**How do Auto-immune diseases occur?**
According Roy Swank M.D., Ph.D. in his book The Multiple Sclerosis Diet Book from 1972 (p.49) "Auto-immunity (or an immune reaction against one's own tissue) is triggered by a sensitizing protein or antigen contained within the patient." A little further on he continues: "It had been known that the vaccination of humans against rabies by a series of injections of emulsified sterile spinal cord from animals afflicted with rabies carried the risk that the patient might develop a serious inflammation of the nervous system (post-vaccinal encephalomyelitis)…..In the early and mid-1930s it was shown that the repeated intramuscular injection into monkeys of sterile emulsified brain or spinal cord tissue produced perivascular demyelination. (Rivers, T and Schwenther, F Encephalomyelitis Accompanied by myelin destruction experimentally produced in monkeys. J. Exp. Med. 1935 61:689)…..It was later shown that the injection of peripheral nerve tissue rather than brain or spinal cord with adjuvant resulted in lesions confined to the peripheral nervous system. (Waksman, B Experimental immunologic disease of the peripheral nervous system. In "Mechanisms of demyelination” 1963.

*So a similar but foreign protein can trigger an auto-immune reaction. How could this happen in us humans?*

**The steps in the Auto-immune Disease-Diet link according to Dr John McDougall:**

- *Processed foods and Animal based foods lacking vitamins, minerals, micronutrients and containing inflaming substances like oils and animal proteins cause a “leaky gut”.

- *Not fully broken down animal protein ends up in the bloodstream through this leaky gut and next this animal protein is attacked by the immune system. This is natural but…..

- *Because of similarities between our cell's protein and other animal's proteins, this can trigger Auto-immune diseases like MS, Arthritis, Crohn's, Lupus. Our immune system, struggling to see the difference between friend and foe, ends up doing some damage to the friend as well.*

This makes perfect sense from the perspective that auto immune patients often benefit from reducing or avoiding animal based foods and increasing their vegetable intake.
There have been two principle researchers on the MS-Diet relationship:

1. Roy Swank,
2. Terry Wahls

Roy Swank had 2 more people in his footsteps:

1. George Jelinek,
2. John McDougall, a personal friend of Roy.

Roy Swank really is the grandfather of MS diets (low fat mostly plant based). He had noticed that (amongst other places) in inland Norway the MS rates were much higher than on the coast and MS really followed the same demographic patterns as Heart Disease. His awareness of the link between dietary fats, cholesterol levels and heart disease made him think that the type of fats consumed might have been playing a role in MS as well. At that stage it was not known that MS was actually an Autoimmune Disease.

Terry Wahls, got MS herself, ended up bed ridden and started research independently. Looking at mitochondria, the cell's powerhouses, she came up with a paleo type diet, no grains, lots of veg, some fruit, no milk, only little game meat and no processed foods. George Jelinek, (low fat mostly plant based but including fish/seafood and some oil). Both him and his mother suffered from MS. George changed his diet and greatly improved his health and so did many that read his books or followed his program. John McDougall, (low fat whole plant based diet, no animals, no dairy, no seafood, no fish, no processed foods including no oils) did an enormous amount of research on diet-health himself not restricting himself to MS. His diet is a starch (grain) based diet. He labels us as "starchivores".

Apart from these 4 diets, there is actually another one that has reported success on the MS front: The Macrobiotic diet. This diet is basically a starchy plant based diet that actually became quite famous for its miraculous cancer healing properties but it also helped some MS patients. It uses different Japanese seaweeds and is based around rice and locally grown in season vegetables. It completely avoids meat and dairy but sometimes allows a little weekly fish after a person gets better.

Many MS sufferers have had significant success in following the above diets. While not all MS damage will get better, progression is normally stopped and some damage can still be reverted over years of slow healing. Many eventually achieve remarkable results. Out of the MS diets encountered, the McDougall diet is the most restrictive in Animal and Processed foods (cooking with water is ok.) and potentially might give the fastest and best results. It is based on (cooked) starches, vegetables and some fruit and only very small amounts of nuts and oily seeds. No oils and no frying. See www.drmcdougall.com.

The other diets avoid dairy completely but either have some fish in or some game meat.

MS rates in Albania are <1/18th of those in Northern Ireland. MS rates in China are <1/20th of those in Western Europe, Canada and the USA. Just like Heart Disease it is a disease linked to affluence that can mostly be avoided and also its affects can be significantly reduced through our food choices.
Other Autoimmune diseases like Crohn's disease, Arthritis, Diabetes-1 and Lupus have the same demographic distributing as MS, Heart Disease and Cancers and also respond positively to moving towards a low fat plant based diet. Research has established a clear link between (Auto Immune) Diabetes-1 and dairy.

All successful auto-immune diets follow the following understanding and principles:
- Animal proteins, similar to our own, induce the auto-immune reactions. Some auto immune diseases also react to gluten (wheat, barley, rye & oats), soy beans or corn.
- The more vitamin rich food we eat, the better the gut will be and stop these proteins from getting into the blood system.
- The less animal food we eat, the less chance there is that not fully digested animal proteins end up in the blood system provoking the immune system.

**Fats or Proteins? Paleo or Vegan?**

A note to the different views of the researchers.
Roy Swank and George Jelinek's believe that fats are at the roots of MS while John McDougall advocates that it is actually the proteins together with poor nutrition. Terry Wahls advocates current unhealthy eating means we have to go back in time and eat what our forefathers ate before agriculture: the paleo diet. In effect McDougall states that we have to go even further back in time to the time when we did not hunt yet and were pure Gatherers, pure Herbivores, pure Plant eaters. He believes that we started to get off the rails health wise when we started hunting. From many western disease perspectives this makes the most sense.

First let's go back to the fats and proteins. The fats in different organisms do not differ as much from each other as the proteins do. Proteins are used to perform complex functions inside the cells and come in nearly endless varieties. Fats just store energy and are much simpler. Animal based food is high in both fats and proteins. Because they go together, it is easy to get confused about which one actually does the damage.

The "foreignness" is much more characterised by the proteins than fats as proteins come in many more varieties and are much more organism specific. Considering this it would appear more likely that McDougall is right rather than his mentor Roy Swank which means that it is actually the (animal) proteins that trigger auto-immune diseases. In the end all 4 researchers move away from Processed Food and Animal Based Food and move towards Plant Based Food. Although they do this to different degrees (and hence might well have different success rates with MS).

If proteins are indeed the problem, MSers aiming for low fat but still taking low fat dairy might not do themselves a favour. If fats were the problem after all, MSers aiming for plant based will not do themselves further harm. Logically McDougall's views are the safer bet.

Looking further at diets, other diseases, our historically possible food sources and longevity, it really appears much more likely to be a protein issue than a fat issue.
- There is no doubt that our original forefathers were herbivores as this is still by far the main food supply of our majority cousin primates

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Heart Disease, Diabetes-2, Atherosclerosis, Osteoporosis all respond extremely well to a low fat whole plant based diet as diseases can be reversed this way. Again this supports that we deep down are Herbivores.

The people living the longest on the planet tend to lean towards a much more strict plant based diet. Again supporting the idea that deep down we are Herbivores.

Roy Swank had noticed that animal eating inland Norway had much higher MS rates than the fish eating coastal areas and which is one reason why he suspected fats to be causal in MS. Of course inland Norway is much more mountainous and hence colder and hence it is much harder to grow a variety of plants. As a result of this inland Norway is much more reliant on animal based food for their energy. I.e. it might not have been the type of animal food they ate (fish or meat) but actually the quantity of animal food they ate that is associated with the higher MS rates. In other words the different MS rates Roy Swank saw in Norway going from East to West actually have the same cause as the differences we see in populations further from the equator (North-South): Plant food is harder to get further away from the equator and people rely more on animal based food (especially through the winters) and at the same time their MS rates go up.

In Roy Swank's "The Multiple Sclerosis Diet Book" from 1972 he speculates about the possible causes for MS and in the section Auto-immune Hypothesis (p. 49) he states that "immune reaction can be produced by an injection of foreign protein or antigen" and also "In the early and mid-1930s it was shown that the repeated intramuscular injection into monkeys of sterile emulsified brain or spinal cord tissue produced perivascular demyelination". Knowing now that MS is an auto-immune disease involving demyelination, it would make sense that Roy Swank would fully subscribe to John McDougall's understanding of MS which we opened this document with.

Vitamin-D and Sunshine
Often low vitamin D levels have been blamed for higher MS rates away from the equator but we know the diet changes too moving away from the equator and we also know diet has an influence on MS. That is not to say that there is no role for vitamin D but it is not likely going to be a major one. Also the vitamin-D theory does not fit with the East-West MS variations in Norway that intrigued Roy Swank. Dr McDougall warns about all supplements apart from B12. He does not recommend taking any other supplements for health reasons.

There is some contradiction in that sunshine is so carcinogenic that we need to avoid it and at the same time we need it to produce that vitamin D for health. Something does not add up. There must be more to skin cancer than sunshine. Also the anthropologists think we Homo Sapiens left Africa less than 100,000 years ago. Africa is pretty sunny and 100,000 years is not much in evolutionary terms. Interestingly the Melanoma rates in the USA are 64x the Chinese while the latitudes are pretty much the same.

Looking at the cancer benefits of a low fat whole plant based diet (see http://users.tpg.com.au/freestro/cancer.pdf ), avoiding skin cancer is best done through diet rather than avoiding all sunshine. Sunshine is natural and we need some.
Other Diseases:
Drs John McDougall, Caldwell Esselstyn and Dean Ornish also had success treating many diseases other than MS with through a low fat whole plant based diet such as:

- Diabetes-2
- Other Autoimmune diseases like Relapsing Polycondritis, Arthritis
- Heart Disease
- Osteoporosis
- Cancers including breast, prostate,
- PMT, depression, low energy, high blood pressure etc.

In Sydney Australia, Clint Paddison cured himself from Rheumatoid Arthritis (RA) following in McDougall's footsteps. Since then he has inspired and helped many other RA sufferers (http://paddisonprogram.com/).

Looking at the whole Diet-Health-Longevity picture, we are mal-adapted omnivores. While we as a species have been eating meat for at least 500,000 years, our bodies still struggle with meat if we eat too much of it for too long. Dairy we’ve only been eating for 6,000 years and most of the people on the planet are actually lactose intolerant.

Not that lactose is the biggest dairy issue….

The main problems with dairy, meat, seafood and fish:

- **Hormones** e.g. the various animal’s (growth) hormones significantly raise our cancer rates (a rather unwanted growth) and upset our natural system in other ways as well. (see http://users.tpg.com.au/freestro/cancer.pdf)
- **The animal's Proteins are the main contributors to Osteoporosis, Autoimmune diseases** (and put an extra load on kidneys and livers)
- **Fats are the main contributor to atherosclerosis, heart disease, strokes, raised cholesterol levels; fats in our cells makes the cells insulin resistant causing Diabetes-2. Fats are also the main contributors to obesity.** (see http://users.tpg.com.au/freestro/heartdisease.pdf)
- **Lack of fibre, vitamins, minerals, anti-oxidants & micronutrients** make dairy, meat, fish and seafood a poor energy source that contribute to all diseases!
- **Cholesterol**, adds to our own – raised further by any dietary fats and oils.
- **Eating high in the food chain is where pollutants are concentrated.** (thanks to Dr John McDougall for this list and the insights! From my own research he is absolutely correct)

All these diseases are helped by eating the right diet. Some of them can even be reverted over time like heart disease, osteoporosis, raised cholesterol, hypertension and diabetes-2. The progression of autoimmune diseases can be stopped and progression of cancers can be slowed down (or better at times).

While recovery from cancers is somewhat supported by avoiding (the animal’s) growth hormones and increasing the plant's anti-oxidants & vitamins, prevention is best of course.

Doctors Dean Ornish, John McDougall and Caldwell Esselstyn also prescribe the same low fat plant based diet for heart disease with great success. Nathan Pritikin was the first one to revert blocked arteries through diet in the early 1960s. He was not a doctor but an engineer fighting for his own health. And now we still have risky open heart surgery for by-passes, stents and angioplasty and one could wonder why we do not simply change diet. As a species, we are on the wrong track. Commercial interests are resisting change. Profits are in the way of public health. Science doesn't seem to get to the masses. Our belief system has defined the word "omnivore" incorrectly causing great harm. The industry is being paid when your are sick, not when you are healthy and well. The incentives are the wrong way round for public health!

Many of our chronic diseases have got much worse since the industrial revolution because we can now eat meat/dairy all the time and also because of the enormous increase in types and availability of processed foods.

For eating healthy initially consider that there are 3 basic types of food:
- Processed Foods
- Non-processed Animal Based
- Non-processed Plant Based.

From both a Health and Longevity point of view, the Non-Processed Plant Based is the food that is written in our genes as our natural food and the other 2 are to be avoided. The worst type of animal food commonly eaten is dairy. Its high hormone levels giving us extreme lifetime risk rates in some places in the West of e.g. 1 in 8 for prostate + breast cancer. The worst Processed Foods are sugar, white flour and especially oils. It takes a whopping 1400 vitamin, mineral, anti-oxidant and micronutrient rich olives to produce 1 litre of olive oil. All the vitamins, minerals, anti-oxidants and micronutrients are wasted and we flood the gut with calorie rich, inflammatory and nutrient poor oil, wondering why we put on weight and why our health is not optimum.

We are omnivores that can get energy from both plant and animal based foods, but health we only get from plants. As a matter of fact, animal based food slowly poisons us. We kill them, and they slowly kill us.

The degree to which we adhere to this low fat whole plant diet might well influence where on the continuum of disease Progression to Recovery we end up and at what rate we will get to a more healthy state; fast or slow. We have chances to take and choices to make that go beyond our cultural traditions, our taste buds and advertising!

Looking at Nutritional Density (vitamins, minerals, antioxidants, proteins etc. per calorie of food) and also natural (unhealthy) hormone and fat levels for our food choices we end up with the following:
If we get our calories from just about any (non-processed) plant we will get much more protein than if we were to get our calories from human milk; the food consumed when we grow the fastest in our lives.

Plants are our natural food source. Protein, iron and calcium are no issues on plant based diet. There is 6 x more Protein per calorie in a lettuce leaf than in our breast milk! There is 7 x more Iron per calorie in a lettuce leaf than in steak! There is 5 x more calcium per calorie in a lettuce leaf than in the breast milk we consume when we grow the fastest ever in our lives. Hence as long as we eat enough calories, we will be getting enough protein, iron and calcium. It is recommended to add B12 as our natural source (bacteria) is missing through our hygiene. The foods on the right mostly contain empty (fat) calories or empty calories with protein but very little of the other things we need from food for health support. As a matter of fact the fats, hormones and animal proteins slowly make us sick.

Hygiene, Hunting, Fishing, Animal Husbandry and Food Processing are all products of our brain. Our:

- brains invented the concept of hygiene which causes the B12 shortage issue as B12 is only produced by bacteria;
- brains developed weapons, hunting, fire and fishing techniques, skills and ways to pass these on to the next generation; This is how we have overcome our body's hunting limitations of slow speed, no claws, no canines that can grab and hold prey etc.
- brains are behind domesticating animals, designing cages, fences, abattoirs, farms and farming techniques etc.;
- with help of our brains we produced processed foods like ice cream, butter, chocolate biscuits, jelly beans etc.; and hence
- it is thanks to our brains that we've become unhealthy and overweight through getting access to these calorie rich but nutritionally poor and somewhat poisonous foods; it is through our brains that our cancer and heart attack rates are skyrocketing;
- it is through the vanity (again coming from our brains) caused by our obsession with our "marvellous" brain that we have problems admitting to these drawbacks. We've come equipped with a "catch 22"!

So the changes to our food that make us sick in the long run are all contributable to our brain. This started over 500,000 years ago when we started hunting. The much more recent
Industrial Revolution exacerbated the problems. The consequence for our health is our heart disease epidemic, cancer epidemic, diabetes-2 epidemic, osteoporosis and many autoimmune diseases.

We humans have been masters of manipulating our environment including the environment we put in our body: our food. It appears to be high time to stand back, look at the whole picture which includes all these diseases prevalent in the West, longevity and human history, and review our dietary choices.

While Hygiene and Immunisation have increased life expectancy, the increased consumption of Processed Food and Animal Based food are working the other way making us sick. The average life span has gone up a bit mainly through Hygiene and Immunisation lowering the child hood mortality rates, but we can do much better still and avoid a lot of suffering at the other end: in old age. And hey, both the animals and the planet are better off too!

CORRUPTION
What about non-profit interest groups like the Heart Foundation, Diabetes Australia, Anti-Cancer Council, MS Australia?

Well looking at their behaviour, they appear not really interested in diet. Their main objective is fund raising for the industry so the industry can make more medication and sell it for profits. Some of their main supporters are often the Processed Food Industries. They appear as a non-profit shop front for a highly profitable industry, the billion dollar making pharmaceutical industry. A very clever combination really that has us all fooled and makes us mushrooms in the dark. Of course they are not harmful on purpose; they are merely much more driven by money than public health. Health improvement through diet is in competition with medication and it associated profits. This is why the possible health gains through diet are played down by these organizations as it is not really the interests they have at heart. Focussing on fund raising for more research or profits rather than focussing on public health does not help our communities.

The reality is that we live in a capitalist society, where capital ($) is the central focus of the industry and also of the government. The focus is not public health unfortunately and it strongly appears that this shows up in our health statistics. It doesn't create a health system where there is value for money; it creates a system that makes as much money as possible within what a particular market is prepared bare and in the US they are prepared to pay the most...

Example: The Vietnamese achieve a lifespan of 75 spending just over $80 per person per year on health. In the US they achieve a lifespan of 79 (and coming down) spending well over $8000 per person per year. One hundred times as much! The Vietnamese lifespan of 75 is dragged down by their 2.5 times higher Infant Mortality Rates making the small longevity gains by the yearly investment of $8000.00 in the US look even more ridiculous. Hygiene & vaccinations would address the higher Infant Mortality rates and increase the Vietnamese lifespan. It is not so much the money that buys us health or longevity. Medication is taken by sick people, not by healthy people. For
the big majority the biggest factor in our health is the food we eat, not medication. And we are all confused and we are not being told the full story about our ideal diet.

The following industries gain financially from our ignorance and confusion:

- Age Care Industry
- Health Industry
- Processed Food Industry
- Meat Industry
- Dairy Industry
- Charity Health Industry
- Research Industry
- Pharmaceutical Industry

Hence apart from our taste buds trying to influence our diet choices to what we like to eat but might not be so healthy, there are enormous financial interests supporting us in that. This makes healthy choices not easy. This also makes achieving good food science not easy.

What about our doctors and specialists? They learn a lot about diseases and medicine. They do not appear to learn much about health. *The stuff doctors learn leans strongly towards the interests of the Pharmaceutical Industries*....Hence they will treat your chronic symptoms with the stuff they know: medicine but medicine will not make you healthy again in case of our Western diseases as the treatment is missing the root cause of the problems: the Western food. The patients are short changed by the industry but so are the doctors that ended up going into medicine because they wanted to help people as they are not taught the full story.

What about our politicians? They are connected to the industries via lobby groups, financial donations, and are also steered by the industry's media system. Some call this democracy at work….. Others might call it corruption of the public interest. While they might have the public interest at heart, the advantages of the simple plant based diet are kept very effectively from them. At least six of the 11 members of the Dietary Guidelines Advisory Committee for Americans, had financial industrial ties at some stage. The industry defends its patch where ever it can resulting in politicians not getting the advice they need for supporting the public interest.

As far as Heart Disease goes, we are really like Alexander Ignatowski's rabbits from over 100 years ago: We are on the wrong diet and we develop the same atherosclerosis as his rabbits did that had to eat animal products. This diet makes us all sick. Engineer Pritikin understood this and was the first one to cure himself from Heart Disease about half a century ago. Some others have learned from these types of observations like Doctors Caldwell Esselstyn, John McDougall and Dean Ornish and they have great success rates with their patients. But main stream medicine is way behind because of the financial interests corrupting the science feeding the incorrect belief that we are omnivores. It is an absolute shame that the science that works is kept from the public. The emotional and financial costs are enormous. The expensive and quite risky treatments of stents, angioplasty and by-passes could all be replaced by a cheap fast Heart-Attack-risk lowering
diet change that comes with other health benefits and also strongly works long term as a prevention which is something the more costly stents, by-passes and angioplasty not really achieve.

By now you might have concluded that your health is really in your own hands, not the doctor's. Doctors are great for acute problems when you have ended up in an accident of some sort, they are OK when dealing with infections but at this stage they have not yet been trained in health and they do not deal well with the diseases of the rich caused by our Western diet. Which is a real shame as most of them would actually have been motivated to pursue their studies in order to help people to get better. So it is not just patients that are short changed by the system, the doctors are as well. We appear to have a "health system" that is run in the interest of the pharmaceutical industry. This system has been called a "disease care system" by some.

What about oils, fats, vitamins, minerals, proteins etc.? Dividing food in its individual components is what has led us to Processed Foods in the first place and we know they are going to be less healthy than food in its natural state. Hence this way of thinking has led us to a big part of the cause of our health problems. The first question really is: What is the healthiest for us: Hunting or Gathering, Animal Based or Plant Based Food, are we carnivores or herbivores? This is a much more basic question that should be addressed first. Once we have addressed that, we can start looking at subcomponents from a firm base if we see a need for it. Looking at health and longevity, we are squarely Herbivores.

This diet is boring and limiting? Sure but getting sick is limiting too of course. The boring bit I address by adding flavoursome home-made dips to the food that contain plant matter, herbs and spices.

For more Diet – Health – Longevity research and references see: http://users.tpg.com.au/freestro/The_Ideal_Diet.pdf (with many MS related links)

Recommended reading on MS:
- Recovering from MS, Jelinek/Law
- Overcoming Multiple Sclerosis – George Jelinek
- The Multiple Sclerosis Diet Book – Roy Swank, Mary-Helen Pullen
- Youtube: McDougall on Multiple Sclerosis

On Heart Disease:
- The McDougall Program for a Healthy Heart – John McDougall
- Prevent and Reverse Heart Disease – Caldwell Esselstyn
- Dr Dean Ornish's program for reversing heart disease – Dean Ornish

On Cancer:
- The McDougall Program for Women, John McDougall
- Your Life in Your Hands, Jane Plant (breast cancer)

• Prostate Cancer, understand, prevent and overcome, Jane Plant
• Radical Remission, Kelly A. Turner
• Beat Cancer – Mustafa Djamgoz and Jane Plant
• The No-Dairy Breast Cancer Prevention Program – Jane Plant

On Osteoporosis:
• Building bone vitality – Amy Joy Lanou/Michael Castleman
• Understanding, Preventing and Overcoming Osteoporosis - Jane Plant & Gillian Tidey

On Longevity:
• Blue Zones, Dan Buettner

General Health:
• The China Study, Colin Campbell
• The Starch Solution – John McDougall
• The McDougall Program – John McDougall
• Documentary: Forks over Knives. - Lee Fulkerson
• Whole – T. Colin Campbell – deals with corruption of our public health

On Corruption:
• The Truth About the Drug Companies -Marcia Angell, Russ Roberts
• Appetite for Profit – Michele Simon
• Deadly Medicine and Organized Crime – Peter Gotzsche
• Merchants of doubt – Naomi Oreskes – deals with corruption of our public health and interest

Best of health!
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Further exploration:
http://nutritionstudies.org/autoimmune-disease-genres-infection-environment-gut/
https://doctorklaper.com/answers/answers07
http://nutritionstudies.org/scared-school-boy-ms-doctor-nutrition/