THE WEAPONS AND TOOLS OF THE DOG.

BY WOODS HUTCHINSON, A.M., M.D.

The main thing a dog is built for is to carry about and "back up" his teeth. If you know the teeth you know the dog. He is literally almost like the Cheshire Cat in "Alice in Wonderland," who could be built up again from his grin. And, indeed, this is true of all sorts of animals. Their teeth will give you the best possible key to the puzzle of their make-up. Look closely at any animal's teeth, or, if he be a bird, his beak, and if you know how to read them, they will tell you at once what sort of an animal he is, and even what kind of a body and legs or wings he has.

And if you will think a moment you will see why. An animal's teeth are fitted, not only to eat his food, but to cut it up and catch it as well.
You can tell what kind of food an animal lives on, by a look at his teeth, just as you can tell that you're going to have boiled eggs for breakfast by seeing the egg-cups on the table.

If you lift a dog's upper lip, or get him to smile at you, you will see that he has, right in front, six small, flat teeth and on each side of these, above and below, two long, strong, spear-pointed teeth, like curved ivory daggers.

If you have no dog, look at the first picture, but the real teeth are best.

What can these big spear-shaped teeth be for? Certainly not to clip, or crop, leaves and grass, or bite off bread and butter, or crack nuts. There's only one thing they could be useful for and that is to plunge into something and either tear it to pieces, or hang on like grim death. If we look at the way the upper pair of these big teeth (which are called canine, or dog teeth, because they are so large in all the dog family) drop down behind and outside of the lower spikes, when the jaws close, locking them together like the teeth on the jaws of a rat-trap, we shall see that to hold fast to the throat of a deer, or the nose of a wild bull, or the hide of a badger, is just what they are suited for. If they were simply for catching little animals, like rabbits and squirrels, they would not need to be so big and strong, or to interlock so beautifully. Then in those tremendous battles which wild dogs and wolves have to fight, with one another for food, or from jealousy at the mating season, or with rival packs, these great, ivory daggers are deadly weapons. And as

GENERAL AND SIDE VIEW OF THE DOG'S TEETH. (Chauveau.)

Notice number of teeth in each jaw, and small size of four front- or pre-molars.
dogs work for a living with their teeth as we do with our brains and our hands it is no wonder that they are so big and beautiful.

Supposing that we had never seen a dog and were to come across his skull somewhere, we should say at once, from the size of the "dog-teeth," that those were the only important weapons he had. And we should be quite right, for the dog has neither hoofs like the horse, nor horns like a bull or goat, nor fists like a man.

Then, says someone at once: "Have these animals no canine teeth?" Let us look at their jaws for a moment. Take the goat, for instance, and we find at once a row of chisel-teeth in front and a row of big grinding-teeth at the back of the mouth, but between the two a long gap, not a trace of a canine, apparently, although if you count carefully, you will find what looks like a small, extra fourth chisel-tooth, which is all that is left of it.

And here is his first cousin, the sheep, with exactly the same gap. If you had never seen anything else of a goat but this skull, you would be able to say at once that it defends itself with some other weapon than its teeth, and all of you who have seen—or felt—a goat "butt" know what a formidable battering-ram it has in place of canines.

In the horse's mouth you find the same gap, and here it is quite
useful to us, as it is where the bit drops in when a bridle is put on. If you have tried to put a bit in a dog’s mouth to drive him to a toy wagon you have found that there’s no comfortable place for it to rest. Perhaps some of you may think that this space was made for the bit, or by wearing it constantly, but that couldn’t account for it, for wild horses have it also. Indeed it was there long before there was such a thing as a bit, or even a man to think of using one.

And again, our rule holds, for, as you all know, a horse’s most dangerous weapons are his hoofs, and especially his hind ones, though a few very vicious horses will use their front hoofs like a prize fighter, and tremendously hard they can hit, too. But it is usually safe to walk right up to any ordinary horse in front, though never behind unless you know him fairly well. However, horses do bite sometimes with their front chisel-teeth, as we shall see when we come to look at them, and, to prevent your getting a partly wrong idea, I must tell you that in full-grown horses two small but very sharp canine teeth do grow up in this gap. But here again they are according to rule, for they come just when they are needed by the horse to fight off other horses, wolves or panthers, from his herd of mares and colts, and the bite of an angry stallion is one of the most dangerous injuries in the world.

In fact you will make up your minds from looking at these jaws that the goat, the sheep and the horse, eating no meat, hence needing no tearing teeth, and having other weapons to fight with, have practically lost their canines, while the dog, doing both these things with his teeth alone, has kept and improved his, and we shall see this still more clearly when we look at our own teeth. Turn to a looking-glass, smile broadly, and what do you see? Ivory daggers sticking up three-quarters of an inch above the other teeth? A gap between front and back teeth? Neither one, but if you look closely just at the corners of the mouth above and below, you will see four strong, spear-shaped, blunt-pointed teeth, the points of which may perhaps just stick up above the other teeth far enough to be seen. These are our dog-teeth, and by putting them alongside of the other skulls you have seen, you can soon puzzle out why they are so much smaller than the dog’s and yet haven’t gone the way of the goat’s and the sheep’s. When we go to war we fight with weapons held in our hands—swords, spears, guns, and have done ever since our savage forefathers learned to swing a club or throw a stone or dart, so that we no longer need great canine teeth to fight with, but we still eat meat, and hence need small ones to tear it with. If you find it hard to believe that they were ever big enough to fight with, just pass your
finger up under your upper lip from the root of one of them and feel the great ridge which runs upward almost to the floor of the nose and which indeed can be felt on the face through the lip.

This is made by the great, powerful root, almost twice the size of the part of the tooth that stands above the gum, which shows that our tooth-spear had once a much longer head than it has now. From its running up so far towards the eye, has arisen its common name of "eye-tooth," though it has, of course, nothing whatever to do with the sight. Although we have long ago forgotten that we had ever used our teeth to fight with, yet if you will stand before the glass and try to look very scornful and angry, you will see your upper lip curl up just like the dog's when he growls or snarls. And it curls up precisely at the point where it will show the canine tooth to best advantage, so that the "lip of scorn" or the sneer is really a threat of attack, by half drawing your weapon from its sheath.

Though we never think of biting any one we dislike nowadays, yet when we sneer we make a face just as if we were going to. So hard is it for our muscles to forget old habits.

Now that we have seen that the big "spear-teeth" of the dog are not only the largest but the most useful and important of all, let us look at the others. Here are a row of little ones across the front of the mouth which are quite different from the canines. Instead of being round and pointed, they are flat in front and behind, running up to a sharp cutting edge, like a notched chisel. They are very narrow chisels, however, and quite small, not more than a fourth of the size of the canines. Now what could such teeth as these do? They could not hook into anything so as to hold it firmly or tear it, because their tops are too wide and all on a level; besides they stand close together and the upper ones only just touch the tips of the lower ones when the jaws are closed, or perhaps overlap slightly, instead of fitting down between them. Evidently the only thing that
these teeth can do is for the six above to play against the six below, like the rather jagged blades of a pair of scissors, or the jaws of a pair of punch-forceps, and cut off anything that comes between them. They are so small, compared with the canines, that we should be inclined to think that the dog eats but little food which needs to be cut or sheared off in this way, and, of course, as we all know, this is the case, for neither the bodies of birds, nor of animals, or indeed meat of any sort could be clipped up in this fashion. What sort of food could be cut up with teeth arranged to act like the blades of scissors? Grass, or leaves of any sort, or fruits. Then if we were to look into the mouth of any animal which lived mainly upon any of these might we expect to find its front teeth well developed? Here is the horse's skull again, and we see across the front of both jaws a closely-packed row of large, strong, square-edged, chisel-like teeth, which your pony, when he is pretending to bite you, can bring together with a snap like the jaws of a trap and which are just fitted to crop the grass off as close and even as a lawn mower.

Look at our picture of the sheep's skull. In its lower jaw you find just such another strong, keen-edged row, but in the upper jaw not a sign of a tooth. Was the poor creature so old that it had lost all its upper front teeth? Hardly, because here in the sheep and in the cow you find exactly the same thing; and if you will watch a cow or a sheep grazing you will see that instead of cropping quietly with both jaws, like the horse, they hook a tuft of grass into their mouths and across this tooth-sickle with the tongue, and then cut it off by jerking their heads upward and sideways, so that you can see their chins going jerk! jerk! the whole time. And this is why a cow cannot graze the grass off as close and clean as a horse can, although
a sheep with its much smaller jaw and sharper teeth can do almost as well.

Why hasn't a sheep or cow kept its upper front teeth like the horse? I will answer by asking another question: "What does a horse still do with its front teeth, which a sheep doesn't?" Then a dozen of you will answer: "Why, fight and bite, or course." The horse still uses his front teeth to fight with, especially against other horses and wolves, though not half as often as he does his hoofs. Most of the nips that you will see or feel him make with them are only half in fun and meant as a "Don't, please!" against having his hair brushed too hard or his harness put on roughly, yet when he's

really angry he can give a terrible bite with his hard, yellow teeth and huge jaws. A vicious stallion will sometimes catch his keeper by the arm or shoulder and lift him up and shake him as a terrier does a rat.

Now, if you will look at your own front teeth and see what broad, strong, straight-edged chisels and wedges they are, and what a close row they form, you will not be surprised to find how much
use you make of them in eating bread, biscuits, apples, celery, tarts, in fact everything that you don’t cut up with a knife, or eat from a spoon. As we’ve only been using forks and spoons for about three hundred years, think how much more useful they must have been before that, and you will not be surprised to find that in a savage’s skull they are often worn away down to the very gums.

Just to see what huge chisels they can develop into when needed for gnawing purposes, look at this porcupine’s skull as a sample of all the “gnawers” or rodents, like the beaver, rat, squirrel, etc.

From their usefulness in cutting food up into bits, to be chewed or ground by the back teeth, they are called in all animals incisors, which is simply Latin for “cutters-into.”

We have found from all these examples that the front or incisor teeth follow exactly the same rule as the canines, they are just as large, or as small, as fully present, or completely absent as the food of the animal requires.

If we look again at the dog’s front teeth, after having seen those of the other animals, we are struck by their smallness and weakness and poor cutting-shape, the line of their tops is more like the top of a picket fence, than the edge of a sickle. Indeed, if you will examine a full grown dog’s mouth or a skull that has been handled roughly, you will often find two or three of these teeth so loose in the jaw that you can move them about with your finger, while the canines stand as solid as fence posts. This further supports our rule, because the dog’s incisors must be short to let his canines interlock (as you can easily prove by trying to make your canines interlock) and as he eats no grass, or leaves, or vegetables, and does all his fighting with his canines, he really makes very little use of his incisors, and they evidently incline to go the way of the goat’s upper ones.

Now, although these cutters and canines are the only teeth which show in the dog’s mouth under ordinary circumstances, if you can catch him at meal-times, or when he yawns, you will see that he has a whole mouthful of teeth behind these. Two long gleaming rows of ivories, all of about the same size and shape, apparently, but getting larger and stronger as they go back. The same row and canines show in the tiger and all the cat family. At first sight it looks as if there were ten or a dozen in each row, but when you look closer you will find that each tooth has from three to five points, or peaks, the middle one usually highest, and that there are only six teeth above and seven below, on each side.

Most of these smaller “teeth upon teeth,” “cusps,” as they are called, are placed in an almost straight line running backward, so
that this part of the jaw looks like the edge of a very large and jagged carpenter's saw. Now what can tools of this shape be useful for? Evidently not for cropping grass and leaves, for they are too jagged and too far back in the mouth, nor for plunging into things and hanging on, nor for grinding corn, or grass, into a pulp. But they would carve meat up into pieces very well and if you give a dog a large piece of meat, too big to be bolted, and especially one with a bone in it, you will see him turn the side of his mouth towards it, push it just as far back as he can, shut the eye on that side, and gnaw away at it with these great saw-teeth, until he succeeds in half cutting, half haggling off, a piece small enough to swallow. Then, when he gets down to the bone he'll hold that down with his paws, and laying his head alongside of it rasp and gnaw and scrape with these double saw-blades till he has cleaned all the meat and gristle off it. If the bone is a round one, he'll thrust it right into his mouth, far back, and bring the largest of those strong white wedges together upon it with all the force of his jaws till "crack!" it goes into splinters, and he can lick the marrow out of the hollow inside it. A long, slender tooth like the canine would soon be broken to pieces in this sort of work and an incisor, even if big enough, would be too
top-heavy, so you see again that teeth are just the shape that is needed for the work they have to do.

But, if this be true, we ought to find the back teeth of the horse and goat of quite different shape, for they have no meat to cut up or bones to gnaw, and so you will see, at once, when you look at the cuts. Here you will find a thick, square-sided row of teeth on each side, as close together as bricks in a wall, their tops forming a broad, flat surface like a paved walk, broken only by fine curving ridges running across it every quarter of an inch or so.

Now look in your own mouth, and you'll see another broad, thick, solid row on each side, though not quite so flat and even along the top. What do such teeth look fit to do? Grind something, of course, and if you will put a few grains of corn, or a piece of hard biscuit into your mouth, you will find that your tongue carries it back at once to between these teeth and your jaws begin to move, not up and down, but with a swing from side to side, and the corn is caught between and ground into pulp in a few minutes. Watch a horse
when eating, or a cow when chewing the cud, and you will see their jaws swing in exactly the same way, and then you may know that these big “mill-teeth” are at work on the hay and corn. And when you have seen them at work you will know why they are called molar, or “mill-teeth.” The first two to four of this long line of teeth are usually smaller and less regular than the others, as you can see in the dog’s and your own jaw, and are called premolars, or “fore-mill” teeth, bicuspsids in our own mouths.

Now that we have seen the shape of the teeth in the different parts of a dog’s mouth, it will be interesting to watch and see how he uses his teeth. In eating out of a dish of scraps, he uses all sorts at once, or picks things up with his incisors, and, after a hasty crunch or two with his molars, swallows them whole. When he is picking up something carefully to see what it tastes like, or pulling burrs out of his coat—or off his master’s clothes, as one good little dog of my acquaintance used to do—he uses his incisors. When he catches at anything to hold it, or bites savagely, he uses his canines; no matter how straight he may fly at another dog’s throat he nearly always turns his head to one side slightly, before taking hold, so as to bring his canines into play. If he’s trying to bite his strap or rope in two he gets it as far back between his molars as possible and chews till he cuts it across. Hold out a stick for him to tug at, and he will twist his head quite to one side, seize it between his strong back teeth and then pull for dear life. Throw him one to carry, and he’ll slip it just behind his canines, and let it rest behind them and between his front molars, so that if you take an end of it in each hand and pull him straight towards you, you can lift him clear of the ground by it, for it is so “hooked” in behind his canines that he can hardly let go.

But it is the dog’s great-great-grandfather, the wolf, who can do really artistic things with his teeth.

In the first place, he can open his jaws nearly twice as far as a dog. If you see a wolf yawn you think his mouth is going to open through to the back of his neck, and this gives him more room to swing his daggers. When he is fighting with an animal as large as himself, he doesn’t seize it by the neck or shoulder and hang on, like a dog, but he just brings his jaws together with one tremendous snap, usually making his teeth cut clean through whatever he catches, and then springs back to watch for another chance. He will cut a dog in a dozen places before the latter can get hold of him, or even after he has pinned him, so that one wolf will often slash his way through a pack of five or six hounds.
Then, he is most cruelly clever in knowing just where to use his ivory lancets. If he is attacking a deer or sheep he aims at the neck, or slack of the flank, and either cuts its throat, or pulls it right down. But if a buffalo, he dares not risk a front attack direct, so, while two or three of the pack bark and snap at his head, to distract his attention, the leader makes a stealthy rush from the rear, a spring, a lightning-like snap at the leg just above the hock, and crack goes the great hamstring tendon and down goes the poor old bull at the mercy of the pack. He also knows just where the great veins run in the neck of a sheep or deer, and can plunge his dagger-teeth into them so exactly that scarcely a drop of the blood will be lost.

When I was a boy I had charge of a flock of sheep in a distant pasture, close to a belt of forest. Three or four times during the summer, wolves, ranging through the forest from the "big woods" down on the river, got among the sheep at night and killed right and left, until we put bloodhounds on their trail and made the neighborhood too hot for them. I have gone down in the early morning and found two, three, or even four, sheep, lying quietly upon the ground just as if they were asleep. I could never discover a trace of injury until I turned them over and my eye fell upon a small patch of dull, red stain upon the wool of the throat. No wound or tear to be seen, but upon carefully parting the wool two small, oval slits in the skin could be found through which the canines had pierced the vein, and the life-blood been sucked out. Not another mark upon the body,
and unless you knew what to look for you might easily think that the victim had died from disease or poison, as indeed I did the first few wolf-killed sheep I saw. A dog's handiwork, on the other hand, can be recognized at a hundred yards, so that a shepherd can tell at a glance whether a dog or a wolf has been among his flock. This kind of skill sounds very cruel, but we must remember that we are hardly in a position ourselves to call poor "Brer Wolf" very hard names, because he kills sheep to get mutton-chops.

But you must not think that the dog and wolf use their teeth only for serious work, such as fighting and cutting; they're also very fond of playing with things with their teeth, just as we do with our hands. There is no prettier sight than to see a lot of puppies, or wolf cubs, pulling each other's tails, biting each others' ears and pretending to worry throats, just for the sheer pleasure of making their teeth meet on something, and I have seen scores of grave and solemn old dogs or fierce-looking wolves and vicious little foxes playing just the same tricks. A dog's teeth, especially his front ones, are his fingers, and a very little "nip" at a thing will tell him whether it's fit to eat or to play with, almost as quickly as your fingers will tell you how hard or how heavy it is. A dog boxes and wrestles and plays with his teeth just as we do with our hands, and old ranchmen upon the cattle ranges tell me that wolves get together in quiet places among the hills in the autumn, just for regular games of tooth-play and romping. One of them told me that he was out looking for lost horses one day, up in the foot-hills, when he suddenly saw the head of a big grey wolf stick up for a moment over the edge of a "blow-out," or great sand-pit scooped out by the wind. He had only his revolver with him, but, as the "greys" are terribly destructive to colts and young cattle, he galloped off down a side valley at once till he was well down the wind from the "blow-out," so that his scent wouldn't be carried toward the wolf, then hobbled his horse and worked his way across the ridges till he finally crawled on his hands and knees up to the edge of the hollow and peeped over, thinking to surprise Mr. Wolf. But it was his turn to be surprised, for there not thirty yards below him were seven great, shaggy brutes, each nearly as big as a Newfoundland dog, rolling and tumbling over each other and showing great rows of glistening teeth, that looked as long as his finger.

He said it struck him, all of a sudden, that it wasn't a very good day for wolf-hunting; after all, and he rolled down the side of that hill and scuttled across to where his horse was hobbled, as fast and as noislessly as his legs would carry him. Fortunately the wolves
were so well pleased with each other and so busy with their game that they didn’t see or hear him at all, for if they had and had caught him before he reached his hobbled horse, there would have been nothing left of either of them, except the wood of the saddle and a few of the largest bones.

In spite of their hardness and sharpness the dog can use his teeth surprisingly gently at times. Watch a mother dog carrying her puppies to another nest, and see how lightly and skilfully she balances them between her teeth so that they don’t seem to mind being swung by the scruff of their necks at all. Any good setter or retriever will catch a slightly wounded quail, or duck, and bring it to you alive without even breaking a feather. And I have heard of a pointer who, while helping his master catch a canary which had got out of its cage got so excited that he finally gave one jump and a snap and poor Dickey disappeared between his great jaws. Everybody thought he had gone down like an oyster, but the old fellow walked quietly up to his master, opened his mouth, and out fluttered birdie, a little ruffled as to his feathers, but otherwise none the worse.

If what we have been finding out about the shapes of teeth is the rule, we ought to find the jaws and teeth of different breeds of the dog suited somewhat to the “trade” of each one. And so we do, only, of course, as all breeds of dog have to catch, eat and fight with their teeth, they are all much alike. A pug’s, perhaps, have changed most, for in getting his poor little jaws short and small enough to give the “pug-nose” and wrinkled-up face that fanciers admire, his teeth have suffered sadly. They are so poorly-placed as to be almost useless, and some of them so slight and loosely set that if he were to attempt to fight with them they’d be in danger of pulling loose or breaking. Pugs are sometimes very plucky, but they cannot punish another dog to any effect and most dogs seem to know it and treat them with a sort of good-humored contempt.
Many of them cannot be fed on meat, but have to live on bread and milk, soaked biscuit, and other soft foods.

On the other hand the bull-dog’s teeth have gradually become so huge and strong that his square head and jaw look big enough to walk alone and almost seem to be dragging his body after them.

So long and powerful are his canines and so tightly do they interlock that when they are once clenched in anything it is really difficult for him to let go—and still more so for anyone else to make him. In training a bull-terrier for a fight he is egged on to set his teeth into a leather sack stuffed with hair, which hangs by a rope from a pulley, and when he has got a good hold he is hoisted clear of the floor and allowed to swing backward and forward by his teeth. A good dog can be hauled up almost to the ceiling and back by his teeth, when he’s getting into proper condition. In a fight he will get a favorable “hold” and keep it without slackening for an instant, for three quarters of an hour if necessary. In order to be able to do this, however, two other changes in his “face,” besides the size of his eye-teeth, are necessary, and these have spoiled his looks sadly. One of them is the strange tilting upward and backward of his nostrils. If you will look at the nostrils of an ordinary dog you will find that they open almost at and on the end of his nose. Now when he plunges his teeth deeply into the flesh of another animal he pushes the end of his nose into and against its side and thus nearly blocks up his nostrils; so that he cannot get breath enough through them to keep up his hold for long. But look at the bull-dog’s nostrils and you will see that his nose is very short and square and that the nostrils are tipped upward and backward so that they open almost upon the upper surface of it. Thus he can crowd the end of his nose against another dog’s throat or side as hard and long as he pleases and yet have his nostrils free to breathe through.

The other is that in order to let him get a longer mouthful and a firmer hold, his lower jaw and teeth have pushed forward half an inch or more beyond the upper, so that his front teeth don’t meet at all, and in some cases are not even covered by his lips when the mouth is closed. This gives poor “Bull” that sweet and engaging expression that we know so well and makes him look as if he were continually “showing his teeth” at you. His “face is his misfortune,” for he is really a most good-natured and peaceable dog unless he has been fought too much, which isn’t his fault, poor fellow. His “ferociousness” simply consists in not knowing how to stop after he once gets started fighting.

Like all really brave people, he is usually very slow to start a
quarrel and almost never will attack a smaller dog than himself, unless some cowardly scoundrels of boys or men make him. Like most animals his worst faults are really those of the men about him, and he would be a very decent fellow if he was not obliged to associate with a certain class of human beings.

Now that you are getting to be judges of teeth you will not be surprised to learn that the modern "Holy Terror" bull-dog of the bench-shows is not a fighting dog at all. He has been bred for so many generations, simply for the sake of his magnificently ugly face, that the projection of his lower jaw has become a positive deformity and though he can still pin a bull by the nose and drag him down, as he used to in the old cruel sport of "bull-baiting,"
which gave him his name, he is not half as effective a fighter as his smaller and much handsomer cousin, the bull-terrier. This latter gentleman has the handsomest set of teeth in the world and the intelligence which usually goes with good tools. He fights with his head and legs as well as his teeth and can use them equally well for a fierce razor-like slash or for a death-like grip. I have seen a particular friend of mine, of this breed, clear his way through a mob of strange dogs, who had rushed out at him as he galloped after my buggy, by three or four quick upward and downward slashes of his long canines, almost without checking his stride, just as a wolf would have done. He was a dear fellow, handsome as a picture, barring a trifle of squareness about the head, kind, affectionate and the most intelligent creature upon four
feet I ever knew, but he was led into trouble by some bad boys—who, of course, ran away and left "that savage brute of a bull-dog" to bear the blame, and I had to exile him to a lonely horse-ranch up in the sand-hills of Nebraska. There he met a young lady cousin of his, and in the course of their joint explorations a few weeks after he got there they stumbled upon a big rattle-snake. As neither of them knew what it was to be afraid, they walked up to him to see what business he had there, and he most injudiciously bit one of them. Then of course they killed him, both getting bitten several times in the process. Surprising as it may appear, they didn’t either of them die, but they lay about in doleful plight for a week or so, one with a head like a turnip, and the other with a paw like a boxing-glove, and everybody said, "Well! those pups have learned something, and will let rattlers alone in future." But no such thing; the ball had just begun for the snakes, and as soon as they were able to toddle they went out and slew another. This time the bites didn’t swell half so much, and they only had to lie up for a day or two before they could go on the war-path again. As rattle-snakes in that neighborhood were, in the language of a scripturally-minded cowboy on the ranch, "as plenty as fiddlers in heaven," they soon found another, and so they kept on, until, before frost came and drove the snakes into their holes for the winter, they had killed some thirty or forty of them. After their first three or four encounters they seemed to become completely hardened to the bites and showed no ill effects whatever from them, although killing sometimes two or three snakes in a day. The first kill was only ignorant rashness, but the second and third took real pluck, for the agony of the stage of swelling in a snake-bite is something terrific, and even to the last the bites must have hurt them at least as badly as hornet stings do us.

But you thought a rattle-snake bite was sure death even to a man? Not by any means, although most of the story-books say it is. I have known personally some seven or eight men who were bitten, and not one of them died. Indeed Dr. Weir Mitchell, who has experimented extensively with the poison—and been bitten himself in the process—declares that it is the exception to the rule if a grown man or woman dies after rattle-snake bite. When you remember that the rattle-snake cannot tear his prey in pieces but has to swallow it whole, you can easily see that it would be a waste of good poison for his sac to be "loaded" with more than about twice as much as would safely kill an animal the size of a rabbit, which is about the limit of his swallowing powers. Whether this is the explanation or not, the fact remains that animals weighing over forty
pounds usually recover from a single bite. The wonderful reputation of whiskey as a cure for snake bite rests chiefly upon the fact that the victim in nine cases out of ten would get better anyhow, if he never touched a drop of the "remedy."

There is another dog whose tooth-play is peculiar, and that is the grey-hound. This gentleman like his first-cousin, the deer-hound, has been bred solely for speed, and no special attention paid to his teeth, which have consequently remained pretty much as they were in his ancestor, the wolf, but a little blunter. His jaws are

![A Distinguished Member of the Humane Society.](By Landseer.)

just the opposite of the bull-dog's—long, slender and with a very wide gape. And they are just suited to his method of using them. In picking up a hare at full speed (twenty miles an hour) all he has time to do is to make one, single, lightning-like snap—and if that misses, shoot past fifty yards until he can turn and try again. A bull-dog grip would be utterly useless to him. A clever old dog won't even waste time on a snap, but just thrusts his long nose under poor Puss, jerks her high into the air and catches her in his jaws before she touches the ground again. If he is loosed on a wolf or an
antelope he plays a very similar game. He knows perfectly that neither his jaws nor his neck are strong enough to fight one or pull down the other, so he makes flying snaps at the side, the shoulder,

the thigh, runs into them, between their legs, and in every way tries to delay them until the trail-hounds or huntsmen can come up.
I had a big black greyhound once who was very clever in tackling a wolf. He would race up to him and, first of all, make believe to fly at his throat; the wolf would turn on him, he would spring back, and they would stand and snarl at each other for a minute or two. Then the wolf would hear the baying of the trail-hounds and decide to start on again and pay no attention to the greyhound. This time Pedro would get closer and make a sharp snap at his shoulder or flank. He didn't attempt to hang on, simply to give one jerk and spring back, but if that jerk could be given well forward on the shoulder it would twitch the wolf's head round just far enough to upset his balance and send him rolling over and over. Then if he missed this he would run off a little ahead and to one side, turn and charge him at an angle, just as an end-guard does a half-back who is too heavy for him to tackle. In fact he would try all sorts of clever tricks with his speed and quickness to delay the wolf till the blood-hounds who were following his trail could come up, knowing perfectly that the wolf dare not stop and fight him, for fear of the latter. Another grey-hound friend of mine used to play a very curious variation of the hare—throwing trick. He would tear up
to the wolf at nearly right angles to his course, but instead of charging right into him, give a sort of dive right underneath his body and come up on the other side. It was a risky play to make, for of course he ran the chance of a bad fall himself if he bungled but if he succeeded it was almost equal to the terrible "over-the-head" throw in wrestling; the tremendous speed at which both were going would send the wolf flying up into the air, to come down with a thud that would almost knock the breath out of his body. I have never seen this trick played, personally, but several of my old hunter friends have, and a dog that possesses the accomplishment is highly valued.

You can tell more about a dog’s habits and character by a look at his teeth and jaws—whose shape is made by his teeth—than by any other three things about him. Now what have we concluded about the teeth of the dog by patching together the various things that we each know about them from personal acquaintance?

First—that a dog’s longest and most important teeth are his canines (as their name implies) and that he uses them for catching and holding his prey, tearing up his meat, and fighting his battles. That sheep, cows, and most horses, which neither catch things alive, eat meat, or fight much with their teeth, have practically lost their canines, while we who still eat meat have kept ours, although they have grown smaller, as we no longer fight with them—except when we’re very naughty.

Second—that a dog’s front teeth or "cutters-into" are comparatively small and weak, as he only uses them for picking up soft food and "tasting" things, and if they were longer they would hinder his canines from interlocking so well.

In the sheep and goat, however, where they are constantly used for cropping grass and leaves, they are large and strong and even, though found only in the lower jaw, while in the horse, where they are sometimes used for fighting as well, they remain in both jaws.

Third—that the dog’s back teeth are pointed and set like the teeth of a saw and used for cutting up large tough pieces of meat, cracking bones and rasping the meat off them. In the horse, sheep, goat and ourselves, where they are used only for grinding grass, corn, bread, etc., they have become broad, flat mill-stones, or "molars."

Fourth—that a dog or wolf knows just how to use his teeth to the best advantage.

Fifth—that our different breeds of dogs have had their original wolf set of teeth modified by the way in which they have been selected and bred for a particular "trade."