weston Price travelled around the world to study the foods eaten by traditional cultures. His work is summarised in a classic book titled Nutrition and Physical Degeneration (2). Dr. Price studied a variety of cultures from North American Indians to Australian Aborigines and New Zealand Maori. Within each of the cultures he studied, Dr. Price found that people stayed healthy as long as they adhered to their traditional diets – the foods that were eaten by their ancestors.

In recent times, researchers have confirmed Dr. Price's work (1,3). Figure 1 shows the macronutrient ratios traditionally consumed in different locations around the world. The chart shows the proportion of animal foods (protein and fat) compared against plant-based foods (carbohydrates). The differences are immediately obvious and striking – some cultures having a diet based on 90% protein and fat and other cultures consuming around 70% carbohydrate.

People from different parts of the world have genetically adapted to, and thrived on, the foods that were naturally available in their environment - as determined by temperature, rainfall, geography, soil composition, etc. Thus, the concept of the "Palaeolithic diet" has great merit. But, what has been missed until the advent of Metabolic Typing® is the difference in Palaeolithic diets and therefore, Metabolic Types that evolved in different geographical locations all around the globe.

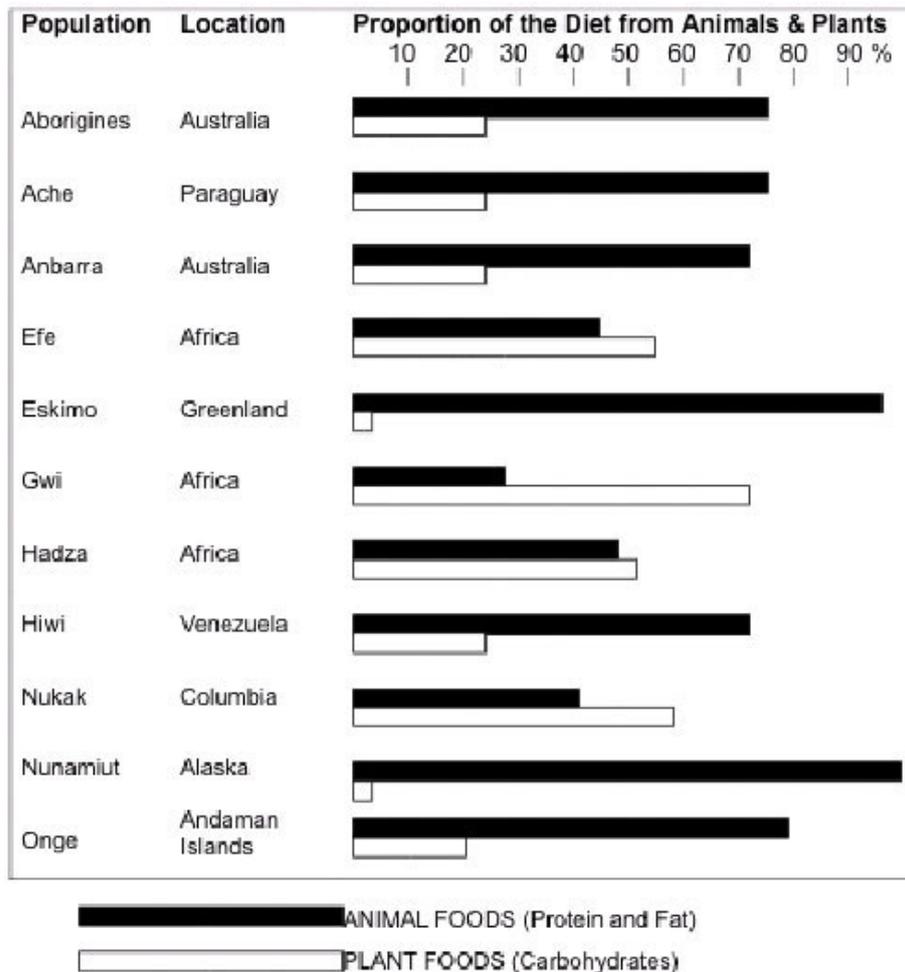


Figure 1

Natural forces of adaptation assured that indigenous cultures became perfectly suited to the natural foods in their environments. In fact, if it were not for the vast differences in biochemistry that evolved over countless generations, many traditional cultures would have perished thousands of years ago. The extent of these genetically-based nutritional requirements between people can be seen in all sorts of ways. For example, it can be demonstrated in the varying responses that different people have to the same foods. A diet that makes one person lean and energetic causes someone else to lose energy and gain weight.

Unfortunately, the world of nutrition is currently dominated by an attempt to simplify everything with a one-size-fits-all-approach. For instance, take carbohydrates. Fitness professionals have been taught that carbohydrates provide the main source of energy for the body. How does this apply to the Alaskan Eskimo who lives in an extremely inhospitable and cold environment while hunting for food and other resources. This lifestyle requires a lot of energy. Yet the traditional diet of the Eskimo consists of less than 10 percent carbohydrate. So where does their energy come from?

More to the point, like all indigenous cultures, Eskimos had ideal, robust good health, energy and stamina to the extent that their language did not even contain words for cancer or heart disease, despite their high protein and fat / very low carbohydrate diet.

Several decades ago, the great biochemist Dr. Roger Williams noted in his book *Biochemical Individuality*, the huge variations that exist in human anatomy and physiology (4). He is famous for saying that at the metabolic level, we are all as unique as we are in our fingerprints. Dr. Williams is also famous because he actually discovered some of the 'B' vitamins, and his institute made more nutritional discoveries than any other institute in history. Despite the indisputable significance of Dr. Williams's work, and his credentials, this information has been largely ignored by dieticians.

### The Challenge for Nutritional Science

While many people are concerning themselves with the properties of the latest "super-food", or trying to make up their minds about whether red wine will increase or decrease the risk for heart disease, the most significant challenge is being lost from sight.

In the modern world, an Eskimo could migrate to the opposite side of the world in just a few hours. But on the timeline of evolution, his biochemistry would take about ten thousand years to catch-up and adapt to his new environment! Here lies the real challenge for nutritional science – which is made much more complicated by the fact that most countries around the world now consist of a 'melting pot' of genetic heritage.

It is impossible for people to establish exactly from where in the world they come from on an extended generational level. Yes, we can trace back the last few generations, but this short period of time is meaningless when giving consideration to evolutionary biochemistry.

More significantly, genetic influences from countless generations are still being carried around in each and every person today. The reality of genetic expression in an individual is more a matter of "genetic roulette" than simply knowing the identity of your parents or your grand parents. One never knows exactly which of those genetic influences will be expressed. Evidence of this is all around. For example, one can observe siblings within a Caucasian family, where one child may be light-skinned, blonde-haired, blue-eyed and skinny yet, another may be dark complexioned, dark-haired, brown-eyed and overweight. Therefore, a method to determine individual nutritional requirements is a necessity.

Some researchers have attempted to look into genes to work out what each person should be eating. This approach falls short because it does not take into account the influences besides the genetic code, which dictate daily metabolic requirements. These other influences include climate, stress levels, environmental toxins, sleep, diet, physical activity, and others.

So, the most appropriate test to establish each persons' individual requirements must assess how genes are expressed within the current environment and lifestyle. Once this is identified, the next question is: What factors in metabolism are likely to express this individuality?

### Keys to the Kingdom

Metabolism is the sum total of all anabolic and catabolic life-supporting activities in the body, involving food, water, air and light. Although hundreds of thousands of biochemical reactions take place in the body on a daily basis, they are all regulated by just a few Fundamental Homeostatic Control (FHC) mechanisms. It has often been stated that food can be your medicine or your poison. The reason, as revealed through Metabolic Typing®, is that foods and the nutrients they contain have specific stimulatory and inhibitory effects on these FHCs.

Metabolic Typing® is the only current methodology that provides a systematic, testable, and verifiable means of analyzing the unique, genetically-inherited strengths and weaknesses in each individual's FHCs; thereby, determining each individual's specific nutritional requirements. To date, eleven FHCs in Metabolic Typing® have been discovered, the two primary ones being the Autonomic Nervous System and Cellular Oxidation.

These control mechanisms, along with the techniques used for the Metabolic Typing® assessment, are discussed in part 2 of this series.

### REFERENCES

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