article of food better than beef. The simple but significant truth is that the natives, as I have already said, have learnt the commercial value of sheep and are ready to sacrifice old habits and long inherited tastes to a new born idea of utility and desire for profit. The change means more than this; for as the use of the plough and the disuse of the pick involve the labour of the men instead of the women in agriculture, extended cultivation, enlarged production, a surplus beyond personal wants for trade, and the growth of property; so the preference for sheep involves an additional demand on the labour of the men in shearing, cleansing, sorting, packing, and all the arts, however humble, of preparing wool for the buyer.—*Eng. Live Stock Journal.*

The Moon and the Weather.

The notion that the moon exerts an influence on the weather is so deeply rooted that, notwithstanding all the attacks which have been made against it since meteorology has been seriously studied, it continues to retain its hold upon us. And yet there never was a popular superstition more utterly without a basis than this one. If the moon did really possess any power over the weather, that power could only be exercised in one of three ways—by reflection of the sun's rays, by attraction, or by emanation. No other form of action is conceivable. Now, as the brightest light of a full moon is never equal in intensity or quantity to that which is reflected toward us by a white cloud on a summer day, it can scarcely be pretended that weather is affected by such a cause. That the moon does exert attraction on us is manifest—we see its working in the tides; but though it can move water, it is most unlikely that it can do the same to air, for the specific gravity of the atmosphere is so small that there is nothing to be attracted. Laplace calculated, indeed, that the joint attraction of the sun and moon together could not stir the atmosphere at a quicker rate than five miles a day. As for lunar emanations, not a sign of them has ever been discovered. The idea of an influence produced by the phases of the moon is therefore based on no recognizable cause whatever. Furthermore, it is now distinctly shown that no variations at all really occur in weather at the moment of changes of quarter any more than at other ordinary times. Since the establishment of meteorological stations all over the earth, it has been proven by millions of observations that there is no simultaneousness whatever between the supposed cause and the supposed effect. The whole story is a fancy and a superstition which has been handed down to us uncontrolled, and which we have accepted as true because our forefathers believed it. The moon exercises no more influence on the weather than herrings do on the government of Switzerland.—*Blackwood.*

A Big Wheat Farm in Pembina.

A gentleman who came down from the North Pacific the other day gives to the *St. Paul Pioneer Press* the following interesting notes in relation to Dalrymple's great wheat farm:—The amount of ground sown to wheat this spring was 1300 acres. Harvesting commenced on Monday with nine self-binders. The machines are run fifteen hours without rest, except the ordinary stops for oiling, lunch and dinner, and the result per day is 180 acres. One man is employed to each team, and twelve men follow the machines shocking the wheat as soon as it is cut. The entire 1300 acres were to be cut and shocked during the week; stacking and threshing will of course follow. Dalrymple is harvesting his crop for about one-fifth of the cost required under the system in vogue ten years ago. At the time harvesting commenced it was estimated the yield per acre from the entire tract would not be less than twenty bushels to the acre. Grasshoppers had done but little damage, the excessive hot weather came too late to blast the crop, and everybody who saw the waving grain pronounced big wheat farming on the North Pacific a success. The farm on which this crop was grown consists of 30,000 acres, on which next season there will be sown to wheat, 9,000 acres, the sod of it having been broken this season. During the breaking season Mr. Dalrimple had as high as one hundred teams at work. The furrows turned were six miles long, and the teams make but two trips a day, travelling with each plough, to make the four furrows, twenty-four miles. The location of this farm is eighteen miles west of Moorehead, Minnesota, in the proposed new territory of Pembina, and this is not the only big farm in the vicinity, but is the "boss" farm of a dozen or more running from 500 to several thousand acres.

The Ants of Africa.

When they grow hungry the long file spreads itself through the forest in a front line, and attacks and devours all it overtakes with a fury that is quite irresistible. The elephant and gorilla fly before this attack. The black men run for their lives. Every animal that lives in the line of march is chased. They seem to understand and act upon the tactics of Napoleon, and concentrate with great speed their heaviest forces upon the point of attack. In an incredibly short space of time the mouse, or dog, or leopard, or deer, is overwhelmed, killed, eaten, and the bare skeleton only remains. They seem to travel night and day. Many a time have I been awakened out of sleep and obliged to rush out of the hut into the water to save my life, and, after all, suffer intolerable agony from the bites of the advance guard, who had got into my clothes. When they enter a house they clear it of all living things. Cockroaches are devoured in an instant. Rats and mice spring round the room in vain. An overwhelming force of ants will kill a rat in less than a minute, in spite of the most frantic struggles, and in less than another minute its bones are stripped. Every living thing in the house is devoured. They will not touch any vegetable matter. Thus they are, in reality, very useful (as well as dangerous) to the negroes who have their huts cleared of all abounding vermin—such as immense cockroaches and centipedes—at least several times a year. When on their march the whole insect world flies before them, and I had the approach of a bashikouay army heralded to me by this means. Wherever they go they make a clean sweep—even ascending to the tops of the highest trees in pursuit of their prey. Their manner of attack is an immense leap. Instantly their strong pincers are fastened, and they only let go when the piece gives way. At such a time this little animal seems animated by a kind of fury which causes it to disregard entirely its own safety and to see only the conquest of its prey. The bite is very painful. The negroes relate that criminals were in former times exposed to the path of the ants as the most cruel manner of putting them to death.

Sagacity of the Horse.

An amusing incident, and one in which the intending biter was well bit, occurred the other day in North Lancashire. A builder was in want of a horse, and had the offer of one from a dealer who was noted for doing a little bit of sharp practice whenever a convenient opportunity offered. The two lived a few miles apart, and the preliminary negotiations had been conducted by letter, and a day was set apart for the dealer to bring the horse. He had invested it with every good property, and had stated its age, &c. As the builder was not very well conversant with horse flesh, he induced a friend, a retired farmer, to go with him to inspect the animal. Accordingly they went. The animal was in good condition, and apparently well calculated for the required work. A price was named, which the builder thought a long one for an aged horse. The farmer had been critically looking over the animal. "Suppose," said he to the dealer, "you add five years to the age you name; don't you think you would then be nearer the mark?" The dealer protested the age he had given was correct—he had had him so many years, and he bought him from the breeder. "You did no such thing," said the farmer; if I am not mistaken I bred the horse myself." An altercation followed; each was positive, and the builder was on the horns of a dilemma. At length the farmer settled it thus—"You say the horse is so old—I say he is five years older; you ask £50 for him—I say £30 is enough. I will wager a £5 note that I prove the correctness of my argument, and on the result the price shall depend. Let the horse be taken into the yard of my late farm; let the harness be taken from off him, and if he does not at once, without any direction, go into No. 3 stall in the stable I will previously point out, then I will forfeit the £5, and you shall have £30 for the horse If he does as I say, then you sell him for £30 and lose your bet of £5." The dealer was in a corner, but he had previously been so positive that he could not find any pretext for declining the challenge. The horse was taken to the farmyard (and it may be here remarked that the stable was not visible from the part where he was unharnessed), and immediately on the gear being taken off him, he gave himself a shake, trotted round a corner of the yard, went direct to No. 3 stall, and was apparently quite at home in his new-old quarters. The sequel was that the builder obtained his horse at a fair value, the retired farmer his £5, and the biter was well bit.

A Fish that Rears its Young in the Mouth.

The *chromis* paterfamilias has the gills disposed in simple laminæ; it is unprovided with any special apparatus for retaining the eggs or the young ones, and yet it brings up about 200 young in the mouth and gills. It is always the male that performs these functions of incubation. After the female has deposited the eggs in a depression of the sand or between the tufts of reed, the male approaches and takes them by inhalation into the cavity of the mouth. From there some movement, the mechanism of which we have not been able to observe, sends them between the leaflets of the gills. The pressure exerted on the eggs by the bronchial laminæ suffices to keep them in place. There in the midst of the organs of respiration, the eggs undergo all their metamorphoses. The young ones grow rapidly, and soon appear much inconvenienced in their narrow prison. They leave it, not by the gills, but through the opening by which the bronchial cavity communicates with the mouth. Here they remain in great number, pressed against one another like the seeds in a pomegranate. The animal's mouth becomes so distended by the presence of this numerous progeny that actually the jaws cannot meet. The cheeks are swollen, and the animal presents the strangest aspect. Some of the young, arrived at the perfect state, continue to live in the gills. All have the head directed toward the buccal opening of the father, the protecting cavity of which we have not seen them leave even for a moment. Though so numerous they hold their ground very firmly, but how they do so we have not discovered. Neither can we understand how the nursing father avoids swallowing his progeny; we are also ignorant at what period of their life the young ones leave the paternal mouth to live independently.—*Popular Science Monthly.*

A Spider's Bridge.

One chilly day I was left at home alone, and after I was tired of reading Robinson Crusoe, I caught a spider and brought him into the house to play with. Funny kind of a playmate, wasn't it? Well, I took a wash-basin and fastened up a stick in it like a liberty pole or a vessel's mast, and then poured in water enough to turn the mast into an island for my spider, whom I named Crusoe, and put on the mast. As soon as he was fairly cast away, he anxiously commenced running around to find the road to the mainland. He would scamper down the mast to the water, stick out a foot, get it wet, run round the stick and try the other side, and then run up to the top again. Pretty soon it became a pretty serious matter with Mr. Robinson, and he sat down to think it over. In a moment he wanted to shout for a boat, and was afraid he was going to be hungry. I put a little molasses on a stick and a fly, but Crusoe was not hungry for flies just then. He was homesick for his home in the woodshed. He went slowly down the pole to the water and touched it all round, shaking his little feet like pussy when she gets her stockings wet in the grass, and suddenly a thought seemed to strike him. Up he went like a rocket to the top, and commenced playing circus. He held one foot in the air, then another, and turned around two or three times. He got excited and nearly stood on his head, before I found out what he knew, and that was this: the draft of air made by the fire would carry a line ashore on which he could escape from his desert island. He pushed out a web that went floating in the air until it caught on the table. Then he hauled on the rope until it was tight, struck it several times to see whether it was strong enough to hold him, and walked ashore. I thought he had earned his liberty, so I put him back in the woodshed.—*Hearth and Home.*

American Sumac.

The demand for American sumac has increased largely of late years among morocco manufacturers and dyers, and many improvements have been made in its preparation. The quality of the native article has now arrived at great perfection, and mills for grinding have sprung up all through the Southern and Middle States. It has not been a profitable business for the past years, having suffered from the depression incident to all branches of trade.

Sumac grows all over the continent, but that best suited for tanning and dyeing purposes grows spontaneously in a belt of country, running from Maryland down through Virginia and the Carolinas, thence through the northern sections of Georgia, Alabama and Mississippi, and in portions of Kentucky and Tennessee. The northern climate seems too cold to develop the tanning properties of this plant, but large quantities of Pennsylvania and New York sumac are sold in the leaf to tanners of goat-skins, who put it in the vats to strengthen up and keep the sewed skins from leaking, and it is also used by many tanners who wish to brighten the color of their leather.

The Indian name of sumac is killikinick; they used it, and it is still used, to mix with tobacco for smoking purposes.

The season for picking sumac commences with the 1st of July and ends the last of September, or with the first frost, for this turns the leaf red, and then it is worthless. The stems, except the leaf stems, have no strength, and should not be gathered. They are full of pith, and if ground they only absorb the strength of the leaf and depreciate the value of the article. Sumac should be gathered in this way, viz: Break off the parts of the bush containing the leaves, but do not gather the blossoms or berries. Some sumac gatherers allow the leaves to wilt a few hours in the sun, while others convey them immediately into the shade or under cover. It is cured under shelter to preserve its color and strength; when it is dry it is put in bulk, and when dry and windy days set in, spread out in beds as you would wheat or oats, on a clean plank floor. Then it is threshed with a flail, when the leaves and stems will break up fine, and the large stems are raked away. In drying, before threshing, it should be frequently thrown over with a pitch fork to let the air get to every part of it.