POTTENGER RESEARCH RESUME

DR. POTTENGER OVER A PERIOD OF 10 YEARS STUDIED 900 CATS; COMPLETE RECORDS ON 600 CATS WERE KEPT.

SUMMARY

(1) Cats fed TWO THIRDS RAW MEAT and ONE THIRD RAW MILK were healthy and reproduced homogeneity. (2) This was also true of cats fed ONE THIRD RAW MEAT and TWO THIRDS RAW MILK.

THE MEAT STUDY

Two diets were used in this study.

ADEQUATE DIET A:	1/3 raw meat and cod-liver oil 2/3 RAW MILK
DEFICIENT DIET B:	1/3 Raw milk and cod-liver oil 2/3 COOKED MEAT

THE MILK STUDY

Diets used in this study:

DIET A Basic diet:	1/3 Raw meat...cod-liver oil 2/3 RAW MILK
DIET B Basic diet:	1/3 Raw meat...cod-liver oil 2/3 PASTEURIZED MILK
DIET C Basic diet:	1/3 Raw meat...cod-liver oil 2/3 EVAPORATED MILK
DIET D Basic diet:	1/3 Raw meat...cod-liver oil 2/3 SWEETENED CONDENSED MILK

COOKING THE MEAT, OR SUBSTITUTING HEAT PROCESSED MILKS FOR RAW, RESULTED IN PHYSICAL DEGENERATION THAT INCREASED WITH EACH GENERATION.

- Skin diseases and allergies increased.
- Kittens of the third generation failed to survive six months.
- Susceptibility to infections rose markedly and autopsy findings were revealing.

  Change is shown not only in the immediate generation, "but as a germ plasm injury which manifest itself in subsequent generations of plants and animals". Four generations on raw meat and raw milk were required to bring some of the second generation of degenerating cats back to normal.

POTTENGER'S CATS - A STUDY IN NUTRITION
by Francis M. Pottenger, Jr., M.D.

INTRODUCTION

Between the years of 1932 and 1942, Dr. Francis Marion Pottenger, Jr., conducted a feeding experiment to determine the effects of heat-processed food on cats. His ten-year cat study was prompted by the high rate of mortality he was experiencing among his laboratory cats undergoing adrenalectomies for use in standardizing the hormone content of the adrenal extract he was making. Because there were no existent chemical procedures for standardizing biological extracts, manufacturers of such extracts necessarily had to use animals to determine their potency. As cats die without their adrenal glands, the dose of extract required to support their lives calibrated the level of the extract's potency.

In his effort to maximize the preoperative health of his laboratory animals, Francis fed them a diet of market grade raw milk, cod liver oil and *cooked meat* scraps from the sanatorium. These scraps included the liver, tripe, sweetbreads, brains, heart and muscle. This diet was considered to be rich in all the important nutritive substances by the experts of the day, and the surgical technique used for the adrenalectomies was the most exacting known. Therefore, Francis was perplexed as to why his cats were poor operative risks. In seeking an explanation, he began noticing that the cats showed signs of deficiency. All showed a decrease in their reproductive capacity and many of the kittens born in the laboratory had skeletal deformities and organ malfunctions.

As his neighbors in Monrovia kept donating an increasing number of cats to his laboratory, the demand for cooked meat scraps exceeded supply and he placed an order at the local meat packing plant for *raw meat* scraps, again including the viscera, muscle and bone. These raw meat scraps were fed to a segregated group of cats each day and within a few months this group appeared in better health than the animals being fed cooked meat scraps. Their kittens appeared more vigorous, and most interestingly, their operative mortality decreased markedly.

The contrast in the apparent health of the cats fed raw meat and those fed cooked meat was so startling, it prompted Francis to undertake a controlled experiment. What he had observed by chance, he wanted to repeat by design. He wanted to find answers to such questions as: Why did the cats eating raw meat survive their operations more readily than those eating cooked meat? Why did the kittens of the raw meat fed cats appear more vigorous? Why did a diet based on cooked meat scraps apparently fail to provide the necessary nutritional elements for good health? He felt the findings of a controlled feeding experiment might illumine new facts about optimal human nutrition.

The Cat Study of Francis Pottenger, Jr., is unique. There is no similar experiment in the medical literature. The pathological and chemical findings were supervised by Francis in consultation with Alvin G. Foord, M.D., professor of pathology at the University of Southern California and pathologist at the Huntington Memorial Hospital in Pasadena. Accordingly, the studies met the most rigorous scientific standards of the day and their protocol was observed consistently.

Since The Cat Study is unique, its findings are frequently quoted and misquoted in order to justify the ideas of others. For example, one author of a popular selling book states that 200 cats died of arthritis; this indeed did not happen. Another author states that the cats were fed sprouts and survived in full health for four continuous generations. Again, no such experiment took place, and yet this misinformation has been traced over a dozen or more different articles and books.

A frequent criticism of The Pottenger Cat Study is that it was not properly controlled. Here it is necessary to ask, "By what standards?" Every one of the studies followed strictly defined protocol. All variables in the stock of the animals were reported and explained. Because some of the test procedures may seem crude forty years later, this in no way invalidates the facts that the procedures were meticulously controlled and that the results of the experiments were reported as observed.

Another criticism is that the cats were kept in an artificial environment unrelated to real living conditions. Such a criticism overlooks the experimental necessity of maintaining a controlled environment to provide valid findings. It also overlooks the evidence that given specific living conditions, specific changes *repeatedly* occurred in the health of the cats under observation.

Another frequent criticism is that the experimental work done on cat nutrition has no appropriate application to human nutrition. Francis Pottenger, Jr., never stated that a one-to-one comparison could be made between his findings in cat nutrition and his findings in human nutrition. He did say: "While no attempt will be made to correlate the changes in the animals studied with malformations found in humans, the similarity is so obvious that parallel pictures will suggest themselves."

All too often, self-appointed authorities will state categorically that they do not believe other's observations and so seek to close the door on any further inquiry into these observations. They declare, "Because I do not believe the facts as presented, they are not so." Far better for science if responsible individuals maintain an attitude of open inquiry and test the observations of others before forming rigid opinions. In the case of The Cat Study, human welfare might well be served if concerned researchers made every effort to discover if valid correlations can be made between cat nutrition and human nutrition. It must be remembered that cats and humans both are mammalian biological systems.

It would be of great value to the field of nutrition to repeat The Cat Study within the parameters of present day technology and with the use of present day antibiotics. Most of the cats on deficient diets died from infections of the kidneys, lungs and bones. If these infections were eliminated as a cause of death by antibiotics, it would allow the cats to reveal their ultimate degenerative fates. As an extension to this experiment, it would be of interest to study the effects of vitamin and mineral supplementation in the diet of cooked food fed animals.

It is our effort in this monograph to present the observations made by Francis M. Pottenger, Jr., on the effects of deficient and optimum nutrition in cats and human beings as recorded in his articles and clinical records written between the years of 1932 and 1956. Nothing has been added or subtracted from his findings, and for the most part, the words describing his work are his own. Though some of the scientific *interpretations* have not withstood the test of time, *the observations* are valid. A careful and selective interpretation by an inquiring mind will readily differentiate the two.