THE CHRISTIAN LIFE.

Rev. Dr. Talmage Speaks on the Evening of Our Sorrows.

A despatch from Washington says:—Rev. Dr. Talmage preached from the following text: "At eventime it shall be light."—Zechariah xiv., 7.

While "night," in all languages, is the symbol for gloom and suffering, it is often really cheerful, bright, and impressive. I speak not of such nights as come with no star pouring light from above or silver wave tossing up light from beneath—murky, hurtling, portentous, but such as you often see when the pomp and magnificence of heaven turn out on night-parade, and it seems as though the song which the morning stars began so long ago were chiming yet among the constellations, and the sons of God were shouting for joy. Such nights the sailor blesses from the forecastle, and the trapper on the vast prairie, and the belated traveller by the road-side, and the soldier from the tent, earthly hosts gazing upon heavenly, and shepherds guarding their flocks afield while angel hands above them set the silver bells a ringing: "Glory to God in the highest, and on earth peace; good will toward men."

"At eventime it shall be light."

I. This prophecy will be fulfilled in the evening of Christian sorrow. For a long time it is broad daylight. The sun rides high. Many activities go ahead with a thousand feet, and work with a thousand arms, and the pick-axe struck a mine, and the battery made a discovery, and the investment yielded its twenty per cent., and the book came to its twentieth edition, and the farm quadrupled in value, and sudden fortune hoisted to high position, and children were praised, and friends without number swarmed into the family hive, and prosperity sang in the music, and stepped in the dance, and glowed in the wine, and ate at the banquet, and all the gods of music, and ease, and gratification gathered around this Jupiter holding in his hands so many thunderbolts of power. But every sun must set, and the brightest day must have its twilight. Suddenly the sky was overcast.

The song hushed. The wolf broke into the family fold and carried off the best lamb. A deep howl of woe came crashing down through the joyous symphonies. At one rough twang of the hand of disaster the harp-strings all broke. Down went the strong business firm! Away went long-established credit! Up flew a flock of calumnies! The new book would not sell. A patent could not be secured for the invention. Stocks sank like lead. The insurance company exploded. "How much," says the sheriff, "will you bid for this piano?" "How much for this library?" "How much for this family picture?" "How much? Will you let it go at less than half-price? Going — going—Gone!" Will the grace of God hold one up in such circumstances? What have become of the great multitude of God's children who have been pounded of the flail, and crushed under the wheel, and trampled under the hoof? Did they lie down in the dust, weeping, wailing, and gnashing their teeth? Did they, like Job, curse God, and want to die because they had boils? When the rod of fatherly chastisement struck them, did they strike back? Because they found one bitter cup on the table of God's supply, did they upset the whole table? Did they kneel down at their empty money vault and say, "All my treasures are gone?" Did they stand by the grave of their dead, saying, "There never will be a resurrection."

II. The text shall find fulfilment in the time of old age. It is a grand thing to be young—to have the sight clear, and the hearing acute, and the step elastic, and all our pulses marching on to the drumming of a stout heart. Mercies and old age will be denied many of us, but youth—we all know what that is. Those wrinkles were not always on your brow. That snow was not always on your head. That brawny muscle did not always bunch your arm. You have not always worn spectacles. Grave and dignified as you now are, you once went coasting down the hill-side, or threw off your hat for the race, or sent the ball flying skyhigh. But youth will not always last. It stays only long enough to give us exuberant spirits, and broad shoulders for burden-carrying, and an arm with which to battle our way through difficulties. Life's path, if you follow it long enough, will come under frowning crag and across trembling causeway.

BLESSED OLD AGE,

if you let it come naturally. You cannot hide it. You may try to cover the wrinkles, but you cannot cover the wrinkles. If the time has come for you to be old, be not ashamed to be old. The grandest things in all the universe are old. Old mountains; old rivers, old seas; old stars; and an old eternity. Then do not be ashamed to be old, unless you are older than the mountains, and older than the stars.

How men and women will lie! They say they are forty, but they are sixty. They say they are twenty, but they are thirty. They say they are sixty, but they are eighty. How some people will lie!

See that you do honour to the aged. A Philosopher stood at the corner of the street day after day, saying to the passers-by, "You will be an old man; you will be an old man." "You will be an old woman; you will be an old woman." People thought that he was crazy. I do not think that he was. Smooth the way for that mother's feet; they have not many more steps to take. Steady those tottering limbs; they will soon be at rest. Plough not up that face with any more wrinkles; trouble and care have marked it full enough. Thrust no thorn into that heart; it will soon cease to beat. "The eye that mocketh its father, and refuseth to obey its mother, the ravens of the valley shall pick it out and the young eagles shall eat it." The bright morning and hot noonday of life have passed with many. It is four o'clock! five o'clock! six o'clock! The shadows fall longer and thicker, and faster. Seven o'clock! eight o'clock! The sun has dipped below the horizon; the warmth has gone out of the air. Nine o'clock! ten o'clock!! The heavy dews are falling; the activities of life's day are all hushed; it is time to go to bed. Eleven o'clock! twelve o'clock! The patriarch sleeps the blessed sleep, the cool sleep, the long sleep. Heaven's messengers of light have kindled bonfires of victory all over the heavens. At eventime it is light! Light!

III. My text shall find fulfilment in the latter day of the Church. Only a few missionaries, a few churches, a few good men, compared with the institutions leprous and putrified.

It is early yet in the history of everything good. Civilization and Christianity are just getting out of the cradle. The light of martyr-stakes, flashing all up and down the sky, is but the flaming of the morning; but when the evening of the world will come glory to God's conquering truth,

IT SHALL BE LIGHT.

War's sword clanging back in the scabbard; intemperance buried under ten thousand broken decanters; the world's impurity turning its brow heavenward for the benediction "Blessed are the pure in heart;" the last vestige of selfishness submerged in heaven-descending charities; all China worshipping Dr. Abeel's Saviour; all India believing in Henry Martyn's Bible; aboriginal superstition acknowledging David Brainard's piety; human bondage delivered through Thomas Clarkson's Christianity; vagrancy coming back from its pollution at the call of Elizabeth Fry's redeemer; the mountains coming down; the valley's going up; "holiness" inscribed on horse's bell, and silkworm's thread, and brown-thrasher's wing, and shell's tinge, and manufacturer's shuttle, and chemist's laboratory, and king's sceptre, and nation's Magna Charta wounds; not an asylum, for there are no orphans; not a prison, for there are no criminals; not an almshouse, for there are no paupers; not a tear, for their are no sorrows. The long dirge of earth's lamentation has ended in the triumphal march of redeemed empires, the forests harping it on vine-strung branches, the water chanting it among the gorges, the thunders drumming it among the hills, the ocean giving it forth with its organs, trade-winds touching the keys, and Eurocydon's foot on the pedal. I want to see John Howard when the last prisoner is reformed; I want to see Florence Nightingale when the last sabre wound has stopped hurting; I want to see John Huss when the last flame of persecution has been extinguished; I want to see John Bunyan after the last pilgrim has come to the gate of the celestial city; above all, I want to see Jesus after the last saint has his throne, and begun to sing Hallelujah!

Thus bright and beautiful shall be the evening of the world. The heats of earthly conflict are cooled. The glory of heaven fills all the scene with love, and joy, and peace. At eventime it is light! light!

IV. Finally, my text shall find fulfilment at the end of the Christian's life. You know how short a winter's day is, and how little work you can do. Now, my friends, life is a short winter's day. The sun rises at eight and sets at four. The birth-angel and the death-angel fly only a little way apart. Baptism and burial are near together. With one hand the mother rocks the cradle and with the other

SHE TOUCHES A GRAVE.

I went into the house of one of my parishioners on Thanksgiving day. The little child of the household was glad, and with it I bounded up and down the hall. Christmas day came, and the light of that household had perished. We stood, with black book, reading over the grave, "Ashes to ashes, dust to dust."

But I hurl away this darkness. I cannot have you weep. Thanks be unto God, who giveth us the victory, at eventime it shall be light!

I have seen many Christians die. I never saw any of them die in darkness. What if the billows of death do rise above our girdle, who does not love to bathe? What though other lights do go out in the blast, what do we want of them when all the gates of glory open before us, and from a myriad voices, a myriad harps, a myriad thrones, a myriad palaces, there dash upon us "Hosannah! Hosannah!"

I saw a beautiful being wandering up and down the earth. She touched the aged, and they became young. She touched the poor, and they became rich. I said, "Who is this beautiful being, wandering up and down the earth?" Tuey told me that her name was Death. What a strange thrill of joy when the palsied Christian begins to use his arm again! When the blind Christian begins to see again! When the deaf Christian begins to hear again! When the poor pilgrim puts his feet on such pavement, and joins in such company, and has a free seat in such a great temple! Hungry men no more to hunger; thirsty men no more to thirst; weeping men no more to weep; dying men no more to die. Gather up all sweet words, all jubilant expressions, all rapturous exclamations; bring them to me, and I will pour them upon this stupendous theme of the soul's disenthralment! Oh! the joy of the spirit as it shall mount up toward the throne of God, Shouting Free! Free! Your eye has gazed upon the garniture of earth and heaven; but the eye hath not seen it. Your ear has caught harmonies uncounted and indescribable—caught them from harp's trill, and bird's carol and waterfall's dash, and ocean's doxology; but the ear hath not heard it. How did those blessed ones get up into the light? What hammer knocked off their chains? What loom wove their robes of light? Who gave them wings? Ah! eternity is not long enough to realize it—the marvels of redeeming love! Let the palms wave; let the crowns glitter; let the anthems ascend; let the trees of Lebanon clap their hands—they cannot tell the half of it. Archangel before the throne, thou failest!

SING ON, PRAISE ON,

ye hosts of the glorified; and if with your sceptres you cannot reach it, and with your songs you cannot express it, then let all the myriads of the saved unite in the exclamation, "Jesus! Jesus! Jesus!"

There will be a password at the gate of heaven. A great multitude come up and knock at the gate. The gatekeeper says, "The password." They say, "We have no password. We were great on earth, and now we come up to be great in heaven." A voice from within answers, "I never knew you." Another group come up to the gate of heaven and knock. The gatekeeper says, "The password." They say, "We have no password. We did a great many noble things on earth. We endowed colleges, and took care of the poor." The voice from within says, "I never knew you." Another group come up to the gate of heaven and knock. The gatekeeper says, "The password." They answer, "We were wanderers from God, and deserved to die; but we heard the voice of Jesus—" "Ay! ay!" says the gatekeeper, "that is the password! Lift up your heads, ye everlasting gates, and let these people come in." They go in and surround the throne, jubilant for ever!

Ah! do you wonder that the last hours of the Christian on earth are illuminated by thoughts of the coming glory?

Light in the evening. The medicines may be bitter. The pain may be sharp. The parting may be heart-rendering. Yet, light in the evening. As all the stars of this night sink their anchors of pearl in lake, and river, and sea, so the waves of Jordan shall be illuminated with the down-flashing of the glory to come.

The dying soul looks up at the constellations. "The Lord is my light and my salvation; whom shall I fear?" "The Lamb which is in the midst of the throne shall lead them to living fountains of water, and God shall wipe away all tears from their eyes."

Close the eyes of the departed one; earth would seem tame to its enchanted vision. Fold the hands; life's work is ended. Veil the face; it has been transfigured.

Mr. Toplady, in his dying hour, said "Light." Coming nearer the expiring moment, he exclaimed, with illuminated countenance, "Light!" In the last instant of his breathing, he lifted up his hands and cried, "Light! Light!"

Thank God for Light in the evening!

TWICE IN A DAY.

It Must Be Easy to Build a House in Japan.

The poorest family in Japan usually has its own house. This implies a great many houses in a city of nearly a million and a half of inhabitants, and explains why Tokyo gives the impression of being an immense and rather mean-looking village—an impression heightened by the fact that the rich do not usually display their wealth by adorning the street side of their houses, but reserve for the interior and back garden all the artistic or floral adornments for which they may have a taste.

The cheap appearance of most Japanese houses is simply a consequence of the frequent fires. Professor Milne, in his book on earthquakes, says:

"In one winter I was a spectator of three fires, each of which was said to have destroyed more than ten thousand houses"—in all about a tenth of all the houses in Tokyo. These fires follow regular tracks likes cyclones.

A large part of the city's population depends for its living upon the work of building new houses and streets. These persons, naturally, oppose all efforts to improve the fire-extinguishing service.

A fire is apt to be made the occasion of a picnic. The houses are soon rebuilt; and it often happens, we are told, that a man's house is burned down twice in one day, because, after the rebuilding, the shifting wind brings the flames back in that direction.

This statement is not so improbable as it may seem at first sight, since some of the Japanese keep in stock the material for complete houses, nicely fitted and finished, so that they need only to be put together and raised like tents.

OOM PAUL'S DOUBLE.

There lives at Pontypridd, a pretty little village in Wales, not far from Cardiff, in the center of the most beautiful orchard country of England, an honest peasant of the name of John Mutch, who at this moment possesses an extraordinary celebrity. John Mutch is the living double of President Kruger. He has had himself photographed in classic poses and with clothes similar to those of Uncle Paul, and these pictures enjoy in the country a most extraordinary vogue.

Pattern gowns of coarse white net appliqued with white cloth, are an attractive importation.

THE SUNDAY SCHOOL.

INTERNATIONAL LESSON, JUNE 3.

"The Twelve Sent North." Matt. 9: 35 to 10. 8. Golden Text. Matt. 10. 20.

PRACTICAL NOTES.

1. His twelve disciples are called in the next verse "twelve apostles." An apostle is a man with a mission; a disciple is a learner. These men were both. In fixing the number of the apostles at twelve our Lord seems to have had the patriarchs and the tribes of Israel in view. He was modeling his Church to some degree on the familiar plan of the ancient Jewish Church. He gave them power. A power which, according to the remainder of the verse, was almost as comprehensive as that which he exercised himself. Like his own healing power, it included acute and chronic disease, illness, debility, and the expulsion of demons. That similar power is given to all Christians is neither taught nor denied in this passage; but that Christians, as a class, have not begun to recognize the power of prayer over all forces, physical and mental, as well as spiritual, is one of the most evident facts of modern life. Prayer "moves the Arm that moves the world."

2-4. There are four catalogues of the apostles given in the New Testament, one in each of the first three gospels, and one in Acts. The order of names is not exactly the same, but they are uniformly divided into three groups. The first group in each catalogue consists of Peter, Andrew, James and John. (but in Mark and Acts the name of Andrew is fourth). The second group is Philip, Bartholomew, Thomas, and Matthew; (in Mark and Luke Thomas is made the fourth in this quartet; in Acts, the second). It is usual to assume that Bartholomew was the same as the Nathanael of John 1. 46; Bartholomew is not a name, but means "Son-of-Tolmai." Thomas means "Twin"; Didymus, which he is sometimes called, has the same meaning. The third group begins in all four lists with James the son of Alpheus. Assuming that there are three persons of the name of James mentioned in the New Testament, James the brother of John, James the son of Alpheus, and James the Lord's, brother, and assuming that James the Lord's brother was the author of the Epistle of James, nothing more is known concerning James the son of Alpheus, who is generally distinguished in theological literature by being entitled "James the Less." Matthew, Revised Version, and Mark give the other three names of the third group as Thaddeus, Simon the Cananaean, or Zealot, and Judas Iscariot. Luke gives Simon the Zealot, Zelotes, Judas the brother of James, and Judas Iscariot, Acts follows Luke, but drops Judas Iscariot. As the fashion of having two names was common among the Jews, it is conjectured that Judas the brother of James and Thaddeus were the same person. Iscariot is generally understood to mean "of Kerioth," a small town in Judea. The first four apostles mentioned were all fishermen. Peter and Andrew were brothers; it is conjectured that Matthew and Thomas were brothers. If Salome the wife of Zebedee was, as is supposed, the sister of Mary the mother of Jesus, then James and John were first cousins of Jesus. And if, as would appear, Alpheus, the father of James and Judas, and possibly also the father of Matthew, was the husband of a second Mary, who was sister of the Virgin Mary and of Salome, then those three apostles also, and possibly Thomas too, were our Lord's first cousins. But these are, at the very most, probabilities; and we know that Jesus was at first rejected by his own household. The apostles were men of the common people, not rabbis nor Herodian aristocrats; they were men of mental force, and evidently of good education for their times, they were not exceptionally poor, except as they left their all to follow Jesus.

5. Jesus sent forth. The verb translated "sent forth" is that from which our word "apostles" is derived. Go not. The instructions which begin with these words and continue to the end of verse 8 are given only by Matthew. The way of the Gentiles would include not only foreign countries, but pagan cities in Palestine as well. For the sake of Gentiles as well as of Jews the Saviour came; but the universality of the Gospel message hereafter depended upon its limitation for a little while. Into any city of the Samaritans enter ye not. Our Lord had already shown his breadth of sentiment and principle by preaching in Samaria, but his personal mission was to the "lost sheep of the house of Israel." The Samaritans, it will be remembered, were half Gentiles, descendants of barbarians whom an ancient king of Assyria had settled in deserted Hebrew towns. When wild beasts ravaged their settlements they turned to "the god of the land" for protection, and as this God was Jehovah, they formally adopted the Hebrew religion. But barbarous and semi-pagan they remained through the centuries. The Jews' hatred of them was not strange, and it was returned with interest.

6. Go rather to the lost sheep of the house of Israel. No others were yet ready for the Gospel.

7. As ye go. On your journey. Preach Proclaim, advertise, make known. The kingdom of heaven is at hand. Not yet fully come.

8. Heal the sick, cleanse the lepers, raise the dead, cast out devils. From some of the best old manuscripts "raise the dead" is omitted, and there is no record of such a miracle during this tour; but a few years later the apostles of Christ "raised the dead." Lepers, because of the awfulness of their malady, are classed by themselves. Of the devils, or demons, Mark states that the disciples cast out many, Mark 6. 13. The entire sentence is a direct commission to the disciples of supernatural power. Freely ye have received, freely give. "Freely" means gratuitously. Their power was a free gift, and it should therefore be exercised without fee or reward. The man who attempts to sell divine power, or takes money in return for its exercise, is guilty of the awful sin of simony, and probably guilty also of heartless fraud. That the man who gives his time to the work of the Gospel should receive a comfortable support from the Gospel—that in sacred as well as in secular work "the laborer is worthy of his hire"—the New Testament plainly teaches; but those who teach that "the gift of God may be purchased with money" have "neither part nor lot" in true Christianity, and to all such the apostle Peter speaks through the centuries, "Thy heart is not right in the sight of God."

THE POMPOM.

The Weapon We Hear so Much About is a One-Pounder Gun That Fires 300 Shells a Minute.

The pompom, which has been used by the enemy on the Modder River, Spion Kop, and elsewhere, is a most interesting weapon. It is an automatic Maxim gun, firing a one-pound shell at the rate of about three hundred a minute. It differs only from the ordinary rifle calibre Maxim in being larger, in having a hydraulic cylinder to control the energy of recoil, and in having two springs instead of one, to return the recoiling portions of the gun to their place. The front half of the gun, beyond the shield is the barrel casing. This is kept full of water in order to keep the barrel cool. The remainder of the gun behind the shield is known as the breech casin. It contains the feed block, through which the cartridges, which are held crossways in a belt, are fed one by one into the gun. The force that does all the work is the recoil, which drives the barrel back and also forces the lock to the rear. While doing this work the recoil compresses two springs, one of which forces the barrel to the front again, and the other the lock.

THE FORCE OF THE RECOIL

is able to do far more work than is entailed in unloading and reloading the gun, so if it were not given some other occupation it would abuse its strength by knocking the gun to bits. Therefore, to control the recoil, and to give it a harmless job to do, the barrel, when it recoils, is made to force a loosely fitting piston in a cylinder full of liquid. This compels the liquid to squeeze past the edge of the piston and the cylinder, which is so contructed that all the spare energy of the recoil is used up in doing this work. The little cylinder which thus uses up the surplus recoil is at the rear end of the breech casing.

The cartridges are like overgrown rifle cartridges; they are about six inches long, but instead of having bullets they each have an iron shell loaded with powder and provided with a percussion fuse, which explodes the missile when it strikes anything. Each shell breaks up into, from ten to twenty pieces, so that a minute's continuous firing would cause at least three thousand whizzing, jagged bits of iron to fly about the enemy's position. Our only experience of the gun on service has been that as a target for it in the present war. This eminently practical trial has taught us that when used at moderate ranges—say, within three thousand yards—the moral effect is immense, and the material damage done is considerable. There is no weapon our men have a greater respect for. Shells from field guns give you a little breathing time between their bursts at any particular place, but the pompom sends a stream of shell five a second to the same destination. Some of these guns have been sent out recently for our army in South Africa, but no mention has appeared yet of their having been in action.

SANITARY WALL PAPER.

Sanitary wall papers cater to the growing demand for what is most healthful. They are made in charming designs, and may be sponged as readily as china. Especially in a kitchen or a nursery these preventatives of contagion are invaluable.

WHAT UNCLE SAM IS A

ITEMS OF INTEREST ABOUT THE BUSY YANKEE.

Slightly Interest in His Doings—Matters of Moment and Mirth Gathered from His Daily Record.

Gen. Lew Wallace has just received a copy of "Ben-Hur" translated into Persian and published in Egypt.

Last year the American people consumed 2,0[illegible]00 tons of sugar, of which 1,385,000 were made by the Sugar Trust.

A New York authority says that only a few of the tall buildings in that city are paying anything like a fair rate of interest.

Congressman Charles B. Landis, himself an editor, declares that the editorial writer is by far the most influential man in the country.

Rev. W[illegible] has been elected to the City Council of Columbus, O. He was an independent candidate and did no campaigning.

The total value of farm animals in the United States at present is about $2,213,01[illegible]. This represents an increase of over $200,000,0[illegible] within a year.

John L. Sullivan, the solo surviving member of Jefferson Davis's Confederate Cabinet, is writing his reminiscences.

A [illegible] of labour is reported from Durham where [illegible] ranging into [illegible] are higher than before in the locality.

From Cuba [illegible]0,000,000 pounds of sugar will be shipped to the States this year. The fruit [illegible] reaches New York in three days.

Bert Hart is said to be the inventor of a new sense of "conder[illegible]." The first [illegible] appeared in [illegible] was successful. In this case it is supposed that he will prove that have had a [illegible] less vogue.

Harry [illegible] Wandell, city editor of St. Louis [illegible]-Democrat, and Miss [illegible] Adam Wiest, [illegible] through a despatch from [illegible] N.Y. they were heirs to [illegible] estate left by [illegible] Wandell, [illegible] that city.

The Pacific Railroad [illegible] has established a new record, recently a train [illegible] of 113 cars [illegible] 5,471 tons of freight. Another was composed of 110 cars [illegible] 4,83[illegible] hauled by [illegible] gine 102.

The [illegible] of Harvard, who served the longest [illegible] to the term of [illegible] 1637 to 1[illegible] thirty-one years. He died [illegible] 69, [illegible] he lived [illegible] have passed [illegible] service [illegible] Holyoke.

Thomas [illegible] worth Higginson [illegible] Boston Public [illegible] a number [illegible] to John Brown [illegible] were written [illegible] between the years [illegible] and 1860 [illegible] John Brown [illegible] friends, Wendell Phillips, Parker, Howe, [illegible] B. Sanborn and Higginson.

One of the smartest [illegible] in Washington these days is Miss Mamie [illegible]. It is said [illegible] Miss Mamie [illegible] seats, and [illegible] back for [illegible] river, but Miss Hanna [illegible] handles the [illegible] desires [illegible] Miss Hanna [illegible] and attractive blonde, with [illegible] and refined manner.

The Rev. William Walsham [illegible] who lives in England, is [illegible] age he [illegible] of his father. At the [illegible] time it is [illegible] that for [illegible] $60,000 [illegible] Jacob Astor [illegible] of New York [illegible] so rich [illegible] brother, has [illegible] 600,000, [illegible] of which will [illegible] 9-year-old [illegible] bright young [illegible]

Miss [illegible] Shirley, of [illegible] City, is [illegible] the only woman [illegible] the world [illegible] owns and [illegible] mining [illegible] She is [illegible] years of [illegible] proper she established [illegible] self, and is [illegible] success of [illegible] She makes [illegible] to all the [illegible] surrounding [illegible] tres to [illegible] of novels, and [illegible] have a [illegible] of information.

Major [illegible] Hulen, [illegible] Toledo [illegible] lately married [illegible] from the [illegible] who went [illegible] purpose [illegible] have him perform [illegible] ceremony [illegible] he accepted [illegible] readings [illegible] service [illegible] ing of two [illegible] ful ha[illegible] the mayor [illegible] beauties of [illegible] mony [illegible] nounced the [illegible] man and [illegible]

Captain [illegible] Theodore Mc[illegible] died in [illegible] phia last week [illegible] intimately [illegible] ternet in one [illegible] most thrilling [illegible] episodes of the war. A Hungarian, he was [illegible] enant in General Fremont's guard. Sept. 26, 1861, this body [illegible] cavalry, numbering 300 men, [illegible] ordered to [illegible] ture Springfield, [illegible] which was [illegible] by 2,000 men. [illegible] enyi was pro[illegible] to take thirty [illegible] and attack [illegible] The charge was [illegible] cessful for [illegible] boldness.

Agricultural

WHAT HUMUS DOES.

How can one expect his soil to yield larger crops each year if he does not replace the plant food taken off by the previous year's crop? When a forest, where the leaves, weeds, twigs, etc., have decayed for centuries, is cleared away we say the soil is in its virgin state. Let us see what some of the advantages would be if occasionally we should supply humus by plowing under a heavy crop of field peas or clover. We mention these leguminous plants for while they supply the much needed humus they also gather from the atmosphere one of the most costly fertilizers, nitrogen, when bought as a commercial fertilizer.

Humus aids in many ways to increase the yield of farm crops; among them may be mentioned the loss of the soil by returning to it all that was taken from it and something more, producing a better medium for bacteria to live in. Bacteria are useful in aiding to tear down the soil particles and liberate potash, phosphoric acid, two of the chief essentials to plant growth. The vegetable matter in the soil also loosen it, allowing plenty of air to circulate and prevents baking. Plant roots need air as well as water, and both of these are much more bountifully on loose than in part or baked soils. The water percolate down, surrounding rootlets, and what is not used finds its way down through small channels that were made by the decay of roots from previous crops, and is stored in a subterranean reservoir, there it awaits the dry season. When drouth prevails the water from the loose surface is pulled by capillary attraction to where the bulk of the roots, but here some of the capillary tubes being too large bring the surface soil to carry it to the surface evaporating it. Thus the plants may keep green and grow during severe drouth. Often the failure of a crop can be traced to the above mentioned matter—or lack of—the retention of a portion of the water allowing less to escape into the ditch, creek and river.

In the spring crops are put in starting, and the soil is cold. Now, if there was a plenty of humus in the soil it would be different. This substance makes the soil a dark color, and the greater the amount of humus the darker the color. Our muck lands contain more humus than any other soils come nearest being rich although, they are usually more or less deficient in the mineral matter necessary to plant growth. The dark substances absorb more heat than those of lighter color, so the darker the soil the more heat is absorbed. If properly drained, and the soil warmed earlier in the spring, and require warmth in order to germinate, therefore for early crops provide abundant humus. Study nature and follow her lead. She will supply plenty of humus for the crops not only to furnish food but also to improve mechanical conditions necessary to the welfare of plant life.

EXPERIMENTS WITH DAIRY COWS.

Professor Brandt of Goettingen conducted three experiments with cows and heavy dairy cows. The first lasted four weeks, the second six weeks, and the third 70 days after the cows had calved. Thirty of the heaviest milking cows in the herd were separated into lots of ten cows each, according to their weight. The cows were kept under similar conditions to feed and care during the trial, none being bred at the time of beginning of the experiment. The average weight of the lots was 1,305 pounds and of the other lots 970 pounds. The lead in milk production was from the experiments as follows:

The milk of the smaller cows was richer in fat than that of the heavier cows.

Large cows eat a greater amount of feed than small cows; per 100 pounds of live weight they eat less.

Small cows produce less milk than large cows, absolutely and relatively.

When in thin flesh, small cows produce more per 1,000 pounds of live weight than any large cows.

Large farrow cows are more persistent milkers; on the other hand small cows show a greater tendency to fatten on the same feed with a decrease in the milk flow. The writer in selling ten of the large cows, which ought to five guilden per head more than the average, after having been kept nearly a year, while the loss for the two small cows was 12 guilden per head.

FATTENING CATTLE.

The relative merits of quick and slower feeding have not yet by any means been determined, notwithstanding its importance. A great paradox consequently exists in the practice of cattle feeders, writes Thomas Shaw of Minnesota.

The argument in favor of quick fat-