

Henry Blackburn reviews 1938-1955 albums of Laboratory of Physiological Hygiene news reports as now preserved on CDs in the Division of Epidemiology and in University Archives.

These scrapbooks, collected by the Laboratory of Physiological Hygiene's (LPH) administrator Nedra Foster and later archived by Kathy Ramel, of the current Division of Epidemiology and Community Health (EPICH), contain news clippings from 1938 to 1955 of activities that involved LPH at the University of Minnesota. They provide relatively complete coverage of the activities of Ancel Keys, LPH's director, and his colleagues. They also show the evolution of their theories about lifestyle and heart diseases. The regular news reports also demonstrate that communication between LPH, the press and the public was a strategic and skilled effort throughout the history of research at the laboratory. The scrapbooks are located in the Laboratory of Physiological Hygiene records, University Archives, University of Minnesota, Twin Cities, and have been preserved both in digital and print form.

What follows is a series of brief comments about and quotations from a limited number of news articles found in the scrapbooks in order to show this evolution.

Minneapolis Tribune November 30, 1947. "“U” to make 10-year heart disease study,” by Victor Cohn, Minneapolis Tribune Staff Writer.

“A 10-year investigation into causes of high blood pressure and hardening of the arteries will begin at the University of Minnesota in January, it was disclosed Saturday. The extensive research program will be conducted by Dr. Ancel Keys, director of the University's Physiological Hygiene Laboratory beneath the south stands of Memorial Stadium. Three-hundred Twin Cities men between the ages of 45 to 54, plus 180 University students will be given regular check-ups including many special tests for five years. Studies will continue for five more. Letters have been mailed to employees of 23 Twin Cities firms inviting them to cooperate. The firms, Dr. Keys said, have agreed to give employees time off with pay for the examinations.

Dr. Keys gained wide recognition during World War II for spectacular studies of semi-starving human guinea pigs. The new program is sponsored and partly financed by the United States

Public Health Service. The USPHS will contribute \$30,000 a year for five years. Dr. Keys and his fellows bend over backwards to avoid predicting a some-day in which men will commonly live 100 years. But it is common knowledge among medical scientists that degenerative diseases must be licked if today's lifespan is to be lengthened appreciatively.

Heart disease, Dr. Keys said yesterday, is the greatest single potential threat to life and productivity in men past 40. The research however, will be watched by physiologists and heart specialists everywhere for clues to basic factors leading to excess blood pressure and to artery degeneration. The Stadium Lab physiologists will ask themselves these questions: Can the development of these conditions be detected in an early date when the person is still well? What habits of diet and physical activity tend to prevent or delay these diseases? What are the effects of worry and tension?

Dr. Henry Longstreet Taylor, one of Dr. Keys' associates, explained that high blood pressure and hardening of the arteries develop slowly over a long period of time. One's behavior during that time quite likely influences the rate at which they develop. Groups slated for the studies will include the overweight, those completely sedentary, such as office workers, those who have sedentary jobs but athletics hobbies, and those whose physical and chemical tests lead the researchers to suspect they may be especially susceptible."

The Twin Cities firms and organization participating and all the big firms are listed.

The famous photograph of Dr. Keys with pencil in hand, presenting a lecture on the rise in heart disease deaths was probably first published in this article. The article also contains many of the classic photographs taken in the lab. They include, the cold pressor test, Ernst Simonson sitting by his cardiograms, Henry Taylor taking a blood pressure, Nedra Foster reading an oximeter, Austin Henschel supervising an exercise test, Henry Taylor looking at a roentgenkymogram.

A St. Paul Pioneer Press article, November 30, 1947, goes along with the Minneapolis Tribune article of the same date quoted above and has a different set of pictures, including a picture of Ancel with his famous graph of heart disease and other diseases on a graphics table showing him actually drawing the graphic himself. Ancel was very good at graphics, here listing the fact that these diseases caused 501 deaths in 1926, 1,003 in 1946, while deaths by other diseases showed

a downward trend. Many of the other classical pictures taken in the Lab of the CVD program appeared in the St. Paul Dispatch in the April 16, 1948, as well as in Popular Mechanics in September, 1948, as well as in the St. Paul Dispatch on Tuesday, June 21, 1949 in which they began to talk about results.

Dr. Keys is quoted in an article by **Alton Smalley** in the **October 11, 1949** issue of the **St. Paul Pioneer Press** as follows, that a very low-fat, cholesterol diet “reduces the blood cholesterol in a few weeks, but the diet would scarcely support life indefinitely, even if it could be tolerated – no meat, fish, eggs, milk, cheese, or anything made from these materials. We conclude that the control of cholesterol in the body must be generally sought in the body itself and not through dietary measures. The dietary damage from eliminating meats, eggs and dairy products may be a real hazard. The possibility of useful effect on arteriosclerosis of such a diet seemed to be remote indeed.”

The article ends by saying, “There you are. If you are a vegetarian to hold down cholesterol you are vegetating in a field of delusion.”

The March 10, 1948 issue of the Minnesota Daily contains these early statements about prevention from Dr. Keys:

“The most hopeful direction of research in heart and blood vessel disease is not in its cure but in its prevention. Every effort must be made to discover the effects of how you live on the development of these conditions. Diet, physical activity and emotion are important factors, he explained. The big job is to find out their influence on this disease.” Although he says “The great frequency of the development of hardening of the arteries and high blood pressure guarantees that many of these men eventually will become victims of these diseases.”

[Unfortunately he didn't estimate the number among his 300 men that would develop the disease in the 10-year plan for the study, which would have indicated the inadequacy of the numbers and design.]

The issue contains many pictures, including Ancel at the blackboard and Ancel reading an electrocardiogram using a large hand-held magnifying glass.

An article by **Victor Cohn** in the **Minneapolis Sunday Tribune, April 2, 1950**, described a medical paper by Carl Chapman on the rice diet effect. The Kempner Diet, originally described by Walter Kempner in the 1930s, Chapman concludes, is in some ways “semi-starvation” and warned that the rice diet is nothing to tinker with. Anyone who tried it should be under a doctor’s close watch.

On **February 2, 1950**, the **Minnesota Daily** reports that “Keys discounts tobacco’s effect on heart diseases,” advising moderation. It also discusses a campus celebration, featuring a speech by Anton Carlson celebrating the publication of “Biology of Human Starvation.” The book was a landmark in studies of starvation, and some of the Laboratory’s wartime project provided guidelines to re-feeding starving populations in post-war Europe (adequate calories, not vitamin supplements, was the key to success. As a result of this publication, Keys was made chairman of an FAO/WHO congress in Rome in 1951, see below, which turned the course of his career to cardiovascular disease epidemiology.

In the **April 13, 1951** issue of the **Minnesota Daily**, an article discusses Keys’ upcoming visit on April 17 to the WHO Advisory Panel on Nutrition in Rome. It is at this conference that he first heard the story about the Naples heart attack rates from a local physician, Gino Bergami. In the fall of the same year, he went to Oxford on sabbatical, which resulted in Key’s nutritional interests turning to the epidemiology of coronary disease. In the same issue, it was also reported that, “Dr. Ancel Keys has been a chairman of a joint conference of technical experts on nutrition’s called by two United Nations agencies.”

An article on **Tuesday, September 23, 1952** by **Carl Rowan** in the **Minneapolis Morning Tribune** reports on Keys’s early population findings in England, Italy and Spain while on sabbatical at Oxford University. These substantiated his ideas about diet and heart attacks that he developed in his work at the University of Minnesota. “But he is convinced that habitual diet does have an effect on the cholesterol in the blood, and this has real significance in the development of heart disease.”

In a **January 1953 Tribune** article, Keys comments on a speech given at the AAAS meeting in St. Louis earlier in the month. Keys says,

“Without necessarily subscribing to the colorful details that enliven Dr. Fisher’s speech, we feel that the problem and the dangers which he discussed are very real and warrant the serious consideration of all thoughtful Americans. Your editorial suggested Dr. Fisher exaggerates the situation. You wonder whether the scientific community as a whole shares his sense of alarm. The problems spotlighted by Dr. Fisher is only one aspect of a current, general, and anti-intellectual tendency to repress liberal thought and expression. This tendency is becoming increasingly manifest over the past several years and now is widely recognized both within and outside the scientific community. In 1951, the New York Times conducted surveys of 72 major United States colleges sampling student, faculty and administrative opinions as to the seriousness of such repressive trends. The problem seems to us far more serious today than at the time of the Times survey.” “It is true that the individuals and agencies, he, that is Dr. Fisher, mentions constitute only a small minority, but it is a vociferous minority, an influential minority, and a potentially highly dangerous minority. To minimize this danger may well prove to be a disservice to our cultural heritage and to the freedom of all citizens.”

He goes on to talk about issues, suggesting an educational campaign and to investigate sources of the propaganda and analyze the present anti-intellectual trend. He says that scientists don’t mind working for less than mechanics make because they have fun at it. [This is early in the era of McCarthyism in the U.S. and Keys was early to speak out against the repression of free thought and expression, loyalty oaths, etc.]

“But make us all wear special coats, investigate our books and courses, threaten our jobs if we associate with someone or some organization that gets on a black list, insist that research funds go only to practical projects and the fun of the free empirical search for scientific truth will be gone.”

Diet fat and Coronary disease

In 1953, the newspaper articles begin to discuss the role that diet fat plays in coronary disease. For example, in **April 1953, Victor Cohn** wrote in the **Minneapolis Sunday Tribune**, “eat 1/3

less fat to help cut heart toll.” While we may not consider this a “low-fat” diet, it is significant because it recommends a significant decrease in fat intake in order to reduce the risk of heart problems.

In the 1953 Minneapolis Daily, an article on July 14 discussed the CBS filming of “The Search.” The film explored the activities that took place in the LPH and was hosted by Erik Severeid, a well-known news anchor. According to the article, it was broadcast on CBS TV in the fall of ’53 and was part of an extensive series made at 26 universities by CBS.

The St. Paul Dispatch in November 12, 1953, Publically launches Ancel Keys’s arguments and leitmotiv against obesity as the heart peril as presented to the American Public Health Association. “Overweight of itself except in extreme is not a primary cause of coronary disease,” he said. “...it may contribute to the development of high blood pressure.” Diet fat, not calorie excess, is now understood as the risk factor for heart disease.

The scrapbooks contain news clippings, including some from the International Press Cutting Bureau in Cape Town, about Keys’s March 1955 trip to South Africa. For example, the **Cape Times**, out of Cape Town, South Africa, covered John Brock and colleagues’ observations of diet and blood lipids and coronary disease in the three main population groups of Cape Town: Europeans, Bantu, and “Cape Colored.”

Concluding Thoughts

This series of news articles and features shows the evolution of Keys’s and his colleagues’ views on diet and lifestyle and heart disease, themes that became the formal hypotheses for the rest of their careers, as well as major topics of medical science. Of particular interest is Keys’s gradual change from little diet effect on blood cholesterol to greater effect and then major importance to public health. It is also interesting to see that, from early times to later, he discounted the effect of moderate obesity on CVD risk. We can see, additionally, the way that Keys and LPH handled public communications about their work, dating from the necessity for and good effects of openness about the semi-starvation experiment at the Univ. of Minnesota during World War II.