

# The Open Court

A MONTHLY MAGAZINE

Devoted to the Science of Religion, the Religion of Science, and the  
Extension of the Religious Parliament Idea

Editor: DR. PAUL CARUS.

Associates: { E. C. HEGELER  
MARY CARUS.

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VOL. XX. (NO. 7.)

JULY, 1906.

NO. 602

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CHICAGO

**The Open Court Publishing Company**

LONDON: Kegan Paul, Trench, Trübner & Co., Ltd.

Per copy, 10 cents (sixpence). Yearly, \$1.00 (in the U. P. U., 3s. 6d.).



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*"Give me not, O God, that blind, fool faith in my friend, that sees no evil where evil is, but give me, O God, that sublime belief, that seeing evil I yet have faith."*

# My Little Book of Prayer

BY MURIEL STRODE

If you want to know the greatness of a soul and the true mastery of life, apply to The Open Court Publishing Company for a slip of a book by Muriel Strode entitled simply "My Little Book of Prayer." The modern progress of sovereign mind and inner divinity from the narrow cell of the ascetic to the open heaven of man, made in God's own image, is triumphantly shown in it, yet a self-abnegation and sacrifice beyond anything that a St. Francis or a Thomas a' Kempis ever dreamed of glorifies the path. To attempt to tell what a treasure-trove for the struggling soul is in this little volume would be impossible without giving it complete, for every paragraph marks a milestone on the higher way. That the best of all modern thought and religion is garnered in it, its very creed proclaims:

Not one holy day but seven;  
Worshiping, not at the call of a bell, but at the call of my soul;  
Singing, not at the baton's sway, but to the rhythm in my heart;  
Loving because I must;  
Doing for the joy of it.

Some one who has "entered in" sends back to us this inspiring prayer book, and to seize its spirit and walk in the light of it would still the moan and bitterness of human lives, as the bay wreath ends the toilsome struggle in the hero's path. Measure the height attained in this one reflection for the weary army of the unsuccessful: "He is to rejoice with exceeding great joy who plucks the fruit of his planting, but his the divine anointing who watched and waited, and toiled, and prayed, and failed—and can yet be glad." Or this, in exchange for the piping cries of the unfortunate: "I do not bemoan misfortune. To me there is no misfortune. I welcome whatever comes; I go out gladly to meet it." Cover all misfortune, too, with this master prayer: "O God, whatever befall, spare me that supreme calamity—let no after-bitterness settle down with me. Misfortune is not mine until that hour." Here, too, is the triumph of the unconquerable mind: "The earth shall yet surrender to him and the fates shall do his will who marches on, though the promised land proved to be but a mirage and the day of deliverance was canceled. The gods shall yet anoint him and the morning stars shall sing." And this the true prayer for the battlefield: "I never doubt my strength to bear whatever fate may bring, but, oh! that I may not go down before that which I bring myself."

Nuggets of pure gold like these abound in this mine of the mind which the victorious author has opened for us. To seek it out swiftly and resolve its great wealth for himself should be the glad purpose of the elect. And who are not the elect in the light of its large teaching? To claim them in spite of themselves is its crowning lesson. "It is but common to believe in him who believes in himself, but, oh! if you would do aught uncommon, believe in him who does not believe in himself—restore the faith to him."—*St. Louis Globe-Democrat, March 5.*

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*Natus Amstelred.*  
MDC. XXXII.  
*24. Febr.*

*Denatus Haga Com.*  
MDC. LXXVII.  
*21. Febr.*



**BENEDICTUS DE SPINOZA .**

Cui natura, Deus, rerum cui cognitio ordo .

Hoc Spinosa statu conspiciendus erat .

Expressere viri faciem, sed pingere mentem

Zeuxidis artifices non valere manus .

Illa viget scriptis : illic sublimia tractat :

Huic quicumque cupis noscere, scripta i lege .

By permission of Mrs. Julius Rosenthal.

Frontispiece to *The Open Court*.

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## THE PSYCHOLOGY OF A SICK MAN.

BY CHARLES CAVERNO.

THE chlorine-green god, Nausea, set himself against me. He had his way. No food was tolerable. Hearing the clink of dishes on the way to my room put me in antagonism to their contents before sight. Water brought from the dining room ice-pitcher was like belated slops from a coffee urn. There is one barricade that the aforesaid god does respect, and that is ice. The commercial ice of North America one will avoid. Its microbes may be malign. A friend procured for me a demijohn of water from a favorite spring. This, exposed to the outer air, in proper receptacles, in zero weather, gave me zero ice. Nausea quailed before that. The bite and sting of that ice at low temperature, is a delight to this moment. It had a meaning and expressed it. But ice is only a palliative. On it man cannot long support life, and goes rapidly down to exhaustion and a flickering pulse. On the way down I remember one incident with interest, for it gave

“Respite and Nepenthe”

for a moment to pain. I was sitting beside the Doctor on the edge of the bed and fainted. He threw me back on the bed and that revived me. I was thoroughly angry with him and when I got voice upbraided him for bringing me back to consciousness. The joy of that brief moment of oblivion, with the consciousness, on each of its edges, of freedom from pain, abides still as brightly as that of a summer vacation. Possibly we need have no more trouble in taking chloroform than in going to sleep and in waking.

The process downward to the wandering of delirium was rapid. Of this period I have no distinct memory. But in it the children were summoned from the east and from the west. They were pres-

ent in the house the night of the favorable (medical point of view) turning. Fortunately I did not know this fact. I remember that the Doctor sat by my side with one hand on my pulse and in the other a hypodermatic syringe. The nurses were standing in attendance. I knew the meaning of what I saw—and—was satisfied. I expected to make the change from this condition of existence to what is beyond. Now what happened next I attribute to sleep and dream. But I distinctly thought I had made the transition. The one mental exercise that held me was curiosity. I wanted to see what was coming next. I got no distinct view but there seemed to be much lying before just ready to be revealed. Now that I am to look forward to a real transition at some not distant day, I am much encouraged by the psychology of this dream, considering the background in consciousness from which it was projected, to-wit: the expectation of departure. The universe is still the universe, whether one is on this side or that of any equator separating its latitudes. If one can find adjustment here from science, philosophy and religion, he may trust that he can find it there.

I opened my eyes—the Doctor was gone, the nurses were seated in quietness, hypodermatics had won and I was here and not there. The first thought that came to me was—I wonder if the windmill was turned on to the pump yesterday afternoon, if it was not we shall be short of water. Eternity and a windmill—what a juxtaposition! Yet both are worthy objects of thought—"Each in its 'customed place.'" Eternity will split into particulars as does time. The reflection soon came—Ah me! Why did I not go forward? Now I shall have all that is preliminary to go over again.

The psychology of a "rapt and parting soul"—what is it? The human race has had testimony and observation from which to draw conclusions and yet no generalizations of value have been reached. The whole matter is in chaos. Let us posit one principle, try it, and see if it will hold good. *Those who depart this life, at the time of departure are willing to go.* If there are exceptions to this rule it may be of interest to search for their causes. But let us deal with the rule. *We owe the universal desire to leave this life to the ministry of pain.* Let us go back one step. Benjamin Franklin said: "Anything as universal as death must be regarded as *intended.*" Biology lends its whole force to Franklin's conclusion. Integration and disintegration have been the history of all organism since the primal cell. With the deterioration of tissue comes in pain or *dis-ease*. Now again we can make use of Franklin's philosophy: any thing as universal as suffering after an organism has



passed the zenith of its vitality must be regarded as *intended*. This conclusion may not exhaust the philosophy of suffering, but *no* philosophy can be sound that neglects it. If the end in view be the cessation of life, then pain may be regarded as an adaptation physically and psychically to that end. It produces in man normally just contentment with that which is to be. Tennyson sings:

“Whatever crazy sorrow saith,  
No life that breathes with human breath  
Hath ever truly longed for death.”

Like a great many other things, that is true up to a certain point and then it ceases to be true. Water contracts to  $32^{\circ}$  and then it expands. Burns is equally true,

“O death, the poor man’s dearest friend,  
The kindest and the best,  
Welcome the hour my aged limbs  
Are laid with thee at rest.”

Whether one longs for death or not depends upon the vital condition of his physical organism. When vitality is high, and its storm and stress for action on, a man does not want to die. But the case is entirely altered with feebleness and suffering. Then men do “long for death,” ever have, and ever will. Even those who are in the flush of life, if they are maimed in some sad accident, often ask to be put out of their misery. Men usually do not cross bridges till they come to them. But again the rule is that when men come to the bridge we have in view, they are willing, often desirous, to cross it.

There is a foregleam of this adjustment in the action of animals. When they find in themselves an intimation that a great change portends, they yield to its promptings, give up the struggle for existence, forsake their fellows and their customary beats and haunts, retire to some secluded nook and await what comes. Some one says it is harder to catch a dead bird than a live one; we can see why.

Edward Young (he ought to have credit for many felicitous expressions of truth, if he was not a poet) says:

“Man makes a death which nature never made.”

We do not die our own death but that which the superstitions and terrors of centuries of our kind have loaded upon us. We die such death as the imagination of the dark ages permits us to die. When it comes to that it admits of debate who had the worst outlook in that era, saint or sinner. Take a forecast of the future of which St. Simon Stylites is representative—vigils, fasts, penances,

pilgrimages, yes, the Crusades—and realize that when, after all tortures the body could endure, one lay down to die, he had the mental torture that all he had suffered might be in vain and through some self-deceit or some unnoticed neglect he might trip on the threshold of heaven and fall back into hell. We have changed all that? Oh no! Much from out that gloom still remains to cast its shadow over souls as they contemplate the journey forward. Of course one extreme begets another. In the later centuries ecstasies came in to supersede the gloom of the saint. Suspicion arising from various sources attaches to these exercises of the saint. Nature is not in the habit of doing serious things in ecstasy. We are not born in ecstasy; we ought not to expect to die in ecstasy. An inflamed imagination working by preconceived notion will account for most of these ecstatic departures from life. Plainly the sinner's horror is a psychological addition to the pains of death, arising from belief in hell. Belief in a "city of gold" and in a "lake that burneth with fire and brimstone" is not now widely held, and so perturbations either of joy or fear cease to appear in parting hours, and we can discern more clearly in them the rational and kindly intent of nature.

I have had nothing but the common experience of men. I have seen many persons pass out of this life. I have never seen one depart in ecstasy or in fear. The only person I ever saw in terror of death did not die. The case shows clearly how psychological considerations come in to interfere with a sound philosophy respecting the order for removal from this sphere of action, and respecting the general kindness of its execution. A young man drifted away from the East to the far West. Not gifted with the power of initiative he failed to find employment, his money gave out, he fell sick and was taken to the county-house. When I called on him there the perspiration stood in big drops on his forehead. I hurriedly asked him: "What is the matter?" He said: "I am dying, and I am afraid to die." I took my cue from the last expression. I found his pulse strong and voice natural. I gave him one grain of cinchonidia and said: "Now tell me all about it. What are you afraid of?" He took the Bible from under his pillow and putting his finger on the 16th verse of the XVth chapter of Mark—"He that believeth and is baptized shall be saved," said: "I have never been baptized." I replied: "My good friend, I can get any one of half a dozen ministers of as many denominations here in an hour and we will have that matter attended to. You will live that time any way." But I had reckoned without my host, for he an-

swered: "I must be immersed to be baptized and sick as I am that cannot be." At some time, in his life before, a little information as to the historic standing of the text that troubled him might have helped him now—he could have given himself the benefit of a doubt. - But plainly effort in that direction was not now in point. I cannot recall all the steps of the detour I took to relieve his mental suffering. It is enough to say that in an hour the perspiration had gone from his forehead and he was comfortable in body and mind. In a few days arrangements were made by which he departed for the East. Shortly after his arrival he executed what he thought was his duty—was immersed and joined a church. He found work and had a happy outlook for this world and the world to come. Now the name of cases of this kind, as well as of some others, is legion. But we should not confuse ourselves in settling upon a philosophy of pain and death, with varying particulars of this sort that have no necessary connection with it. The young man's distress was necessary neither to him nor to any one else.

Testimony as to the psychology of the dying is to be received with caution. Two persons present, because of difference in pre-conceived ideas, might give very different reports. When the matter has passed to second and third mouths it is hopeless to expect to reach the truth. Witness the testimony in regard to the mental condition of Thomas Paine in his last hours.

Before I came to my teens I had a case that was for long years a puzzle to me. An old neighbor lay dying. He had been a "sturdy" sinner. He loved rum "for its own sake" and always kept it in the house for daily use. He was profusely profane. He would lie. The neighbors said that sometimes between the days, if he wanted corn or apples, he paid no attention to division fences. They said he was "hot" and let it go at that. The day he died an aunt of mine came to visit at our home. Passing the house of the dying man she called to inquire about him. She did not go in. At my home she took me for a walk, and being a good woman, improved the occasion to make an impression on me. She told me what remorse the old neighbor was suffering, that he said he had "done wrong and it stared him in the face," that he was in the agony of the death of all the wicked. Now this did make an impression on me and I thank my aunt to this day for her intent. But a few days afterward I heard one who was there all the time the old man was sick, say that from the beginning he dropped into unconsciousness, which was only rarely and briefly broken; that once the old man said he had made a wrong disposition of his property

and wished he had divided it differently. "His life had not been ineffectual." He was genuinely covetous and had accumulated and kept his property. He did not share his rum with any "souter Johnny," as Tam O'Shanter did,

"The reaming swats that drank divinely."

The antecedent probability coincided with the statement of the witness who was present that the old man when he spoke of "wrong" was thinking about property. My aunt gave a moral turn to the word, because her antecedent philostophy called for it. She talked with me under the conviction that what she thought ought to be must be; she had not the slightest suspicion that it could be otherwise. Now if the man's psychology were as she represented, that might be an important fact for religion but on the *philosophy* of the *intent* of death and its mode of execution, *naturally*, it is negligible. Physically speaking, however, the old man probably got out of life with less distress than his better neighbors, for his doctor was of a very old school, was a devotee of rum, and like another famous physician worked with the "twa simples, calamy and laudamy." The latter we may be sure was not spared.

The moribund sometimes use expressions that are thought to have religious value. They may and they may not have. The expression "going home" does duty for piety—it may be legitimately, it may not. I have seen two cases where on their face one might think the use betrayed deep religious feeling. But it was very certain to me that it had nothing of it. One was the case of an aged clergyman with whom I had familiar acquaintance. I was away from the city of his home for years. Returning I found him in new conditions and greatly changed. He was living in the home of his son. But mentally he had lost all co-ordination with his then present circumstances. He did not know with whom or where he was. Now since the days of Irenæus it has been common speech with old men—"I remember better the things that happened in my youth than those which have happened in my later years." Loss of memory of recent events is part of the shortening in process which nature employs on the way to the final separation from this life.\* This was what had happened to my aged friend. He was a stranger in his own son's family and at his own son's table. But my name struck him. It lay back far enough in memory to be in the unclouded realm. We were fast friends again on the old basis. We walked with our arms about each other around the house and the grounds. Once in a while he would say: "This is all well—

these folks mean well enough and do well by me but I wish you would take me back to the old home." With that he was still coordinated, with this he had lost connection. He was glancing backward and not forward when he requested me to take him home. This comports with the known psychology of declining years.

The other case was that of a woman ninety-seven years of age who had, through those years, kept mastery of her faculties. One evening as she was about to retire, she said she wanted to be taken home the next day, she had been there long enough. The next day as she went about the house, she preferred the same request. She had lived in that house nearly fifty years, had presided over its building and furnishing and had reared her family in an old house on the same ground. She was the impersonation of domesticity and nothing more. She had a wonderful faculty of minding her own business. She was not religious, she was not irreligious, she was simply non-religious. The fact was that in the disintegrating process preparatory to departure from life, every thing had been swept away from memory except some far corner back in her early girlhood. In a few days that too went into the cloud and she passed quietly from life. When she asked to be taken home she had not the slightest reference to extra mundane conditions but to a former home on earth.

All religions carry a vast amount of superstition in regard to a future life. Ours is no exception. So little is known about the future that it is the common playground for imagination. Fancy and rhetoric are strained to their utmost to set forth the glories or or the wretchedness of the future. It is time that those who minister in the name of religion called a halt on this license of imagination and plainly said for how much of it they stood sponsor. If there is a life beyond this, it is to be feared that the good will be more disappointed with it than any one else, so much pre-conception have they carried along in this life that cannot possibly be true.

Over most of our songs and hymns pertaining to the future should be printed: "Caution—private way—no one responsible for disappointments incurred therein—*caveat viator.*" The signal ought to be passed along to the masters of all craft on the religious sea to haul in and not to let out the sails of imagination with regard to the future. The creeds of former thought may not hold the common mind but the poetry does. When we go forth from this life, the less we are laden with fancies that we have invented our-

selves or that some one else has imposed upon us, the better it is likely to be for us.

Conclusion: It is our duty to reduce to lowest terms the pains and weariness that will come upon us. But do the best we can, they will come and work their result. We may, with ear intent, catch the order for forward movement and go cheerfully.

#### CONVALESCENCE.

The old treadmill creaks and rattles as it was not wont. The guys and down fastenings seem loosened. Yet the familiar motion of the rollers under the feet is not unpleasant. "The windmill?" Yes, yes, I must see that the windmill is in gear and running.

# THE GREAT SAN FRANCISCO EARTHQUAKE.

BY PROF. EDGAR L. LARKIN.

Lowe Observatory, Echo Mountain, California, June 6.

“SWING low sweet chariot,” let mercies fall and shower down blessings on the sorrowful, and “let voices once breathed o’er Eden” sing. Let the tuneful strains be soft, low and plaintive, not too low, just loud enough for two hundred thousand suffering human beings to hear. And let the voices seem to come out of space, for there would not be room for a grand choir, no place for the singers.

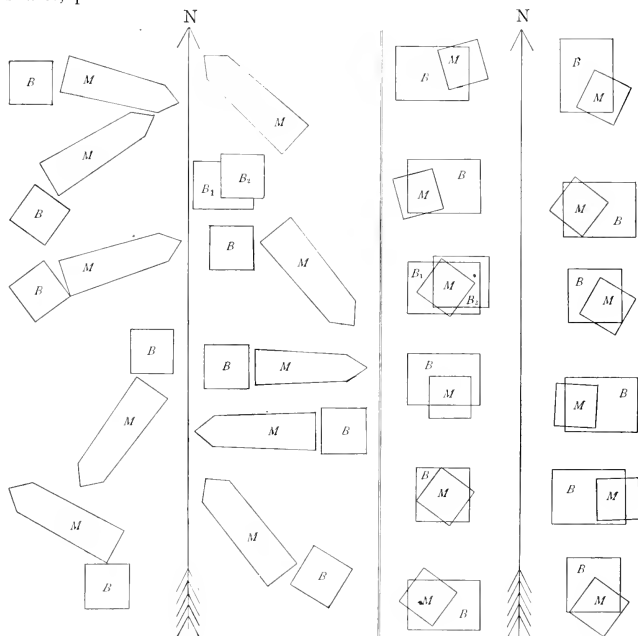
Golden Gate Park, that paradise of botanical splendors, plants with leaves like lace, sub-tropical flowers and wilderness of leaves, that dream of the tourist, that Mecca for those who love the beautiful, suddenly filled with fleeing thousands from wild flames and a quaking earth.

“Seething fire followed fast and followed faster.” Hosts and multitudes hurried over whole banks and terraces of flowers, the park was soon filled and thousands poured into the two adjacent cemeteries; others rushed for the beach, even to the Cliff House and to the waters of the Golden Gate.

The Pacific was startled with the onrush of the terror-stricken. I walked during two days along narrow passage-ways amid the never ending thousands of homeless refugees. I talked with them and listened to their awful story. Nature in the parks tried to hide the misery. Great blooming hydrangeas did hide one family of fire from gaze, and a mass of flaming poinsettias gave shelter to a woman and her daughter who were ill. A clump of violets covered with a handkerchief, made a pillow for a little girl burning with fever. Heliotropes, carnations, a hundred kinds of roses, verbenas, geraniums and the glorious poppies of California vied with each other in striving to attract attention away from the appalling scene of misery, suffering and dismay, but in vain.

Entire thousands were without blankets, sheets or pillows, their entire possessions consisted of the clothing they wore, a few rescued pillows and spreads, and during two nights they remained here with the earth for a bed.

The cemeteries were impressive to behold. The great areas were simply strewn with thousands of overturned monuments, shafts, pillars and obelisks.



NO. 1. FALLEN MONUMENTS. 4765

NO. 2. DISPLACED BASES.

*B* marks the position of base and *M* of the monument in each case.

One of my objects in leaving the peace and quiet in the Observatory on the mountain, to make a five hundred mile journey to the stricken city, was to study the action of the earthquake in the great cemeteries, for these are the best places in which to see the full effects of the displacement of the earth's surface. The fallen columns write the history of the convulsion in stone. At first I thought that a general trend or direction could be made out, but found that the pillars were pointing in every conceivable direction.



Cut No. 1 gives an idea of the confusion that reigned in the two cities of the dead. I had no instrument with which to measure azimuths or amplitudes, but judging by the eye alone, it seemed that the fallen columns pointed all the way from five to seventy degrees from the directions of their sides before their overthrow.

The earthquake was of the typical circularly gyrating form. The displacement of monuments that remained standing is shown in Cut No. 2.

Some of these weigh tons, so that the force required to slide them laterally, against enormous friction, was strong indeed. Granite was ground into fine powder under the bottoms of the displaced shafts. Pure snow white marble angels were thrown into beds of flowers, and one snowy wing was imbedded in a terrace all covered with violets.

Exquisite sculptures, statuary, wreaths in marble, and carved capitals were strewn over hundreds of acres in almost bewildering confusion. Little marble hands holding wreaths, scrolls and tablets were broken off and cast into flowery banks; and one cherub ever so white and pure was resting in a bed of daisies, and the stone eyes looked out on a fringe of lilies. But then there were the living round about the tombs. The half dead made their homes with the dead. Weak and wan girls played with the marble angels and gathered fragments of the statuary. One desolate family found shelter in a beautiful sepulchre, while the sufferers rested their heads on lowly graves.

On Friday night, April 20, an ocean wind blew damp and cold. Dense fog settled down on the two hundred thousand, by midnight an almost icy rain fell upon them in this now memorable night of appalling misery. From all accounts it is believed that eighteen little babies were born in the midst of the tempest. The darkness was like that of Egypt, due to smoke mixed with fog. No lamp or candle relieved the terrible gloom, and babies came into this troubled world.

Let the twenty-one Buddhistic hells be concentrated into one, and let Jonathan Edwards picture it in fiendish glee, or Dante write; and both would fail utterly in any description of this mind- and brain-crushing night of horrors.

I could scarcely study the fallen columns for the suffering on every side.

And then the mighty nation came to the rescue. Food, blankets, tents and guards were distributed by the government. Martial law reigned, and California arose in its majesty and poured hun-

dreds of car-loads of provisions into the doomed city. It was a most impressive and pathetic scene, this giving of food to the starving.

#### THE MARVELOUS PROCESSION.

After delays due to a congestion of the railroad, the writer arrived in San Francisco, fifty-one hours after the first shock. On stepping off the boat at the foot of Market Street, I knew that I was in an earthquake area. The earth was rent in many places. The street railway was bent up and down in sinuous curves and one track was a foot lower than the other. The earth had descended vertically. Square miles of tottering walls, columns and naked frames of structural steel, made up a frightful scene of desolation.



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PANORAMA OF CITY HALL

The entire northern half of the city was then burning. The dull thunders of falling walls, the roar of the flames and sharp detonations of dynamite, conspired to make a horrible vision of destruction.

Against a sable canopy, a blackened pall of smoke, the mighty columns of the Fairmount Hotel on Nob Hill stood out in pure white, a scene of classic beauty. But boiling flames, tumbling palaces, crushing marble, exploding dynamite, burning ships and docks, soon lost attraction for me.

Close at hand was a moving thing of pain, a struggling, toiling, living object, and has history anything to surpass what I gazed upon during four hours?

This most remarkable and new historic object was the interminable procession of escaping thousands of people from the peninsula of San Francisco. Thousands upon thousands were moving slowly and painfully towards the ferry boats leading across the bay to Oakland. A hundred thousand poured into that city, Berkeley and Alameda.

My objective point was the cemetery, four miles away. It took four hours to walk this distance over almost impossible débris. The entire distance was occupied by the long drawn column of frenzied people. Babel was eclipsed, and the confusion of tongues more confounded. An incredible number of languages was heard. The world was represented in varying speech; and the nations, races, types, and kindreds of the earth were in a marvelous review. The



AND ITS SURROUNDINGS.

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linguist, anthropologist, and mentalist, all students of human nature, had a wonderful opportunity there in the sorrowful way. The people saved their living creatures. Canary birds, parrots, pet rabbits, puppies, squirrels, guinea-pigs, all household pets, were carried by those scarcely strong enough to drag themselves along. This was one of the most pathetic scenes in the ruins. And then the dollies; little girls toiled along with dolls that required their strength to carry. But the living dolls, the babies, suffered in the lime-dust cutting and biting in their tiny eyes. And poor, sobbing mothers struggled over hot bricks, acres of broken window glass, twisted columns, beams and girders of iron; and then the sticky

asphalt pavements contained nails, spikes, bolts, broken glass dishes, crockery, chinaware, and sharp fragments of stones.

But the wilderness of tangled wires was simply unendurable. How they tripped and fell, with their feet enmeshed in inextricable network, loops and knots of twisted wires. And their lungs were filled with corrosive gases and vapors rising from hot basements. I saw enough misery in the four dreadful hours to make one ask, What is human existence for? And then, after passing the struggling thousands, I stepped into beautiful Laurel Hill cemetery and I asked myself the same question again with emphasis.

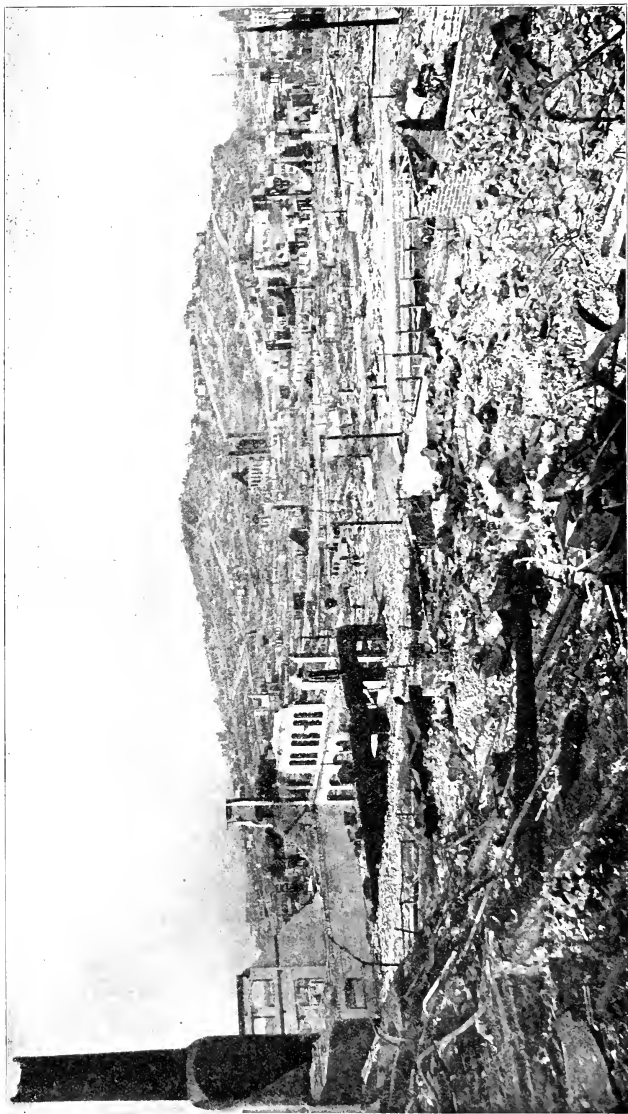
#### THE MIGHTY CONVULSION.

I have received letters from every part of the troubled area. Many of these are of great value for they were written by those having passed through upheavals of the solid earth before. They knew what to observe, such as intensity, time, direction, amplitude of oscillation, and vertical lift or depression. From all these accounts, and from studies of seismographic records from the north and south sides of the disturbed region, and from the central portion, and from observations in the cemeteries, it seems that the earthquake was circular, or roughly elliptical. A number of letters tell of thrust, horizontally at first, but changing rapidly into circular motion as noted in swinging lamps.

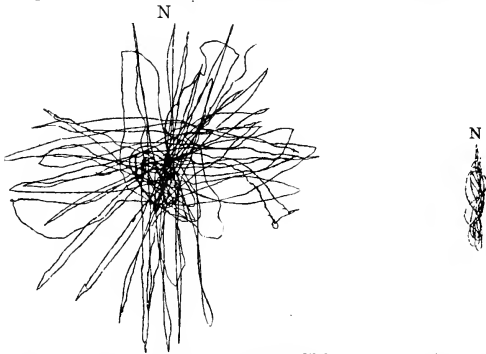
This now historic convulsion presented in one grand upheaval almost every kind of impulse, motion, activity, and turbulence known in earthquakes. By closely studying this colossal display of force one can become familiar with all kinds, nearly, of earthquake phenomena. The successive impulses were vertical, horizontal, to and fro, circular, gyratory, inclined and undulatory. The strata in the earth below the entire area of disturbance were in the clutch of a twisting, wrenching, distorting monster.

Strain, tension and pressure were tremendous. An example of titanic power is given by an immense chimney in the western part of San Francisco. The entire upper half had been lifted clear from the lower half, turned around about twenty degrees, and gently lowered without injury. These things must have occurred for the bricks where the rupture took place are intact and not ground to powder. The top half weighs hundreds of tons, and if twisted around without being lifted up, whole layers of brick would have been ground into fine dust like the granite bases of the laterally displaced monuments.

Different kinds of phenomena were occurring at the same time



in widely separated regions. This fact is brought out clearly in the letters. A wave in the earth might be undulating in one place, while in another sharp beats, thumps and twists were in violent activity. Landslides down the mountains, and into the sea would obtain here and there, while the surface was rising elsewhere. Springs burst forth in places and ceased to flow in others. Blue lights appeared in a number of localities dancing over land as well as water. Their appearance and colors were like those of static electricity escaping from the terminals of electric influence machines. Gases escaped from the soil and sea, having pungent sulphurous odors. Subterranean sounds as of rolling carriage wheels over plank bridges, and of deep rumblings and reverberations were heard in



No. 3. April 18, 1905, 5:15 A. M. <sup>4748-9</sup> No. 4. April 25, 1906, 3:17 P. M.  
SEISMOGRAPHS TAKEN AT THE VETERANS' HOME, NAPA COUNTY, CAL.

many places, not only on April 18, the day of the upheaval, but on the 17th.

Many persons have written me from several directions from the stricken city, saying that they and many others heard masked and muffled sounds from deep within the earth, and also concussions of explosive violence. One of the most vivid, awe-inspiring and impressive facts derived from these letters, and from conversations with many while in San Francisco, and from letters written in the city limits, is this: the people in the city did not hear subterranean sounds.

But the awful reason why was because of the terrible roar roundabout, from seething flames, tumbling walls, the crashing of glass and the hissing of sliding rasping miles of wires. The literature of earthquakes does not present a more striking and startling

fact, for the roaring of the city, all aflame, was louder than the thundering in caves of gloom below.

Cut No. 3 is that of a most valuable seismograph secured by Mr. F. M. Clarke, executive officer of the Veterans' Home, Napa County, California, forty-five miles north of San Francisco.

A seismograph consists of a fine needle attached to a heavy weight which is suspended by a thin cord from a rigid support. A plate of smoked glass is placed under the needle whose point touches the carbon film. The needle points toward the center of gravity of the earth, and is at rest in relation to the earth's center owing to the inertia of the massive body to which it is attached.

If the surface of the earth moves, it carries the smoked glass with it, and the needle marks a faithful trace in the soot. The curious lines in Cut No. 3 are those actually marked by the surface of the earth at 5.15 A. M., April 18, in Napa County California.

A number of rapidly weakening shocks succeeded during seven days, and Cut No. 4 is a final record made at 3.15 P. M. April 25. The oscillations of the earth were so slight, that the lines are jumbled into a confused knot as shown. These records are of great interest, for they show the beginning and end of the great earthquake.

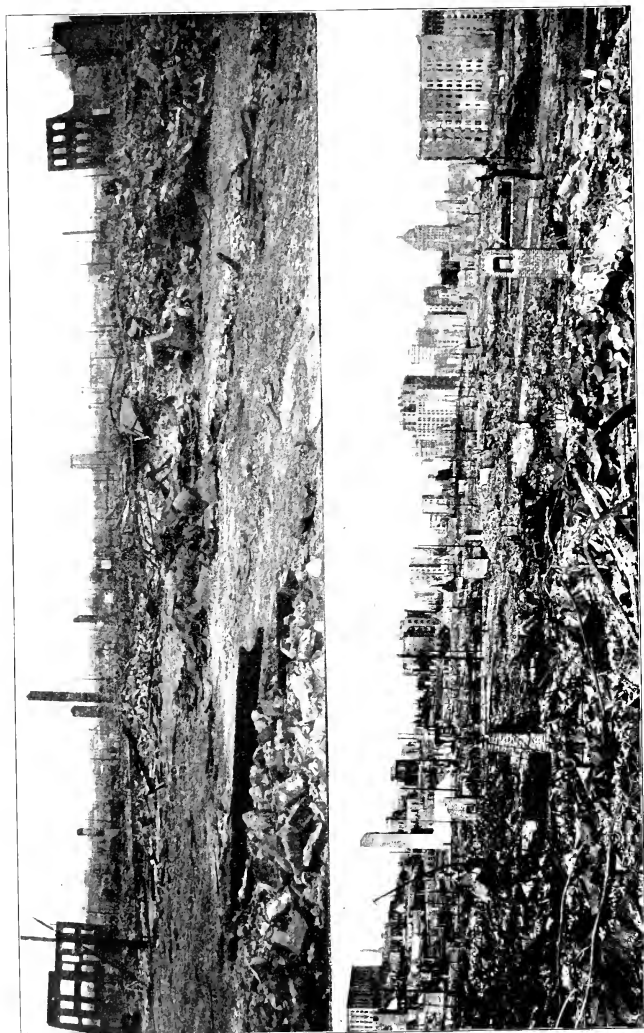
All the accounts of blue lights are of scientific value, but that sent by Engineer J. E. Hauser, from San Jose, California, is remarkable.

"On April 18, I awakened five minutes before our clock struck five. I heard a rumbling noise as of distant thunder. Two mares with young colts were running and whinnying in an adjacent lot, in alarm as though dogs were after them. Dogs were there, but they too gave unusual warning of danger. At 5.12 my bed jumped from under me, the movement starting from a standstill.

"The force seemed to raise up the house and turn it to the right upward and left downward, with tremendous power, so forcible as to tear me loose from the door frame to which I was clinging with both hands, my wife holding around my waist.

"We both could see down Alameda Street, looking eastward, and we both saw the whole street ablaze with fire, it being of a beautiful rainbow color, but faint. We passed out into the street and met a man who asked, 'did you see the fire in Alameda street?' An hour later a friend told me that the ground all around was a blaze of fire."

Now this no doubt was an electrical display, for had gas been on fire all along the street, the houses would have been ignited. And





a letter from a point north of San Francisco describes blue lights as flickering like an Aurora, over wide area of marsh land, with a troubled surface of adjoining water.

And can it be possible that the giant electricity took part in the vast seismic turbulence?

I have a large collection of descriptions which must be omitted. The writer scarcely knows which one of the multitude of theories regarding the cause of earthquakes to adopt.

Pent up steam, gases, chemical activity, faults, shrinking, warping, crumpling of strata, contracting of the external shell on the liquid interior, settling, rising and distortion, together with sunspots, causing a variation in the earth's electrical potential and magnetic, and a dozen other hypotheses are found in the books. Of these I have decided to adopt the doctrine of "faults" in this earthquake.

There are rents, breaks, cracks and seams in the rock strata of the earth. There is an ancient fault in California. It appears on the coast south of Mendocino County, far north of San Francisco. It extends along a few miles inland and follows the coast southward, passes under San Francisco Bay, onward through Santa Clara County near San Jose, and extends to the south line of San Louis Obispo County. Here it makes a sharp turn to the east, and reaches the northeast corner of Los Angeles County.

There it bends to the south, passes eastward of the city of San Bernardino, and moving over toward the south, disappears beneath the waters of the Gulf of California.

This primeval scar has been traced by the expert Mr. A. S. Cooper, for more than five hundred miles. In some places one wall of the slip or fault is 500 feet higher than the other.

The San Francisco earthquake was due to a readjustment of the edges of the layers once torn apart when the earth was young. Since the convulsion that laid a proud city low, Professor Branner of the Stanford University explored the ancient rent for forty miles south of San Francisco, and discovered that the archaic wound had re-opened exposing fresh edges of the ancient layers.

In the Santa Cruz Mountains, he found lateral displacement of four feet, and vertical two. This is sufficient to have produced the earthquake.

In Golden Gate Park I saw a displacement of two feet and a vertical of ten inches. The fault approaches the sea south of San Francisco a few miles, and an extensive landslide, forming a new point jutting into the ocean, occurred near there.

Faults, notably those in great mountain chains of solid rock, are very slow in re-adjustment, and it may be that centuries will elapse before another upheaval comes. But then they will have scientific buildings, almost completely earthquake- and fire-proof. Bricks will be obsolete.

Between the eruption of Vesuvius and the California earthquake I was able to secure only four observations of the sun. Few spots were on display, the largest being twice as large as the earth,—far too small to amount to anything. The position of the sun, moon, Mercury, Venus, Mars, Jupiter, and Saturn on April 18 were such that they were massed within five hours twenty-eight minutes of Right Ascension. This brought them in the same region in the sky. And they all combined to pull the earth off its orbit and nearer to the sun. The consequence was that the earth was 618,000 miles nearer to the solar globe on April 18th, 1906, than it was on April 18, 1905.

But our world has often been off its track farther than this without earthquakes. So all things considered, it is perhaps well to think that the great upheaval was due to the simple mechanical readjustment of an ancient fault that appeared when the earth was adolescent.

I have received seventy-four accounts. The appearance of blue lights was over a wider area than at first thought. In Petaluma Creek the water splashed up as though thousands of stones were dropped into it; and blue flames eighteen inches in height played over a wide expanse of marshland. At Sausalito an odor of sulphuretted hydrogen escaped from the earth. A blowhole in sand was formed on the beach near Colma, near the fault, and the sulphurous odors were pungent in Napa County during the night of the 17th and 18th, before the upheaval, and lasted all day.

At 5.00 P. M. before the turbulence "A flickering luminous haze" was seen playing above the ground, and during the oscillations "Many crevices were formed in the plains and mountains of Napa and adjoining counties whose surface strata are of white trachite, with disintegrated serpentine and porphyry, friable and permeable to gases."

From many of the letters it is clear that the entire region north and east of San Francisco is saturated with gases of sulphur origin, far beneath, or it may be near the surface. The world-famous Napa Soda Springs have increased flow from 60 to 100 per cent., and the temperature has increased. A spring near the Veterans' home, writes Mr. F. M. Clarke, has increased flow from 200 to 1000 gallons per day, while others ceased flowing.

Landslides are reported from every part of the wide area of seismic troubles where there are hills and mountains and cracks in plains.

A fault extends from Santa Rosa north of San Francisco to Salinas, south. Santa Rosa was nearly destroyed and disturbances occurred at Salinas. This fault also bends towards San Francisco from Santa Rosa. It appears that two faults were involved.

I have a mass of facts that cannot be mentioned in less space than a good sized book.

Thus the convulsions were felt on the surface, but not by miners below. Electricity might have been at work, the earth has a potential, and this might have been exerted in some way near the surface only. One remarkable fact is this, the immense Bay of San Francisco is filled and emptied by tides. The volume of water is enormous, and if forced through the narrow Golden Gate, the current would be rapid indeed. No such velocity exists, hence there may be an underground connection with the ocean.

Many fish were killed along the coast and as far south as Los Angeles. And fish taken from the sea opposite Los Angeles, had such a strong odor of sulphur that they could not be eaten.

Recent pumice stone has been gathered from the Pacific, two hundred miles at sea. John T. Reid, Lovelocks, Nevada, writes that a room there had a clock on each wall, those facing south and west stopped at 5.15 A. M., while those facing north and east kept running.

An artesian well at Calistoga, California, grew ten degrees hotter and the flow increased. Creeks became milky in several places as if gas escaped with the water.

In San Francisco, gyratory motions were shown in railway tracks. The immense Fairmount Hotel had the widest cracks near the corners.

I have many reports of waves in the earth, of twisting out, and of circular swinging in suspended lamps.

A dark funnel shaped mass was seen in Fourth Street, San Francisco, suspended in the air, and it was illuminated by scintillating lights like fire-flies. Blue flames were seen hovering over the bases of foot-hills in Western San Francisco.

Vast damage was done to the classic buildings at Stanford University, but the Lick Observatory near stricken San Jose, was spared, the costly instruments are intact.

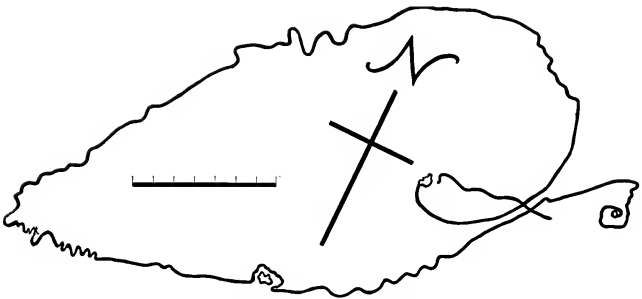
I do not wish to assert that the earth's charge of electricity

helped in the havoc, but believe that it did. That giant is able to do any vast work.

The appearance of bluish flames in so many different places on land, and also on the sea are very impressive phenomena, and suggest electricity. The drying up of springs and opening of others, the changes of the temperature of the water are an evidence of a shifting in the rock strata.

The rolling, rumbling sounds beneath and also thumps and beats in the earth, of explosive violence may have been due to subterranean thunders.

Cut No. 5 is absolutely unique in the entire literature of earthquakes.



NO 5. DIAGRAM OF EARTHQUAKE LINES.

Made by the dropping of oil on machine-shop floor at Lobetos, Cal. Drawn by Jerome Hamilton. The scale represents a length of seven inches.

In Lobetos, California, a cup of oil was suspended from the ceiling of a machine shop by a string. The remarkable series of curves shown is an exact reproduction. The actual size of a trace made on the floor by a thin stream of oil that was thrown out of the cup by the earthquake. This trace is of great value as it shows the precise motion of the earth's surface, and is a marvelous seismograph.

This earthquake will become historic; great questions arise: did man appear on earth before his dwelling was ready? Pelee, Vesuvius, Lisbon, Galveston, San Francisco, all appeal to the imagination. Does Nature care whether man exists? It is estimated that she has slain thirteen million human beings by convulsive force alone within the historic period.

## THE COHESIVE POWER OF IGNORANCE.

BY FRANK CRANE.

**I**T is not what we know, but what we do not know, that binds us together; that is, the spiritual conglutinate of the race is ignorance.

Men are found in certain groups; sects, which we say are united by a creed; parties, rallied to a platform of principles; cults, drawn together by a common enthusiasm; schools, unified by a dominant literary, artistic or social enthusiasm. But our language is superficial. It is not what the individual units of these aggregates see, but what they do not see, that gives solidarity. Ignorance is the welding heat.

The best political watch-word is one which nobody understands. I once heard a famous politician lecture on free silver. He took up his argument with much show of elementary clearness and logic. I heard several say at the close that it was a "masterly address, so simple, so plain." I flatter myself that I am a person of average intelligence, and I give you my word that I could not make head nor tail out of his reasonings. Much humiliated at the time, I have since comforted my soul by the discovery that the kind of oration which most imposes itself upon an audience is one wherein the speaker subtly feeds the vanity of his hearers by propounding utterly incomprehensible things with an air of assuming that of course all present understand him perfectly.

The tariff, being a complicated matter, which cannot be understood without long familiarity with practical business and a thorough grasp of political economy, which two things not one in a thousand men has, is admirably adapted for a party slogan. The very shrewdest and wisest business men disagree upon it. Hence the crowd loves to dogmatize about it, for what they lack in knowledge they can make up in noise and positiveness. An involved issue, like the tariff, poured down upon *hoi polloi*, acts upon them as a powerful

stimulant, very much as the oxygen gas with which Dr. Ox, in one of Jules Verne's stories, submerged a dull Dutch town, and quickened the people into enterprise and war, the like of which history had not recorded.

The power of the party boss resides in the ignorance of the voters. Why do you vote the straight party ticket? Because, when you take your ballot from the clerk at the polls, and run your eye down the list of candidates, you discover that you know few or none of them, and in sheer refuge from indecision you vote for every name marked with your party's sign. Party leaders understand this. They depend upon it for success. And they build upon no sand.

An army moves with machine-like precision only when each soldier understands nothing save to obey. General intelligence of the general's plans would be fatal to discipline. An army of Napoleons would crumble into inefficiency.

Our law holds true even in the more intimate relations. Friendship strains and breaks under too great intimacy. Love cannot live without its purple haze.

In how many instances has there been perfect union of souls during courtship, and estrangement after marriage! The wisdom of ages has crystallized this truth into an adage: "Familiarity breeds contempt." A certain inexpugnable reserve is essential to a happy union. The lover is never so at one with his mistress as when she appears to him in the veil of a glorified fancy, as Beatrice to Dante. It would be well if some admonishing spirits stood by the lover's elbow, as the *tre donne* stood by Dante, to warn him:

"Tanto eran gli occhi miei fissi ad attenti,  
 .....così lo santo riso  
 a sè traiali con l'antica rete;  
 Quando per forza mi fu volto il viso  
 vèr la sinistra mia da quelle dèe,  
 perch' io udià da loro un "Troppo fisso!"

*Purgatorio xxxii.*

It is because men plunder the reserves of the personality with irreverent greed that love ceases to attract and begins to repel. That is why

"All men kill the thing they love!"

When you have pillaged the holy of holies you hate the temple. The youth, in Schiller's "Veiled Statue at Sais," though repeatedly warned, yet resolved to lift the veil, and to know the truth which the oracle declared to be there concealed. He raised the veil; he saw the truth; but what he had seen he told no man.

"Auf ewig  
 War seines Lebens Heiterkeit dahin,  
 Ihn riss ein tiefer Gram zum frühen Grabe!"

The higher you ascend in the order of spiritual cohesion the more vividly this law is apparent. And so nowhere is it more marked than in religion. The great ethnic religions rely upon the ignorance of their followers for their strength. Perhaps the most absolute hierarchy of history was the Egyptian priesthood, which owed its long authority to the controlling power of its mystery and esoteric darkness upon the popular mind. And in Brahmanism, Buddhism and Mahometanism we see the same paralyzing dynamic of ignorance.

Of Christian sects easily the most coherent is the Roman, which has so impressed its infrangible solidarity upon the world's imagination, and which still shows such undiminished unity, that Macaulay, in his wellknown *mot*, pictures it as still persisting, when the New Zealander contemplates the ruins of English civilization from the broken arches of the London Bridge. And the first principle of the Roman organization is not the dissemination of intelligence among the masses, nor the development of private judgment.

With the advent of an effort to enlighten the common herd, came the breaking of Christianity into sects. The informed mind protests. Hence, protestantism. In vain protestants seek to make their churches as solid as the Roman. Their basal cause of existence is fatal to unity. Acting in the direction of its origin, the force of protestantism ever tends to disintegrate; to perfect its spirit it must destroy its organization; while the Catholic Church naturally moves onward in increasing centralization. Which of the two systems is better for the world, the reader may judge for himself, but there can be no two opinions as to which is the better for itself. We must define our aim. If the goal of Christianity is to get every soul eventually into the Church, then the Roman plan is the better. If on the contrary Christianity's triumph mean the ultimate diffusion of certain principles of life, to be worked out by each individual in his own way, then the Protestants are logical. But there are many Romanists in Protestant Churches, and many Catholics have really been Protestants.

Even with the widest interpretation of religion, however, it still remains true that the perpetuity of "the faith," that is, the continued existence of a belief in and a reliance upon the infinite and the unseen, hangs not upon what we know, but upon those things that are unknown, and that can never be known. It is herein

that the future of religion is secure. The secret of the universe, the nature of God, the destiny of man, the hereafter, these must remain in their original shadow, defying every attempt to define them. "I am that I am," said Jehovah, and left us still groping toward His face and name. The heart stands before the universe as before the ocean; our little boats of speculation come and go, but the boundless expanse stretches ever away to meet the sky. It is this unfading mystery that gives religion its hold on man. What we understand we trample underfoot, and ask new riddles. What baffles us forever, we seek forever. "The things seen are temporal; the things unseen are eternal."

For within us is an unexplored country, "mountains of the moon," region of perpetual fog and impenetrable wilderness. To ourselves we are deeply unknown. And out of this unknown region in us come our greatest passions, our profoundest aspirations. The infinite being within us, we can never reverence anything outside of us except it has a like infinity. Explanations have their day, but the sombre river of the utterly inexplicable flows on forever. In this stream we would fain bathe. The secret of the universe is beautiful, but it is darkly beautiful,—evasive, alluring.

Now the perpetuity of religion is assured chiefly by this truth. For the unknown is infinitely greater than the known. What we know not is "that great sea of nescience upon which all our science floats as a mere superficial film." Forever will "lame hands of doubt" reach out toward the mysteries of the Infinite Father, the Cross, Eternal Life.

So are we sweetly bound together and to God by our limitation. Science, criticism, knowledge, "puffeth up," enlarges but isolates the soul. Love, worship, "buildeth up," cementing as it uplifts us.

The soul faints ever for the unknowable. The chief unknowable is Love, hidden always to reason, melting us together by its strange power. Love draws us each to each as to a shelter from the infinite. Because we are so ignorant of the wild waste of waters we call Life, we fix our eyes on God, as upon a pole-star.

Not in the sense in which it is commonly understood, but in a deeper, truer sense, is "Ignorance the mother of Devotion."



## AGNOSTICISM IN THE PULPIT.

BY THE EDITOR.

AGNOSTICISM is the most fashionable and popular philosophy of to-day, and though it came as an enemy to religion, it has gradually crept into the pulpit, and may now be regarded as the most redoubtable stronghold of dogmatism, or rather of the dogmatic interpretation of traditional belief. The founders of agnosticism, Professor Huxley as well as Mr. Spencer, were antagonistic to the Church, and claiming that Church doctrines referred to subjects lying beyond the ken of human experience, protested against the right to prescribe a definite belief. It is but consistent, however, to expect the agnostic to take his own medicine. Since no one can know, everybody, the Church too, has a right to believe whatever may be deemed worthy of belief on mere preference and without evidence. Thus the dogmatist feels firmly entrenched in his old position, and agnosticism has more and more become a welcome ally to dogmatism. We have an instance of this alliance in Rev. Frank Crane's eulogy of "The Cohesive Power of Ignorance" which he has set forth with that extraordinary force for which he has become famous as a pulpiteer at Chicago, as well as in other cities of our country.

Mr. Crane's view is quite typical for a great number of the clergy, but we do not think that this attitude is wholesome, nor that it will really prove helpful to the Churches.

Agnosticism is not a constructive power, but a dissolvent. It acts gradually like a slow poison, occasionally as an anodyne, but always with benumbing influence, and so it comes to destroy the vital power of the mind which it invades.

We need not deny the many truths contained in Mr. Crane's article. We know very well the charms of haziness, the mystifying power of vague notions, the awe of the ignorant when stultified by

things that lie beyond their comprehension.\* But for that reason ignorance will never prove a wholesome and constructive force to be welcomed as an important and powerful factor in the upbuilding of social or ecclesiastical ideals. The power of campaign phrases in the free silver movement, and also the clamor for the protection of home industries by a high tariff etc., is not due to the ignorance of the masses or to the haziness of the propositions of campaign orators, but finds a ready explanation in the business interest of certain classes to which an appeal is made. The people who hope for profit by free silver or by protection applaud the orator for his promises, not for his arguments. Agitators of any kind do not appeal to the intellect but to the will, and the will is satisfied to have the logical mistakes covered over by empty declamations, and bold assertions are under these conditions gladly accepted as self-evident truths. It is not the lack of logic, not the presence of ignorance which lends power to these vague phrases, but the personal interest, the egotism, the greed, or other passions which are thereby directly aroused.

It is claimed by Mr. Crane that those armies are most efficient which "move with machine-like precision," those in which "each soldier understands nothing save to obey," suggesting that intelligence is rather a hindrance to victory than a help. This is an error which strategists have overcome since the time of Frederick the Great. The Prussian tradition established by this philosopher on the throne, is based upon the very opposite principle. A soldier is not requested to obey blindly but is expected to judge for himself, and this principle is what made the Prussian army so successful. While in other armies any officer would have been liable to court-martial if he did not implicitly obey a definite command given him, Frederick the Great and all his successors, would do the very opposite and court-martialled any officer or even a private soldier if he acted in strict obedience to orders when the conditions under which the orders were given had changed. It is true that the highest in rank is always responsible for the whole military division under his command, and he must be obeyed. In so far obedience is indispensable, but the highest in command is not expected to be an unthinking obedience machine, but a thinking man responsible for his conduct, and this principle extends to the private soldier, if he serves as sentinel or on picket duty. He is responsible and under definite conditions he is expected to act against impracticable orders.

\* See, e. g., the author's article "The Importance of Clearness and the Charm of Haziness" in *The Open Court*, Vol. V, No. 27.

There is no need of historical examples. I will only add that military critics express this broader interpretation of a soldier's obedience in the Prussian army as transforming a machine into a living organism. The machine represents the theory of implicit obedience; while the organism, a kind of living machine, represents an organized body where independent judgment is used by every center and sub-center, all being subservient to a common and general purpose rendering it possible that all the organs act in concert.

Summing up the case, we could say that ignorance is the most serious drawback to an army, while intelligence renders it most efficient, and thus Mr. Crane's argument fails to prove his contention.

The proverb "familiarity breeds contempt" seems to support the evidence that the better we are acquainted with a man, the less we respect him, but such is not the case. If we become acquainted with the great features of a great man, we will admire him the more. If we find out his foibles, or his all too human frailties, we may come to the conclusion that he is not a great man, but in that case familiarity does not breed contempt, but only helps us to discover the truth.

By the bye, the proverb does *not* mean that a perfect acquaintance with persons makes us despise them. The connotation of familiarity means a familiar or intimate relation of a superior to the people in his charge. An officer who carouses and drinks with private soldiers will naturally lose his authority, and this is the sense which the proverb means to convey.

The idea in Schiller's "Veiled Statue at Sais" is not that truth becomes hideous or contemptible if we become familiar with it, but, as Schiller himself says, that truth will not be wholesome if we reach it through guilt, and it stands to reason that we are not ripe for a truth that has not been attained in the natural course of our intellectual development. Schiller does not mean to say that truth is hurtful; indeed he has said the very opposite elsewhere. He merely states that our determination to have truth at any price will be disastrous if we insist on having it without being duly prepared for its reception.

The idea that the main problems of religion, especially the questions as to the nature and existence of God, the soul, and the immortality of the soul, are beyond the ken of man, has become very popular and is regarded among many people as almost axiomatic. It is the superstition of the day and is spreading like a blight. We believe that this agnostic view is a most injurious error which must

be overcome in order to assure a healthy further development of mankind.\*

We do not deny that there is a certain truth in agnosticism, but it is different from the favorite tenets of the agnostic. It is true that many problems are as yet unsolved, but they are not for that reason unsolvable. Much is unknown but nothing is unknowable. Certain things may be unknowable under certain conditions, but only the self-contradictory, only the absurd, is absolutely unknowable. The problems which are unsolvable are illegitimate problems. If we find a problem that can not be solved, we may be sure that it is wrongly stated and belongs to the category of sham problems. All knowledge is a description of facts and comprehension is due to a correct formulation of groups of facts so that the applicability of the law pervading all becomes apparent. All facts that come within the range of our experience are classifiable and thus they are subject to comprehension.

There is nothing that theoretically considered would be incomprehensible, for absolutely incomprehensible facts would be such as would not be subject to universal law and would not conform to the general world-order. As to the laws themselves we find them to be an orderly whole, a system of which the one is a mere modification under certain conditions of all the rest, and the whole is permeated by an intrinsic sameness reflected in the necessary orderliness of mathematics, of geometry, of algebra, of logic. Obviously there is something wrong with our notion of science when we think it leads to nescience, and with our religion if it is built on ignorance.

Mr. Crane claims that the Egyptian priesthood owed its long authority and power over the popular mind to the mysteries of their religion and the esoteric darkness of the people, and he thinks the same is true of Brahmanism, Buddhism, Mahomedanism, etc., but a closer acquaintance with the history of Egyptian and other faiths proves that this is not the case. The heart of the Egyptian was hungry for comfort in death and the tribulations of life and he found what he sought in the story of Osiris, the god who had become man and lived among the people as a man, subject to the same fate as they themselves. Osiris lived among them and went down to the world of the dead, preparing the place for all others who would descend to the same place, and thus he became their saviour who

\* We have published our views on the subject in a booklet entitled *Kant and Spencer*, which contains a criticism of the philosophical foundation of agnosticism.

would assure the immortality of his devotees on condition that they would keep his commandments, and on the day of judgment be found just in their actions and pure in their hearts.

There is not one among all the religions which is built upon ignorance, but all of them are based upon the aspirations of the human heart which develop naturally and inevitably in any human society. Different religions express their religious faith and their hopes differently, some more clearly than others, some only vaguely, but the kernel of every one of them incorporates positive experiences and a certain amount of conviction; the essential part of them is always some positive faith; it is never negative, never ignorance, never an absence of knowledge.

It is true that the vast realms of the unknown stretch before us and they are much larger than the area of facts which have been illumined by the light of cognition, but we must bear in mind that knowledge possesses the quality of being universal. Thus the rays of comprehension extend into the unknown regions of the most inaccessible domains of the world. The fabric of the universe is not chaotic, but reveals a definite plan and so by having a little portion of the world well understood we are in the possession of a key which will unlock doors containing mysterious revelations of the most distant spheres.

The awe which man feels when facing this omnipresent order, and not our ignorance as to the constitution of the cosmos, has produced the conception of God, and though, at first, man merely divined the order of the universe and expressed his conception of it only in symbols before he could thoroughly grasp and understand it, it is not the unknown nor the not yet known of the deity that pervades the world in all its phases, but it is the obviously known and undoubtedly true which makes man bow in worship together with others who feel the same spell of religious devotion. Man's ignorance will never produce religious sentiments that will build up and edify the soul. From the realms of ignorance bigotry has risen, fanaticism and all the host of aberrations, but not the ideals of true religion.

Our limitations are indispensable because all corporeal beings are limited in space and time, but in spite of all limitations, the soul is capable of reaching out into the vast regions of the unknown universe, and it is characteristic of all mentality that the mind comprehends in every particular case the general and universal law. This characteristic feature of mind, of reason, of spirit, makes man Godlike and renders possible his sentiments of moral and religious

aspirations. This feature of rationality, too, is the factor that produces science.

It is not true that science, criticism, and knowledge "puffeth up" that it "enlargeth but isolates the soul." Science "puffeth up" only if it be pseudo-science, or if it be void of other human or humane sentiments such as kindness and proper regard for others. It is true enough that science alone without sentiment or sympathy for others is like a tinkling cymbal, and a mere intellectual comprehension of the universe will forever remain insufficient. But a lack of science will not make up for these deficiencies. We can expect no help from ignorance. Lovingkindness is needed to fill the gap in our hearts. Love inspires respect for everything good, holy and noble, but not ignorance. There is no virtue in ignorance, nor is there any redeeming feature in ignorance. Ignorance is not the mother of devotion but of superstition.

## THE DOG'S BOILERS AND THEIR FUEL.

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

THE secret of life lies in the gift of drinking in sunshine, either raw as plants do, or worked up into what we call foods, as animals must, and using its warmth for selfish purposes. The green-stuff of plants catches the sunlight, which sets to work building the stem-leaf house, and then storing it with starch and sugar. Then comes the animal and, most greedily, eats up the plant, crystallized sunshine and all, and uses it first to build his own body-house, then to move it about and warm it.

The first and most important need of the dog-engine is plenty of fuel. It was to move about in search of this, that his racing-machine grew up. So that his body is like a locomotive, not only in having a running-gear and "wheels," but a "fire-box" as well, in which his food-fuel can be burnt and turned into heat and horse-power, or more correctly, "dog-power." As you would expect in any fire-box, there are two openings, one for taking in fuel, the other for getting rid of stuff that will not burn properly, called ashes or waste.

These are the opposite ends of the body, so that the dog's fire-box is in the form of a longish tube, known in Latin as the *alimentary canal*, or in plain English, *food-tube*. This is the form of the body-furnace in all backboneed animals, and most backboneless, though some of the simplest and earliest of these have a mere pouch, with but one opening.

But the food-tube of the dog is very far from being a simple canal, of uniform calibre from mouth to anus. As you look at it, you see that about a foot down from the mouth it balloons out into a pear-shaped pouch, the stomach, then becomes small again and thrown into a large number of coils, the last of which is somewhat larger than the others. Altogether in fact, instead of being just the length of the body, it is between five and six times as long.

Is there anything in the food of the dog to explain this state of affairs? Why does he need a stomach-pouch, and coils of intestine?

A pouch is used to store or carry things in, and if you recall

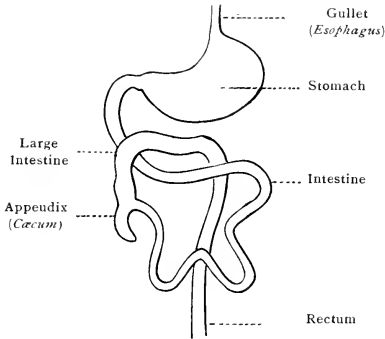


FIG. 1.  
FOOD TUBE OF DOG.  
(From Flower).

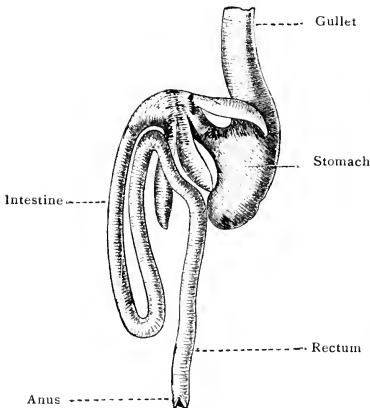


FIG. 3.  
FOOD TUBE OF FISH (PERCH).  
(From Wiedersheim).

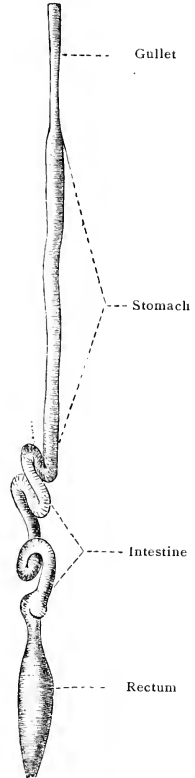


FIG. 2  
FOOD TUBE OF NEWT  
(From Wiedersheim)  
showing simplicity and  
straightness.

the kind of food that the dog lives upon, you see at once how much he needs a place, where he can stow away a quantity at one time to be digested at leisure. When he catches a deer, or a wood-chuck,



all that he is sure of is what he can eat on the spot. He is compelled to be greedy, for if he leaves any of it till next day, or even next meal, it is almost sure to be stolen before he comes back. So he gorges himself with all that his stomach will hold. Indeed if you can come upon a wolf while he is feasting on the body of a heifer, or yearling colt which he has pulled down, you can sometimes ride or run him down, inside of a mile, so enormously has he loaded down his stomach, not merely for present but also for future use.

This then is the primary use of a stomach, a storage-, or delay-place for food, until it can be gradually absorbed. But would not this delay be an excellent time for beginning to melt it for absorption? In an early and simple stomach, like the fish's, where the food is chiefly other fishes, shrimps, worms, water-weeds and such-like soft, watery things, which need only to be kept warm and moist, to melt of themselves, you will find little else in its lining but a pavement of thickish, smooth cells. But if you will look at the lining of the dog's stomach, you will see that it looks thick and velvety, and with a magnifying-glass you can make out swarms of tiny, little openings, like pinpricks, dotted all over it. These are the mouths of tiny pouches of the inner cell-sheet, known as glands, which manufacture and pour out a sour juice, called the stomach- or in Latin, *gastric juice*.

This has a curious power of melting meat, and can dissolve a moderate stomach-full in two, or three hours, though the huge gorges that the wild dog takes may require two or three days, during which he sleeps most of the time, in his burrow, or on a sunny hill-side, and doesn't like to be disturbed. Indeed it is a rule, with wolf-hunters, that unless you can get your hounds to the place of his last kill within twelve or fifteen hours after he has left the carcass, so that the pack has a chance of "cold-trailing" him to his lair, it is better to wait two or three days, until hunger drives him abroad again, for as long as he lies still, he, of course, makes no trails, and to beat the woods on the mere chance of stumbling upon him, would be like hunting a needle in a hay-stack, unless you happen to know just what thicket he "lies up" in.

This explains the meaning of that simple, pear-shaped pouch in his food tube, which we call the stomach. But what of the long coils, not unlike a live garden-hose, into which the rest of the tube is thrown? Evidently these are not adapted for storing the food or for letting it rest in one place until it can be melted; but if you will open the tube and look at a portion of its lining under the microscope, you will get a suggestion as to the meaning of this loop

of coil form. Instead of being, like a stomach, dotted all over honeycomb fashion with tiny little openings of glands, the lining of this part of the tube, known from its narrowness as the *small intestine*, is covered with tiny, fingerlike projections standing up all over its surface; and it will not take you long to guess that like fingers elsewhere the purpose of these is to pick up things, and that the business of this part of the intestine is to take up, or *absorb* the food which has been melted in the stomach. But why should it be so long? A simple experiment will answer the question.

If you will take a sheet of blotting-paper, hold it on a gentle slant and endeavor to pour a stream of ink down it, you will find that although it runs briskly enough for the first inch or two, before it reaches the bottom of the sheet the current stops completely, as it has all been soaked up by the paper. Now this is, roughly speaking, almost exactly the process which is going on in the dog's small intestine, and for the matter of that in the intestine of all animals including ourselves, and it follows, that the longer the tube of living blotting-paper, the more completely will the melted food be absorbed. But it must not be supposed, that nothing else but absorption of the melted food takes place in the small intestine. A good deal of further melting goes on as well, for although the lining membrane in the greater part of the intestine has lost most of the gland pouches which pour digestive juice into the stomach, yet this is only because, so to speak, these have all been piled together in two great masses, each of which opens by a tube nearly the size of a quill into the bowel, just beyond the stomach. The largest and solidest of these, on the right side of the tube, is known as the liver; the smaller and more loosely built, upon the left and behind the stomach, is the pancreas.

These are simply very complicated gland-pouches which have budded out from the lining of the tube, like a little plant or shrub whose stems are hollow. The leaves of the shrub are the cells which manufacture the digestive juice, the stalks are the smaller collecting pipes and the stem is the discharge tube or duct of the gland, through which this digestive fluid is poured into the food tube.

But it will strike you at once, that the huge, solid liver is much larger than would be needed, simply to manufacture and pour into the canal the bitter brownish or greenish bile; and your suspicion would be quite correct, for in addition to aiding digestion in this way, the liver also receives the blood from the walls of the food tube loaded with nourishment which has been soaked up out of it, and sends this on another step in the direction of being turned into

blood and body fuel. It also filters out and neutralizes many poisons which get into the blood both from the food-tube and from the waste-processes of the body-cells.

Then if you will look at a food-tube which has been blown up and allowed to dry, you will see that after the coils of the garden-hose part of it comes a third, very much wider portion, curiously puckered and pleated along its sides, known as the large intestine. In the lining of this you will find no fingers whatever and very few gland openings, and this, together with the curious way in which its walls are pouched and puckered by three narrow bands of muscle fibre, which run along its outer wall like draw strings in the mouth of a bag, would suggest that it is merely a place of detention for the remains of the food until its moisture and such traces of nourishment as the fingers of the small intestine have left in it have been soaked out of it.

The saving of this loss of moisture is really a very important thing, for none of our body cells can live unless kept continually in water, and saltwater at that. We are still sea-animals in ninety-nine per cent. of our structure. When the parts of the food which are too hard or tough or coarse to be melted by the digestive juices have had all the nourishment and surplus moisture sucked out of them they are discharged through the second or terminal opening at the end of the food tube known as the anus. Like other furnaces, the body fuel-tube is constructed with two openings, one to receive fuel and the other to get rid of ashes or waste.

If then the food tube of the dog has grown into its present shape to match the amount of food which is put into it, we would expect that animals living upon widely different food would be found to have developed a somewhat different shape both of stomach and intestine, and if you will look at this drawing of a sheep's stomach, you will see at once that this is just what has occurred.

In place of a single, pear-shaped swelling or pouch in the course of the food tube, you find a most complicated-looking bag of four pouches or chambers opening into one another, the whole being nearly four times the size of the stomach of a dog of the same weight. But to remember the difference in the food is sufficient to explain this at once.

The dog, of course, under natural conditions lives almost entirely upon meat, which is quite a concentrated food and three or four pounds would make a fairly satisfying meal. A sheep, on the other hand, lives upon grass, leaves and hay with a little grain in the winter time, and these foods are extremely coarse and low in

nourishment-value. It would take from twenty to forty pounds of green grass to make a satisfactory meal for a sheep as against the three or four pounds of meat which a dog of the same size requires, so that just as a place to store food, the sheep's stomach needs to be much larger. Not only this but coarse hay and such foods are much harder to melt in the stomach, more difficult of

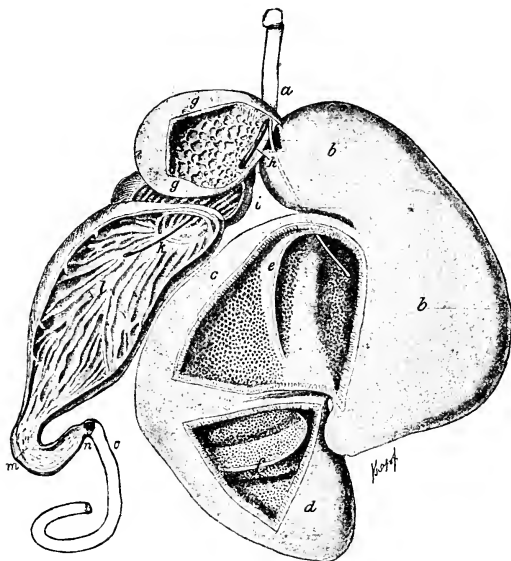


FIG. 4.—STOMACH OF SHEEP. (From Oppel.)

*a*, Gullet *Esophagus*; *b*, *c*, *d*, the three subdivisions of the paunch, marked off from one another by the folds *e* and *f*; *g*, reticulum; *h*, œsophageal groove; *i*, psalterium; *k*, aperture leading from the psalterium into the abomasum (*l*, *m*); *n*, pyloric valve; *o*, intestine.

digestion; indeed, neither the dog nor ourselves could digest enough of them to live more than a few days upon a diet of grass, leaves or green vegetables, and this you see is matched by the numerous divisions of the sheep's stomach.

So hard of digestion is a grass diet, that it is not sufficient to bite it off, chew it and swallow it, but it has been found necessary to put it through the curious process of returning from the stomach to the mouth, to be carefully chewed or masticated a second time, and that is the meaning of the first or largest pouch at the right of

the sheep's stomach as you look at it, known as the paunch, which is simply a storage bag, where the grass and leaves, taken in by the sheep while grazing, can be stored until the animal has time to lie down in a quiet place and devote its entire attention to, as we say, "chewing the cud," or masticating carefully for a second time the food, as it is returned to it from the first pouch of the stomach. This is what is known as *ruminating* and has given the name *ruminants* to this class of animals. Curiously enough, from the fact that sheep and cows look so peaceful and meditative while they are going through with the second eating of their food which they seem to enjoy thoroughly, the term has actually been applied to the mental process in ourselves known as "thinking over things."

From this second grinding the cud is passed back through the second and third stomachs where it undergoes a sort of churning process and then passes into the last compartment of the stomach (to the left of the picture) which corresponds to almost the entire digestive stomach in the dog and in ourselves. Indeed if you will look closely you will see that it is nearly the same pear shape as the greater part of the dog's stomach.

Now let us turn to the small intestine. At first sight this appears entirely unchanged, but it looks somehow much more complicated and if we proceed to measure its length, we find that it is nearly three times that of the dog's intestine, that is to say, while this part of the food tube in the dog is from four to six times the length of his body, in the sheep it is from twelve to fifteen times the body-length, and this is only what we would naturally expect, when we remember that it has to deal with food that is much more difficult of digestion and consequently requires a longer absorptive surface to soak it up completely. The second or larger part of the intestine differs from that of the dog only in this same direction of being longer and slightly more complicated, to match the more watery character of the food. The shape and length of the food-tube in different animals match quite closely the character of their food, just in the same way as do their teeth. By looking at an animal's teeth you can usually tell quite accurately not only what sort of food he lives on, but also what sort of stomach and about what length of food-tube he has.

A curious proof of the close relation between teeth and food-tube is to be found in those toothless "animals" the birds. These, as you all know, have no teeth but simply a horny covering of the jaws known as a beak. In the birds of prey this beak is curved and sharp so as to be capable of tearing up the food to some extent.

but in the greater majority of birds, both those who live on grain and seeds, and those who live on insects, the beak is simply a quick-acting pair of pincers for picking up the corn and catching the insects, which are then swallowed whole.

How then is their food canal to manage food in large, hard pieces like this, which has never been ground by teeth before it is swallowed? As everywhere else in the animal kingdom, nature is ready with a substitute. Instead of teeth, moved by powerful jaw

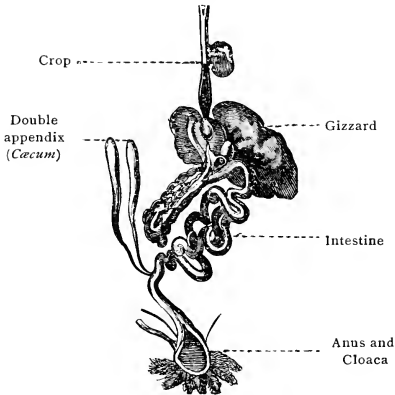


FIG. 5.—FOOD TUBE OF BIRD.  
(From Holder).

muscles, developed at the *opening* of the canal to form a grinding apparatus, near the *middle* of it, just beyond or more exactly in the last portion of the stomach, we find a thick, hard globe, about the size of a walnut in a fowl, for instance, known as the gizzard. On cutting into this we find, little as it looks like it from the outside that it is really a pouch with immensely thick walls, made up of strong muscle and tendon and lined with a thick leathery, almost horny, layer. The small hollow in the center of the pouch is usually filled with bits of gravel and pebbles.

What can be the use of such a strange-looking structure as this? If you would clasp your two hands together as if you were about to wash them in imaginary soap and water, then drop into the hollow between the palms a piece of chalk, say, or a lump of hard clay, and rub it backward and forward between the palms, you will find that you can break it up into small pieces and gradually

to powder. If, however, you drop in three or four other small pieces of chalk or dry clay and especially one or two pieces of squarish bits of stone, or any small object with a rather rough surface and some corners on it, you will find that you can grind the clay or chalk into powder nearly twice as rapidly, and that you can even break up grains of corn, thin-shelled hazel-nuts and walnuts in this curious form of mill, and this is precisely the meaning and action of this tremendously thick-walled pouch at the end or "door" of the stomach.

The food is here ground into powder, *after* being softened and soaked in the crop and stomach instead of *before*, as in animals. Nature can make a grinding-apparatus at any part of the food-tube where it seems most desirable. With this exception and addition of a pouch-like swelling of the gullet, at the lower part of the neck, where food can be stored and soaked before being passed on to the stomach, the bird food-tube is practically the same as the animal's.

It matches the character of the food in precisely the same way, for in birds which live upon flesh or fish or soft bodied insects, the walls of the gizzard are extremely thin, because such food after being torn up by the beak needs comparatively little grinding and the length of the food-tube is short in proportion to that of the body. In the grain-eating birds on the other hand, its walls are extremely thick and strong, because their food cannot be properly melted for absorption until it has been ground, and the food-tube is long in proportion to the length of the body, just as in grass- and grain-eating animals. As an instance of how quickly a food-tube can adjust itself to change in the diet, it has been found that the gulls in the north of Scotland, which during one part of the year live largely upon grain and seeds, and another part of the year chiefly upon fish, grow a much thicker walled gizzard during the time that they are living on grain than they have in the other half of the year when they live upon fish. Curiously enough, in the ant-eaters, some armadilloes and other animals of that class, which have lost their teeth and hence are known as "edentates," the lowest part of the stomach has become greatly thickened and lined with horny plates almost exactly like a bird's gizzard.

As we have seen that our own teeth are intermediate between those of the flesh eaters and those of the grain eaters, although much nearer to the former than the latter, so our food canal is also intermediate between the two, although it is so little removed from that of the dog that nearly everything that we have said of the dog's food-tube is true of our own. Our stomach is a little larger,

on account of the larger amount of potatoes, vegetables and such like bulky foods that we eat, but its shape is almost exactly the same, and our food-tube, for the same reason, is about six times the length of our bodies instead of about five times as in the dog.

But we again come under precisely the same rules as the rest of our animal cousins in this respect, for negroes and other races of men living in warm climates where there is abundance of vegetable food, such as rice, bananas, yams, maize and fresh fruits, to be had the year round, and whose diet is in consequence more largely vegetable than that of our northern races, have added about another body's length to their alimentary canal. The same sort of lengthening has been proved to take place in the food-tubes of poor children in the city slums, who are fed upon coarse, innutritious and indigestible food. In them the canal may actually become ten or twelve times the length of the body.

It is said by some observers that the Esquimaux, in the frozen North, who are compelled by their climate to live almost exclusively upon animal food, and that very largely in its most concentrated form of fat or oil, have shortened theirs nearly a body's length.

You must not however conclude, from what we have seen of the shape of the dog's canal, that his food is or ought to be entirely meat or flesh. There are very few animals indeed that live absolutely and entirely upon a flesh diet. Those who take their flesh in the form of fish, such as the seals, some fishes, and the flesh-eating birds, are almost the only ones. Even when wild, although two-thirds or three-fourths of his diet consists of the flesh of animals and birds that he can capture, the dog also eats a certain amount of fruit during the season. Indeed the best place to find tracks of wolves, foxes and bears in the height of summer is in the patches of wild raspberries, wild cherries, salmon-berries and so forth, and later in the groves of wild plum trees. Some dogs will even go so far as to crack and eat nuts when they can find them, and nearly all these wild animals when captured, if given bread or sweet-stuff or even potatoes and carrots will eat them in fair quantities.

I dare say most of you have seen dogs biting off blades of grass and swallowing them, but this is not for food, merely their way of taking medicine for certain digestive disturbances. Since the dog has become domesticated, sleeps for the most part under cover, spends a good deal of his time in-doors and has only about half the need of exercise or the opportunity for it, that he had in the days when he would find his breakfast on foot, on waking in



the morning, he no longer needs such a concentrated, highly nourishing and stimulating diet as one of pure meat. Indeed, too much meat will seriously upset his digestion, and, fanciers assure us, give him that unpleasant "doggy" smell, which is the principal objection to his being received in the parlor, as a member of the family.

A diet consisting of a mixture of animal and vegetable foods, meat and bones with potatoes, rice, oatmeal, breads and biscuits of various descriptions will be found to be the best for his health under domestication, and though sugar forms but a very small part of his diet, when in a state of nature, only during the short fruit-season in fact, yet a small amount of it in his food is of great importance and one of our best known brands of dog biscuit owes part of its value to the fact that it contains sugar in the form of dates. In fact, so closely does the dog's alimentary canal correspond to our own that when he is brought under domestication and housed and "cityfied" as we are, he thrives best on almost precisely the same diet that we ourselves use. There is no better food for any dog than an abundance of household scraps, and dogs in kennels who are fed in large numbers, upon specially prepared and purchased foods, seldom thrive as well as those who get the "little-of-all-sorts" diet which any household scraps can give in perfection. As for the dogs and their cousins the bears, in captivity, a well-mixed diet, like our own, is found to agree with them far better than a purely animal one.

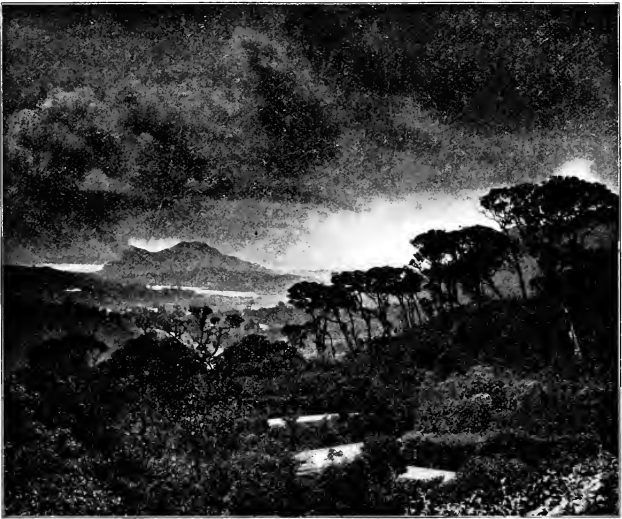
Of course here as everywhere else, the food fuel must be regulated according to the kind and amount of work required of it, and for hounds and other hunting dogs, setters, collies, and dogs that are used to draw carts and wagons, larger quantities, in proportion, of meat and larger total amounts of food are required, than in the case of pet and lap dogs of all sorts, or the ordinary city dog, who is confined for the most part to a small yard and has only an occasional formal run of an hour or so as an apology for exercise.

The more nearly vegetative a dog's existence becomes, the lighter and more vegetable should his diet be. In fact, some unfortunate little wretches of lap dogs, toy spaniels and pugs, can only be kept alive at all and in any temper short of fiendish, by cutting down the meat in their diet almost to the vanishing point. Some of them are kept by fanciers, when training for a particular beautiful coat of hair, for show purposes, upon a diet of toast, dipped in tea, or milk-and-water; shavings, instead of sea coal, under their boilers.

## PROFESSOR HAECKEL AS AN ARTIST.

BY THE EDITOR.

SOME time ago we called attention to Professor Haeckel's work on *Art Forms in Nature* which was appearing in installments, and now we make the announcement that the work has been completed and lies before us in a stately folio volume, containing 100



VIEW FROM THE RAMBODDE PASS.

4535

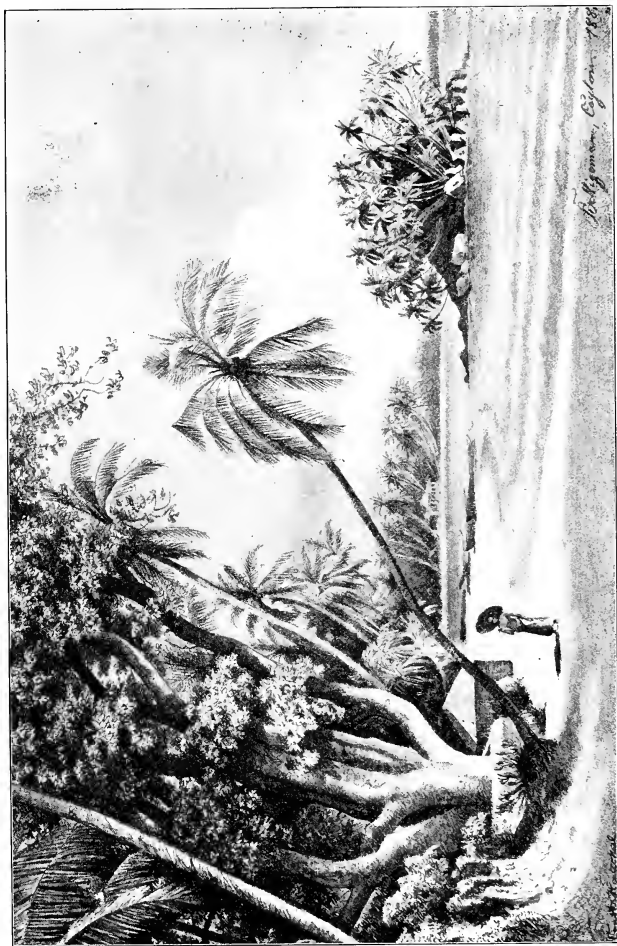
After a photograph from Haeckel's *Wanderbilder*.

plates, many of them colored, and accompanied by descriptive text.\*

The elegant beauty of some of the lower forms of life is sur-

\* *Kunstformen der Natur*. Leipsic, 1906.

prising, and it seems that these pictures and photographs should be of rare value to artists, especially those who work in the line of



COCOA ISLAND AND REST HOUSE AT BELLIGEMMA.

4534

arabesque and kindred designs. The different creatures from the lowest ranks of life, plants as well as animals, present an astonish-

ing wealth of types, some of them just ready for immediate use as ornaments, either for designs or plastic forms. We have reproduced a few of these wonderful art forms in nature in a former number



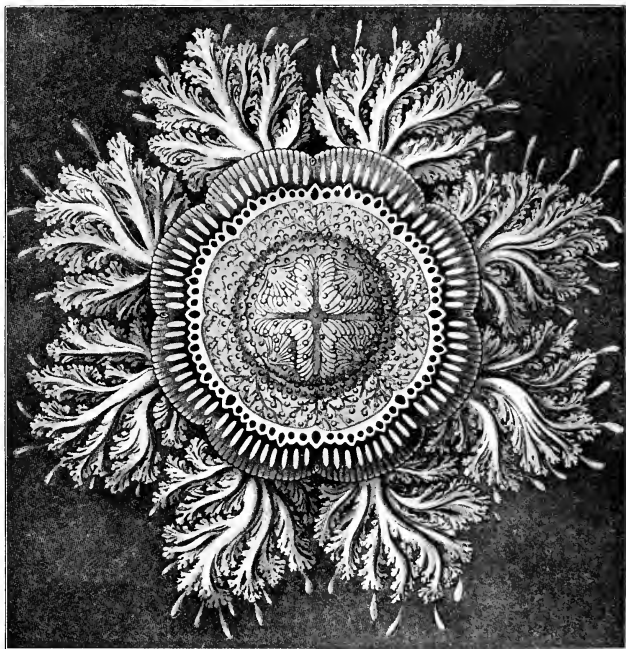
THE SACRED BODHI TREE.

4533

of *The Open Court*, and we refer the reader to Vol. XVI, p. 47. But not only the selection of these art forms in nature proves the artistic spirit of Haeckel, but also another publication which is a

portfolio of sketches made by our famous friend on a journey to eastern lands.

When I saw Professor Haeckel at his home some years ago, he showed me some colored sketches which he had made on his trip to the East Indies. Though the pictures were perhaps not perfect in technique they exhibited a real artistic talent, especially a remarkably well developed sense for color effects, and at the time



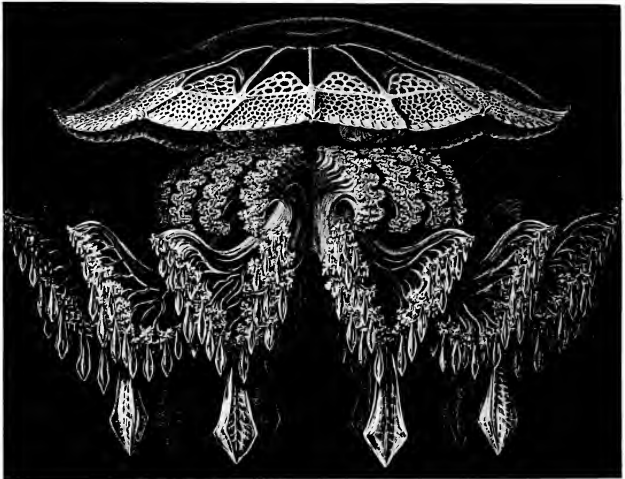
RHIZOSTOME (*Torcuma belligemma*).

4536

I expressed the opinion that the pictures would be interesting to the public. Professor Haeckel seemed reluctant to publish them and deemed it advisable to wait. We are glad to note that he has finally brought out these pictures in an attractive portfolio form, and very beautiful they are indeed. We can only recommend them, and wish to call attention to this new phase of the famous naturalist's life-

work.\* Though Professor Haeckel has not passed through a regular course of artistic education, and though his technique may show some shortcomings, we make bold to say that these sketches prove him to be a genuine divinely inspired artist. The way in which he sees nature and especially the rich tints of the southern landscape will be interesting to both psychologists and art critics.

Bearing in mind the original sketches,—so far as I still remember them,—I have the impression that the color prints are excellent reproductions, and I only wish that we could offer to our readers



CHANDELIER MEDUSA (*Rhopilema Frida*).

4535

one sample of them in colors. I select for reproduction two crayon sketches which will be helpful in giving an impression of the general character of the work, and I can assure my readers that they show all of Professor Haeckel's deficiencies without showing at the same time his remarkable talent in color drawing. One of the pictures represents the Cocoa Island and the rest house for pilgrims near Belligemma, Ceylon; another will be interesting for historical reasons because it pictures the famous Bodhi tree which was planted in Ceylon more than a millennium ago by Buddhist missionaries,

\* *Wanderbilder*. Von Prof. Ernst Haeckel. Sec. I and II, *Die Naturwunder der Tropenwelt (Insulinde und Ceylon)* nach eigenen Aquarellen und Oelgemälden. Gera-Untermhaus: Koehler, 1906.

perhaps by Mahinda himself, from a sprout of the Bodhi tree at Buddhagaya, which at the time was still in full bloom.

The work contains also some art forms of nature and photographs. Of the former we reproduce an interesting rhizostome of Ceylon (*Toreuma belligemma*) bearing the sign of an equilateral cross in the center and bedecked with a net work not unlike a doily or pin cushion surrounded by frills. Another aquatic being of peculiar shape is the chandelier medusa (*Rhopilema Frida*) a species which was observed and photographed by Professor Haeckel during his stay at Insulinde, Japan. A photograph of peculiar beauty is the one of an approaching thunderstorm at the Rambodde Pass in Ceylon.

Professor Haeckel has again and again concluded that he would retire to privacy and discontinue the publication of new books. He has surprised us several times by his new labors, and we can not but congratulate him on this new phase of his literary activity which shows the renowned author in a new, and at the same time a brilliant light.

## THE ZOROASTRIAN RELIGION AND THE BIBLE.

BY THE EDITOR.

EVERY pastor in the land should know the authoritative points as regards the great North-Medic religion which was spread at least from Ragha, Rai, near modern Teheran, about fifty miles from the southern point of the Caspian Sea, and probably from much further east, westward. It possessed such political importance that it gave its name to Adharbhagan, a province almost as large as England, on the southwest of the same sea, the mountain range Elburz having also a prominent place in Avesta under an older name. The word *Adhar* means "Fire" and refers to that element which was sacramental with the Persian Zoroastrians; from this came the exaggerated term "Fire-worshippers." In its sister-form this faith was the established religion of the Persian empire under Darius and his successors, and in all human probability under his predecessors as well. The North-Median form of it, Zoroastrianism, was "high church," so to express oneself for convenience; it was substantially the Exilic Pharisaism of the Jews. The South-Persian form was more "broad Church." Each was equally fervent, surpassing all other contemporaneous documents of their kind in this respect. It is impossible that any civilized people who had anything to do with the vast empire could have been ignorant of its main points; so the Greeks knew much about it, as we see.

The Jews were Persian subjects from Cyrus to Alexander; and the Exilic Bible, as many hold, is a half-North-Persian book;—see the dates from the reigns of the Persian kings, Cyrus, Darius, Xerxes, Artaxerxes.

The Bible is fulsome in its allusions to them; see 2 Chronicles; see Ezra, Nehemiah; Isaiah xlv, xlv, etc., etc.

The Bible does not so much mention the North-Persian religion as it adopts it. This view is held by most scholars who can speak



with authority, and is an assured conclusion from the researches of A. V. Williams Jackson of Columbia University, New York; of Franz Cumont of Ghent; his countryman Count d'Alviella of Brussels, and especially Professor Lawrence H. Mills of Oxford, England.

It will be of interest to our readers to learn that Professor Haeckel, the great scientist, has lately re-affirmed the theory that our religion ultimately came from the Exile. To put the claims of the criticism in a nutshell: "We are actually what we are, as Orthodox Christians, because of this wide-spread North-Persian system."

We read in the first book of Esdras (vi. 24) that "in the first year of Cyrus, King Cyrus commanded to have the house of the Lord in Jerusalem built, where they should worship with eternal fire." The book of Esdras further states the woods and measures of the temple, and how the king had the gold and silver vessels which had been taken away by Nebuchadnezzar as spoils of war returned for temple service.

We can not doubt that Cyrus represented a reform movement in the Orient and that part of his success is due to the purity of his religious convictions. Not without good reason does Isaiah call him "the Messiah of Yahveh," and the "shepherd of the nations" whom God has called to rule over the world.

All the reports corroborate the theory that the religion of Cyrus was not only congenial to the Jews, but that it also influenced both their doctrines and ceremonials.

Professor Lawrence H. Mills has made a special study of Zoroaster and his religious system and has written a book which will be published in the near future. We predict that the significance of the Zendavesta in its relation to both the Old and the New Testaments, will be of increasing significance. Professor Mills writes in a letter to the editor: "The Jewish Bible surpasses the original Zendavesta only in the inspired genius of its depicments. Cold-blooded critics might well call the Gathas the purer book."

Professor Mills has given his instructive book *Zarathushtra, Philo, the Achæmenids and Israel* a formidable title, but it is written in easy style, and was for the most part delivered as University lectures. The author is however conservative as to the primary origin of the doctrines, holding that they were Jewish; but he exhaustively depicts the facts. Every Christian, not to say, every scholar, should read the book. It is the only one of the kind as yet attempted.

## A JAPANESE WRITER'S HISTORY OF HIS THEOLOGY.

COMMUNICATED BY E. W. CLEMENT.

WHEN I was a boy there were few boys worse than I as far as downright mischief is concerned. I was fond of playing all sorts of pranks on passers-by. One of these was to put small snakes in a cake bag and then to throw down the bag for somebody to pick up while I watched from behind some obstacle. Many of my tricks were so bad that I expected the gods of whom I had heard so much would certainly punish me. As they did nothing, I at once began to doubt their existence. Shortly after this my grandmother, who belonged to the Nichiren sect, commenced to take me to hear sermons at the temple. At first I was greatly bored, but eventually got interested in all the preacher told us about the wonderful doings of Nichiren. I began to think that gods and divinities were real beings after all.

But having a practical mind, I decided that I would put this question to a fair test. We had an image of Nichiren in our house. So one day I removed this image from the altar and, taking it outside, submitted it to the greatest indignities possible. Subsequently I restored it to its place and waited to see what punishment I should get for this insult to the divinity. When nothing happened, I became more and more confirmed in the belief that no such beings as gods exist.

This was my state of mind when I gradually grew into manhood. I studied Chinese under a man who had very strong anti-foreign feelings, and being very susceptible to the influence of those with whom I associate, I gradually imbibed his views. Later when I commenced to study English, I regarded it as the language of a set of barbarians that was hardly worthy of serious attention. The man who taught me English had been the pastor of a church, and he

grew very fond of me and begged me to read the Bible. He gave me a copy, but I despised foreign things too much to even open it. Subsequently I was asked by this teacher whether I thought I could do my duty in the world unaided by a higher power. I felt then that I could not, but I knew that to say so was to acknowledge my need of divine assistance. This I did not want to do, so I left him without replying. I next came into contact with the Spencerianism of Toyama and Yatabe. Their arguments were welcomed by me as supporting my atheism. I thought then that I understood Spencer, but now I perceive this was only youthful conceit. At this time I commenced to lose my contempt for English and to study it with a will until I knew enough to read and understand pretty difficult works. Having reached that stage, I tackled the English translation of Kant's *Critique of Pure Reason*. That book taught me much, but at the same time raised a number of new doubts in my mind. It will be remembered that Kant makes it quite plain that all attempts to prove the existence of a deity by speculative reasoning have signally failed. Whether God exists or not can not, according to him, be determined by reason. But while saying this Kant declares himself to be a believer in the existence of God. This dumfounded me. That a man like Kant should have been satisfied by the transcendental arguments whose inconclusiveness he takes such pains to show, or should have been able to rest his faith in the existence of God on any other satisfactory basis, is certainly surprising. His personal belief and his written arguments seemed to me to be irreconcilable with each other. But since a man of such enormous intellectual capacity as Kant was able to retain his belief, despite his failure to find for it a thoroughly rational basis, why should not I do the same?

With this feeling, I commenced to read the Christian Bible earnestly and accepted its transcendental teaching. "God's nature," I said, "is beyond our comprehension, but it is plain that God exists. Our conception of the world would be incomplete did we not predicate this existence." And so I passed from the stage of unconscious atheism to that of conscious theism. But, as you will see, I had not reached the end of my theological journey by any means. Though I accepted at this time the Christian conception of God, I joined no Christian church. I offered up no prayers. I sang no hymns of praise. To me there seemed to be an air of great hypocrisy about such Christian services as I attended. The words used by pastors in prayers often struck me as utterly silly. For instance, one pastor asks that God will grant special blessings to all assembled in his

church ; which is equivalent to asking an impartial deity to be pleased to stoop to favoritism. The words used in hymns did not seem to me to represent in the least the real feelings of the persons singing these hymns. Christian services impressed me badly, but they did not lead me to condemn Christianity altogether, as I felt then that the creed was better than the men and women who professed it. I even went so far as to defend Christianity against the attacks of certain conservative educationists (Dr. Inoue Tetsujirō and his fellow-thinkers). But as the years went by and my mind reached its maturity, I argued to myself thus :

In the opinion of the deepest thinkers that which is beneath the phenomena of the universe, call it what we may, clothe it with what attributes we may, is to us absolutely unknowable. What creeds like Christianity teach about God rests only on imagination. To say that God is capable of love or hatred, to supply the world with an exhaustive list of the traits he is supposed to have, does not help us at all to understand the real nature of God. This God of the religious is an invented God rather than a real one. If it be true that what is known as the real substance of the universe is God, and that real substance has an actual existence, it is quite plain that we finite beings whose intelligence is of a comparatively low order can never know God. So I come to the conclusion that there is no God that we can know. I am then an atheist in the sense that I can affirm that to us human beings no knowable God exists.

The stages of theological thought through which I have passed then are these: (1) I began with unconscious atheism. (2) I passed on to superstitious polytheism. (3) This drove me back to atheism of an arbitrary type. (4) Thence by the process described above I reached a stage of conscious monotheism. (5) But not finding any logical resting-place there, I passed on to conscious atheism. This is of course a contradiction in terms. Of the non-existence of God there can not possibly be any consciousness. As consciousness, after all, only embraces a very limited area and God may exist in the region beyond, to make consciousness or non-consciousness the test of his existence or non-existence is of course quite absurd.

## MISCELLANEOUS.

### BENEDICTUS DE SPINOZA.

Our readers will be pleased to find reproduced in our frontispiece an unusually good and authoritative portrait of Spinoza, the original of which has been kindly loaned us by Mrs. Julius Rosenthal of Chicago. We will add that we knew of the existence of this portrait from her late husband, Julius Rosenthal, who unfortunately died about a year ago at the age of seventy-six, as a result of being knocked down on the street by a cab. We take this opportunity to express our great appreciation of the friendship of Mr. Rosenthal, who endeared himself to us through his congenial spirit and the intense interest he took in the work of the Open Court Publishing Company.

Mr. Julius Rosenthal discovered the original of this picture in Europe, and appreciating its unusual merit, had it framed under glass. It had been engraved soon after Spinoza's death by an artist who knew the philosopher personally. The Latin lines were accompanied by a Dutch version which reads as follows:

“Dit is de schaduw van Spinoza's zienlijk beelt,  
Daar't gladder koper geen sieraat meer aan kon geven;  
Maar zijn gezegent brein, zoo rijk hem meégedeelt,  
Doet in zijn schriften hem aanschouwen naar het leven.  
Wie oil begeerte tot de wysheit heest gehad,  
Hier was die Zuiver en op't snedigste gevat.”

We here publish an English translation of the Latin in the original meter:

“He to whom Nature and God were known, and the cosmical order,  
Here he, Spinoza, is seen; here are his features portrayed;  
But the man's face has been pictured alone. As for painting his spirit,  
Verily Zeuxides' hands would not suffice for the task.  
Seek in his writings his mind, where he treateth of things that are lofty.  
He who is anxious to know, therefore, his writings must read.”

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### BOOK REVIEWS AND NOTES.

SHINTO, THE WAY OF THE GODS. By *W. G. Aston*. London: Longmans, Green & Co., 1905. Pp. 390.

The present volume on Shinto, or as we commonly say, “Shintoism,” the native religion of Japan, bids fair to become the standard book for information not only to us Western people but also to the Japanese themselves.

Nothing so comprehensive, and at the same time in so condensed a form, has ever been attempted before, and it stands to reason that there are few scholars indeed, if there are any, who could have succeeded better than Mr. Aston has done, and it is almost certain that the book will maintain its place in the history of Shintoism.

The book contains fourteen chapters: The first chapter, entitled, "Materials for the Study of Shinto," contains an enumeration of the sources from olden times down to the present day, the number of which is comparatively limited. The three following chapters discuss "General Features" and among them first the personification of the powers of nature. This second chapter is mainly interesting for a study of comparative religion showing how in Japan natural agencies, such as the sun, the moon, the wind, etc., and especially definite objects and special spots, trees, wells, mountains, etc., were treated as living beings and finally deified. The third chapter is especially devoted to the deification of great men, such as the mikados. The fourth chapter, still continuing the topic "General Features," deals with the functions of the gods.

The mythology of Japan is treated in chapters V to VIII. We have here for the first time a clear presentation of the Japanese nature myths which in their totality are generally bewildering to the uninitiated. The several chapters are entitled: "Myth," "The Mythical Narrative," "Pantheon, Nature Deities and Man Deities."

The remaining chapters IX to XIV are devoted to the institutions, practices, established traditions, etc., of Shinto as follows: "The Priesthood," "Worship," "Morals, Law and Purity," "Ceremonials," "Magic, Divination, Inspiration." The concluding chapter treats of the "Decay of Shinto and Modern Sects."

Shinto has become the official religion of Japan, and we might say that Shinto is practically not a religion in the Western acceptance of the term, but a kind of patriotic ceremonialism in which any one might take part to whatever religion otherwise he might belong. The educated Japanese naturally do not believe in their mythology nor are they expected to when taking part in Shinto rituals; and if this is to be called a decay, we must grant Mr. Aston that Shinto has lost its vitality. He concludes his book with these words: "As a natural religion, Shinto is almost extinct. But it will long continue to survive in folklore and custom, and in that lively sensibility to the divine in its simpler and more material aspects which characterizes the people of Japan."

Considering that the knowledge of native traditions is being reduced in Japan from day to day, that Western thought rushes in and the duties of the hour claim more and more the concentration of the Japanese themselves in all branches of practical life as well as in science and other theoretical studies, it is not too soon that this work on Shinto has been written, for it is not likely that a successor in this line of research will ever have better facilities than were accessible to Mr. Aston.

And we will further say that Mr. Aston, who has won a well-deserved reputation through his former labors, exhibits a thorough acquaintance with his subject, ranking high even among the most scholarly Japanese in his own line of work.

ON HOLY GROUND. Bible Stories with Pictures of Bible Lands. By *William Worcester*. Philadelphia: Lippincott, 1904. Pp. 492. Price, \$3.00 net.

The frontispiece, which is a reproduction of Hofmann's "Suffer Little Children," is an appropriate indication of the spirit of this beautiful book. It consists of a series of nearly one hundred and fifty stories, giving the historical narrative of both Testaments from the creation to Christ's ascension. Each story is told in the simplest possible diction addressed apparently to children by one who knows how to interest them, and while each thus receives its proper setting and historical connection, it is followed by the Biblical narrative of the special incident printed in small but clear type. The great charm and value of the book consists in the beautiful illustrations which are to be found on almost every page. The fine smooth paper which is used brings out these half-tones to the very best advantage. Mr. Worcester seems to have spared no trouble in collecting from every available source photographs which are illustrative of the country of which he writes. Though many of the pictures are very small they are remarkably clear and most admirably selected with reference to artistic effect. Six maps add to the usefulness of the book. There is no need for an index of the text as the preliminary table of subjects gives the titles of the narratives in chronological order, but the main original value of the book which lies in its illustrations, is increased by an index of illustrations arranged alphabetically by subjects rather than titles.

LUMINOUS BODIES. Here and Hereafter. By *Charles Hallock, M.A.* New York: The Metaphysical Publishing Co. Pp. 110. Price, \$1.00 net.

Mr. Charles Hallock, one of the contributors of *The Open Court* has published under this title an interesting little book in which he reprints among other chapters an article which appeared some time ago in *The Open Court*, and solicited a good deal of controversy pro and con. He proposes the interesting theory that man is possessed of an electrical body, which will serve him as the body of resurrection, and which is to constitute his personality in the great hereafter. At the time we published his views in *The Open Court* as an interesting theory without accepting his position, and we are glad to see Mr. Hallock's proposition put up in a neat form which presents his theories in a most attractive style. The book shows at the same time the personality of the author, and the sentiment with which he clings to his conception of the soul.

The book opens with a poem entitled "Invocation." A short introduction entitled "L'envoy" explains the spirit in which the author has written his book, whereupon follows the substance of his theory in the chapters entitled: Biology of the Cosmos, Vito-Magnetism and the Soul-Aura, Color Effects of the Emotions, Electrical Body of the Future Life, The Supreme Source and its Potential Agent, The Philosophy of Eternal Felicity, The Philosophy of Religion, The United Philosophies, Evolution and the Future Life, and Credo.

A final chapter entitled "Antiphone" contains an inspirational prayer under the caption "Man to his Maker."

The appendix shows the interest which the author's theories have created, and contains letters received from different quarters, from a physician, a clergyman, a college professor, a poet, an astronomer, and also from the

Editor of *The Open Court*, whose criticism was perhaps the only dissenting one as to the tenability of the author's theory.

The book is adorned with a frontispiece representing the *maakheru* or transfigured body of the Egyptians.

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DIE ENTWICKELUNG DES GOTTESGEDANKENS. Von *Grant Allen*. Jena: Coste-noble, 1906. Pp. 360. 8 marks.

*The Evolution of the Idea of God* belongs to Grant Allen's best writings, and we hail a German translation of this significant contribution to the history of religion, by H. Ihm. The translation is done faithfully and in good German. Paper and print are excellent as we may expect of so reliable a publishing house. The translator has modestly abstained from writing a preface or introduction, and has only added as his own contribution a few comments relegated to the appendix of the book. We regret to note that, according to the prevalent German custom the book lacks an index.

Germany is the home of comparative religion, but popular works on the subject, like the present book, are rare in the land of scholars and thinkers. For this reason the German translation of Mr. Allen's work will prove very desirable, and we may expect that it will do a good missionary service in the interest of a scientific interpretation of religion.

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IN DER HEIMAT DES KONFUZIUS.. By *P. Georg Maria Stenz, S.V.D.* Steyl.

Price, \$1.25. For sale by the Society of the Divine Word, Shermerville, Illinois.

This book which is of considerable interest to all those interested in things Chinese has been issued by a publishing house of the Roman Catholic missions at Steyl, near Kaldenkirchen, Rheinland, Germany. It is a description of China and the Chinese and is illustrated with two colored plates, a number of half tones, and also some Chinese drawings. We will not dwell here on the onesidedness of the description in which the author is induced to be unfair to the Chinese, and which indicates also why European missions are not more successful. We will confine ourselves only to those features of the book that are of interest even to the scholar. The author, Father Stenz, has visited the tomb of Confucius and also his residence. We read his description with pleasure because there is in it a touch of the personal element, but it is especially noteworthy that the two Jesuit missionaries, Fathers Nies and Henly, were the guests of Father Stenz on the night when they were assassinated. The reverend Father tells us how the difficulty arose, how the mandarin was unable to protect them, and how on one night Father Henly and Father Nies visited the author in Chan-Cha-Chuang. The night was rainy and they could not continue their journey. They stayed up rather late and sang the Requiem and Miseremini. Father Stenz surrendered his bed to Father Nies and retired to the janitor's room. He had scarcely fallen asleep when he heard shouting and much noise, noticing that his room was lit up by torches. The door of his house was guarded by two men, and he heard a band of rioters start from the neighboring room shouting for the "Pater with the long beard." The sacristy was opened by violence and they passed into the church; whereupon quiet was restored and the rioters disappeared. At this time he heard groaning from the next room. At the same time the rioters returned shouting



to flay Father Stenz, but some Christians had made their appearance and drove them away. He now rushed into his bedroom and found his two co-workers, Henly and Nies, both on the bed, the one dying, the other presumably dead. All attempts to revive them were in vain and he administered to them the sacraments. Other Christians came in and surrounded the dreadful scene. On the morning after the catastrophe the mandarin appeared and wept at the sight. He had been a friend of the murdered missionaries and greatly regretted the deed.

It is well known how Germany retaliated with China for the assassination of the two Jesuits, but it is sad to relate that, as Father Stenz tells us, the actual perpetrators were not punished but left at liberty, since they were leaders of the boxer movement, whom the authorities did not dare to touch. In their place, some innocent, harmless individuals were captured, tortured, forced into a confession and executed, in spite of the remonstrances of Father Stenz and Eugen Wolf, who visited the place in company with the father proctor. The difficulty of rescuing the innocent wretches was increased by the change of mandarins, the new mandarin being a very learned scholar, but a weak and incapable man who allowed the guilty ones to escape, and did nothing to save the lives of the innocent victims.

The book contains other chapters of interest, for instance the chapter on the characterization of the Ta-tau-hui, the Society of the Big Knife, or Boxers, page 226.

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THE BLOOD OF THE PROPHETS. By *Dexter Wallace*. Chicago: Hammersmark Press. 1905. Pp. 112.

*The Blood of the Prophets* is a collection of poems written by Dexter Wallace, and we do not hesitate to say that the first one "The Ballad of Jesus of Nazareth" is the best and will appeal most of all to the reader. We quote from it the following stanzas:

"It matters not what place he drew  
 At first life's mortal breath,  
 Some say it was in Bethlehem,  
 And some in Nazareth.  
 But shame and sorrow were his lot  
 And shameful was his death."

\* \* \*

"For he who flays the hypocrite,  
 And scourges with a thong  
 The money changer, soon will find  
 The money changer strong;  
 And even the people will incline  
 To think his mission wrong."

\*\* \* \*

"When Cæsar back to Rome returned  
 With all the world subdued,  
 The soldiers and the priests did shout,  
 And cried the multitude;  
 For he had slain his country's foes,  
 And drenched their land with blood.

“But all the triumph of the Christ  
 That ever came to pass  
 Was when he rode amidst a mob  
 Upon a borrowed ass;  
 And this is all the worldly pomp  
 A genius ever has.”

\* \* \*

“I wonder not they slew the Christ,  
 And put upon his brow  
 A mocking crown of thorns, I know  
 The world would do it now;  
 And none shall live who on himself  
 Shall take the self-same vow.

“And none shall live who tries to balk  
 The heavy hand of greed,  
 And who betakes him to the task,  
 That heart will surely bleed.  
 But a little truth, somehow is saved  
 Out of each dead man’s creed.”

\* \* \*

“And it matters not what place he drew,  
 At first life’s mortal breath,  
 Nor how it was his spirit rose  
 And triumphed over death,  
 But good it is to hear and do  
 The word that Jesus saith.

“Until the perfect truth shall lie  
 Treasured and set apart;  
 One whole, harmonious truth to set  
 A seal upon each heart;  
 And none may ever from that truth  
 In any wise depart.”

Other poems, such as “Samson and Delilah,” “Samuel” and others do not reach the same pitch of fervor, and the same is true of secular poems, such as “America,” “The Pioneer,” “Filipinos, Remember Us,” “Ballad of Dead Republics,” etc. Sometimes the verses and thoughts will need a critical overhauling, such verses for instance as

“For this I hold to be the truth,  
 And Jesus said the same.”

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DARWINISM AND THE PROBLEMS OF LIFE. By *Conrad Guenther, Ph.D.* Translated from the third edition by *Joseph McCabe*. London: Owen, 1906. Pp. 428. Price, 12s. 6d.

This work has been translated from the German, because the translator considers the author’s peculiar method as unquestionably wise and helpful in explaining the theory of evolution. He does not write for scientists, and does

not presuppose any great knowledge of zoology or other science. He starts with the familiar facts of daily life, and thus an untrained reader will not be stultified with scientific terms and limited thereto. The author depicts a world that is familiar to every one, and leads gradually from well-known facts and forms of life to the theories which they suggest. It is a new but decidedly attractive way of formulating and solving the problems which have become uppermost in the minds of the people.

The author is not so much an adherent of Darwinism as of Weismannism, but all details of the evolution theory are left out, and the general outlines alone are sketched. The book is intended to be a simple and untechnical interpretation of the facts that suggest the doctrine of evolution.

The German original has gone through three editions, and Mr. McCabe has undertaken to translate it for the benefit of the English reading public.

After an introduction describing animal life in forest, field and pond, pointing out the over-production in nature, the struggle for life, artificial and natural selection, transformation of species, variation and heredity, etc., the author treats the different branches of zoology in successive chapters,—mammals, birds, amphibia, fish, tracheates, molluscs, worms, and protozoa. These descriptions are followed by an exposition of the theory of natural selection, the principle of selection, mechanical conception of life and its limits, and nature, history and morality.

The book is well printed in large and clear type, but we regret to say that illustrations which are almost indispensable in a popular book have been omitted, and we would suggest that in the German edition as well as other translations the author would richly supply the book with appropriate pictures and diagrams. Upon the whole the book reads very well, but now and then we find un-English expressions which can be understood only if translated back into the original German. So for instance when the author wants to say that he who wishes to comprehend the whole of the world must rise above it, we read in the English translation: "He who would see over the whole world must pass beyond it." We also doubt whether the English term "sense of life" conveys the same idea as the original *Lebenssinn*. These little drawbacks, however, do not detract much from the value of the whole and the translation of Mr. McCabe remains in any case a praiseworthy undertaking.

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L'IDÉALISME CONTEMPORAIN. Par *Leon Brunschvigg*. Paris: Alcan, 1905.  
Pp. 185.

The spiritual movements of the present day show varieties which may be characterized as spiritualism, intellectualism, and idealism, and our author insists that the opposition to a right kind of idealism originated from a wrong conception of man's intelligence. Man's intelligence in intellectuality is not a positive factor, but it is the profoundest function of his activity directed by a law, and capable of assuring a continued progress in scientific and moral culture. Professor Brunschvigg after an *Avant-propos* in which he treats of the general problems of idealistic movements, discusses in several chapters: Spiritualism and Common Sense, The Prejudice Against Philosophy, Method in Mental Philosophy, The New Philosophy and Intellectualism, and finally the subject which bears the title of the entire monograph "The Contemporary

Idealism," pointing out how our social institutions are gradually transformed by ideals.

The present book is a sequel to a prior work which appeared under the title *Introduction to the Life of the Spirit*, and which the publishers announce is now ready for a second edition.

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JUDAH MESSER LEON'S COMMENTARY ON THE "VETUS LOGICA." By *Isaac Husik, A.M., Ph.D.* Leyden: Brill, 1906. Pp. 118.

This book represents a doctor's dissertation presented to the faculty of the University of Pennsylvania in June, 1903, partly rewritten and slightly enlarged during part of the author's tenure of a university fellowship in the same institution. Dr. Husik's object is to bring into prominence one of the many works of mediæval Hebrew scholarship along philosophical lines. His study of Messer Leon's Commentary of Aristotle is based upon the comparative consideration of three manuscripts, and contains a very complete glossary of Hebrew logical and philosophical terms. Dr. Husik quotes many Hebrew passages from Messer Leon in parallel columns with the Latin text of other mediæval commentators of Aristotle.

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TEXT-BOOK OF SOCIOLOGY. By *James Quayle Dealey, Ph. D.,* and *Lester Frank Ward, LL.D.* New York: Macmillan. 1905. Pp. xxv, 326. Price, \$1.30.

Dr. James Quayle Dealey, Professor of Social and Political Science in Brown University, and Lester Frank Ward, formerly of the Smithsonian Institution, at Washington, D. C., the well-known author of *Social Dynamics* and *Pure Sociology*, have published in company a *Text-Book of Sociology*, which the authors expect will fulfil the general demand for such a book. It treats of sociology as a science within the hierarchy of Comte's classification. Chapter III discusses the data, Chapter IV the methodology, and Chapter V the subject matter of sociology. The substance of the book is discussed in four parts, The Origin and Classification of the Social Forces; Nature of the Social Forces; Action of the Social Forces in the Spontaneous Development of Society; and Origin and Nature of the Telic Agent. By telic agent we understand that element which gives direction to the world's activity.

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A HISTORY OF POLITICAL THEORIES, FROM LUTHER TO MONTESQUIEU. By *William Archibald Dunning.* New York: Macmillan. 1905. Pages, 459. Price, \$2.50.

The author continues in the present volume his former work *Political Theories, Ancient and Mediæval*, and we may look forward to a completion of the whole in a third volume on *Modern Political Theories* and a prospect of their future development. The present volume testifies not only to the author's learning but also to his good judgment. He discusses the significance of the Reformation, Luther, Calvin and others, and of their successors in both England and France, among whom Francis Hotman and the pseudonymous author Stephanus Junius Brutus play an important part by reason of keenness of judgment and tolerance of liberal opinion, while Jean Bodin lays the foundation of the English conception of political rights. Hugo Grotius, the founder of international law, is splendidly characterized, and the development of political philosophy in England before and after the Puritan revo-

lution is sketched in detail and well explained. The author presents us with a fine characterization of Milton's popular idea of Thomas Hobbes and John Locke, interrupting his exposition by a chapter on the continental theories marked by the names of Spinoza, Puffendorf and Bossuet and winding up this remarkable period of the history of politics with Montesquieu.

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Charles H. Kerr & Co. have published a translation of Wilhelm Bölsche's *Evolution of Man*, by Ernest Untermann. The book has been a success in Germany because it met a long felt want, being a brief and popular exposition of the theories as to the descent of man. The translation is well made and the publishers have done their best to give it in its English dress a neat appearance.

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JESUS OF NAZARETH. By *Edward Clodd*. London: Watts & Co. 1905. Pp. 119.

The present booklet contains a collection of articles written some time ago by Edward Clodd, an author of no mean repute, but we regret to say that these essays should not have been published without a thorough revision, for our knowledge as to Old Testament history and also the origin of Christianity has made rapid progress within the last ten years. Though the author is one of the rationalists he still attributes the psalms to David, and quotes them as historical material in characterizing David's personality. He mentions Nazareth as the birthplace of Jesus and yet it is well known that the village of Nazareth is nowhere mentioned as having existed at the beginning of the Christian era. The author firmly believes in its existence in spite of lack of evidence, but his articles have obviously been written before critical investigation lead one to form a definite opinion.

The articles are well written, but it seems to me unfair to republish them without having given the author a chance of further revising them.

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SEVENTY CENTURIES OF THE LIFE OF MANKIND. By *J. N. Larned*. 2 volumes. Springfield, Mass.: C. A. Nichols Co., 1905. Pp. 442-503

Under this title the editor of the *History for Ready Reference* has published a history of the world from the earliest times to the present day. Mr. Larned has utilized the latest material concerning the excavations in Babylonia, Assyria, Egypt, etc., and condenses the general descriptions into a most popular form. It will be most welcome to people who do not care to have all the little details but who want to gain an insight into the general development of mankind. The work is profusely illustrated, not only with illustrations in the text, but also with plates, among which there are a great number of colored plates, most of them being reproductions of famous paintings.

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SOCIALISTES ET SOCIOLCGUES. Par *J. Bourdeau*. Paris: Alcan, 1905. Pp. 196.

This little treatise is most interesting and instructive and belongs to the best that has been written on sociological problems. The author shows good judgment and an extraordinary knowledge of facts, while his presentation is entertaining from the elegant style in which he writes. The subject matter is divided into three parts. In the first M. Bourdeau treats single systems which serve to explain the development of several ideas and institutions

among mankind. Here he treats the evolution of war, of slavery, of the State in its relation to the individual, the changes of power, the ideal of patriotism, and finally the evolution of morality.

The second part is devoted to socialistic theories. He discusses the propositions of Proudhon, and socialistic sects in general, the heresy of Edouard Bernstein, the idealist of socialism, socialism and freedom, the socialism of the bourgeois and of the laborer, and finally socialism and its place in history.

The third part is devoted to actual problems of the day such as every thoughtful person may observe for himself,—the phenomena of anarchy and philanthropy, revolutionary silhouettes, etc.

The last chapter is devoted to Heinrich Heine, the German poet who is still the favorite of the French public, partly on account of his antagonism toward the German government of his time, partly through his appreciation of French literature, and the French materialistic spirit. Heinrich Heine has said some remarkable things about the development of the future, a part of which have been fulfilled. In the conclusion Bourdeau sums up his views in a chapter in which he specializes "theories of progress" and expresses his view that social happiness is nothing but the mere chimera. But while he considers that the extreme optimism of the socialist is utopian, he at the same time discards extreme pessimism, insisting that the details of history dominate in the development of mankind. The little book is brimfull of thoughtful remarks, and fine psychological sketches. We do not hesitate to say that it belongs to the best that has been written on the subject.

---

LA SOCIOLOGIE GÉNÉTIQUE. Par *François Cosentini*. Paris: Alcan, 1905. Pp. 205.

The author, who is professor of sociology at the University of Brussels, presents us with a treatise on the origin of primitive society which is prefaced with an appreciative introduction by Maxime Kovalewsky, professor of law at the University of Moscow. Professor Cosentini has collected the facts of the genesis of primitive society from all the sources at our disposal,—the social condition of the animal world, of savages, of barbaric remnants in our present age—and presents us with a pretty clear picture of a reconstruction of the conditions of primitive mankind. He adds the conclusion that the successive stages of mankind show a great resemblance in different places which would indicate a common law, and though he does not claim that single instances should be generalized and made to hold good for similar cases, he finds the agreement too strong to be overlooked.

In his introduction, Professor Kovalewsky especially commends Cosentini's idea that all conditions of society with its ideas and sympathy have developed from sexual and parental love, which produce that reciprocity that finally broadens out in a social regulation of the communal and social life.

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Our attention has been called to an obvious typographical error in Mr. Eshleman's poem, "To the Forces of Evil" in the May *Open Court*. The second line of the third stanza on page 314 should read "Oh, fair allurements oft pursued," instead of "Of fair allurements oft pursued."

# FOUNDATION OF A LAY CHURCH

WHAT is the reason that so many people, and sometimes the very best ones, those who think, stay at home on Sunday and do not attend church? Is it because our clergymen preach antiquated dogmas and the people are tired of listening to them; or is it because the Churches themselves are antiquated and their methods have become obsolete? To many these reasons may seem a sufficient explanation, but I believe there are other reasons, and even if in many places and for various reasons religious life is flagging, we ought to revive, and modernize, and sustain church life; we ought to favor the ideals of religious organizations; we ought to create opportunities for the busy world to ponder from time to time on the ultimate questions of life, the problems of death, of eternity, of the interrelation of all mankind, of the brotherhood of man, of international justice, of universal righteousness, and other matters of conscience, etc.

The Churches have, at least to a great extent, ceased to be the guides of the people, and among many other reasons there is one quite obvious which has nothing to do with religion and dogma. In former times the clergyman was sometimes the only educated and scholarly person in his congregation, and he was naturally the leader of his flock. But education has spread. Thinking is no longer a clerical prerogative, and there are more men than our ministers worthy of hearing in matters of a religious import. In other words, formerly the pulpit was naturally the ruler in matters ecclesiastic, but now the pews begin to have rights too.

Wherever the Churches prosper, let them continue their work; but for the sake of the people over whom the Churches have lost their influence the following proposition would be in order, which will best and most concisely be expressed in the shape of a ready-made

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Most of the historical matter in this book is new to American readers. For example, there is not a book in English that gives a correct account of the Chevalier Pinetti, the great luminary among conjurers of the eighteenth century. His life story is worthy of the pen of a Dumas, so strange and adventurous is it. Mr. Evans has picked up many rare prints of this gifted artist, which have been reproduced in the book, as well as one of Cagliostro.

We can recommend this book as something really unique in the annals of magical literature; as entertaining as any romance and possessed of real pedagogical value. It should be in every public library and every school in the United States. The illusions of Kellar, the sleight-of-hand tricks of De Kolta, the shadowgraphs of Trewey, and the wonderful handcuff act of Houdini's, are all explained and fully illustrated.

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