

The
BUTCHER'S SALT





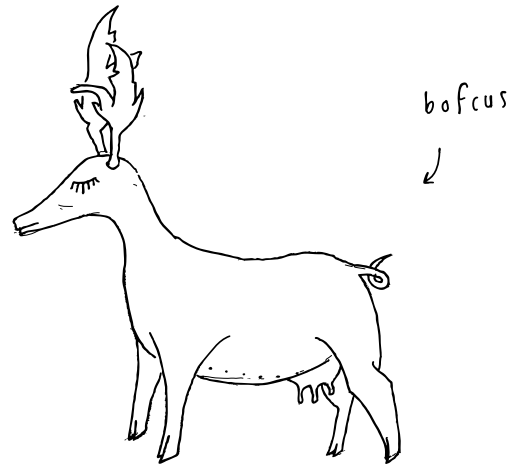
Meat Cookery

Enjoying meat is a textural experience. Texture is the delivery mechanism of flavor. Cooking determines texture and consequently the fate of sustainable agriculture.

This might sound just a little superlative and I admit it flows from an over-developed sense of mission, but there is something to it.

If the pastured meat on your plate is dry and chewy, it is because it was cooked improperly, wasting the milky grass fat marbling it took the steer two years to develop. The worst of it is that poorly cooked pastured beef will taste no better, if not worse than the factory beef, and there can be no greater insult to the cow's sacrifice and the farmer's labor. If we are going to ensure that pasturing livestock responsibly can endure, we have got to stop burning steaks.

The facts of the case are not debatable: tender and juicy meat is delicious and digestible, while chewy and dry meat is unpalatable. The flavor must be teased out and the only way to do this, is to become proficient in meat cookery.



First, it helps to cast aside the recipes for a while and train oneself in the general principles. Every cut of meat can be successfully cooked through these three methods: braising, roasting and pan frying. If you master these methods, you have mastered meat cookery. No bit of animal flesh will be out of your reach.

To determine which method to employ, like a farmer, the cook must respect the nature of the beast's anatomy represented on your plate. Identify the function of the muscle and its fat content and it will reveal to you how it ought to be cooked.

CHAPTER 1

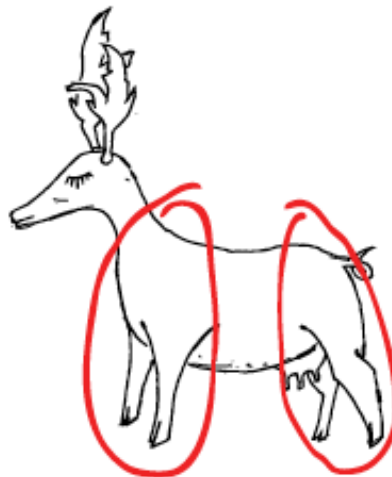
FUNCTION

When it comes to function, think of physiology. Let's say we're going to eat part of a quadruped. We need to determine where that part came from and, what its job was as a skeletal muscle in the animal.

Shoulder & Leg

Quadrupeds support their weight and walk about on four legs. As you can imagine, the muscles on the legs and those that move the legs get a lot of use. As a result, they are tough. To manage the work, these muscles have lots of strong connections with bones and with each other. Sinew and fascia, therefore, are mixed with muscle, making these legged areas even tougher.

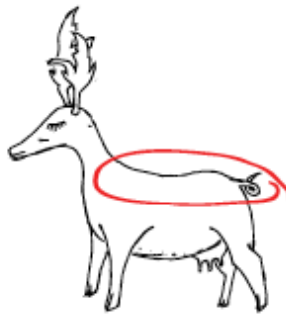
We call said areas the shoulder (the front legs) and the leg (back legs). Usually, any package with arm, pot roast, stew, chuck, blade, boston or picnic comes from the shoulder. Rump, sirloin, round, shank or hock comes from the leg.





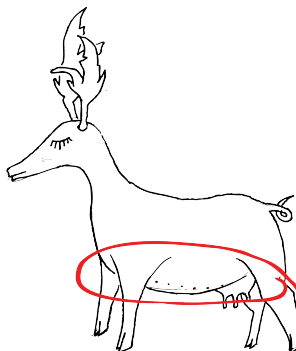
Loin

Now, consider the muscles in between the front and back legs. (It is not cruel, at this point, to look at your dog or cat as a reference for quadruped physiology.) The top of this middle section is the loin and the bottom is the belly. The loin or the top of the back rarely moves on a quadruped. Unlike bipeds, quadrupeds do not use the loin muscles to pull their body upright and stand erect. These muscles, therefore, receive little use and are tender. In the raw state, you could rip them apart with your hands. Anything with loin on the packaging will bear this out.



Belly

The lower half of the middle is called belly on a pig and flank on beef, lamb and goat. The key feature of these muscles is elasticity. They must expand and contract with every breath and with every stride. Think of how radically this part of a cheetah expands and contracts when in a full sprint. Fortunately, hogs don't run that fast, but they still require lots of fat in their bellies because fat is stretchy. A slice of bacon, being made from belly, illustrates this: thin layers of meat separated by fat. The flanks of beef have the same structure before they are trimmed for retail.



Summary

Muscles that get a lot of use are tough, like the shoulder and leg. Those that aren't constantly moving limbs around or bearing much weight are tender, like the loin. The parts that need to be loose and stretchy will be fatty. Once we've determined the function, we note the fat content.

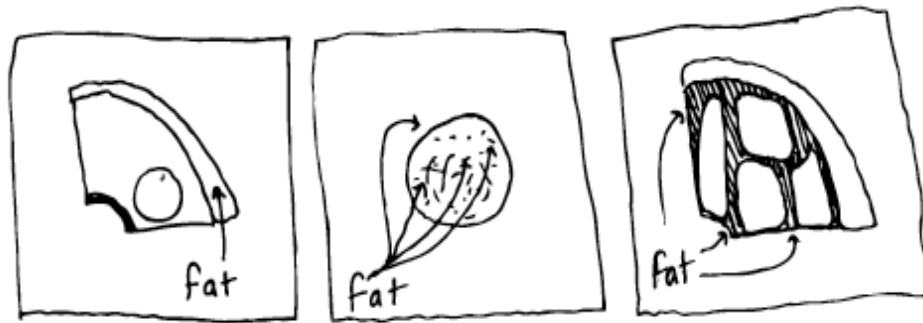
CHAPTER 2

FAT

Fat contributes juiciness to cooked meat. As it cooks, the fat melts and becomes a cooking liquid, extracting fat soluble flavors from the muscle tissue, breaking down tougher fibers and holding on to juices if not over cooked.

Getting a sense of the fat content will inform our choice of cooking method. To retain juiciness, we may need to add fat or cook the meat rare. There are three kinds of fat to look for: intramuscular fat, intermuscular fat and fat caps.





Intramuscular

Marbling is intramuscular fat. The new york steak is the most widespread image of this. Skeletal muscle is composed of elongated fibers in clusters. Marbling is the fat that resides in a single muscle, between the fibers. The loin and the sirloin (top of the back leg) of well-fed and mature animals exhibit the best marbling.

Intermuscular

Intermuscular fat separates one muscle from another. Shoulder meat from pigs, lambs, goats and cows is divided into several intricate muscles that articulate the forelegs. On a mature animal, there will be plenty of fat between each muscle. Belly is another example of this: whole muscles are surrounded and divided from each other by fat.

Fat Cap

The best example of a fat cap is a chop. Unfortunately, it is standard practice to trim the fat cap, if not remove it completely. The fat cap is a thick layer of solid fat separating the skin or hide from the skeletal muscle all along the back of a quadruped. On a pig, the back fat makes up the fat cap on the pork chop.

Remember, fat is moisture and cooking liquid. How we cook the meat will in large part be determined by which cooking method best compensates for a lack of fat in a lean cut.



Fornstetad Meatsmith



Theory

Now we have determined the function and fat content of the muscle. The function tells us if it is tough or tender. Just by looking at it, we know if it is fatty or lean.

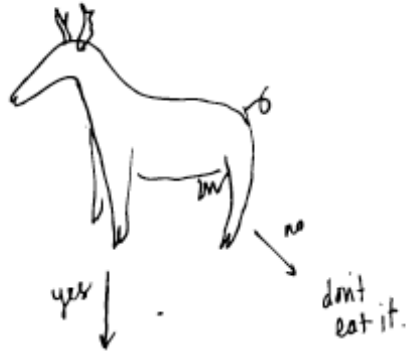
Next, we deduce which cooking method is appropriate to the function and the fat content of the meat. Tough meat needs low heat, long cooking time and liquid to break it down. Tender meat is chewable in the raw state, so all it requires is the hot and fast approach to crisp it on the outside and cook it rare on the inside. Lean meat will only be juicy if fat is added to it or if it is cooked rare. Fatty meat likes a little more time to render its juices, which prevent it from being dry.

These differences in cooking time, temperature and type of heat are broken down into three techniques: braising, roasting and pan frying.

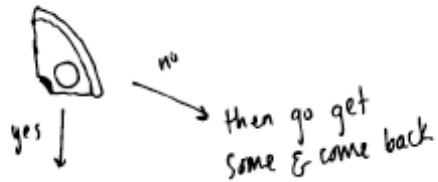


summary

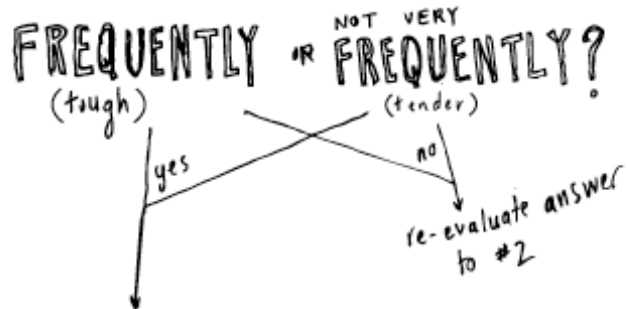
is it an animal?



have you acquired it's flesh?



is it from an area that is used



is it

FATTY or LEAN?

then we may determine the appropriate method of cookery

yes ↓



braise



pan fry



roast

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CHAPTER 3

COOKERY

Braising

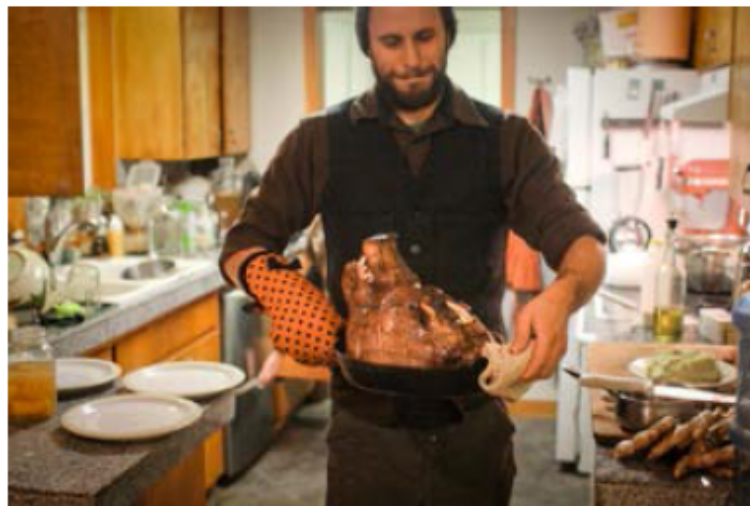
Braising is low temperature cooking in liquid for a long time with some fat: basically, low and slow. This is how we cook tough meat from the shoulder and leg. The fascia and tight meat fibers need to be slowly dismantled in simmering water to be tender. In order to be juicy, there must be sufficient fat either in the meat or in the cooking liquid you prepare.

Crock pot cookery and stews are kinds of braises.

Method

A dutch oven or heavy pot with a lid is best for braising. First, brown the meat, then pour in enough liquid to cover about two thirds of the meat; it is not necessary to submerge it. The cooking liquid could be water, wine, stock, milk, cider or, ideally, a combination always involving stock. If the meat is lean, add fat in the form of olive oil, cream, butter, lard, pork belly, bacon, or whatever you can find. I like roughly two-thirds stock, a third wine and then a big splash of something strong like brandy or balsamic vinegar.

Place the lid on the oven slightly cracked so some heat can escape. Use moderate heat to bring the liquid to a subtle simmer then turn it down to maintain. Absolutely no boiling is allowed. The meat is ready when falling apart.



Roasting

Roasting is cooking with dry heat and the hardest to master. The leg of lamb is the classic example of roasting. This is about browning or crisping the outside surface without sacrificing succulence inside. Here is the key to roasting successfully: lean meat must be roasted rare. When fat cannot provide the juiciness, it is up to the cook to turn off the heat before all moisture is lost. This means that with lean meat, the roasting time must be short. Very tough and lean cuts, therefore, don't roast well because they need more time to break down than their leanness will allow.

Method

Roast the meat uncovered in the oven. The goal is to make the outside crispy without making the inside dry and chewy by over cooking. To brown the outside, the temperature should be around 450 degrees, usually for about a third of the total cooking time. To cook the meat all the way through, turn the oven down to moderate temperature (~350 degrees). The order in which you arrange the two temperatures is up to you to refine for each situation.

Keep a meat thermometer handy to train your sense of doneness. Shoot for about 140 degrees internal temperature for most roasts and then adjust from there as you hone your taste. Turn off the heat and let the meat rest for at least a quarter of the time it took you to cook it.

As a rule, the duration of the roasting depends on the quantity of inter-muscular and intramuscular fat. The pork boston shoulder roast for example has so much fat, that it can be roasted for hours at a low to moderate heat without getting too dry. It simply bastes itself with enough fat to stay juicy. On the other hand, as I mentioned above, leaner meat must be roasted rare.

Pan Frying

The goal of pan frying is to brown the surface of the meat by direct contact with the hot, lightly oiled skillet. This epitomizes hot and fast cooking. Consequently, it does not allow for the time it takes to slowly break down tough muscle fibers and fascia. It works best with tender cuts.

Like roasting, we are balancing exterior browning with interior juiciness. Once again, the fat content and the function of the cut are our guides. A fatty steak or chop with marbling will want a little more time on the skillet to render the fat a bit, while a lean tenderloin should only be seared.



Method

Start with just a little bit of oil in a heavy skillet. Use an oil with a high flash point like lard. Salt the tender steak or chop on both sides. Turn the heat on medium-high and wait for the oil to begin to smoke. Place the meat on the skillet and turn the heat down a little. If it isn't popping and sizzling then the skillet isn't hot enough. When one side is brown, turn it over and brown the other.

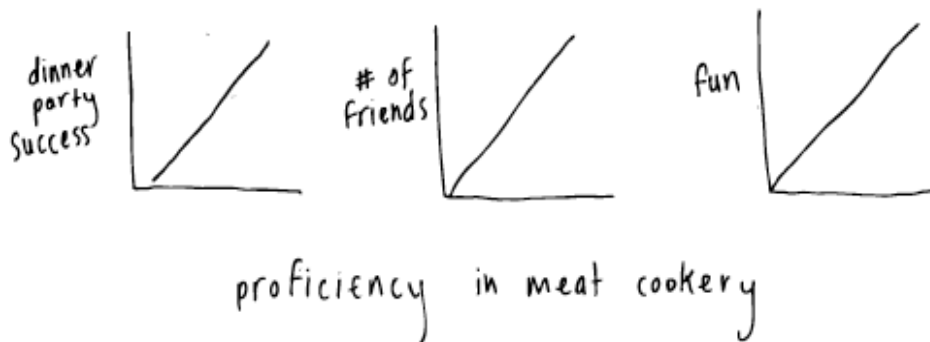
How long we cook each side depends on the thickness of the cut. I always say err rare because you can't reverse an over cooked chop. Usually, by the time both sides are thoroughly browned on a one-inch thick chop, the cooking is completed. It only takes two or maybe three minutes to brown one side. The key is to flip it once to get even browning.

Another indicator of doneness is to press the middle of the chop with one finger. To develop this sense, press each steak you fry with your index finger before you cook it. This tells your brain what raw meat feels like. When you press the steak again during cooking, you will have a fairly accurate notion of how much cooking correlates with contracting meat fibers. As the tender meat cooks, it feels more dense and less yielding.

As with roasting, it is essential to let the chop rest for at least 10 minutes before serving.

That's braising, roasting and pan frying. The whole thing could be summed-up negatively: don't undercook a tough cut and don't overcook a lean one. There are two more general rules to take into account. They have to do with age of the animal and salting.

a bit of mathematical evidence



Age of the Animal

Most of the meat we eat is from juvenile livestock. Almost all meat animals are no older than veal calves when they go to slaughter. This youth means that all the meat is going to be relatively tender. Toughness again correlates with frequent use. A five year-old ewe will have much tougher meat than a lamb because she has been working-out a lot longer. Fortunately, she also has a lot more fat.

The ewe's tougher sinews, fascia and musculature need longer cooking time to break down. So I pan fry mutton chops a little longer over slightly lower heat. The excessive intramuscular fat in the chops will prevent them from drying out over the extended cooking time.

Once again, it all comes down to function and fat.

Salting Meat

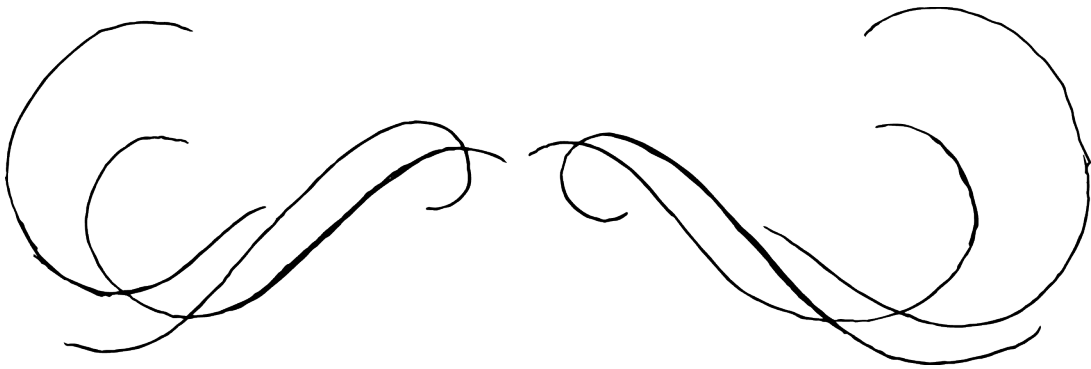
Every time I cook meat, regardless of the method I choose, I salt it before cooking. Salting is the most valuable skill in the kitchen. Please forgive me if I say that about a lot of culinary techniques over the course of these papers, but this one goes way beyond my opinion.

To salt is not a matter of personal taste. It is not a flavor that we like or dislike. It's not a seasoning. It is savour. To align ourselves with the universe, therefore, and for the three cooking methods to work at all, we must learn to salt everything perfectly without having to measure.

The first step is to banish the saltshakers. Salt belongs in a ramekin on the counter at all times. Add salt by pinches. Move your hand back and forth over your ingredients and let the salt dribble slowly from your fingers like sand in an hourglass. Focus on the food surface and note how the salt crystals distribute. You will gradually ingrain visual memories and come to know without thinking exactly how much everything should be salted. The precision you develop will surprise you.

Make Sustainable Agriculture Sustainable

This is how I cook meat in my home. It inspires me to think that it might make your meals more abundant and enjoyable. It is also my hope that if you ask for your chop to be well-done and I serve it to you medium-rare instead, you will graciously make allowance for my myopia and stay for the rest of the BBQ.



The Butcher's Salt

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