



YOU ARE WHAT YOU EAT

By Tony Wu

Digital illustration ©Christopher Hart

Here's a question for you: If I told you that you that I could help you become stronger, quicker and longer lived than you ever imagined, would you be interested?

What if I told you that the secret is actually quite simple, and that it wouldn't take much effort on your part to attain all of these wonderful attributes?

No studying, no hard work. No strenuous exercise or strict dieting regime. Heck no, that's for losers who don't have the advantage of inside knowledge.

In fact, all you would need to do is eat what I tell you to eat. Simple as that.

Interested enough to want to know more? I then present you with the age-old secret of strength and vitality:

You see, according to ancient Chinese wisdom, all physical things have an essence that defines their unique existence and special properties. Fire, for instance, has a different essence than water, which again is different from earth and so forth.

And here's the key. One thing can acquire the essence of other things. So when water is poured onto fire, for example, the water acquires the essence of fire and becomes steam.

So all you have to do be stronger, quicker and longer lived is to acquire these traits from the right things. Make sense?

And guess what? You'd be in luck. Because I would just so happen to have developed a special recipe containing the precise essences you were seeking, with

everything you need in one convenient pill you take 2-3 times a day. As long as you purchase and consume the pills, you'll find yourself a new person within weeks, in some exceptional instances just days.

And what are the secret ingredients? Well, for strength, there's finely powdered granite, because granite is really strong. For speed, there's wind captured during a typhoon, because few things are faster. For longevity, shredded wood from a bonsai plant, because bonsai live for hundreds of years. But of course, the key is in the preparation, a process refined over many years of trial and error, and naturally, hush-hush top secret.

Ok enough. Sounds like complete crap, doesn't it?

But here's the thing: People fall for it constantly. Lots of otherwise sensible people.

Try this on for size. If you consume shark cartilage, you'll never get cancer, because sharks don't get cancer. Or how about this? If you consume coral calcium from Okinawa, you'll have "reduced cancer risk and increased longevity" (quotation from a popular health and fitness magazine I came across recently), because people in Okinawa are generally healthier than people in the West.

There have always been witch doctors and snake oil salesmen selling potions in back alleys and such, but the thing that sets these and similar examples apart from age-old scams is that they are big business, perpetuated to mainstream society in "health food" stores, popular publications and the internet.

I'm all for keeping an open mind. If double-blind tests published in peer-reviewed research suggest that shark cartilage consumption might prevent cancer, then by all means, let's pursue more research to see if it holds up to scrutiny.

But what really irks me is that, (surprise surprise,) there's little or no substantive support for these miracle-like claims.

Why, for instance, would calcium from Okinawan coral be any different from calcium from any other source? Perhaps rates of absorption or bioavailability might differ depending upon the form of the calcium compound concerned, but what effect does that have on cancer prevention? And why just Okinawa?

As a final twist, for every person who succumbs to these types of multi-hundred million dollar a year scams, there are just as many, perhaps more, who refuse to see the opposite.

Objective tests on sharkfin and cetacean products throughout Asia have consistently shown an unacceptably high incidence of toxins like mercury, PCBs and other industrial waste.

Yet people who regularly consume these products continue to do so, ignoring the fact that such pollutants have conclusively been shown to cause disease in humans, including forms of cancer, neural disorders and birth defects.

What I'm trying to say is that there are times when you truly are what you eat, and times when you're not. The real key to being strong, quick and long lived is being smart enough to know the difference.



An encounter with the **MANTIS SHRIMP**

By Tony Wu

Photography ©Tony Wu, diagram from US national and atmospheric administration

My first run-in with a mantis shrimp was a painful one. Coming up after a dive, I was hanging out in the shallows. A slight surge came, and I placed my hand down to steady myself. “Whack!”, my knuckle was throbbing in pain. Looking down, I spotted a juvenile mantis shrimp, staring smugly at me from behind the rock I had set my hand upon. Luckily, my tormentor was quite small, so I didn’t suffer too much.

Returning to land and looking through reference books, I learned that mantis shrimp belong to the order Stomatopoda, which are predatory crustaceans that generally live in shallow tropical and subtropical waters, though deep water varieties also exist.

Mantis shrimp range in size from a centimeter or so to more than 30 centimeters in some cases, and they are some of the most aggressive and pugnacious critters in the water. There are over 350 species of these aquatic hunters which, despite their name, are not closely related to shrimps. In fact, it’s believed that the stomatopods started to evolve away from true shrimps around four hundred million years ago. Among other differences, the mantis shrimp have six legs and two claws, compared to the ten legs of true shrimps.

The most impressive feature of these animals, though, must be their front limbs, which are highly specialized for taking prey. Mantis shrimps come in two basic forms – the Spearers and the Smashers. The spearers, as the name suggests, have forelimbs equipped with

numerous spines, which they employ to impale their prey, primarily soft bodied animals like fish and shrimp. Like the praying mantis on land, the speed of a spearer’s strike is blindingly fast. A typical jab reaches a velocity of ten meters per second and only lasts a few milliseconds. By comparison, blinking your eye takes about 100 milliseconds. Spearers tend to be relatively large in size, somewhat shy and have a preference for living in soft areas like sand and mud.

Smashers employ a different strategy. Their front limbs have a heavily calcified club, which the mantis shrimp use to “smash” hard shelled victims like crabs, clams and snails. Since the force produced by a smasher’s club can be nearly as strong as a 22 caliber bullet, the typical smasher attack involves pulverizing the hard defenses of the chosen prey, then picking out the choice morsels for leisurely consumption. Smashers tend to live in areas with rock and coral rubble. The colorful *Odontodactylus scyllarus* (the cheeky fellow that smacked my knuckle), is a smasher, and is one of the commonly encountered stomatopods in shallow Asian waters.

How do these critters pack such a powerful punch? Through years of evolution, the stomatopods have developed a mechanism in their front limbs that allows the mantis shrimp to build up and lock away tension in its muscles. When the mantis shrimp strikes, it releases the built up energy very quickly, resulting in explosive speed and power.

Of course, even the best weapons in the

world aren’t of any use without excellent eyes, and mantis shrimp are well equipped in this area too. They have compound eyes which are mounted on stalks and are capable of independent movement covering a full 360 degrees. Each eye is divided into two halves by a narrow midband region. Each half provides black and white vision and depth perception, while the midband senses colour and polarized light. In short, these hunters have great vision.

On the more personal side, I’ve learned that stomatopods tend to exhibit unique “personalities.” When divers approach, for example, some are timid and scurry rapidly for cover, peeking around corners to check out the weird bubble-blowing invaders. Others are less reserved and seem to watch divers as closely as divers watch them.

I once met a fiercely possessive smasher. I moved a piece of dead coral away from the mouth of this mantis shrimp’s burrow, only to have it rush out, stare briefly at me with obvious disbelief and indignation, grab the coral and promptly replace it in the original location. Removing another piece of coral again produced the same reaction. In three meters of water, we played “It’s my coral. No, it’s my coral.” for a solid 30 minutes before I finally gave up trying to teach it the value of sharing.

Next time you’re in shallow water, have some fun. Find a mantis shrimp to observe, but watch where you put your hand so you don’t risk getting speared or smashed!

