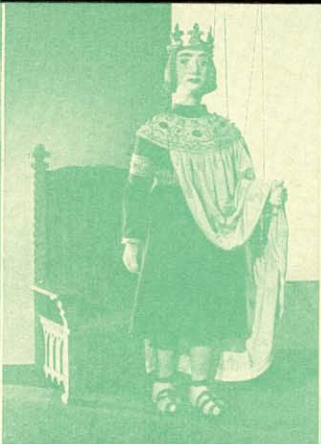


"FROM CAVE TO KELVINATOR"

An
AUTHENTIC HISTORY
OF FOOD
PRESERVATION
through the ages



SOUVENIR BOOKLET

from a Century of Progress based on
Kelvinator's Marionette Show as
presented by Tatterman Marionettes
in Kelvinator's Air-Cooled Theatre

*The Tatterman Marionettes are produced
by Duncan-Mabley, Inc., Cleveland, Ohio.*



. . . **T**his booklet is based on
 the marionette production,
 "The World on a String,"
 shown in Kelvinator Hall
 during the 1934 Century
 of Progress Exposition
 in Chicago

A DRAMA THAT BEGINS WITH THE DAWN OF MANKIND

. . . **H**uman hunger was born with the creation
 of mankind. Evolution's story is a story of a never-ending struggle
 against want, a grim battle in which survival depended not only
 upon the obtaining but also upon the keeping of food. Centuries have
 changed the scenes, have brought new actors into this drama of food
 and its preservation. Successively the spotlight has played upon the
 hairy cave dweller stalking the lumbering mammoth; famine-haunted
 Egyptians worshipping the sun; Roman slaves dying that a Caesar's
 wine might be cold; European and American scientists pushing tire-
 lessly toward the goal of better refrigeration. The play will go on
 forever, and forever it will fascinate us, the audience; for it is the
 greatest of all dramas—the drama of life.

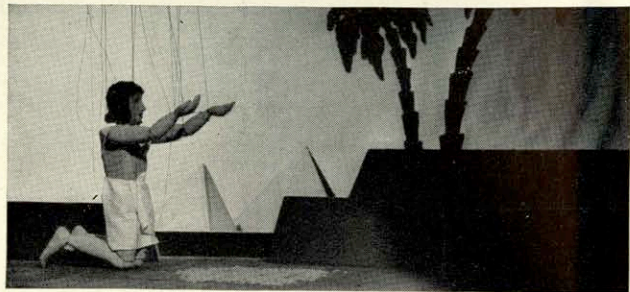


Always the Urge of Hunger Since Man Came On Earth

● The scream of the sabre-toothed tiger
 was less disturbing to the sluggish
 thoughts of the cave man than was the fear
 that one day his hurtling club would miss a
 leaping buck, or that his hidden pit would
 fail to trap a wild boar. Daily the cave
 dweller sought food, and every night he
 carried his kill to his rocky retreat, there
 to squat and gorge himself on the uncooked
 game, while the mate who shared his sav-
 age fortunes waited her turn. Nor could
 the cave man ever interrupt his hunting,
 for game killed one day spoiled before the

end of the next. Worse still, when drought and famine drove away the animals, or when Winter sealed the rivers and silenced the voices of the forests, death drew her battle lines very near the door of the rocky home.

The walls of that primitive cavern, however, looked down upon refrigeration's birth. Somehow the cave man found that meat stored in the cool corners of his dwelling place was still edible days afterward. Later, when the scarcity of game made kills less frequent, the cave dweller remembered his lesson in "keeping with cold". Whether directed by accident or intellect, this first experiment in refrigeration wrote an inestimably important page in mankind's development.



Egyptian Prayers to the Sun-God, Ra

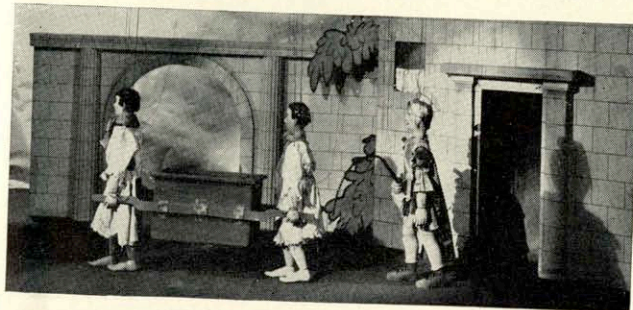
● Civilization moved on leaden feet for many centuries after the cave dweller made his discovery in food preservation. Then Time's wheel began to scatter new peoples over the earth. Tribes and races arose; cities grew. Trade developed; art and science awakened. Men dared to sail on the seas, and to dig for precious substances deep in the earth.

On the flat banks of the tepid Nile a dark-skinned people toiled in withering heat. The members of this race in no way resembled their hairy ancestors, yet they had been goaded into unceasing toil by the

same dread that, untold ages before, had driven the cave dweller out in search of game. They worked because they feared famine; their bodies demanded food, and food was to be found in the grains and fruits that flourished in the rich land bordering the mysterious river.

The Egyptians were a deeply religious people. To their sun-god, Ra, they gave endless thanks for ripening their harvests and for blessing and preserving the foods that were spread out on flat roofs under the full force of his rays.

These sun-worshippers had learned that properly dried grains and fruits were immune to spoilage. Thus the Egyptians added their contribution to the science of food preservation.



Snow To Cool Caesar's Wines

● Culture and brutality lent their aid to the hurrying centuries in raising the cities of the Mediterranean and the East to power and prosperity. Roman legionnaires swept northward over Europe, returning to their walled cities with plundered treasures, droves of cringing slaves and additional glory for the Caesars.

Intemperate revelry was the order of the day—and night. Every banquet saw the rich tables of the emperor and his guests piled high with delicacies that were strange and rare. These new foods demanded new forms of preparation and service. The monarch, remembering

the snow on distant mountain peaks, ordered the drivers of his slave caravans to bring quantities of the cooling substance to the palace. The caravans went; the wines and meats were made more palatable; tortured slaves had brought artificial refrigeration to the table of a king.



The Statutes of The Cooks, A Bright Spot in the Reign of Louis IX

- Vice-ridden Rome yielded her prosperity to uncultured invaders, and with the decline of the empire of the Caesars came the Dark Ages to herald the rise of new nations and new leaders. Among the latter was Louis IX, King of France. Peace-loving and progressive, Louis—later St. Louis—was truly a man ahead of his time. His efforts in quieting the quarrels of his warring neighbors won him eternal honor,

yet much of humanity's debt to him is for his acceptance of the famous Statutes of the Cooks. Having seen pestilence kill his subjects by the thousands, and his own nobles stricken as they ate at the royal table, Louis welcomed the advice of the French Trade Associations when they proposed greater care in food-handling. The Statutes of the Cooks asked that restrictions be placed on the preparation of "geese, beef and mutton if these meats are not of good quality and with good marrow." Sausages were not to be made "except from good pork." Edible commodities found to be bad in the shops, also, were "condemned to be burned, and a fine inflicted on the seller."



How Sir Francis Bacon Proved His Theories About Food Preservation

- Cave dweller, Egyptian, Caesar and French monarch—each, in a different age and by different means, wrote pages into the history of food's preservation, and in so doing aided humanity's onward march far more than humanity in those times was able to realize. But the Egyptians, the Caesars and even St. Louis were no more aware than was the cave man of the reasons for food's spoiling, or of the true origins of the diseases that struck down those who ate tainted meats. The world of the fifteenth and sixteenth centuries was still content to seek preventitives more eagerly than it did causes, and, failing to find the former, substituted disguises—costly Indian spices that delighted the palate but left the preservation problem unsolved.

So it was that the year 1626 found a brilliant English intellect, Sir Francis Bacon, philosopher, statesman and scientist, pondering the refrigeration problem as he rode, one March night, from Highgate to London. An idea seized him. Sir



Francis stopped to buy a fowl, dressed it and packed it with snow. It was his last scientific study, for the raw wind brought chills and a fever from which he died the next month. Yet from his death-bed he wrote cheerfully that "the experiment . . . succeeded excellently well."

In the Dark, Cool Depths of Southern Wells

- Post-Elizabethan England turned its eyes toward a new-found empire in the west. Adventure and abundance, calling from across the Atlantic, lured a new aristocracy to the fertile banks of the Potomac. Before the eighteenth century was many years old stately colonial mansions, cresting broad, sloping lawns, lifted milk-white, leaf-shadowed pillars toward a warm Virginia sun. Gentlemen in powdered wigs; ladies in dainty silks and billowing ruffles; smart carriages; gay laughter; grinning slaves. And southern food—chicken, honey, biscuits, and golden pats of firm, sweet butter, kept, against the time of serving, deep in the icy depths of a moss-covered southern well.

The Enemy that Napoleon Feared Most

- Colonial America paused in the contemplation of her newly-won freedom to listen to the thunder of gun-fire in Europe. Nation after nation was being ground into the dust by the genius-guided armies of Napoleon. The Corsican fully intended to conquer the world; he failed by the narrowest of margins.

Napoleon's military strategy is still revered wherever the art of war is taught. So also is his far-sighted attack on the problem of army food preservation.

His greatest fear did not concern enemy



bullets, Britain's Wellington, or the Russian winter. Above all he dreaded the ravages of spoiled food. So necessary to his success did he consider the keeping untainted of his soldiers' rations that he offered 12,000 francs for a method of preventing food spoilage. Francois Appert, a confectioner, stumbled on a solution after two years of experimentation. He boiled a sealed jar containing cooked meat. Napoleon's dangerous enemy was conquered, and *canning* was given to the world.

The Story of a Young Professor at Glasgow

- Morning dew, symbol of coolness and purity, was now to inspire a most significant stride forward in the eternal search for improved means of food preservation. Strolling across a glistening Scottish meadow in the early dawn, a young Glasgow professor paused to ponder the possible reasons for this blanket of sparkling moisture that covered each blade of grass. What, the youthful scientist wondered, was the effect of this dew, if not to protect growing things from the heat of the morning sun? Might not dew be to vegetation what snow was to the flesh of Lord Bacon's fowl? Did not each tiny dewdrop, in evaporating, draw, from the grass blade on which it had hung, a certain amount of heat? Was not dew Nature's refrigerant?

The future Lord Kelvin—for he it was—hurried back to his humble work-room, as anxious to put his theory to practical application as Bacon had been on that snowy March night back in 1626. Water, as it evaporated, cooled the vegetation. Water evaporated at a certain temperature. Now to experiment with chemicals that changed to gases at lower temperatures than did water—below water's freezing point, if possible.

The walls of a primitive cave saw the first test of food preservation. A dingy, abandoned wine-cellar—the Scottish professor's laboratory—saw the man who was to be Lord Kelvin work out the basic formula for producing refrigeration, for preserving foods with artificial cold.



Shopping for Food in the "Gay Nineties"

- Came the "gay nineties"—laughing, dreamy days that saw the waxed moustache, the checkered suit, the bowler hat, the high-wheeled bicycle. Life was unhurried, enjoyable; it would have been more so, had modern refrigerating methods come in to lighten the duties of the housewife.

Lord Kelvin's theories were yet to find general application. Storage of natural ice had been practiced for nearly a century, but the mild winter of 1890 had shown how improvident Nature can be at times. Dependable artificial refrigeration was just ahead, but butchers still killed their cattle, hogs and sheep daily to meet the needs of a public that had no adequate means for

preserving its food. Lack of proper refrigeration forced citizens of the 90's to mimic the cave dwellers in getting food meal by meal.

How Modern Refrigeration Safeguards Health Today

- Again life's scenery changes. We reach the age of streamlining and of television—the age of today. We glance at the actors in our drama of food preservation: they are ourselves.

Lord Kelvin has come into his own. To his theories engineering science has brought realistic meaning.

No longer need food decay. Safely, silently, economically and dependably, modern refrigeration, by checking and destroying the bacteria responsible for food spoilage, is giving to the world health and happiness; eternal cold, humanity's obedient servant at last, is giving to man that for which he has sought since the dawn of life—pure, healthful, appetizing food.

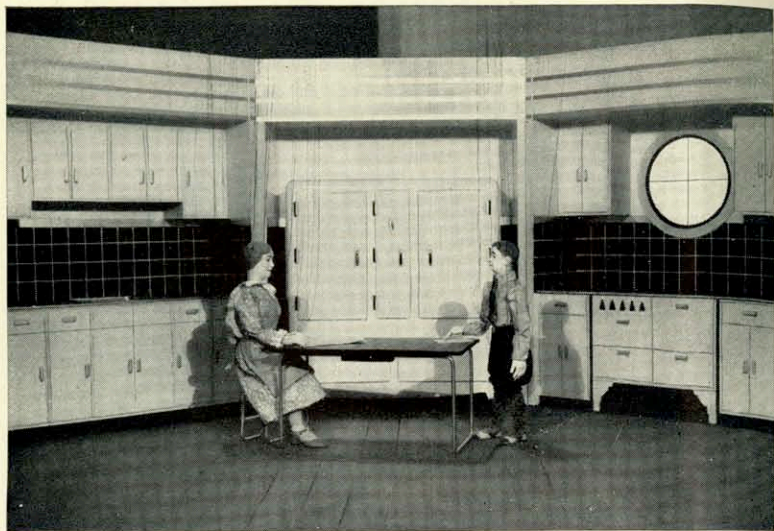
SCIENCE HAS WON AN IMPORTANT BATTLE OF THE AGES

... **T**he modern housewife is little interested in learning why a refrigerator freezes ice, or by what process low temperatures preserve food. That the refrigerator *does* prevent food spoilage is sufficiently satisfying to her.

The scientist, however, is not content with mere results; his concern lies in the causes behind those results. Doubtless efficient refrigerators would have developed had no one discovered bacteria, or ascertained that decay and disease are caused by microbes. But refrigerators are better today because, thanks to a 17th century Dutch janitor and a 19th century French chemist, man knows the cause of spoilage. . . . Anton van Leeuwenhoek, the janitor, peered into a crude magnifying glass and discovered microbes—plants so tiny that a billion of them hide comfortably in a quarter teaspoonful of sour milk. For two centuries the actions of these microbes mystified science. Then Louis Pasteur, the chemist, proved that they cause both decay and disease. In giving pasteurization to the world he revealed why Appert's canning left foods free from taint.

Intense heat is not the destructive microbe's only enemy. Pasteur's successors showed that these germs cannot thrive in temperatures below 50°, but that when warmed they multiply at an astounding rate.

The experiments of Pasteur detected the actions of microbes, the cause of food decay. Kelvin gave the world refrigeration, the preventive. To both must go much of the credit for winning this battle of the ages.



A Modern Laboratory for the Study of Food and Cooking with Cold

- What a contrast between conditions in the palace of Louis IX and those in the modern home! Wealth untold could not bring to even the all-powerful monarchs of medieval ages the conveniences and food safety that now lie within the reach of every housewife.

Perhaps the past has seen the most thrilling episodes in this account of humanity's struggle against hunger. To many, mechanical advancement heralds the twilight of all that which is exciting and romantic.

But the drama of food and its preservation is not ended. It will go on and on, outlasting civilization itself. Until mankind ceases to require physical nourishment, research workers will continue to test and experiment, ever adding new contributions to the existing knowledge of domestic science.

Kelvinator Corporation, pioneer in the field of electric refrigeration, long ago recognized the necessity for continuous study of food and its problems. As early as 1922 Kelvinator offered home-managers assistance in the art of food preparation and preservation. Gradually the activities and personnel of the Kelvinator home economics department were expanded, until today the fame and influence of the Kelvin Kitchen is world-wide.

No expense has been spared to recreate in the Kelvin Kitchen conditions identical with those encountered in every home. To the Kitchen's staff of trained economists the simplest measuring spoon is as significant as the most costly labor-saving appliance.

For the Kelvin Kitchen is more than a professional food-testing laboratory: Above all, its purpose is to solve the problems of the modern home manager, and by so doing to gather new and important knowledge about food and its preservation. Conditions duplicating those under which the average housewife works are therefore essential.

Thousands of recipes for frozen desserts and salads have been tested in the Kelvin Kitchen, and many more have originated there. Prominent in these fascinating studies, naturally, are gleaming Kelvinator refrigerators, vitally important to the many experiments and much research work that daily are furthering the interests of domestic science.

Supplementing the Kitchen's research and test work are series of special lectures and classes in which scores of women annually are given concise, complete courses in the application of refrigeration to home use.

The services of the Kelvin Kitchen, and its contacts with the nation's housewives, are increasing year by year. Not only do newspapers in hundreds of cities all over the country regularly print columns of the information compiled in this model laboratory about food service, food preparation, and food preservation, but, in addition, Kelvinator-trained home economists are carrying, by word of mouth, the ever-interesting story of better refrigeration to housewives in every city in the nation.

From the dark recesses of a prehistoric cavern to the spotless purity of the Kelvin Kitchen—"from cave to Kelvinator." And still the drama moves forward, pausing now and again as the spotlight lingers on some new actor adding his lines to the never-ending account of man's conquest of the problems of food.



THE KELVINATOR CORPORATION
DETROIT, MICHIGAN