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A STUDY IN SCARLET.

BY A. CONAN DOYLE.

CHAPTER IV.

It was 1 o'clock when we left 3 Lurline. Sherlock Holmes led me to the nearest telegraph office, when he dispatched a long telegram. He then hailed a cab and ordered the driver to take us to the address given us by Lestrade.

"There's nothing like first-hand evidence," he remarked; "as a matter of fact, my mind is entirely made up upon the case, but still we may as well learn all that is to be learned."

"You amaze me, Holmes," said I. "Surely you are not as sure as you pretend to be of all those particulars which you gave."

"There is no room for mistake," he answered. "The very first thing which I observed on arriving there was that a cab had made two ruts with its wheels close to the curb. Now, up to last night we have had no rain for weeks, so that those ruts which left such a deep impression, must have been made there during the night. There were the marks of the horse's hoofs, too, the outline of one of which was far more clearly cut than that of the other, and showing that there was a new shoe. Since the cab was there after the rain began, and was not there at any time during the morning—I have Gregson's word for that—it follows that it must have been there during the night, and, therefore, that it brought those two individuals to the house."

"That seems simple enough," said I; "but how about the other man's height?"

"Why, the height of a man, in nine cases out of ten can be told from the length of his stride. It is a simple calculation enough, though there is no use my boring you with figures. I this fellow's stride, both on the chert outside and the dust within. Then I had a way of checking my calculations. When a man writes on a wall, his instinct leads him to write about the level of his own eyes. Now, that writing was just about five feet from the ground. It was child's play."

"And his age?" I asked.

"Well, if a man can stride four and a half feet without the smallest effort, he can't be quite in his teens and yet not be the garden walk which he had evidently walked across. Patent leather boots had gone around and square toes had hopped over. There is no mystery about it at all. I can simply apply to ordinary life a few of those precepts of observation and deduction which I advocated in that article. Is there anything else that puzzles you?"

"The finger nails and the Trichinopoly," I suggested.

"The writing on the wall was done with a man's forefinger dipped in blood. My glass allowed me to observe that the print was slightly raised. There was the case if the man's nail had been trimmed. I gathered up some scattered ash from the floor. It was dark in color and flaky, such ash as is only made by Trichinopoly. I have made a special study of clean ashes—in fact, I have written a monograph upon the subject. I flatter myself that I can distinguish at a glance the ash of any known brand of pipe or of tobacco. It is just such details that the skilled detective differs from the Gregson and Lestrade type."

"And the florid face?" I asked.

"Ah, that was a more daring shot, though I have no doubt that I was right. You must not ask me that at the present state of the affair."

I passed my hand over my brow.

"My head is in a whirl," I remarked; "the more one thinks, the more mysterious it grows. How come those two men—if there were two men—in to the cabman who drove them? How could one man compel another to take poison? What was the object of the murderer, since robbery had no part in it? How came the woman's ring there? Above all, why should the second man write up the German word 'Bach' before the name of the house? I confess that I cannot see any possible way of reconciling all these facts."

"My companion smiled approvingly.

"You sum up the difficulties of the situation succinctly and in a way that is friendly as possible—well, I would say, though it is much that is still obscure, though I have quite made up my mind on the main facts. As to poor Lestrade's discovery, it was simply a blind intention to put the police upon a wrong track, by suggesting socialism and secret societies. It was not done by a German. The A. if you noticed, was printed some what after the German fashion. Now a real German invariably prints in the Latin character, so that we may safely say that this was not written by one, but by a clumsy imitator, who overdid his part. It was simply a ruse to divert inquiry into a wrong channel. I'm not going to tell you much more of the case, doctor. You know a conjurer gets no credit when once he has explained his trick, and if I show you too much of my method of working you will get the same conclusion that I am a very ordinary individual after all."

"I shall never do that," I answered; "you have brought detection as near an exact science as it ever will be brought in this world."

"My companion flushed up with pleasure at my words and the earnest way in which I uttered them. I had already observed that he was as sensitive to flattery on the score of his art as any girl could be of her beauty."

"I'll tell you one other thing," he said. "Patent-leathers and Square toes came in the same cab and they walked down the pathway together as friendly as possible—in an arm, in all probability. When they got inside they walked up and down the room—or rather, Patent-leathers stood still, while Square-toes walked up and down. I could read all that in the dust; and I could read that, as he walked, he grew more and more ex-

pected Sherlock Holmes.

John Rance appeared to be somewhat irritated at this digression. "He was an uncommon drunk sort of man," he said. "He's found himself in the station if he hadn't been so took up."

"His face—his dress—didn't you notice them?" Holmes broke in, impatiently.

"I should think I did notice them, seeing that I had to prop him up—me and Murcher between us. He was a long chap with a red face, the lower part muffled round."

"That will do," cried Holmes. "What became of him?"

"We'd enough to do without looking after him," the policeman said, in an aggrieved voice. "I'll wager he found his way home all right."

"How was he dressed?"

"A brown overcoat."

"Had he a whip in his hand?"

"A whip—no."

"He must have let it behind," muttered my companion. "You didn't happen to see or hear a cab after that?"

"No."

"There's a half sovereign for you," my companion said, holding up and taking his hat. "I am afraid, Rance, that you will never rise in the force. That head of yours should be for use as well as ornament. You might have palmed your associate's stripes last night. The fellow whom you held in your hands is the man who holds the clew of this mystery, and whom we are seeking. There is no use of arguing about it now. I tell you that it is so. Come along, doctor."

"We started off for the cab together, leaving our informant incredulous, but obviously uncomfortable."

"The blundering fool!" Holmes said bitterly, as we drove back to our lodgings. "Just to think of his having such an incomparable bit of good luck, and not taking advantage of it."

"I am rather in the dark still. It is true that the description of this man tallies with your idea of the second party in this mystery. But why should he come back to the house after leaving it? That is not the way of criminals."

"The ring, man, the ring! That was what he came back for. If we have no other way of catching him we can always bait our line with the ring. I shall have him, doctor—I'll lay you two to one that he will be here before the end of the week. I might not have gone but for you, and so have missed the finest study I ever came across; a study in scarlet, eh? Why shouldn't we use a little art, jargon? There's the scarlet thread of murder running through the colorless skein of life, and our duty is to unravel it, and isolate it, and expose every inch of it. And now for lunch, and then for Norman Neruda. Her attack and her howling are splendid. What's that little thing of Chopin's she plays so meticulously; Tralalalra-lalra-lay?"

"Leaving back in the cab, this amateur bloodhound caroled away like a hawk, while I meditated upon the many-sidedness of the human mind."

STRANDED IN THE DESERT.

Fully Equipped Steamer Rests on Sands Bordering the Colorado River.

There does not seem to be much news for a ship in the desert country of California, which borders on the Colorado river, yet travelers in that region may see there a veritable "ship of the desert." Far from any body of water capable of floating even a mud-cow, may be found a big stern-wheel steamer, accustomed to ply up and down the river, carrying passengers and freight. She has been lying there since last September, stranded high and dry on the sands a mile and a half from the stream's present course.

This strange condition of affairs has come about simply because the Colorado, a mighty stream, but one of the most teachable of rivers, chose to cut a new channel for itself early in the fall without notice or warning.

One night, last September, the Alviso tied up to the shore a couple of miles above Needles, awaiting telegraphic orders. She was loaded with passengers and supplies, and as travel is sometimes leisurely pursued on the Colorado, all hands turned in for a good night's sleep. Between 3 and 4 o'clock, Captain Babson was aroused by Indians, who warned him that for some reason the river was falling rapidly, and advised him to pull out into midstream as quickly as possible. This the captain tried to do, but the water had already gone down so low that his prow stuck fast in the mud when he got up "steam and tried to turn the paddle wheels and move out into navigable water. And there he has stuck ever since, becoming resigned to his situation perforce and hopefully awaiting the flood which will come down at the times of the melting of the Colorado and Wyoming snows.

WHAT THE WISE ONES SAY.

He that hath wife and children hath given hostages to fortune; for they are impediments to great enterprises, either of virtue or mischief.

The only real belief is in absolute conquest; and the earlier the battle begins, the easier and the shorter it will be. If one can keep irritability under, one may escape the struggle to the death with passion.—Juliana Ewing.

There are twenty-four hours in a day, and not a moment in the twenty-four in which a woman may not change her mind.—De Finol.

If you wish to be miserable you must think about yourself about what you want, what you like, what respect people ought to pay you, and then to you nothing will be pure. You will be as wretched as you choose.—Charles Kingsley.

As many as 7,287 men have been elected to the national house since the American congress was organized. The number does not include those who have occupied seats and been thrown out on contests.

Unknown Children.

I meet them in the country lane, In village shop and city street, With cheeks all glowing in the rain, Or voices gladdening in the street.



FOR THE YOUNG FOLKS

What a Rainy Day Tangled Helen.

Down came the rain with a steady patter, patter, as though it never meant to stop. The prospect was anything but pleasing to little Helen Worcester, as she stood with gloomy face pressed against the window pane, watching the bedraggled sparrows hunting for seeds in the wet road.

Poor little Helen's face had grown darker and darker as she stood watching the rain drops, for it was Saturday night, and she had planned to spend it all out of doors. Mamma had even promised her that she might have luncheon under the apple tree with one of her little schoolmates. Now it was raining so hard that even if it should stop, which did not seem at all likely, it would be altogether too wet to go out to play. Dolls and all her games had lost their charm, and she was feeling so disconsolate that two big tears were just making their way down her cheeks, when mamma opened the door and came into the room.

"Why, Helen, dear, whatever is the matter? Is that mamma's sunbeam weeping?"

"I'm afraid I'm not a sunbeam at all to-day mamma; this rain is so very disappointing I really can't help crying."

"Do you think, dear, it will help matters to have rain in the house as well as out?"

"No, I suppose not; but there isn't anything to do, and I don't see why it had to rain to-day."

"Run and get mamma her mending basket, Helen, then bring your little chair over here by the window, and we'll see if a story will not relieve that lonesome feeling."

The mending basket was brought, and as she worked away on a big hole in Helen's stocking, mamma began her story.

"Oh, dear, oh, dear, what shall I do?" sighed the rose. "I am so thirsty I can hardly endure it. I have sent every rootlet just as far as I can after water, and now I have used it all up; I really am afraid I shall die. I love the sun, but, oh, his beams are so hot they are withering me up!" and she dropped her beautiful head in utter discouragement.

"And I," sighed the grass, "am nearly perishing too. My beautiful green dress is all turning a dirty brown, and all for lack of a good bath. Oh, that the good south wind would send us some rain!"

"Just think of me," moaned the peavine. "Here I have been doing my best to get my peapods filled for the good folks of the house, but how can I when I've hardly strength enough left to hold myself up? If the rain doesn't come soon I shall die before I get half my work done."

"Alas," sighed the berry bush. "I, too, shall fall of my work if the rain doesn't help us speedily. How can any other expect me to produce juicy berries if I have no water to put into them? Sunshine is all very well, but it won't do alone and the children will be so disappointed if I am not able to give them some berries."

"You people down there are not the only ones that are suffering," chirped the bird from the apple-tree. "The ground is so dry that the worms have gone so deep I can't find a single one, and you can't imagine how hard I have to work to find enough to keep my family alive."

"If this is a complaint bureau, I'll enter mine. I've had the horse, poking his head over the fence. It's so long since I've had a mouthful of fresh grass I've almost forgotten how it tastes."

Just then up stole the south wind, and softly caressing these complaining children, whispered: "I know you are suffering, dears, but just be patient a little longer, and I will do my best for you," then she hurried away to find some clouds.

She worked so hard all night that when morning came the sky was covered with clouds, and as soon as they understood the situation they sent the raindrops down in a hurry to comfort these poor, forlorn children of Mother Nature.

At the comforting touch of the raindrops the drooping things began to revive; the rose began slowly to lift her beautiful head, the grass began to look green again, the peavine straightened itself, the berry bush began work at once, and the robin chirped this thanks as he flew down to pick up a big fat worm.

"Thank you, mamma," said Helen, looking up with a happy face. "I didn't know I was so selfish in not wanting it to rain when everything needed it so much. Now I am going to the window to see how happy things are growing, and, oh, mamma, there is the robin pulling up a great, long worm. I'm so glad now that it's rainy for after all I'll get the most benefit from it."

"Yes, dear, our heavenly Father knew what was best, better than you did, and we can always trust him darling, to do the best thing for us, even though we can not see it at the time,"—Observer.

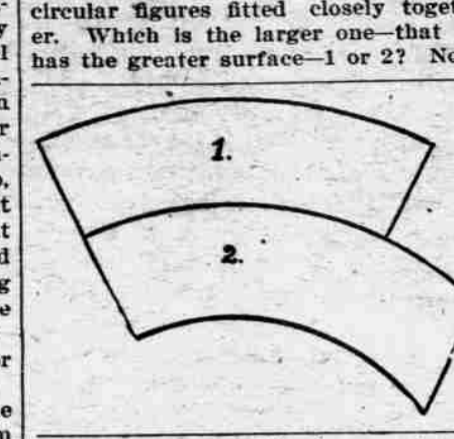
Or eyes enraptured with the snow— The children I should like to know.

How fair creation is to them! Unweighed by the cloak of years They dance upon its lustrous hem. And lose in rainbow's all their tears, How easily the hearts o'erflow Of children we should like to know!

Their sleep is deeper than our peace, Their waking gladder than our dreams, Their guardian angels never cease To speak to them in winds and streams, The days are lifetimes, sweet and slow, To children we should like to know.

Oh, little heart above this page, The road is long, the road is hard, But do not thou obscure in age That early sky so thickly starred, Keep sweet the faith of long ago, Dear child, whom I shall never know.—Youth's Companion.

An Optical Illusion. In the following diagram we have two circular figures fitted closely together. Which is the larger one—that is, has the greater surface—1 or 2? Now



turn the paper upside down and contemplate the diagram again. What is your conclusion as to their relative sizes at this point of view? Ask your friends to guess, and see if they are not surprised to find that the two pieces are exactly the same size and shape.—Montreal Star.

He Had to Sneeze.

Bobby came home one day covered with dirt and bruises and trundling a broken bicycle.

"What on earth have you been doing, my child?" exclaimed the terrified mother.

"I ran over a big dog and took a fall," explained Bobby.

"Couldn't you see him and give him the road?"

"Yes, I saw him and was turning out, but when I got within about ten feet of him I shut my eyes, and before I got 'em open again I'd run into him."

"For the land's sake, what did you shut your eyes for?"

"Couldn't help it. Had to sneeze. If you, think you can hold your eyes open when the sneeze comes, you just try it some day."

If the reader thinks Bobby's excuse was not a valid one, let him try it some day "when the sneeze comes."

CALFSKINS MUST BE GOOD.

Those Used for Drumheads and Banjos Are Prepared with Great Care.

Calfskins are used almost exclusively in the manufacture of drumheads and banjo heads, and the utmost skill and care are required in their preparation for these uses to produce a smooth, even, unbroken skin. The drum and banjo heads are all made from skins. Calfskin is the best material, but sheepskin is good.

The hides come by rail to the factory in great bundles. They are exactly as when taken from the carcass, except that they have been pickled in salt. On receipt at the factory the hides are thrown into a small pond beside the building and left there to soak in running water until the action of being freshened the hides are thrown over the frames and "broken." The bits of flesh remaining on the hides are removed and the skin is then soft and pliable.

The hide is next put in a vat with lime and left there for about two weeks. This loosens the hair, which is scraped off. Then the skin is stretched tight on a frame and shaved on both sides. Another bath in a vat gives the skin a transparent effect and puts it in apple-pie order. Once more it is stretched out on a frame, and if any finishing touches are needed they are given. After being cut in shape it is ready for the market.

The army drumheads are nineteen to twenty inches in diameter. Other sizes vary from the tiny ones used for toy drums to the great big bass drums some of which are sixty inches in diameter. Banjo heads are of more uniform size.

How Canada Obtained Its Name.

The Spaniards visited the country now known as Canada before the French, and made careful searches for gold and silver, and finding none they often said *aca nada* (there is nothing there). The Indians, who watched closely, learned this sentence and its meaning. After the departure of the Spaniards the French arrived, and the Indians, who did not want their company, and supposed they also were anxious to inform them that they were wasting their time by stopping in that country, and so they incessantly repeated to them the Spanish sentence, *aca nada*. The French supposed that this constantly recurring sound was the name of the country, and so they called it Canada, a name it has borne ever since.

If you are riding a free-horse too hard, and it throws you, take the blame. Don't whine and say you never did a thing.

A girl in the country has good reason for keeping the date of her marriage secret; she wants to escape a charity.

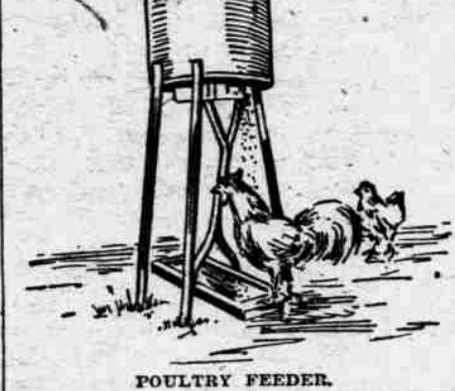


FARMERS' CORNER

Automatic Poultry Feeder.

Another inventive genius has forgotten the needs of man long enough to devise an interesting and novel contrivance for the feeding of poultry, which, if it works as the designer intended it should, will mean a large saving in the amount of labor necessary in the care of fowls, and also in the amount of food.

It consists of a feed box equipped with a trap door in the bottom operated by a slide, which in turn is attached to an arm reaching to an inclined step on the ground. The step is really a shallow box in which bait is put to tempt the fowls. The bait is corn scattered on the bottom of the box, which is covered with glass. The fowls are lured by hunger onto the board and they pick at the kernels they can see but cannot get. The weight of the fowl releases the slide in the grain box and enough food falls to the ground to satisfy the hungriest of owls.



POULTRY FEEDER.

The idea is that a fowl will not walk onto the boards unless hunger prompts, and so the inventor hopes that the law of supply and demand will work admirably.

No Wheat Famine Imminent.

Argentina, according to a book just published by a German authority, K. Gerger, has 157,000,000 acres suitable for wheat. This is three to four times our present wheat area. At present Argentina produces about 95,000,000 bushels a year. Herr Kerger asserts that it can raise at least twenty-four times as much, or over 2,280,000,000 bushels, when all the land capable of growing wheat is under cultivation. This would about double the existing wheat supply in the world. Calculations of this character are always more or less illusory, but there is no doubt whatever that in the humid region of Argentina only about one-sixtieth of the surface is as yet under the plough, and that the supply of wheat lands seems to be equal to any possible future demand for years to come. Since 1890 when Mr. Robert Woods Davis was predicting that the United States by this time would be importing wheat, the world supply of wheat has more than kept pace, in good years, with consumption.—Philadelphia Press.

Lime with Fertilizers.

The use of lime on farm lands is largely for the purpose of sweetening the soil, and as it has little or no manurial value there is no good reason why it should be applied in connection with commercial fertilizers, but many reasons why it should not be so mixed. If the commercial fertilizer contains nitrogen in the form of ammonia, the action of the lime will be to set free the ammonia and it will escape into the air, or of course if the fertilizer was applied to the soil at once after being mixed with the lime the soil might retain most of the ammonia, but it is taking a risk that ought not to be taken. The same loss of fertilizing material takes place when lime is mixed with some other chemicals, and the loss is even greater with some than in the case of mixing with the nitrogen in the form of ammonia.

Gate for the Hogs.

Ray Eveland sends the Iowa Home a sketch of a gate through which hogs may pass and which will restrain the cattle and calves from following. Make a small gate and hang it with a pair of small hinges as shown in the illustration. Let the gate hang downward so it can swing both ways and the hogs will soon get on to the combination of opening it.

Saving Nitrogen in Stables.

Experiments in Europe have proven that the loss of nitrogen from the manure in stables amounts to 63.6 per cent where only straw is used for bedding, and but 43.3 per cent where peat was used. In the sheep shed there was a loss of 50.2 per cent where straw was used, and about half as much where peat or earth was used. Dry earth rich in humus or vegetable matter is about equal to peat. A good plan for using them is to put the earth or peat over the straw where the manure drops.

Success with Poultry.

Those people who do not have good success in hatching eggs under hens usually will not do much better with the incubator. They may be divided into two classes, one that is careless and neglectful, and the other that is altogether too fussy, who wants to be stirring the hen, or feeding her, or handling the eggs three or four times a day. For either of these to succeed with the incubator there must be a thorough reformation; a determination

to follow the instructions given exactly, and do no more and no less than is explicitly laid down, and to do it by the clock.

Time of Cutting Hay.

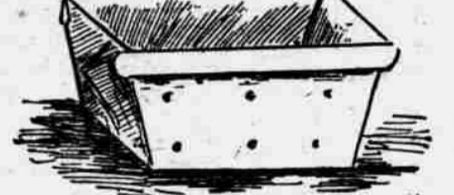
The results of experiments conducted by different stations show that the degree of maturity at which hay is cut influences very largely the shrinkage during curing. At the Pennsylvania station early cut hay lost on an average 29 per cent in weight, while late cut hay lost only 21.5 per cent. Timothy, cut when just beginning to head, lost 75 per cent of water in curing; when cut at the beginning of the blossoming period, 66 per cent, and when cut a little later, or about the usual time, 57 per cent. The Michigan station found a shrinkage of about 80 per cent in curing clover. At the New York station meadow fescue mixed with a little red clover lost in one lot 62.68 per cent and in another 58.25 per cent during curing. The moisture retained in cured fodder varies with different kinds. Atwater states that for New England timothy hay retains on an average 12 per cent of moisture, clover hay 14 per cent and corn fodder 25 per cent.

A 40,000-Acre Farm.

The agriculturist who carefully cultivates 40 or 60 or 80 acres and calls it a farm is likely to look upon a "quarter section"—the regulation homestead of 160 acres—as a large estate; an entire section (a mile square) he would doubtless regard as a tremendous area, and a half dozen sections would seem like a whole province. What would such a man think of a farm on which 100 to 150 men are employed; a farm whose farm house is a farm that requires three bookkeepers and stenographers to make a record of its activity? That is the scale on which M. M. Sherman conducts his farm in central Kansas. He has more than 40,000 acres. Every year he sells more than 2,500 fat calves. If a man were to start to ride around his farm on horseback, following the fence line and riding 50 miles a day, he would not make the circuit in two days.

Paper Berry Box.

The paper berry basket has been recently introduced, and if one may judge from the opinions of those who have used it the present season it may be the most welcome. The illustration, from a photograph, shows the form of the box. It is made of so-called waterproof paper, is well ventilated and the inside is treated to a coat of paraffine so that it is moisture-proof and odorless. If manufacturers can get the price of this box down so that it is cheaper than the splint boxes now used the paper box is destined to have a



BERRY BOX OF PAPER.

large sale. It carries the fruit in good condition for long distances and, apparently, it does not dry out so readily as in the splint baskets.

The Law about Dishwashing.

In some States it is unlawful for any one but a graduate veterinarian to dishwash cows. The idea is, of course, to prevent improper treatment of the animals. The reader who is an expert at dishwashing, and who sees a chance to do a favor for a neighbor, or to turn a penny in this way, should first inquire into the law of the State. If there are any calves to be kept, take care of the small horns before the button appears by applying caustic potash, obtainable at any drug store, to the spot where the button will be felt. Float the stick of potash in a tub of water. Being careful not to cover too much surface, for it will take off the hair and burn the flesh. Treat the youngsters in this way, and there will be no dishwashing to do later.

Importing Butterine.

It is now reported that the latest scheme of the manufacturers of butterine is to import colored margarine from Europe, thus avoiding the tent tax, and placing it in the list of food articles imported in the original packages. Whether they expect to send the oil to Holland and Denmark and have it manufactured there, or will export the completely made article, either colored or uncolored, and then have it sent back as Danish or Dutch butter, we do not learn yet. Possibly if they try the latter method it will sell at higher prices when it comes back, as Jamaica rum made in Massachusetts, or French brandy from California, or champagne from New Jersey apples, sell for more after they have made the two ocean voyages.—Exchange.

Cheap Lice Killer.

A correspondent in the Poultry Messenger says a most effective and cheap liquid lice killer can be made by dissolving a pound of naphthalene crystals in 1 1/2 gallons of kerosene. Mix the mixture into a Jug or can and shake occasionally. It will be ready for use in twenty-four or forty-eight hours. Paint roosts and drooping platforms.

Cottonseed Meal for Horses.

Cottonseed meal is successfully used as a feed for horses and mules. It may be better in winter to combine the meal with corn, though some have had complete success with the meal as an exclusive grain ration for both horses and mules.

Grazing Lands in Large Tracts.

Sheepmen in Wyoming are still taking up large tracts of grazing lands. One party bought 50,000 acres recently. It is stated that the price paid was the highest ever obtained for similar lands.