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The Cooking of Meats

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as throwing the shoulders back. The poor, skinny ones simply cannot do it. The worst of it is, the thin frail ones, with their dropping shoulders, receding chests and sagging backs are the very ones to cause parents and teachers to hurl the unwise shoulder command. Consider No. V.

It does seem that No. V is just the one to need the command "throw your shoulders back." Her stomach isn't very strong, she probably doesn't drink much milk or eat plenty of vegetables and fruits as she should. I imagine she has always been underweight, tired and discouraged. And when told to straighten up she could only try and then slump back to the old comfortable slouch position. She is long and thin with precious little surplus energy to squander. She could never bear the nervous strain involved in keeping the shoulders taut.

What shall we do for No. V? To feed her well is the first step. Hers is the fatigue posture and the remedy for this is plenty of nourishing food and sleep. This exercise of a famous actress should be her daily duty. Clasp the hands behind the back. Raise the arms as high as possible. Keep the head back, chin in. Do twenty to thirty times every day. Watch the shoulder blades and the bone on the back of the neck begin to disappear. See how the bony grottoes in the front of the neck are filling out with nice pads of fat.

No. V's shoulders may never quite return to normal, but if her chest is high, her head back, her abdominal muscles taut, her shoulder blades out of sight,



The Winged Victory of Samothrace.

she may well be proud of her poise.

Many authorities on the physical charms of women testify that a woman first begins to show her age between her shoulder blades. How numerous, these days, are the old looking young women of twenty. A straight back and a walk

abounding with vim and elasticity will do much to forestall slow but sure time.

Ugly forms besides bringing pain, discomfort and annoyance to their owners are the cause of much wasted energy. If there were only some method of measuring lost energy, I believe that the amount necessary to start most people walking from a heel standing position would vie with the energy expended in cranking all the Fords in the world!

And consider the busy dressmaker. Did you ever watch her tense puckered face smooth out into a genuine smile of relief as she transferred her attention, after desperate attempts to conceal hideous bumps, to the joyous pastime of adroitly revealing graceful sylph-like curves?

Now before we finish, take a glimpse of the old but always young and perfectly poised figure of the Winged Victory of Samothrace. What buoyancy and life she expresses. What strength and beauty her body displays. Here is energy and ease, power and poise. She typifies womanhood, victorious. Should this figure start to move forward, even on her feet, it would seem as tho she had wings because not a particle of adjustment would be necessary before her body machine was started. She is ready to glide forward in any direction, with all possible smoothness and grace.

If you are rich enough, provide yourself with a small statue of this perfectly poised creature, or barring that, at least have a picture of her on your most conspicuous wall and every day go to her for inspiration and instruction in posture. I can offer you no better model!

The Cooking of Meats

By P. MABEL NELSON, Associate Professor of Home Economics

CHARLES LAMB tells us that the art of roasting meat was discovered accidentally many thousand years ago when a swineherd carelessly burned down his house containing a litter of pigs. The pigs were burned to a turn and made delicious eating.

However true the story may be, we know today that cooking renders meat more palatable, and much more pleasing in appearance. It also serves to destroy animal parasites, if any are present, and thus render harmless, organisms that might otherwise cause serious alimentary disturbances. This increase in palatability of cooked meat is due to the loosening and softening of its tissues and the development and improvement of its natural flavors.

The flavor is due to nitrogenous extractives present and the quantity of these depends mainly upon the age of the animal and the character of its food. Pork and mutton are deficient in such extractives and what flavor they possess is due largely to the fats they contain. As a result condiments are often used in their preparation. The flesh of birds and most game is very rich in extractives, hence its high flavor. The flesh of young animals tho more tender is not so highly flavored as that from more mature animals.

Various methods of conserving the nitrogenous extractives and so improving

the natural flavor are used in the preparation of meats for the table. In the United States roasting or baking, broiling, stewing and frying are most usual, tho other common methods as steaming, braising, par-broiling and sauteing are occasionally used.

In correct roasting or baking, the meat is placed in an open or covered pan in a well ventilated oven and maintained at a given temperature for a certain length of time. The particular temperature and length of time necessary are dependent upon several factors, such as the kind, size and shape of the piece of meat, the age, and degree of fatness or leanness of the animal, and the character of the finished product required. This last condition refers to the degree of heating of the interior of the roast, rare, medium rare, or well done. Practically all of the heat comes to the joint as "radiant" heat, and the fibres of the meats are cooked in their own juice. For this reason, roasting, broiling, or frying in deep fat, if properly done, are more satisfactory methods of preparation than boiling. The juices and nitrogenous extractives are very largely retained in the meat itself instead of being withdrawn into the broth, and a product of much higher flavor results.

There are at least three well recognized grades of roasted meat: rare or underdone, medium rare, and well done, so

designated from the appearance of the interior when cut. The exterior appearance is much the same regardless of the inner condition. It is usually well browned, somewhat glossy from the mixture of melted fat and semi-carbonized substance with which its surface is bathed, and well puffed up by contraction of outer fibres.

A cross section of a rare roast shows the three distinct changes which occur in roasting. One of these changes is seen in the center where the dull, bluish red characteristic of the raw meat has changed into the bright rose red of rare meat. This shades into a lighter pink toward the outer portions which in turn changes into a dark gray in the layer immediately underlying the outer browned crust. The ideal standard for rare meat requires that the larger portion of the roast shall have been heated only enough to effect this first change to rose red, so that the outer brown crust and the intermediate gray layer shall be as thin as possible. Under these conditions there should be a liberal amount of bright red juice.

In well done meat if the cooking is continued for a sufficient length of time, instead of being distended, the meat shrinks noticeably. The whole interior is found to have become brownish-gray in color and the juice is scanty and

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Shrubs as a Garden Background

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green mass of peony foliage after the peonies have ceased blooming. Gladiolus (in variety)—Sword Flower. Kniphofia pfitzeria—Red-hot Poker Plant.

Liatris (in variety)—Blazing Star. Lilium—Lily.

Physostegia virginiana—False Dragon Head.

I know of a small backyard garden which has been enclosed with a lattice fence and a planting of shrubbery. Facing the shrubbery and bordering the oval grass panel, perennials and annuals lend touches of color thruout the garden season. And could you have seen the dear little old white-haired man, sitting fast asleep on the garden bench, with the lavender flowers of the Butterfly Bush covered with golden butterflies and a humming bird flitting among the larkspur and columbine—then truly you would have felt the spell of charm and contentment brooding over this little garden on a hot summer afternoon.

'Tis Egg Time Again

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Tomato and Eggs Scrambled.

6 eggs
1½ c cooked tomatoes
Seasoning

Method—Beat the eggs slightly. Add the cooked tomatoes strained thru a coarse strainer to remove large pieces. Turn into a greased frying pan and cook over a slow fire stirring slowly. As soon as the eggs set remove from the fire and serve at once. Over cooking gives a curdled watery product.

French Toast With Eggs.

Dip a slice of bread 1/3 inch thick into a beaten egg to which a tablespoon of milk has been added. Cut out a circle 2 inches across from the center of the toast. Saute until a light brown. Break an egg into the hole in the toast, sprinkle with salt. When the toast is brown, turn the whole slice of toast and brown on the other side. Serve at once.

Potato Nests and Baked Eggs.

On a buttered baking pan make nests of hot mashed potatoes. Left over mashed potatoes may be used. In each nest break an egg, being careful to keep the yolk whole. Dot with butter, season. Put into a moderate oven 10 minutes or until the egg is firm. Do not over cook. If the nests have been made on a pyrex pie plate, they may be served at the table from this plate. Eggs may be baked in stuffed baked potatoes in the same way.

These are but suggestions to the menu makers. One need not fear lack of variety in the meals with fresh eggs in the market at 25 cents a dozen.

The New Domestic System

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The small town, of course, is its duplicate. But the large cities are changing rapidly from that agricultural ideal. We can only begin to see some of the re-

sults that are flowing from this change. It is of the utmost importance that home economics colleges appreciate this movement. For it is their function to prepare girls to take their places in this domestic system. And there is no efficacy in training them to meet conditions that are rapidly passing away.

The Cooking of Meats

(Continued from page 10)

either colorless or slightly yellow. A condition between these two extremes is indicated by the term medium rare. In this case, sufficient heat has been applied to change the color of the center to a light pink. The gray layer underlying the crust is therefore extended considerably toward the center and the free juice is smaller in quantity and lighter in color than in the rare meat.

The degrees of cooking just indicated are dependent upon the temperatures reached in the interior of the meat during the cooking. To many housewives the roasting of beef seems to be largely a matter of chance. A roast may, when judged from its external appearance seem to be sufficiently cooked and yet prove to be very much underdone when cut. Even long experience fails to make judgments of the exterior more reliable, so that many cooks would rather prepare all the rest of the dinner than to roast the meat. Therefore to the inexperienced housekeeper a method of judging the condition of the meat regardless of its ex-

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ternal appearance should be a great boon. Such a method was determined by Miss Sprague and Dr. Grindley at the University of Illinois.

From knowledge obtained in previous work they knew that the degree of cooking was dependent upon the extent of the coagulation of the soluble proteins of the meat and that this coagulation was dependent in turn upon the temperature of the interior of the roast. They should be able, therefore, to control the degree of "doneness" of the product by observing the temperature of the interior. It was found that the range of the inner temperatures of the cooked meats seemed to be from 50°C for rare meat at which about half of the soluble proteins became insoluble, to 80°C for well done meats when practically all these constituents are coagulated.

Experiments proved that if the inner temperature of a roast was between 55°C and 65°C the meat was rare; if it was between 65°C and 70°C it was medium rare; and if it was between 70°C and 80°C it is well done. It was also found that after a large roast was removed from the oven the inner temperature continued to rise several degrees if the oven temperature in cooking had been 175° or above, before the interior of the roast began to cool.

In order that the maximum inner temperature of the roast after removal from the oven should approximate 55°C for rare, 65°C for medium rare and 75°C for well done meat, it was found necessary to remove the roasts at 43°C, 55°C, and 70°C, if the temperature of the oven was either 195°C or 175°C, and the roast weighed 3 pounds or more. When the oven temperature was 100°C, or lower, regardless of the size of the roast, it was necessary to allow the inner temperature to reach 75°C before removal as there was no continued rise of temperature after removal. Experiments corroborating these results have been made by the writer in the nutrition laboratory at the University of California.

The following table summarizes the data on time, and temperature of roasting beef (rib cuts), in relation to weight as estimated from the Illinois as well as the California investigations. The control of oven temperature by the housewife is ordinarily quite inefficient, and the determination of the inner temperature of the roast by means of an inserted thermometer and a glass oven at present is in most cases out of the question. Time per pound is the only regulating means available to the cook under ordinary conditions. The desirability and feasibility of the use of glass oven doors, and ovens as well as interior thermometers should here be emphasized.

Size Roast	Time in Minutes per Pound		
	Rare	Medium Well	Done
Oven Temperature 175°C (Slow)			
3 pounds or less	22	26	30
3 to 6 pounds	20	25	28
6 to 9 pounds	18	24	26
Oven Temperature 250°C (Hot)			
3 pounds or less	19	21	28
3 to 6 pounds	18	20	24
6 to 9 pounds	16	19	22

Dr. Grindley in Bulletin 141, 00, E. S. U. S. Department of Agriculture, has written at length on the losses and changes occurring in meats during cooking. The chief loss occurring in roasting beef is due to the loss of water which causes a marked shrinkage in the size of the roast. The very noticeable loss of water is made much of by some persons in comparing the advantages and disadvantages of coal versus gas, gas versus electricity, for cooking purposes. One man even goes so far as to state that roasting meat in an electric instead of a gas oven

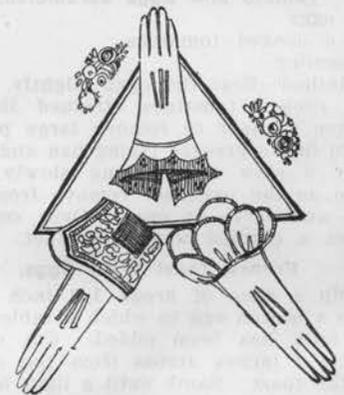
Finishing Touches

It is a woman's choice of the little things that betrays her good taste. Have you heard about the new accessories?



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