



## **Dr. Francis M. Pottenger, Jr., MD**

Dr. Pottenger was an original thinker and keen observer whose imagination, integrity and common sense gave him the courage to question official dogma. Dedicated to the cause of preventing chronic illness, he made significant contributions to the understanding of the role of nutrition in maintaining good health.

In his classical experiments in cat feeding, more than 900 cats were studied over 10 years. Dr. Pottenger found that only diets containing raw milk and raw meat produced optimal health: good bone structure and density, wide palates with plenty of space for teeth, shiny fur, no parasites or disease, reproductive ease and gentleness.

Cooking the meat or substituting heat processed milk for raw resulted in heterogeneous reproduction and physical degeneration, increasing with each generation. Vermin and parasites abounded. Skin diseases and allergies increased from 5% to over 90%. Bones became soft and pliable. Cats suffered from adverse personality changes, hypothyroidism and most of the degenerative diseases encountered in human medicine. They died out completely by the fourth generation.

The changes Pottenger observed in cats on the deficient diets paralleled the human degeneration that Dr. Price found in tribes that had abandoned traditional diets.

[www.price-pottenger.org](http://www.price-pottenger.org)  
Price-Pottenger Nutrition Foundation  
Reprinted By: Animal Food Services  
Green Bay, WI  
[www.animalfood.com](http://www.animalfood.com)

# Francis M. Pottenger, MD and "The Hazards of a Health Fetish"

By Ron Schmid, ND

The impact of quoted work is often influenced by the reputation of the person quoted. But what makes a reputation, in particular that of a person who died many years ago? Certainly in part the accuracy and importance of the written work left behind. But when a person's life and work are ignored by most of society, much less maligned by prestigious segments, reputation suffers. What yardstick may we use then to evaluate the import of the life? **We may be left with only our judgement of the work itself.** If the work is complex and perhaps not readily available, as is Dr. Pottenger's, making that judgement may be difficult.

Thomas Hotchkiss knew Francis M. Pottenger from the time Thomas was eleven years old in 1912. His "Personal Memoir" of Francis, written after his death in 1967, provided me with the following details about Francis's life.<sup>1</sup>

## **GENIUS AND SERVICE**

Two years before his death, Pottenger received the Distinguished Alumnus Award at Otterbein College in Ohio. In presenting the citation, the Chairman of the Board of Trustees praised Pottenger's distinguished career in medicine and public service.

Service indeed. By the time he received that award, Francis M. Pottenger, MD, had published over fifty peer-reviewed articles in the scientific literature, mainly in the fields of medicine, chronic disease and nutrition. He had served as president of the Los Angeles County Medical Association, the American Therapeutic Society and the American Academy of Applied Nutrition. "Francis was among the first in his profession to recognize the hazard to health caused by air pollution in Los Angeles County. He worked indefatigably over a period of many years to mitigate its deleterious effects upon human health. His efforts were widely recognized and as a result he became a member of the Los Angeles County Air Pollution Control District's Scientific Committee on Air Pollution."

Pottenger received a rather unusual accolade for a medical doctor. In 1951, the Texas State Dental Association honored him with an award for the Advancement of the Science of Dentistry in Texas. He had written a number of brilliant articles on the effect of raw versus cooked foods, including pasteurized milk, on the dental and facial structures of animals and human beings. The articles had a powerful and lasting impact on the many American physicians and dentists who were actively interested in the effect of nutrition on human health and disease.

In 1940, Francis founded the Francis M. Pottenger, Jr., Hospital at Monrovia, California, for the treatment of asthma and other nontubercular diseases of the respiratory system. And beginning in 1945, he was Assistant Clinical Professor of Experimental Medicine at the University of Southern California.

Dr. Pottenger also served as Medical Service Chief for the Civil Defense Area surrounding his home during World War II. Japanese invasion of the West Coast of America was considered a real threat in the dark days just after the 1941 attack on Pearl Harbor. The project to set up the first portable hospital in Los Angeles County under simulated disaster conditions was directed by Pottenger.

**In 1940 he began what became known as the Pottenger Cat Study, the work that brought him fame. There's no money these days in making famous a man who proves the value of raw foods; in the last forty years or so, Pottenger's fame in the conventional medical and nutritional establishment has faded as surely**

as the stocks of processed food companies have risen. Yet he remains an icon to those who understand his work and its importance, particularly in relationship to the work of Weston Price. Let's look now at what Francis had to say in one of his many professional papers, and an example of how his work has not only been misunderstood and ignored, but indeed sometimes deliberately misrepresented.

## A FETISH

A fetish is defined as 1) a thing abnormally stimulating or attracting sexual desire and 2) an inanimate object worshipped by primitive peoples for its supposed inherent magical powers or as being inhabited by a spirit. b. a thing evoking irrational devotion or respect.<sup>2</sup>

For many years, advocates for raw milk have pointed to Pottenger's work as perhaps the most important research that proves raw milk's benefits. Those who would outlaw the sale of all raw milk have meanwhile disparaged and distorted his work. An example of the latter is found in an article titled "Unpasteurized Milk-The Hazards of a Health Fetish" that appeared in the *Journal of the American Medical Association* on October 19, 1984.<sup>3</sup> The authors refer to a 1946 Pottenger article from the *American Journal of Orthodontics and Oral Surgery*, "The Effect of Heat-Processed and Metabolized Vitamin D Milk on the Dentofacial Structures of Experimental Animals."<sup>4</sup>

The authors of the "Health Fetish" article state: "Numerous studies of the relative nutritional merits of raw and pasteurized milk have been conducted in animals and humans, and no differences were detectable. One animal study deserves particular attention because a misrepresentation of the results has become prominent in the raw milk folklore. In 1946, Pottenger published a report about his observations on cats fed varying combinations of raw and heat-treated milk and raw and cooked meat. In his first and largest series of experiments, Pottenger observed many diseases in cats fed raw milk and cooked meat. Raw milk advocates have erroneously cited this article as having reported that disease occurred in cats fed *pasteurized* milk. Smaller experiments in the same article showed that a diet of one-third raw meat and two-thirds milk (pasteurized or not) did not provide adequate nutrition for the cats."

Based on this quote, one might reasonably think that perhaps the diseases Pottenger observed in the first series of experiments were caused by raw milk, and that the smaller experiments showed that raw milk was not superior nutritionally to pasteurized milk. Publication in so prestigious a journal by two medical doctors and two veterinarians lends further weight to the pronouncements.

## THE CAT STUDY

Let us examine what Pottenger actually had to say in his article. "In the first series of experiments, one group of cats was fed a diet of two-thirds raw meat, one-third raw milk, and cod-liver oil. The second group was fed a diet of two-thirds cooked meat, one-third raw milk, and cod-liver oil. Within the ten-year period, approximately nine hundred cats were studied. The amount of data accumulated is large.

"The cats receiving raw meat and raw milk reproduced in homogeneity from one generation to the next. Abortion was uncommon and the mother cats nursed their young in a normal manner. The cats had good resistance to vermin, infections, and parasites. They behaved in a predictable manner. Their organic development was complete and functioned normally.

"Cats receiving the cooked-meat scraps reproduced a heterogeneous strain of kittens, each kitten of the litter being different in skeletal pattern. Abortion in these cats was common, running about 25 per cent in the first generation to about 70 per cent in the second generation. Deliveries were in general difficult, many cats dying in labor. Mortality rates of the kittens were high, frequently due to the failure of the mother to lactate. The kittens were often too frail to nurse."

Based on this quote, one might reasonably conclude that the problems observed were due to differences in the nutrition provided by raw versus cooked meats. We see here how a true statement in the "Health Fetish" article ("Pottenger observed many diseases in cats fed raw milk and cooked meat") may be placed in a context designed to lead the reader into making false conclusions.

The next half-truth is even more subtle: "Smaller experiments in the same article showed that a diet of one-third raw meat and two-thirds milk (pasteurized or not) did not provide adequate nutrition for the cats." Further examination of Pottenger's article is required to understand the subterfuge involved.

Again quoting Pottenger: "We did three other series of feeding experiments. In these series we used the following kinds of milk: raw milk, raw metabolized vitamin D milk, pasteurized milk, evaporated milk, and sweetened condensed milk. Roughly, our results corresponded with those of the previous experiments; animals on raw milk and raw meat reproduced a homogenous strain, the usual causes of natural death being old age or injuries from fighting.

"The male cats fed on [raw] metabolized vitamin D milk (from cattle fed irradiated yeast) and raw meat showed osseous disturbances very like those on pasteurized milk. . . . Young males did not live beyond the second month, and adult males died within ten months. . . . The cats fed pasteurized milk as their principal item of diet, and raw meat as a partial diet, showed lessened reproductive efficiency in the females, and some skeletal changes, while the kittens presented deficiencies in development. . . . Later, we made a comparative study of several types of milk on white rats, the general results of which coincided with those found in the cats."

## **WORD GAMES**

We see that Pottenger's own words describe clearly the superior value of raw versus pasteurized milk for the animals. Yet the "Health Fetish" authors statement that "a diet of one-third raw meat and two-thirds milk (pasteurized or not) did not provide adequate nutrition for the cats" is strictly speaking true, because of the use of the phrase "pasteurized or not." One experiment used raw metabolized vitamin D milk, and, like the pasteurized, evaporated, and sweetened condensed milks, this resulted in diseased animals. The metabolized vitamin D (a synthetic form of the vitamin present in the milk because the cows had been fed irradiated yeast) proved to be so toxic that it overrode the benefits of the otherwise optimal all-raw diet that were proven in the animals fed plain raw milk. Thus one type of milk that was *not* pasteurized had indeed not provided adequate nutrition. Had the "Health Fetish" authors used the phrase "pasteurized or raw," the statement would have been false, because the word raw would be referring to *both* raw milks tested—the raw metabolized vitamin D milk that did not provide adequate nutrition, and the plain raw milk that did. The choice of the word "not" makes the distortion possible without actually making a false statement. Very clever indeed. There is no discussion on the toxicity of the synthetic vitamin D in the "Health Fetish" article, and no mention of the sparkling health seen in generation after generation of cats fed raw meat and raw milk free of synthetic vitamin D.

The "Health Fetish" authors make one other statement that may not be called an untruth, yet is obviously designed to lead one to false conclusions: "Raw milk advocates have erroneously cited this article as having reported that disease occurred in cats fed *pasteurized* milk." I'll repeat what Pottenger reported: "The cats fed pasteurized milk as their principal item of diet, and raw meat as a partial diet, showed lessened reproductive efficiency in the females, and some skeletal changes, while the kittens presented deficiencies in development." Pottenger indeed does not actually use the word "disease" here or anywhere else in this article in reference to animals fed pasteurized milk (the article is about effects on the dental and facial structures of the animals). Yet his finding of the superiority of raw versus pasteurized milk is clearly presented. In fact, in one experiment described briefly, 13 cats fed pasteurized milk all died within several months.

The "Health Fetish" authors make no mention of a number of other relevant findings published in the Pottenger article. For example, an autopsy photograph shows the internal organs of a cat that had been fed a diet of one-third raw meat and two-thirds pasteurized milk for eight months before being sacrificed. The caption reads, "Note poor tone of skin and inferior quality of fur. Fair heart. Slight fatty atrophy of the liver. Lack of intestinal tone: moderated distension of uterus. Note the disturbance of the skin with a shift from the creamy color of the raw-milk fed cat to the purplish discoloration of congestion."

In contrast, another photograph shows the internal organs of a cat fed a diet of one-third raw meat and two-thirds raw milk all of its life. The caption reads, "Note excellent condition of fur and creamy yellow subcutaneous tissue with high vascularity. Moderate heart size. Good liver, firm intestines, and resting

uterus. Note the muscle of the raw-milk-fed animal has a deeper red color and appears more vascular than that of the animals receiving the heat-processed milks."

Another experiment began with 13 cats in excellent health that had been raised on raw meat and raw milk. A table is used to show how long these cats lived after being placed on a diet of one-third raw meat and two-thirds pasteurized milk. The average length of life for the males is 4 months 11 days, for the females 3 months 27 days. The calcium-to-phosphorous ratio of each cat's femur (thighbone) is shown, and all are abnormal.

Two X-ray photographs depict the results of another experiment that used two rats, one fed raw milk (rat A) and the other pasteurized (rat B). The caption for the raw milk animal reads, "Note advanced maturity, greater diameter and length of the olecranon process [part of the elbow] of the ulna [the long bone in the foreleg]." The caption for the pasteurized milk animal reads, "Note smaller olecranon process and delayed maturity when compared with rat A."

Another photograph shows a number of bones from one of the cats, previously healthy, that died four months after being placed on the one-third raw meat and two-thirds pasteurized milk diet. The caption reads, "Note missing teeth, chalky appearance of bone, squaring of the bases of teeth and marked root resorption. Osteoporosis. Lack of completion of orbital arches [the orbit is the eye socket]. Malar bones [the cheek bones] have become separated at suture lines [where the bones come together]."

An X-ray of the jaw of a living cat fed the raw meat-raw milk diet all of its life is presented. The caption reads, "Normal jaw structure, good distribution of trabeculae [part of the bony structure], well developed condyle [a knob at the end of the bone], and well developed pterygoid process [a little outgrowth of bone] of the mandible [jaw bone]. Alveolar crest [the alveolus is the bony socket for the root of a tooth] of normal height; even distribution of teeth."

## **TRUE BUT MISLEADING**

My object here is not to give a lesson in anatomy, but rather to make accessible to the reader some of the details of Pottenger's findings. In this article he focused primarily on the effects of heat-processed foods, including pasteurized milk, on the bones and jaws of his experimental animals because the article was written for a dental journal. In many other articles published over the course of some fifteen years, he emphasizes the diseases that result in cats and other animals when fed diets that include pasteurized milk.

Another of the "Health Fetish" authors' statements quoted earlier deserves further inquiry: "Numerous studies of the relative nutritional merits of raw and pasteurized milk have been conducted in animals and humans, and no differences were detectable." This appears to be a simple statement of fact. Since, in reality, numerous studies of the relative nutritional merits of raw and pasteurized milk conducted on animals and humans *have* shown clearly the nutritional superiority of raw milk, one is tempted to declare the "Health Fetish" statement to be untrue. But in fact it is a true statement! Now how can that be? To answer this question, we must do a little exercise in logic.

Examine these two statements: 1) "Numerous studies of the relative nutritional merits of raw and pasteurized milk have been conducted in animals and humans, and *no* differences were detectable." 2) "Numerous studies of the relative nutritional merits of raw and pasteurized milk have been conducted in animals and humans, and *vast* differences were detectable."

It appears that if one statement is true, the other must be false, right? Wrong! *Both* statements may be true—it all depends on which "numerous studies" the writer is referring to, and when he doesn't tell us, he isn't pinned down. Even if the writer is aware of numerous studies that favor both sides of the argument, statements 1 and 2 may both be defended as true statements (in a court of law, for example, or in a subsequent article). Understanding this element of logic is necessary when writers employ logical tricks. Young people who go on to medical school usually study logic as undergraduates.

Notice that although the authors refer to Pottenger's animal study in the very next sentence, they carefully do not say it is one of the "numerous studies" to which they have just referred. We get the impression that

it is, of course. But they do not say this, for to do so would be false; as we have seen, Pottenger's study undeniably shows the nutritional superiority of raw milk as compared to pasteurized.

But it is almost as though someone played a game of perverse (dare I say fetishistic) logic, devising technically true statements which would disguise Pottenger's findings, distort the meaning of his words and trick the reader into false conclusions. I've studied Pottenger's work for over twenty years, and it took me hours to untangle the web I've described.

It is indeed a fact that a number of researchers supported by grants from the dairy industry have published research that claimed to find no significant differences in the relative nutritional merits of raw and pasteurized milk. We have good reason to question the validity of research funded by corporate money or conducted by individuals funded by corporations. No references are given for the "numerous studies" mentioned above, so it is not possible to examine them.

The "Health Fetish" authors carefully avoided any simple, straightforward statement to the effect of, "None of the reasonable studies in animals or humans of which we are aware have shown that there is a significant difference in the relative nutritional merits of raw and pasteurized milk." They also avoided words to the effect of "The Pottenger study under discussion showed no significant difference in the relative nutritional merits of raw and pasteurized milk." Either statement would have been patently false, because scores of reasonable studies, obviously including this Pottenger study, demonstrate the nutritional superiority of raw versus pasteurized milk.

We've seen that the "Health Fetish" authors used technically (logically) true statements to completely distort Dr. Pottenger's findings. Only careful study of Pottenger's article would allow the choice of precisely the right words to accomplish this while avoiding making false statements. We may hope that the authors gained considerable understanding of Pottenger's work and its implications for the health of people everywhere. Perhaps they may someday use that knowledge in the way Dr. Pottenger intended.

## **RAW MILK IS BEST**

Pottenger concludes his article with possible explanations for his findings, referencing his words to physiology textbooks and articles by other scientists: "What vital elements were destroyed in the heat processing of the foods fed the cats? The precise factors are not known. Ordinary cooking precipitates proteins, rendering them less easily digested. All tissue enzymes are heat labile and would be materially reduced or destroyed. Vitamin C and some members of the B complex are injured by the process of cooking. Minerals are rendered less soluble by altering their physiochemical state. It is possible that the alteration of the physicochemical state of the foods may be all that is necessary to render them imperfect foods for the maintenance of health. *It is our impression that the denaturing of proteins by heat is one factor responsible.* The principles of growth and development are easily altered by heat and oxidation, which kill living cells at every stage of the life process, from the soil through the plant, and through the animal."

Dr. Pottenger's work leaves us with clear indications that there is no better food for human beings than raw milk from grass-fed animals. The clear and present danger is that "experts" such as the health fetish article authors wield unjustified influence with physicians and public health authorities—influence based in large part on false representations. Understanding the truth about Pottenger's work and the value of raw milk is an important step in regaining our health.

©2002 Ron Schmid

## REFERENCES

1. Hotchkiss, Thomas. *A Personal Memoir of Francis M. Pottenger, Jr., M.D.* The Price-Pottenger Nutrition Foundation, 1975.
2. *The Oxford Encyclopedic Dictionary*, Oxford, 1991.
3. Potter, M., Kaufmann, A., Blake, P., and Feldman, R. "Unpasteurized Milk - The Hazards of a Health Fetish." *The Journal of the American Medical Association*, Vol. 252, No. 15, 2048-2052, October 19, 1984.
4. Pottenger, F.M., Jr. "The Effect of Heat-Processed and Metabolized Vitamin D Milk on the Dentofacial Structures of Experimental Animals." *American Journal of Orthodontics and Oral Surgery*, Vol. 32, No. 8, 467-485, August, 1946.

**A Campaign for Real Milk is a project of [The Weston A. Price Foundation](#)  
PMB 106-380, 4200 Wisconsin Ave, NW, Washington DC 20016**

[www.realmilk.com/schmid\\_healthfetsh.html](http://www.realmilk.com/schmid_healthfetsh.html)

Reprinted By: Animal Food Services  
Green Bay, WI  
[www.animalfood.com](http://www.animalfood.com)