DESERET EVENING NEWS: SATURDAY, FEBRUARY 3, 1900.

Remarkable Experiences		***************************************		The Intrepid Frontiersman
of Alexander Majors, Who Died in Chicago Two Weeks Ago.	•••••	PIONEER DAYS ON THE PLAINS	•••••	Well Known in Utah, Where He Was An Active Early Day Character,
Colonel Alexander Majors, the man is	ontracts were all	instrusted to him. teaming outfit to 40.000 oxen and 4.000 In June in 1850 he was with one of On the instant, at a signal from the j erated by the first	ŧ., , , , ,	*************

who more than any other opened the way for the Union Pacific railroad, died m Chleago a few days ago, says the Record of that city. By establishing an overland freight line and the pony express, both musical and historical in the ears of old plainsmen, Colonel Majors demonstrated the practicability, the absolute necessity, of the first great railroad that linked the East and West. For twenty years he "freighted' 'over the Santa Fe and Salt Lake trails, and conducted a wagontrain system which was the wonder of its day. In one year he carried 16,000,000 pounds of government supplies to United States troops in Utah. Forty thousand oxen, a thousand mules, and over 5,000 men, under his supervision, once carried freight and mail from the Missouri river across the Rocky Mountains. "Seventy Years on the Frontier" sum up the life of one of the last of the old plainsmen and of the remarkable group of pioneers who made the West of today. Seventy years of Colonel Majors' life were crowded with the events which are Listory, Today stories which were real to the old man read like romances, and the figures in them loom like giants through a mist.

Though Colonel Majors did so much to advance civilization, it in turn deprived him of his occupation, and he died comparatively poor, where he had once been worth a million. To the last the old man fought with his head up. He knew that times had changed, and even at 86 he strove to put himself in harmony with new things.

"I'm a young man yet" he said when a reporter called at the house a few days before he died. "Tell the newspaper man to come out in a few days, hen I'm better, and I'll have reminiscences enough to make a book.

Colonel Majors had come to Chicago m his daughter's home in Kansas City during the holidays, to arrange for bringing out an invention which he had He was tall, erect, and carried made. his eighty-six years wonderfully well. Except for his fund of anecdote he did not seem like an old man. His step was quick and his eye alert. Among old friends was Colonel Cody "Buffalo Bill"-to whom Majors had given employment as a boy on the Overland express. They remained firm friends, and one of the last to visit the old man was "Buffalo Bill." A few years ago Colonel Majors brought out memories, "Seventy Years on the Frontler," and "Buffalo Bill' wrote the preface

It was in 1848 that Colonel Madors began his freighting on the old Santa Fe trail, running a line of wagons between Independence, Mo., and Santa Fe, N. M. Majors' Overland freight soon became famous all over the world. The influence of regular freighting lines on the building up of the coast was in-calculable. Emigrant trains of men. women and children were protected along the route by the express riders, who constantly kept up a communica-tion between one of Colonel Majors' freighting outfits and the others. A system of watch was inaugurated, and traveling became comparatively safe, As government supplies began to be carried safely, other freight was sent out, and soon an immense traffic went on by both the northern and southern When Colonel Majors began opera-

tions the eastern terminus of the freighting trails was independence. Mo. He started in business with a little outfit of six wagons and forty oxen. it took six oxen to draw one of the wagons. His first trip was made to Santa Fe, and the run of 800 miles and back was made in ninety-two days. This was unprecedented at the time, and the fact that Majors brought his oxen in as fat and sleek as when they started out gave him a reputation among the traders at once. Up to that time it had been conceded that no man manage a yoke of oxen without could swearing. A teamster was hired more reputation for swearing and shooting than for driving. Colonel Mafors was a religious man and for a long time conscientious scruples as he quaintly tells in his book, stood in the way of his going into the freighting business. He would not employ men who swore, and he would not haul freight on Sundays.

"It can't be done, Majors," said all the old teamsters. "Ye can't any more drive a team o' oxen through the Indian Territory er through the alkali deserts without swearin' at 'em than ye can without breathin'."

the colonel persisted. He be-But lieved that there was a fortune in an overland freight over the northern route, called the Salt Lake trail and over the southern route, the Santa Fe trall, if it could be managed expeditiously and carefully. He determined not to be blocked by swearing team-sters, and drew up a code of rules which every man he hired was obliged

'Majors' rules" soon became as celebrated as his freight wagons. They read as follows

While I am in the employ of A. Majors, I agree not to use profane lan-guage, not to get drunk, not to gamble, not to treat animals cruelly, and not to do anything else that is incompatible with the conduct of a gentieman. And I agree, if I violate any of the above conditions, to accept my discharge without any pay for my services."

A few years later, when the civil war broke out, the colonel added another clause to his rules, binding everyone in his employ to pay "true allegiance" to he government of the United States. Majors' freight wagons never moved the on Sunday. In making up a schedule, Sundays were counted out. When the day came the long wagon trains were halted, the cattle turned out on the plain to graze, and "bull drivers" and "broncho busters" took a day off.

Colonel Alexander Majors, the man | contracts were all instrusted to him. | teaming outfit to 40,000 oxen and 4,000 wagons, dividing them into "outfits," or "trains," moving out of Independence, Mo., on a certain date, and scheduled to reach Santa Fe or Salt Lake or Denver, as the case might be, on a certain date. The organization for crossing the plains consisted of twenty-five wagons carrying from three to three and one-half tons each, the merchandise being protected by sheets of ducking. Each wagon was drawn by twelve oven, and train was provided with thirty or forty extra animals, in case some of those drawing the wagons went lame. The whole train consisted of from 320 to 350 cattle, and a half dozen mules for herding and riding. The force of men consisted of a wogan master, his assistants, the teamsters, a man look after the extra cattle, and three four reserves, in case some teamsters were ill or were picked off by hostile Indians. The teamsters did not ride on the wagong, but walked alongside the six yoke of oxen. No sconer did a driver undertake to ride nwhile than some of the cattle balked, some wanted to trot, and the whole

twelve were in an uproar. Oxen almost altogether were used in freighting, because they were more re-liable for long trips, and because they foraged for their own food, and, with proper care, could travel 2,000 miles beeen April and November, and still be sleek and salable. A freight train made about twelve or fifteen miles a day, and when necessary could make twenty miles over good roads and for a short time. All day they jogged along the trail, the only sign of civilization in a great circle of hundreds of miles. The wagons carried flour and provisions and clothing and implements to the mining camps from the Eastern centers of supply. In the mining camps the arrival of the train was looked forward with the most pathetic eagerness. A delay of a few days might mean that the "outfit" had been attacked by Indians, the drivers killed, and thousands of dollars' worth of supplies which were to stand between the miners and starvation had been burned. Day after day the train crept along at almost snall's pace. At night the oxen were turned loose to graze. Wagons were drawn up to form a corral, each wagon tongue being turned out and the forc-wheel of one chained to the hind wheel of the wagon in front. In this way they formed an oblong pen, protected by wagons. This offered a bulwark against Indians, and a lot into which the cattle could be driven and harnessed in the morning. By daylight the camp was astir, the herd was rounded up, each man cooked his breakfast of coffee and bacon, yoked his oxen, and started at a blast from the wagon master's horn. Colonel Majors used to time his men in hitching up, and found that in sixteen minutes they could yoke the twelve oxen, hitch them to the wagons,

and be ready to move. Day and night the train was guarded by two men, the teamsters taking turns at the duty. The wagon-master's word was law. He knew the trail, he knew the Indians, and even if there had been a disposition to disobey orders a man who left the train and its protection and supplies was almost sure to be found a skeleton bleaching on the

In June in 1850 he was with one of the trains carrying goods from Inde-pendence to Santa Fe. They camped They camped a stream called the One Hundred and Ten, and as no Indians had been several days, the colonel gave orders to dispense with the guard that night.

"At early dawn on the following orning," the colonel says in his story, 'I saddled my horse and rode out to corral the cattle, leaving word with my assistant to rouse the men and have them ready to yoke the teams. In rounding up the herd I noticed that a number were missing. I then made a circle, leaving the ones I had herded together. Soon I struck the trail of the mising oxen; it being very plain I could ride my horse at a gallop and keep track of it. I had not traveled more than a mile when I discovered the tracks of Indian ponies, and then I knew the Indians had driven off my oxen. In a wagon train every man went heavily armed, but that morning. thinking I was only going a few hun-dred yards away, I left my gun in the wagon. But as we had not reached the part of the territory where hostile Indians might be expected. I pushed ahead on the trait, thinking to meet half-friendly Indians, who had driven my oxen away, as they often did, sim-ply to get a fee for bringing them back. The trail looked fresh, and on I went at a gallop until I must have been twelve miles from camp. Passing through a skirt of timber, at last I saw thirty-four of my cattle on the prairie, guarded by six Indian braves. I gave a whoop, circled around my cattle at a lope, bunched them up, and started off with them. Six more surprised Indians were never seen.

"They imagined, of course, that I had an armed party at my back, and offered no protest to my taking my property. I felt like a hero and trotted along, paying little attention to two or three Indians who hung about from time to time. Half-way back I met a party of twenty-five braves painted and armed, and led by their chief. They descended on me with hideous yells, coming at full speed. If my oxen had not been driven so far and become tired out, I should have had a royal stampede. As it was, they ran a few hundred yards, when I succeeded in checking them. By this time the Indians had surrounded the cattle and the chief made as if to send an arrow through me; spurring his pony toward me. I wheeled, and as I had a splendid mount I kept out of the way easily. The others did not offer to touch me, and I drove the cattle on again. Three times they chased me away, but I went back each time and moved the oxen on a little. Finally the chief beckoned me to come up for par-ley. I advanced cautiously, for I saw they all had bows and arrows and conies not much inferior to my own. knew, too, that they did not want to get into trouble by killing me. At a little distance from the chief, when I had fairly stopped to see what they intended doing, one of the braves on the side made a lunge at my horse in an

On the instant, at a signal from the chief, the Indians circled around, dancing and screaming, selected one of the oxen, drove it off, and left me with my thirty-three cattle standing on the prairie. I had started out from the camp at daylight, and I reached it again at

"I have met a great many dangers, but I have never felt so small and helpless as when I, unarmed, faced twenty-five or thirty armed savages with whom I could communicate only by signs.'

On that same trip the wagon train came on the ruins of a stage coach at the edge of Mexico, now a station on the Atchison, Topeka, and Santa Fe, called Wagon Mounds. The party had passed the freight train on the road some weeks before, but decided to forge ahead and dispense with the protetle of the train for the sake of making better speed. They were massacred by the Indians, and the affair made no sensation whatever, because there was little or no travel at that season of the year, and the story was not told along the route. The Indians had buried their lictims in a little earth, but the wolves had dug them up and stripped the bones. Colonel Majors calls attention to a curious fact, which was much speculated upon by old freighters, When the Indians killed a party on the Fe it frequently happened that Santa Mexicans also were among the num-ber murdered. When found the bodies of the Americans were always eaten by the wolves, while the bodies of the Mexicans were left untouchd. Some thought this was because the bodies of the Mexicans were so impregnated with their diet of red pepper.

In 1856 the profits of the Overland freight to Colonel Majors' firm were \$500,000. The next two years, floods and heavy rains, combined with the death of a lot of the cattle from lack supply, used up all the money that had been made. Cold weather set in be-fore the last of the supplies were got to the army in Utah, and grass and water enough could not be had for the animals. Then a party of "Mormons" burned four wagon trains and their freight on Green river, the freight con-sisting mainly of 500,000 pounds of meat for General Johnston's army. Next year a report was sent to Washington by army engineers that it would be im-possible to find subsistence along the coad for the number of animals required to transport freight to the army General Jessup, then c sent to Colonel Majors, then quartermaster, who Washington at the time, and asked him if, under the circumstances, he would take the contract again.

"Yes, sir," said the colonel. "You may play ball with my head on Penn-sylvania avenue if I don't get every pound of goods necessary to the army, provided the government will pay for And the supplies were hauled. Cattle were turned out on the range in the mountains in Nevada over winter, rounded up in the spring, and driven to Callifornia and sold for beef. After the wagons were unloaded in camp they were sold to the "Mormons" at \$10 apiece, although they cost \$150 and \$175. Oc-casionally calculations of selling the cattle on the coast in the spring failed. Heavy snows came and covered up the grass, and in one season Colonel Majors lost \$150,000 in this way, for, out of 3,500 oxen turned out on the mountain range, only 200 were alive in the spring. . . .

erated by the firm of Majors, Russell & Waddell. But up to 1859 mail from the Atlantic seaboard was carried by steamer to the Isthmus of Panama, and then by steamer again up the western coast, and at the least the trip required twenty-two days. Senator Gwin of California belleved that the establishment of the overland express would lead to increased immigration, and finally lead to the building of railroad and telegraph lines, which it did. Senator Gwin, it might be said in passing, subsequently joined Maximilian, was made "duke of Sonora," and has since been known in history as "Duke Gwin." He persuaded Colonel Majors and his partand ners to start the pony express, and Colonei Majors at that time became the virtual head of the Overland freight. Overland stage line and pony express. Up to that time the fastest time ever de by news from the Missouri river to San Francisco was twenty-one days. The pony express curtailed this to ten days, taking dispatches from the wires at St. Joseph, Mo., and carrying them the rest of the way on horseback. The route was divided into 190 stations, and horses and 280 men were required for the work. Eighty of these men acted as riders.

The riders were all old plainsmen and scouts, brave and daring, and the story of the pony express is one of thrilling adventure. Two hundred and fifty miles a day was made by the express, and none of the riders carried an extra ounce of weight. The horses were wiry mustangs used to the trail, full of en-durance, and as sure-footed as mountain goats. The trail was infested with 'road agents" and with Indians who thought no more of scalping a rider than of shooting a buffalo. The ex-pressman carried his dispatches in a case, and a bundle of 100 made a pack-et no larger than the ordinary writing tablet. Each dispatch was written the thinnest of tissue paper, for the rates of carriage were \$5 a half ounce, and no letter was carried for less than \$5. Only correspondence requiring th most rapid' transit possible went by "pony express." In addition to his packet of letters an expressman carried two mail pouches, not exceeding twen-ty pounds in weight, for the New York newspapers early utilized the pony ex-press. Special editions of the papers were printed on tissue paper, and ther was great rivalry to get them through

by early riders. The packets inside the mail pounches were covered with oiled sllk, to protect them further from the weather sealed, and not opened between St. Jo. seph and San Francisco. The whole country was wrought up by stories of the unparalleled speed of the expressthrough Fort Kearney, Fort Laramie, Salt Lake City, the route lay, over sand, over snow, a stretch of 2,000 variegated miles.

"Verily," said a newspaper of the day, "the r.ling is like the riding of Jehu, the son of Nismi, for he rideth furiously. Take out your watch. We are eight days from New York, eighteen from London. The race is to the swift.

ty-three and one-third miles in a day, riding at a gollop, changing horses in two minutes at each station, and dash-ing away again. Sometimes emergencies came up and then an express made two and three, and even as high as ten, regular runs. For example, one summer day in 1860 an important gov-ernment disupatch for the Pacific coast was brought into Midway station in Western Nebraska. It was necessary to forge ahead with it to Julesburg by special messenger. "Jim" Moore, one of the riders mounted the pony and galloped off, riding the 140 miles without rest, except to change his mount at the ten-mile stations. At Julesburg he found another important dispatch for Washington. The messen-

efore. Moore gave his before. Par West, took the paper f and started back over Midway station. He h seven minutes, snatch, as he galloped. He i station again in fourtforty-six minutes after 818.r there, making a total miles covered in that time, Among the "pony was Buffalo Bill. for employment, and fused because he young. His mother begge

him, for he was the the family. Colonel M as a messenger. between the freight plains, and he soon m as "Little Billy Cody graduated to "express the title of "Pony Express F pay day his mother him and the paymaster "Come, Billy, make your mark name, and his mother's eyes tears at this public me Billy, I wish you wou writing," she said. "Buffalo Bill" set to worl and soon all the white vasses were covered v Cody," "Billy, the Messe on, all his titles spelle stages of his new art. Among th stories which Colonel Majors tell of "Buffalo Bill" on the press" is one of how he agents successfully. It becam that a large amount of money ; be sent through by and at all stages of the **TOUTS** were In walt. On the divisi fore Cody they killed the rider getting the money. "Buffalo Bill urally thought that they would another effort.

At the next relay station he to little longer time than usual, uni his saddle blanket and put the containing the money in curely. He then strapped the s bags, minus the treasure, on h and started out on his flying tri he galloped along he fixed on a spot in the road as the place whe would most likely be attacked. men stepped out.

"Hands up, Pony-Express Bill; know ye, my boy," they said. "I carry the express and its ham for any man that interferes with = said Cody.

After some parley at the end of couple of revolvers, Cody dismons and began to slowly unfasten the m "Mark my words,men, you'll have

this. And besides, I don't money you expect," he said. n't carn

"We'll take the chances, Billy," road agents replied, cheerfully, at time assuring him that personally considered him a first-rate fellow "If you will have 'em, take)

with a re

cried Cody,flinging the bags at the of one of the men, who, dodging tur to pick them up. Quick as a flash or Each rider made an average of thirshot the other one drove the spurs into the flanks of mare and rode over the one who ger who should have carried the east- | press line.

He was not the first man to carry freight over the trail, but he was the first man to develop overland freighting as an industry and to insure in any

the safety of his goods. His beginning was made auspiciously on the edge of the gold fever, and soon he, on and the partners he afterwards associ-ated with hita, had established lines to Mexico, California, Colorado and Utah, and in one year the profits of the firm of Majors, Russell & Waddell amounted to \$500,000. Nearly all of the freight carried over the Rocky Mountains by tract at that time was carried in Majors' wagons, and the government

"broncho busters" took a day off, Wages were continued at the expense of the employer, and the colonel always insisted that this rule brought him more in improved service than it cost him.

Unlike many of the rugged pioneers to whom "biled shirts" were always fripperies, and who prided themselves on their uncouthness, Colonel Majors was a gentleman of the old school. He was able, by a quiet dignity, to en-force regulations that would have made a laughing stock of another "boss." As traffic increased it fell gradually into the hands of Majors' Overland freight. and he took in two partners, and changed the name to Majors, Russell & Waddell. They soon increased their

plains before many weeks. Each team-ster was paid \$1 a day and expenses. At first the Santa Fe trail, in the

valley of the Arkansas river, was used almost entirely in carrying freight. Later there was a great traffic over the northern route, in the valley of the Platte. The government sent out supplies from Fort Leavenworth to forts further west, and when, in 1857, troops were sent to Utah, the business greatly increased.

Colonel Majors was constantly with one train or another on his overland freight, and had many adventures of one sort and another.

attempt to catch the reins. He failed, and I backed off a little, waiting to see what their next maneuver would be. They made for me, the brave drawing bow at full bend, a sharp-pointed steel in the arrow. I remember that in the moment I felt a sharp pain and a burning spot as big as a dollar over my heart, where the arrow would have struck. I stood still, and they halted a few paces away. The chief held up ten fingers. That meant, if I would give them ten of my oxen they would let me go. I felt that I could not spare that many and be sure of getting my train through, so I refused. He held up five fingers, and I shook my head again. Then he motioned me to say how many I would give, and I held up one finger.

Colonel Majors' greatest enterprise, from a spectacular point of view, was the establishing of the "pony express." In the days of the California gold fever this was to the coast what the flying mail trains are to the people today From the terminus of the Eastern telegraph lines there was a stretch of 2,000 miles to the coast. Majors had already established an overland stage line, op-

bent over the saddle bags and escape with the money, which he had conce in the blankets. The quickest record ever made and

Pony Express line was the cam of President Lincoln's inaugural dress, in March, 1861, over the b from St. Joseph to San Francis seven days and seventeen hours. the "Pony Express," brought plan fame to Colonel Majors and his p ners, it never paid one-tenth of its ! ning express. This at route was finally sold to This and Ben Holli and later became the Wells, Farge e

put in his time when work at his tra

was dull, and now he owns set more acres and has plenty of wer

do at home, and is making mone because ehe put some thought int

garden and did not depend on the

men folk to take care of it." "You just come out on a farm :

have having and corn plowing

harvest all strike you at one time

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JOSEPH CHAMBERLAIN.

A CHARACTER STUDY.

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I remember the first time I saw Mr.] Chamberlain. He had just deserted the Liberals, and had become the idol of the Conservative party, says Ouida in the New York Journal. He was standing in the drawing room of a Belgrave square mansion surrounded by the most beautiful women of English aristocracy, proud of the homage that was paid him by the same class which had hitherto hated and despised him.

His physiognomy gives an exact indication of his character. It is not a refined face, yet full of energy, of intelligence, of stubbornness; it is that of a shrewd, knowing person, but not an intellectual one. In a word, it is the physiognomy of a business man, and not that of a statesman.

It has been said, and very likely with a considerable amount of truth, that Mr. Chamberlain deserted the liberal party on account of his jealousy toward . Mr. Gladstone, and also because of the presence in the liberal party of such men as Lord Rosebery, Vernon Harcourt and, among the home rulers, Charles Stewart Parnell, all of whom were his superiors in intelligence and statesmanship.

If this was the real reason for his deserting the liberal party, Mr. Cham-berlain must feel himself fully satisfied, inasmuch of in the cabinet of Lord Salisbury nobody dares to contradict the colonial secretary, who, in fact, if not dejure, is the actual head of the British government

Several distinguished gentlemen have been secretaries of state for the cold nies, men worthy of note, like Lord Carnarvon and the first Lord Lytton, yet none of them ever attempted to make the sanctum of the colonial of-"throne of the suprema lex as Mr. Chamberlain has done

The great Napoleon, after the Egyp-tian campaign, said: "Should I die tomorrow, I would have only half a page in a universal dictionary." Chamber-lain would be altogether indifferent whether he got one-half or a full devoted to him. He is hard and strong possesses a good deal of synicism All he cares for, all his ambition, is to lead and dominate.

Had he been born fifty years before, would he have been so successful as he is? I do not believe it.

During the first half of this century men admired qualities totally different from those which Mr. Chamberlain possesses. In an age more courageous, more honest, nobler than our own a great political party that bears the of conservative would have name shunned with disdain the radical turn-coat. But Mr. Chamberlain has been received by that party with open arms. welcomed with enthusiasm, and the tory victory in the election of would have been impossible but for his

would be rewarded by a place in the ministry. Chamberlain has been equally fortunate in the knowledge of how to take advantage of the opportunity of the moment; in the mediocrity of the men who were with him and of those who were against him, and above all in his ability to subjugate the for-mer and intimidate the later.

But his greatest luck may be found in the fact that the question of Irish autonomy became the burning issue of English politics at the very time when he conceived the idea of joining the conservative party. Without the agita-tion for home rule it would have been more difficult for him to perform the "saut perilleux" with the certainty of securing among the tories a prestige and a position even more exalted than the one accorded him by the radicals. The conservative party, and particularly its organizing center, the Prim-rose league, welcomed the ex-radical minister with an almost hysterical joy; aristocratic society bowed to and worshiped the new idol. Perhaps the cause of imperialism gained something thereby; that of home rule certainly lost all. But the most striking fact and one which very few seemed to notice, is the fact that the British aristocracy was being hitched like a hackney to the triumphal chariot of the Birmingham Chamberlain has dragged England into this war with the Transvaal. He may well call it his war, just as Empress Eugene called the war of 1870 "ma guerre a mol." Had Mr. Chamberlain remained mayor of Birmingham, had he been contented and satisfied in the ambition to control its municipal council, this war with the Transvaal would have never begun. It is Chamberlain's war; it has been conceived, desired, provoked by the secre-tary for the colonies. No one who has followed closely the action of Chamber lain before and after the Jameson raid can for a moment doubt the intimacy of relation between him and Cecil Rhodes. When the chartered company of Africa found itself in financial embarrassment it was actually purchased by the government, of which Cham berlain is one of the most powerful members. The price paid was exorbit-ant, and everybody knew that Chamberiain was also the largest share-holder of the purchased company.

Joe Chamberlain has brought into the political life of modern England the criterions, the habits, the ways, the tricks on an unscrupulous traveling salesman. He said on one occasion that he belonged to the Party of Gen-tlemen. Had he truly been a gentleman he would not have found it necessary proclaim the fact. A business man may possess fine manners, great in-telligence, great audacity, but they are not those of a great political leader. The merchant will bring into public life all the traditions and customs of the counting house. Public life ought to be something more than a mere matter of "business," wherein the only aspiration is to surpass or crush one's rival. It is painful to see a man like Salis-

man of the Chamberlain type. It seems impossible that the English premier could stoop so low as to acquiesce in the propagation of the idle story that the present war was begun solely in the interests and for the rights of the Outlanders. Chamberlain alone is responsible for this war, and whoever has read his speeches, his dispatches, his evidence given before the royal investigating commission, cannot entertain the least doubt about it. . . .

The farmer, the business men, the working man of England knows little or nothing of the agonles of war. He has never suffered personally by it; he has never seen his home burned, his dearest ones starved, his fields and devastated, his children massacred. He cannot, therefore, understand and conceive that he does harm in contenancing the work of a brutal and vulgar politician. This is the nation's excuse, but at the same time it the most inexorable condemnation of man who is leading a generous and noble people astray by an appeal to its lowest instincts and by taking advantage of its moments of unconsciousness.

> OUIDA. (Louise da la Ramee.)

SCIENTIFIC MISCELLANY

Reviewing the results of French experience with automobiles, M. G. Forestier concludes that the steam engine best meets the requirements where there are sudden demands for power, as on steep grades and in starts on upward inclines, while an internal combustion motor is satisfactory on fairly level roads, and has much less weight. Motors of both classes have shown increased economy since the early tests of 1897, with the prospect of further improvement. Details of the trials of light vehicles cannot be easily summarized, but the cost of running a cab may be placed at 19.26 francs per day by horse, 16.27 francs by gasoline, and 18.48 francs by electricity, while the corresponding figures for a delivery wagon are 16.72, 12.80 and 14.80 francs, Interest, depreciation and the maintenof electric accumulators are inanci cluded.

In the world's use of power Prof. Lunge recognizes three great periods that of wood, that of coal, and that of solar energy. We are now in the second period, but the inevitable failure of the coal supply must bring us to the third within a few centuries at most. Me-chanical industries must then depend upon the vast energy of the sun's rays, partly transformed into water power.

Vast numbers of small fish are destroyed on the British coast by Anglers as well as by steam-travlers. Mr. G. Aflalo points out that the latter waste cannot be avoided, but that most of the under-sized fish caught by angcould be saved if the law compelled their prompt return to the water.

Neglect of military optics seems to be mong the causes assigned for the defeats of the British army in South Afri-The great range at which action is assistance, an assistance granted only It is painful to see a man like Salis-upon the assurance that his influence bury playing the role of apologist for a the use of range-finders, but also a bet. the process not only offers great pos-

ter equipment of field-glasses for studying the enemy's position and locating entrenchments. The scientific Germans have now supplied every battery of their artillery with a kind of long-distance stereoscope, called the "scissors telescopé," whose object is to give relief to the images of the field-glass, thus bringing to view slight ridges and depressions that are liable to escape detection. The apparatus opens vertically, like a pair of scissors, and the object-glasses may be thus brought as much as five feet apart, separating the planes of an object five miles away as much as ordinary vision would do at a quarter of a mile. It may be noted further that this wide separation of the lenses makes it possible for the operator to use one or both tubes of his glass, while he is himself shielded in a trench or behind a tree.

A remarkable cure of confirmed stam. mering in a boy of thirteen has been brought to the attention of the Paris Academy of Medicine by Prof. Jonnesco, of Bucharest, His theory being that the defect is often due to a flattening of the left side of the head, preventing de-velopment of the skull over the part of the brain to which Broca assigned speech, his operation consisted in cut-ting tissues to relieve the dura mater at this point. His success leads to the inquiry whether the mystifying trepannings by surgeons of the later stone age may not have been performed to relieve stammering.

Thuringian peasants, according to a consular report, protect seed potatoes against rot by spreading them out in a sunny place, with frequent turpings until they become thoroughly green. They are then placed in a cellar until February, when they are removed to a partially warmed room until planting The potatoes not only keep welt time. but do not sprout until planted, a larger and better crop resulting.

A history of Rome's waterworks has been preserved in two books by Fron-tinus, water commissioner in 97 A. D. A recent translation shows that nine aqueducts had been built, and that the daily consumption was about 38 gallons per person-although cyclopedias Rive this as 300 gallons, or three times that of American cities.

The special flavors, odors, consistencies and colors of salt-preserved foods are found by Dr. A. Petterson to be chiefly produced by various micro-organisms.

The great preservative powers of formalin have met with little favor in museums. The substance is of special advantage, however, for hardening and keeping flabby animals, such as jelly-fish; and it is convenient to the field collector on account of its small bulk as the commercial fluid requires dilution with 25 times its volume of water before use, while specimens can be packed in it much closer than in alcohol. In Mauritius, M. Camille Sumlere has been experimenting with an apparalus using constant currents of formalin vapor, as lately proposed by Dr. G. de Rechter of Brussels. For this method is claimed the advantage of preserving specimens as at death, features uninjured in texture or color. color. In the trials made, a guinea-pig perfect condition after was in twenty days in the apparatus and eight days in

sibilities in natural history, but, what may be of more popular interest, that A may be especially vallable in cases of suspected poisoning, as bodies can b kept any desired time in a condition for examination.

Heat from the burning of powdered aluminum has found other applications besides the reduction of refractory oxides. In Germany it is used for weld-ing copper and steel, and the process is available when smithy or electric ar is not at hand or readily available. For welding, molten iron is produced from aluminum and iron oxide in a crucible the contents of this being poured into a crude mould around the parts to be joined. The apparatus is very portable, and as the temperature depends upon the amount of aluminum fuel, control is easy.

The visibility of the entire lunar disnear the time of new moon has had curious explanations, some of which have been collected by a French as-tioner. Posidonius held that the moon was more or less transparent, and that the dull glow resulted from the sun's rays shining through. Illumination by Venus was Tycho Brahe's sug-gestion. The real cause, reflection by the moon of sunlight reflected from the earth, was discovered by Leonard de Vincl.

An attempt to improve the goat as a milk-giver is being made by M. J. Crepin, of Paris. He has established a model goat dairy, and has obtained very satisfactory stock by crossing the best native goats with the Nublan buck, the latter being vigorous, indifferent to cold and hornless. Goat's milk is richer in caseine and more digestible than cow's milk. In composition it is more nearly like the milk of the human mother than any other, and it has the advantage of being comparatively free from risk of infection, the goat being seldom affected with tuberculosis and other dangerous maladies. The butter, like the cheese, is found to be remarkably good.

One direction in which progress may be expected in the twentieth century is that of feeding plants with atmospheric nitrogen through the action of root bacteria. In a late society paper, Mr. M. B. Waite stated that the Soy bean, which plant is a native of Japan. does not usually form root tubercles in American soil, because the necessary germs are absent. It is therefore unable to gather free nitrogen like other leguminous plants. This has led to the experiment of sowing in the drill with the seed small quantities of soil mported from a Soy bean field in Japan, and the result has been plants that were much larger, more leafy, and darker green in color. The product had nearly twice the weight of that from the untreated soil. The roots were found to be well supplied with the nitrogen-gathering tubercles, while the uninoculated plants were clearly suffering from nitrogen starvation. experiment was tried on newly cleared sandy land, poor in combined nitro-

Ethyl alcohol, which is being used in Russia as fuel for automobiles, is said to be produced by the Villon process for about eight cents a gailon. Cal-cium carbide is formed in the electric furnace from limestone and coke, and as the double sulphate of chrome and ammonia. The chromium oxide is reduced, the reducing salt being subse-quently brought back for further use by the action of nascent hydrogen, pro duced electrolytically. The ethylene gas yielded by the reaction is absorbed by sulphuric acid, forming hydrogen-ethyl-sulphate, and when this is diluted with a third of its weight water and heated, almost absolutely pure ethyl alcohol is distilled off. Th product is made undrinkable by some substance of nauseous taste.

through a warmed reducing salt, such

Arsenic has been proven by M Armand Gautier to be a normal con-stituent of the thyrold gland and probably other organs in the herbivora, the carnivora, and man. This seems to ex-plain the successful use of arsenic in certain diseases, such as anaemia.

A hippopotamus hunter imparted to the late M. d' Abbadie the secret of his immunity from the diseases of the swamps he frequented. His plan was to destroy the poisons and infections of insect bites by exposing the naked body to the fumes of sulphur, which was burned under a suitable envelope.

A splendid egg of the great auk just discovered, brings the number of known

eggs of this extinct bird up to 72, of which 44 are owned in England. TOWN AND COUNTRY GARDENS.

A friend from the country came to visit me the other day and when he arrived I was at work in my garden. I take considerable pride in that little plat of ground, which my friend said e could almost cover with his handker. chief, for it not only serves as a place where I can get out and dig in the ground, but it produces a good many luxuries that I would have to buy at a good round price if the garden did Paris. not furnish them.

"I have always noticed," said my friend, "that a garden in town looks thriftier than the average country garden. I suppose this is because the coal smoke and dust from the streets and such things serve as fertilizers to some extent."

"I think you are entirely wrong," answered, "and my opinion is that the difference is merely of good care. Here is my garden, for instance. It contains about two thousand square feet of land, and I cultivate it as carefully as a Chinese farmer does his little farm. There is not a weed allowed to grow; the soil is kept constantly stirred. in the finest illth, and not an inch of it goes to waste. On this little plat I grow all my radishes, lettuce, onions, beans, peas, beets, cucumbers, toma. toes, parsnips, a few messes of sweet corn and several bunches of celery, and I am satisfied that the truck I raise this handkerchief garden that you talk about is worth at the rate of \$200 per acte.

Why don't you buy ten acres and go to gardening, if it is such a profita-ble business?" asked my friend.

"Simply because I have other busi-ness to attend to and do not have time to look after it myself. If I were to lose my position or it should become necessary to take up gardening as a business I should have no fears as to the results. The Rural New Yorker told the other day about a man who bought two acres of what was supposed to be acetylene from this compound is passed | absolutely worthless land, on which to

the truck patch a little bit." "I'd find time," I replied, "and I couldn't, I'd hire a hand to take n place and work in the garden, for would be the best way I could speak money. "I don't think there's so much motel In a garden," said my friend. "I don't agree with you," I rep "I knew of a farmhand who was give as a part of his contract three-pat ters of an acre of land for a patch, with time enough to

and off that three-quarters of un he eraised vegetables enough for year's supply for himself and wife sold \$89 worth in the nearest town raised two crops on every inch and you may be sure that man did remain a farmhand very long

ENGLAND'S HOUR HAS COME.

England's hour has come: If Europe The ha ould only understand! pirates of Normandy and Britany bi shown England more than once her ships are not invincible. bled before Napoleon; she was a of Charles X; she was only saved disaster in the Crimea by French diers; she has never been courage except against the weak; she has been a coward in the fight Ways cruel in the hour of victory hour has come, and it may be that Europe and France take advantage of the l the lesson by the Boers .- La Libre Parols

THE CLAYTON : BULWER TREAT MUST BE ABROGATED.

The Cinyton-Folwer treaty had immediate reference to the circumstat surrounding the canal that it was p posed to construct in Nicaragua aims half a century ago. It has not slightest applicability to conditions isting today. The American got ment has repeatedly declared that regarded this treaty as ob business of constructing the Niccanal, England has made refere the Clayton-Bulwer treaty thing that binds us in honor al faith, both now and through centuries to come, to give Engla equal share with us in the politica trol of that undertaking, tion by the English of the Clayto wer treaty, as if it were a living has been excessively irritating country, and justly so. If Engla any use whatever for the friendshi the United States in times of er gency, she will very readily agree ly to a formal abrogation of all under that obsolete instrument. wise it will be the duty of the U Wise it will be the duty of the chieven States once more, and in an emphatic manner, to denounce the treaty and to proceed without delay to assume full control of the projected canal.—From "The Progress of the World," in the American Monthly Review of Review

for February.

