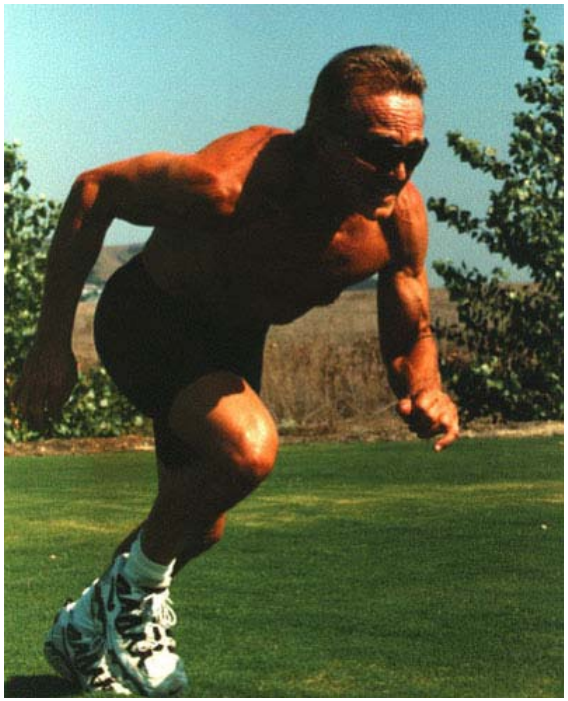
Dr. Art De Vany describes himself as a scientist/athlete. He's competed in Olympic weightlifting, motocross, and even played minor league baseball. At 6'1" and 208 pounds, today he carries only 8% body fat. Pretty admirable. De Vany barely had time to do this interview. He was headed off to Colorado to ride in the KTM Rocky Mountain Raid, an adventure motorcycling event.

Oh, did I mention Dr. De Vany is pushing 70 years old?



Yes, you read that right: 208 pounds, 8% body fat, bursting with energy… at age 68. Most 40 years olds today could only dream of being as fit as De Vany.

"I'm never sick," he says, "and I can do anything I want to do. Everyone should or could be this way." To help them along, De Vany is writing a book called *Evolutionary Fitness*. His ideas are interesting, thought provoking, and at times controversial. Sounds like good interview material to us.

T-Nation: Can you give us a brief overview of what you call "Evolutionary Fitness" and tell us what it means to diet and training?

Dr. Art De Vany: Evolutionary Fitness is a blending of the Stone Age with the High Tech. It's based on the following premises…

1) That our genes are from the Stone Age and they encode both behaviors and human physiology for a hunter-gatherer body and mind.

2) That modern research on human performance and health benefit from an evolutionary perspective.

3) That the science of complexity opens a vision that integrates these ideas in a way that's novel and insightful. I'm a complexity scientist and an athlete and I've read thousands of articles and books on fitness, health, metabolism, and evolution. So, I know the relevant literatures well and have implemented them in my own life for many years.

It's easy to see where these insights go if you realize that any of your readers could have been born 100 thousand years ago and be fully capable of functioning in that ancient world. Likewise, a baby born 100 thousand years ago would be fully capable of functioning as a modern human.

We are genetically indistinguishable from humans from the distant past. But, we're trying to live a life very different from what our genes "expect." Our diets, our activity patterns, and the rhythms of our lives are very different now. It's remarkable that genes and behaviors thousands of years old are so capable that they could function in either environment.

Many modern diseases are diseases of metabolism: Syndrome X, diabetes, obesity, high blood pressure, and countless other diseases didn't exist among our ancient ancestors. These diseases are produced by the clash of Stone Age genes and a modern life of chronic stress, routine patterns, little activity that's challenging, and food that was never part of the long 3.5 million years of human existence.

All this means you should live more like an animal, a human one whose long existence on Earth was spent as a hunter-gatherer. Train, eat, and play, but do it in an intermittent and unpatterned way, just as wild animals do.

T-Nation: Interesting, but many people will "turn off" immediately because of the term *evolution*. Does that bother you? Do you try to convince them otherwise?

Dr. De Vany: I never try to convince others of anything. I make my case and they decide what they'll do with the information. The theory of evolution is a powerful and insightful one that opens your eyes. It can inform any training program because it goes beyond the direct or proximate explanation of

mechanism (you get fat because you eat too much) to a deeper, more informative explanation (the ability to store fat was an essential adaptation for our ancestors).

T-Nation: Coming from the bodybuilding and performance community, I find myself cheering you on in your **blog**, but also thinking at times, "Wait, that can't be right!" about a few issues. Bodybuilding has some very ingrained ideas, for example: a man has to eat big to get big. True or false? Is a large amount of calories necessary for mass gains?

Dr. De Vany: Calories are energy. Excess calories are stored as fat. Too many bodybuilders that I see are too fat. They only look good when they're in contest form. They do tend to follow a binge eating pattern that's close to those of bulimics and other dysfunctional eaters. Eat like mad to grow, then starve to get cut for the contest. Throw in some dehydration for good measure.

This is damaging to the brain and can eventually lead to a form of anorexia when the hypothalamus becomes damaged. Remember, your brain shrinks too when you starve yourself for a period of time. Random or intermittent hunger is good and protective of the brain.

Muscle mass can easily be gained without eating excess calories. Growth hormone directs nutrients toward muscle. Insulin sends them the other way toward fat. Eating all the time raises insulin levels and drops growth hormone levels. So, you tend to make more fat.

T-Nation: What about eating multiple, smaller meals all day long? For example, athletes, lifters, and even just fitness enthusiasts are often told to eat five to seven meals per day. The meals are supposed to be small and healthy, of course. Is that a good idea?

Dr. De Vany: Many meals per day reduce insulin spikes a bit, but by substituting a nearly constant flow. Hence, total insulin is increased over the course of the day eating six or seven meals. This will make you more resistant to the action of insulin. Hence, your body must make more of it.

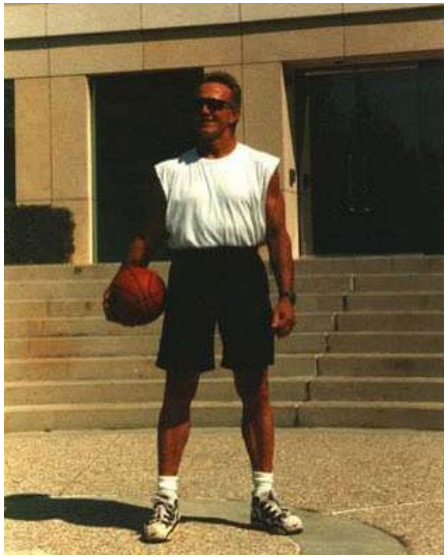
As your insulin drifts upward and you become resistant, you're on your way to the Metabolic Syndrome X: abdominal obesity, high blood pressure, and a pre-diabetic state. No wonder a number of bodybuilders develop diabetes.

The overweight people and bodybuilders tend to share a common strategy (or failure) of eating many meals a day. Both have problems. The obese have many and bodybuilders manage to avoid some of them because they have such high activity levels. But, they both tend to die of similar diseases — diseases of metabolism.

The characteristic that links both these sets of individuals is that they both lack variation between the anabolic and catabolic states. They have a flattened and somewhat uniform metabolic state. The obese do little and eat steadily so that they seldom vary their metabolic state; they're almost always in the anabolic (growth) state.

Bodybuilders who fixate on maintaining a positive protein (nitrogen) balance only enter the catabolic state when they work out. Fortunately, they tend to work out often and long, so they do enter the catabolic state for that period of time. But they ingest a meal soon after the workout and then go back into the anabolic state. This is bad.

It's also a hassle to eat that often. It's hard enough to eat three meals that you prepare well with fresh ingredients. Finally, you weaken the growth hormone response you get from exercise and when you fall into REM sleep.



T-Nation: You actually prescribe a sort of short fast, right? Around 15 hours as part of sleeping? Please tell us about that and your "lean hunting days."

Dr. De Vany: Our ancestors never ate three square meals a day and they surely didn't eat seven meals a day. They did forage over the land as they hunted and may have found wild plants and bugs to eat, but nothing like a protein bar (an entirely foreign substance to any human alive for most of our existence) or a high glycemic load supplement. Plants were only available seasonally to a hunter and hunting takes so much time and concentration of effort, there would have been little eating on the trail.

I calculate that they spent about one out of three days in fairly deep caloric stress. That is, they spent this time in negative caloric balance. This triggers growth hormone, which is protein conserving and activates the protective and rebuilding genes that express brain protective factors, heat shock proteins, and many repair and maintenance processes.

When you live in positive energy balance you 1) get fat eventually, and 2) your body expresses genes related to reproduction rather than maintenance. Growth factor expression is down-regulated during positive caloric balance.

Let's face it, your genes don't care about you. They just want to make sure you reproduce so they can live another day. When you're hungry and active, they switch to growth and repair to keep you alive for a while so you can reproduce later.

I randomly pick a day when "hunting is lean" (or so I tell myself) to eat sparingly, but I'm always active on such a day so my body knows it is to conserve its protein stores and use fat for energy (this is the hGH signal).

T-Nation: Besides frequent eating, where else do you see modern bodybuilders going wrong?

Dr. De Vany: I think bodybuilding has so many positive aspects that it's a pretty good life choice. I've worked out for about 55 years now and I know it has been an important element of my excellent health and professional accomplishments. I'm glad to have it be a big part of my life. Where the errors may lie is in the excesses to which individuals may go in pursuing extreme goals that may relate poorly to health or function.

Some neglect their minds in the pursuit of narrow goals. They spend too much time in the gym and not enough on other more important things. At the competitive level the sport is, after all, just a beauty contest. And like models who go to excess in starving themselves or undergoing surgery or focusing intently on appearance, so may bodybuilders fall into poor habits or dysfunctional goals.

Beauty contests are strange things. Small things become more important in a contest where contestants are similar and differences are small. Slight differences make the difference between first and last place. These differences then become a point of focus and contestants stress those. Then small differences, like a 21.5 inch arm instead of a 21 inch arm become important.

This is a non-linear process that can produce weird outcomes. Pretty soon you're in a strange place in terms of aesthetics; it happens in most areas of taste and bodybuilding is no different. But, the health and functional abilities of the contestants are affected, sometimes in a very adverse way.

T-Nation: You prescribe brief, intense workouts with little emphasis on "show" muscles. Your own weight training workouts take as little as 25 minutes and you seldom do more than three sessions per week. Give us an example of a typical weight training workout for you.

Dr. De Vany: I always do a major muscle group early in the workout to raise my core body temperature and release growth hormone. My workouts are designed for how I wish to function, and with an eye to symmetry and balance.

These are functional goals that will produce a body that moves easily and powerfully in the world. A primary function of a workout is to alter your metabolic profile, the flux of hormones. I work out hungry, so I begin with high growth hormone (fasting releases growth hormone).

My favorite style is to do the workout at a fast pace with no rest between exercises. I most often do 15 reps with a lighter weight, up the weight and do another 8 reps and then up the weight again and do 4 reps. But, I don't count the reps; I feel the acid burn. This tells me I'm getting the lactic acid that boosts my growth hormone.

T-Nation: Do you train to failure?

Dr. De Vany: I never go to failure. I may add a few negatives at the end. All this is aimed at the fast twitch muscle fibers. I then take an easy walk or shoot baskets after the workout and don't eat for about an hour after. No "gainer" drinks or anything in this post-workout period so that I don't shut down the growth hormone and begin releasing insulin.

T-Nation: You also prefer morning, fasted workouts, correct?

Dr. De Vany: For me they work better. I can get to the gym more reliably, and they set up my day as they make me relaxed and comfortable to be working at a desk (when I used to do that as a professor).

But, there are some physiological reasons as well. You can go at it a bit harder on an empty stomach. I find it hard to work out hard in the afternoon any time after a meal.

Bodybuilders in the old days used to carry a bucket to throw up in during their workouts. There's a reason for this, which was not known at the time. If you release large amounts of growth hormone you can become nauseated.

It would be better not to have food there to regurgitate when you do work out hard enough to become nauseated. I almost always have a slight feeling of nausea sometime during a workout. So, a fasting overnight workout may avoid

these problems.

But, an even better reason for morning workouts is physiological. The overnight fast releases hGH and the morning workout is a nice bonus to this hGH. So, you metabolize fat at a high rate during and after the workout. Arnold says morning workouts are best and I agree. But that doesn't keep me from working out whenever I feel like it.

A caution: when you work out in the morning you have to let your heart get used to the load. It's a bit of a shock, which is good but only up to a point. So, build the load to let your heart adapt.

T-Nation: What are your thoughts on cardio?

Dr. De Vany: My cardio is the fast pace of my workout. And it's sprinting in a field or on a stationary bike. I alter the pace intermittently. I never put in the miles or time on a treadmill. It's boring and worthless.

Look at joggers and distance runners. They aren't slender, they simply have no muscle mass. They're weak, they can't generate power, and in spite of their slender appearance, joggers aren't lean. The average body fat content of jogging club members was 22 percent in one study. Anything above 13% is deleterious.

I wouldn't jog for health, but playful runs are wonderful. Vary the speed and terrain and you have a really great activity that's fun and healthful. Routinized jogging is factory work, not natural activity. If you log long miles on a track, I believe you're compromising your health.

T-Nation: I like when anyone tells me not to run long distances, so I'll agree with you there! Now, you've also written about how people are dissatisfied with modern life because they lack real stimulation and adventure. What did you mean by that and how does this relate to evolution?

Dr. De Vany: Our mind is the mind of the hunter-gatherer. Amazing when you think that this ancient life could produce a mind that could be an Einstein or Bach. What we use in this modern world are the brain modules that served the hunter-gatherer well. We have adapted them to our uses, and they function well indeed.

But, ancient life was full of extraordinary cognitive demands. Imagine being on a trail with the formidable predators that roamed the earth then. Life was a very long camping trip with no camp stove or energy bars to get us through. We had to find and kill our food. Our only possessions were what we could carry.

So, if you take this highly developed mind and put it in an office cubicle doing spreadsheets all day, you're using ancient brain modules in a strange and

spreadsheets all day, you're using ancient brain modules in a strange and possibly unhealthful way. If you take a hunter-gatherer whose only possessions were those he or she could carry, you put it in Manhattan in a penthouse with every possession one could ask for, it isn't satisfying. It can't be to a mind made to live in a different time and place.

Life was a far greater mystery then, far more dangerous and far more cognitively demanding than the lives we live now. What we might call an adventure now is what life was like then, every day.

T-Nation: That makes sense. Now, you make a distinction between Western aging and natural aging. What's the difference?

Dr. De Vany: Western or modern, affluent life is conducive to diseases of metabolism and spirit. Depression may have been helpful to keep our ancestors from killing one another when they were confined to caves or other shelters during long winters, but it's triggered in many ways in modern life.

You can look at TV or a magazine or the Internet and find someone with whom to compare yourself in countless ways. And since they're specialists at looking good in some aspect (or they're richer, or can hit more homeruns than you can), you'll almost always come back from the experience feeling that you aren't quite good enough.

Our ancestors lived in small bands of around 25 other people. Every person was important to the survival of the band. They all had value and contributed in some way. Now you can see thousands of other people and the comparison is almost always hard on your pride or sense of worth. And it's hard to see your contribution in the broader scheme of things. I think this contributes to a sense of a lack of purpose and meaning in your life, though I personally don't look for purpose and meaning as I think they're unhelpful and distracting.

As to aging, well, caged lab animals live about three times longer than their wild relatives. We modern humans live about three times longer than our wild ancestors (90 years versus about 31 for our ancestors). Predation, snake and insect bites, fellow humans, and accidents were the common causes of death then. Far fewer deaths were from pathogens than is true of humans since the invention of agriculture, and the beginning of our cohabitation with animals and rats, and higher population densities that allowed pathogens to survive.

But, our ancestors were healthy and fit and lean and strong right up into advanced age. They retained their insulin sensitivity right into old age because they were lean, active, and ate natural foods. In Western societies, really all affluent societies including Iran and Egypt and much of Latin America, little activity, starchy foods, and obesity lead to a loss of insulin sensitivity and a host of hormonal changes that accelerate the aging process.

So, we live longer now than our ancestors, but we spend a higher proportion of our lives in disability.

T-Nation: How long have you been eating and living in an Evolutionary Fitness fashion? What are your stats today?

Dr. De Vany: I've worked out since I was 14 years old. I'm 68. I've lived the Evolutionary Fitness life for about 25 years. I'm 6'1," 208 pounds, and my body fat is around 8 percent. I don't want to be any leaner than this as it's harmful to be too lean. I weigh the same as I did when I played minor league professional baseball. So, my lean body mass is that of a young man's, a very important element of my health. I'm never sick.

T-Nation: You recommend not keeping track of scale weight. What's a better option and why?

Dr. De Vany: It's your lean body mass that counts. It's the "active you" and the engine to carry you through life. It's the store of protein on which your immune system relies to destroy pathogens. It's the measure of your organ mass and function. When you diet you lose all this valuable tissue along with fat. When you live well nourished and active, you maintain your lean body mass.

If you lose 40 percent of your lean body mass, you are dead. AIDS, sepsis and other lethal conditions cause a wastage of lean body tissue and the victims die when their body mass declines 40 percent.

Aging, Western style, is the same problem over a longer time course. Affluent aging is associated with a loss of lean body mass. The aged die when their lean body mass is about 40 percent of what it was in their prime. My lean body mass is the same as it was when I was 18 years old.

T-Nation: You summed up one of your papers by saying, "Learn to be a good animal." What did you mean by that?

Dr. De Vany: Animals have a natural rhythm to their lives that's captured by what's called a power law. It's a statistical distribution of activities. Wild animals spend a good deal of time in languid rest. They also spend brief periods of highly intense activity. There's no typical pattern; activities are scattered over the metabolic scale.

I try to live according to a power law distribution. You'll have to see my website or the book to learn more about this. All I can say is that a power law is the organization of nature and it describes the coast line, the mountain ranges, rain fall, the variation of the forest canopy, and the movement patterns of wild animals.

T-Nation: Thought provoking interview. Where can T-Nation readers go to learn more about Evolutionary Fitness and your upcoming book?

Dr. De Vany: My website, **ArthurDevany.com**.

T-Nation: Cool. Thanks for the chat.