

Food Combining: Myth or Necessity

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The second largest selling over-the-counter drugs in America are medicines to aid in digestion and associated discomfort that accompany eating (Beasley & Swift, 1989). A multimillion dollar industry has been sustained from people's diarrhea, constipation, bloating, gas, and heartburn, among others (Dries, 1992/1951; Shelton in Dries). In America digestive problems are accepted as part of life. In a three-month period, it is reported that 70 percent of all Americans have one or more gastrointestinal symptoms (Lee, 1994). Their discomforts, usually minor, are seen to be nothing more than inconveniences. Seemingly harmless, these discomforts have greater long-term negative ramifications (Shelton, 199?; Grant, 1989; Dries, 1995; Munro, 1953; Diamonds, 1985). Viktoras Kulvinskas (1975), in his monumental book Survival into the 21st Century, states that 80 percent of all diseases are due to improperly digested foods and their byproducts being absorbed into the body. This is not such a surprising statistic. A study of the colon will attest to the intricate involvement it has with the health of the rest of the body. Robert Gray (1990) and Dr. Richard Anderson, N.D., N.M.D., (1994) both colon specialists, agree on the importance of proper digestion in relation to a healthy colon. Both also agree that a diseased or toxic colon, produced by fermentation and

putrefaction of undigested food, is the root of most diseases.

Many have correlated indigestion and various other dietary discomforts with undigested food and the fermentation and putrefaction that accompany it (Shelton, 199?; Grant, 1989; Dries, 1995; Munro, 1953; Diamonds, 1985). These *understood* problem-causing factors occur for various reasons. Dr. Shelton mentions, "Eating when emotionally upset, when fatigued, when out of sorts, when in pain and fever, when there is severe inflammation, immediately before engaging in physical work or intense mental activity, when cold, etc." (Shelton, 199?). Many believe that more influential in proper digestion than the above, is food combining.

The art of food combining originally proposed by William Howard Hay in the early 1900's has since been a very controversial subject (Grant, 1989). Food combining entails the proper mixing of various categories of foods to ensure optimal digestion. Foods are classified into their main nutritional components, e.g. proteins, starches, sugars, fats and acids. Good and bad combinations are then determined from the food's nutritional makeup. Within the same meal, these bad combinations are not to be mixed. This *science* has appeared in numerous alternative texts on health, diet and nutrition. Ironically, there is little to no mention of this concept in traditional nutrition or

medical books (Dries, 1995).¹ This is because, as Ralph Golan, M.D., (1995) states, "The rationale of these principles is a bit difficult to document in the scientific literature."

So we embark on a conflict of grave philosophical and practical magnitude. Can issues, especially health related, be determined valid (or invalid) through purely analytical, and for that matter, theoretical means? The traditional western mind has hit a culminative point, adhering to the previous thought pattern. In so doing, main stream science/nutrition has many times in the past been behind the times on important health issues (e.g. vitamins and energy work²). Because of this lag, traditional circles refrain from getting sucked into faddish theories, but many times miss important new discoveries. On the other hand, can issues be determined valid (or invalid) with little to no scientific proof at all? Many 'alternative' paths that have offered valid important contributions in the past have also proposed numerous diversions from anything of any real value.³ Theoretically it is impossible to determine if food combining is going to be beneficial to someone or not. It is something, although, that should definitely be taken into consideration when dealing with one's health, especially in

¹ A survey of 10 modern 'university style' nutrition and anatomy and physiology books yields no mention of food combining.

² Energy work has been around for thousands of years. Just recently has modern medicine begun to adopt it with things like 'therapeutic touch' and 'hands on healing' used in hospitals.

³ In this case the word alternative is in reference to any path that does not have scientific proof for their claims.

regard to the digestive system. A look at food combining, especially the protein/starch controversy, will also show the evident limitations of modern medical thinking.

It is understood by almost every physician or health crusader that undigested food can create many problems within the body. Determining if the way we mix our foods (food combining) at meals has any relevance in producing undigested foods or other unwanted difficulties is somewhat of a challenge. Many theories have been proposed, but the majority are physiologically unsound or unclear. A complete analysis of the theoretical aspects of food combining is unfortunately beyond the scope of this paper. Sufficient to demonstrate the point will be an analysis of the most controversial and important of these rules, combining proteins and starches.

Pioneers Hay and Shelton, and others today, proclaim that mixing these foods in the same meal will produce fermentation, putrefaction, and undigested food particles (Shelton, 1997; Grant, 1989; Dries, 1995; Munro, 1953; Diamonds, 1985). Proteins and starches are believed to need different pH mediums for digestion. Starches need an alkaline medium and proteins an acidic medium. This is only partially true as will be discussed later. Starches begin their digestion with the salivary enzyme amylase. When this alkaline dependent enzyme comes into contact with an acidic medium it is rendered useless. They also theorize that it is protein exclusively (not starches) that causes the

secretion of gastric juices (primarily HCL). This in turn lowers the pH, which disables amylase. Grant (1989) states "that hydrochloric acid is stimulated in exact ratio to the amount of protein presented to the digestive task" (p. 31). So with this theoretical model, the lowering of pH by proteins will prevent starches from being fully digested. This, as many believe, produces fermentation in the stomach (Meyerowitz, 1993; Shelton, 199?; Grant, 1989). Shelton (On-line) states, "if no protein is taken with the starch, no acid is poured into a stomach and starch digestion proceeds on schedule." It is also known that starche completes its digestion in the small intestines by pancreatic enzymes. This produces a reliance on pancreatic function.

By relying on pancreatic enzymes, one theoretically can digest starches without the help of the enzymes secreted by the mouth. Many believe this puts an unnecessary burden on the pancreas. Santillo (1993) states, "The pancreas can be put under tremendous stress if the food is not properly predigested at this point. It must draw enzymes from the whole body to secrete the designated amount [sic]" (p. 47). Someone with a healthy digestive system may not experience problems for many years while making bad food combinations. Eventually the overworked pancreas may begin to malfunction, which may lead to diabetes or other chronic illnesses (Santillo, 1993). Dries (1995) points out that even though a person has a strong digestive system, when one puts this

unnecessary burden on one's system one expends energy that could be used elsewhere. The harder the pancreas and other organs have to work, the less energy that is available for other things, like thinking. This accounts for the fatigue associated with digestion for many people.

Starches are also believed to interfere with the stomach's ability to produce an acidic environment that is needed to digest proteins. Grant, Meyerowitz and Munro (study from the Mayo clinic) state that starches and sugars have an inhibitory effect on HCL production.⁴ HCL is what creates the acidic environment needed for protein digestion. If protein is not properly digested, putrefaction along with a host of other problems will occur.⁵

An interesting experiment that shows how proteins and starches influence the pH of the stomach is quoted by Munro (1953) in Man Alive You're Half Dead!. It shows the various pH levels after 1 1/4 hours after eating various protein and starch combinations.⁶ Proteins eaten by themselves had the highest pH. Starches eaten alone had the lowest. A combination of the two was in the middle. Munro (1953) concludes that "when high proteins and high carbohydrates are mixed, this investigation proves, there is not enough acid to digest the protein part readily, and too much acid to digest the starch part readily" (p. 86). Proteins when combined with starches produce an insufficient

⁴ HCL is an abbreviation for hydrochloric acid.

⁵ This is understood by almost everyone in the health profession.

⁶ Mention procedure on page 85.

amount of HCL to break the peptide bonds. Starches then cannot be broken down sufficiently by amylase because of the increased HCL.

These arguments advocating food combining, while quite convincing to the layperson, are much more complicated than one might believe. Shelton (on-line) says,

In elementary chemistry the student learns that an acid and a base (alkaline element) neutralize one another. Therefore when two foods, one a protein and the other a starch are eaten at the same, neither food digests well because neutralization occurs. (p. 2-II)

Unfortunately, it is much more involved than that. Let's examine the other side to this puzzle.

The first thing one must note is that the above experiments and theories, although possibly valid, are over fifty years old. Modern food combiners quote these studies and pioneers as if they occurred yesterday. A survey of ten modern books that advocate food combining showed two things. Either, and most commonly, there were no references whatsoever, or the references were very old. An example is Grant's claim that starch inhibits HCL production. It contains no references, and it is in a section describing the Hay System that is over 50 years old. A look at a very popular and thorough A&P textbook, Principles of anatomy and physiology by Tortora and Grabowski (1996), makes no

reference to this claim.⁷ Tortora (1996) also disagrees with the idea that protein exclusively stimulates HCL. He states that any distention (stretching) of the stomach walls will produce HCL. He also points out that protein actually acts as a buffering agent.⁸ This raising of the pH, although, will trigger more HCL production if the body is capable (Tortora, 1996).⁹ It is hard to find current evidence that starche interferes with protein digestion. Even if it did, the pancreas has been found to secrete enzymes to further digest protein, as with the other foods eaten. This was unknown forty years ago.

In regard to the pancreas being driven to malfunction by being used for the further digestion of proteins and starches, which to me seems to be its intended purpose. I found no evidence to support this claim. If correct, it has been shown that even a small decrease in pancreatic activity can be detrimental to the ill (Lee, 1994).

As for the many incorporations of the concept that improper food combining causes fermentation in the stomach, this is based on a dated misconception.¹⁰ It has been shown that HCL actually stabilizes sugar, preventing fermentation (Dries, 1993). People to this day are still using these

⁷ Or to any of the above food combining supporting physiological evidence.

⁸ A buffering agent in chemistry stabilizes pH. In this case it raises the stomach's pH.

⁹ This goes against the previously mentioned theory that protein, not starches, lowers the pH. One could assume if starch also raises pH, starch is not meant to be entirely digested by amylase in the stomach. This also indirectly disproves the concept that protein interferes with starch digestion.

¹⁰ The 'fermentation theory' plays an extensive role in the other rules of food combining, especially ones dealing with fruits.

physiologically unsound theories to prove the necessity of food combining. Jan Dries admits in The New Book of Food Combining that the original theories were wrong, but offers no up to date physiological proof for food combining.

Dries' new theory on the protein and starch controversy still entails the concept of fermentation. He states that when food enters the stomach, it fills from the outside in. When too much food enters the stomach, the food doesn't come in contact with the gastric juices for quite some time.¹¹ This in turn allows the starches and sugars to have time to ferment. Eating complex foods (e.g. proteins and starches) gives one the tendency to eat more than one should (Pitchford, 1993; Dries, 1995). Santillo (1993) and Meyerowitz (1993) say it is precisely the fact that foods do not come into contact with the gastric juices right away that is its strength. This extra 45 minutes to an hour is when the body breaks down most of the carbohydrates (Santillo, 1993).¹² This in turn takes a burden off the pancreas. Dries fails to explain why the added protein has any effect on starch beginning to ferment. If Dries' theory was correct, just eating too much starch would produce the same effect, fermentation of the lastly eaten starch. This, of course, makes for a very shaky food combining theory.

¹¹ Tortora and Grabowski state that the maximum time food stays in the fundus (the area that is free from gastric juices) is 45 minutes-1 hour.

¹² This also indirectly disproves the concept that protein interferes with starch digestion. If starch has this time to be digested by amylase then any amount of protein (which raises pH) will not stop this. Incidentally, modern physiology suggests that lack of protein in a meal could possibly hinder digestion of starches. This is also suggested by Sears in the Zone Diet.

One must also note that the above theoretical explanations are slightly pedantic. There are other ways to explain why or how different food combinations make one feel good or bad. For example, in many eastern views, food contains various energies, and proper meals contain a balance of these energies (Pitchford, 1993). Traditional eastern views make no reference to categories like proteins and starches.

On a purely theoretical basis, I would conclude that there is insubstantial evidence for the advocacy of food combining. One must note the severe limitations of basing one's beliefs on a theoretical analysis on a topic of this nature. Modern physiology and theory are based on an optimal working system. In practice, everyone encounters varying degrees of degeneration of the digestive system. To base a definite conclusion on something as murky as the above would be quite naive. With the constant changing of information, data, and theories, it is hard to say what might be true in twenty years. The mere fact that everybody's body is different constitutes a broader look.

These theories were developed from what Dr. Shelton, Dr. Hay and Dr. Munro witnessed in their practice healing people. To the best of my knowledge, there have been no actual clinical trials to support or deny what many have experienced. Even though many of their reasons were based on complete physiological misconceptions, one should not be too hasty in discounting their conclusions. Human

observation is still a very important process in finding truth. Dr. Herbert Shelton (1951) states,

For many years I have been prescribing a diet for both the healthy and the sick, for both the weak and the strong, the old and the young. All in all this time it has ever been the case [sic] that a conversion to good food combining is followed by an immediate improvement in overall health (Dries, 1992, p. 21).

Ralph Golan, M.D. (1995) says:

I have known many individuals in my medical practice, however, who were unable to handle proteins and starches together but could eat them separately without apparent difficulty. I have also known individuals who could handle grains and milk products separately, but not together at the same meal. The exact reason for this is unclear, but we can assume that with the more settled feeling in their stomachs from "correct" combinations, the patients' digestion and nutrition assimilation are more complete (p. 145).

Ward Nicholson, a 20-year, dedicated hygienist, stated that after following food combining rules he did not begin to feel better until he disregarded all of them (personal communication, December 21, 1996). Many others, myself

included, state similar claims like food combining did nothing for them and they feel better mixing their foods.¹³

The above brief analysis of the theoretical basis for combining proteins and starches demonstrates an important point. Sometimes it is impossible to make decisions based on theoretical models that are based on an optimal working system. The more one analyzes the above theories, the more confused one could become. There is no simple answer to the physiological dilemmas that food combining proposes. It demonstrates two important aspects of science: one will try to prove, by any means possible, what one experiences or thinks is correct, and science is constantly changing so one must not dogmatically believe in any one supposed truth.

Too many times, people figure out something that works for them and then try to convince others that this is the best system for them. A perfect example of this is the Diamond's (1985) best selling book Fit for Life. The Diamonds created a cult following from non-scientific ramblings. Basic physiological facts¹⁴ are ignored while half-cocked scare tactics are used to persuade people to follow their diet. These dangerous, one-sided philosophies do little to further our understanding of *health*. One would do much better by putting together some clinical trials.

The numerous stories and clinical experience of many doctors it seem to initiate that there is something to food

¹³ Personal encounters with people.

¹⁴ At least for today's time.

combining. At the same time, it is also evident that food combining is not right for everyone. One major reason why food combining is so theoretically hard to prove is that every person's body is different. If, as most Americans do, you have digestive problems, it is well worth looking into. If you are going through an illness, it might also be beneficial to experiment with, as Pithford (1993) suggests. Most importantly, though, is to realize that your health lies in your own hands; so do what feels best for you.

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