

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.
Assistant Editor: T. J. McCORMACK.

Associates: { E. C. HEGELER.
MARY CARUS.

VOL. XV. (NO. 10)

OCTOBER, 1901.

NO. 545

CONTENTS:

<i>Frontispiece.</i>	ROBERT WILHELM BUNSEN.	
<i>William McKinley.</i>	Died September 14, 1901. EDITOR	577
<i>Anarchism.</i>	EDITOR	579
<i>The Legends of Genesis.</i>	Continued. History of the Transmission of the Legends in Oral Tradition.—The Divinity and the Sanctuary.— God's Relation to Man.—Not Merely a Tribal God.—Religious and Profane Motives Mingled.—Ethical Notions.—The Patriarchs not Saints.—Criteria of the Age of the Legends.—Tribal Legends.— Patriarchs Disguised Divinities. DR. HERMANN GUNKEL, Professor of Old Testament Theology in the University of Berlin	582
<i>What Is Life?</i>	A Sunday Address. WILLIAM M. SALTER, Lecturer of the Ethical Society of Chicago	596
<i>The Chinese Problem.</i>	Illustrated. EDITOR	608
<i>The Legend of the Origin of the Manchu Dynasty.</i>	The REV. R. MORRISON	624
<i>Robert William Bunsen</i>	627
<i>Dr. Lewis G. Janes.</i>	Obituary	633
<i>An Ideal Series of Geographies.</i>	Illustrated	635
<i>Mr. W. M. Salter on the Soul</i>	637
<i>Columbus and Toscanelli.</i>	THEODORE STANTON	638
<i>Book Notices</i>	639

CHICAGO

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ROBERT WILHELM BUNSEN.

(1811-1899.)

Frontispiece to The Open Court.

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WILLIAM MCKINLEY.

DIED SEPTEMBER 14, 1901.

BY THE EDITOR.

MAN'S worst enemy is man. The greatest hindrances to the welfare of the human race are the errors, the passions, and the evil intentions in the souls of those that are mentally or morally diseased. President McKinley has been assassinated in cold blood by the hand of a demented youth! And why? The assassin does not hate the man, but the office. The President represents social order, law, and government.

The nation stands aghast at the crime, and the lover of liberty is perplexed at the problem of how to deal with those unruly elements who prefer the bullet to the ballot, who spread their doctrines not by argument but by sowing hatred and inciting to murder, and whose idea of progress is slaughter and destruction. How liberty shall be benefited by the deed and how progress can be promoted through the terrorism which the enemies of our social order try to spread, is incomprehensible; but who can disentangle the twisted knots of the logic of a fanatic?

America is the land of liberty, but liberty is possible only by the restriction imposed upon every one through a respect for the rights of others. Laws are devised for no other purpose than to insure the liberty of all. We must grant that there are wrong laws, laws which do not serve this purpose, but the tendency of our national development is toward progress on the lines of freedom, and there is reason to hope that bad laws will in time be abrogated. Certainly there is no ground to denounce law itself because some laws are not right. The greatest hindrance to progress is the false notion that one can kill ideas or abolish institutions by

slaying their representatives. The assassination of kings in Europe has so far only strengthened the reactionary powers, and the assassination of a president in America will certainly not weaken the people's belief in our constitution.

William McKinley became conspicuous by his vigorous defence of a high tariff, but he would never have risen into national prominence had not the Democratic party raised the cry for free silver,—a step that would have led to the deterioration of our money standard. The people's enthusiasm for a high tariff is gone, and Mr. McKinley would never have been elected upon his favorite issue. But when there was the choice between honest money and repudiation, the people elected him by an overwhelming majority, in spite of his stand on the tariff.

In his administration President McKinley endeavored to do his best. It may be granted that he made mistakes, but he felt the responsibility of his high office, and he grew with the expanse of his duties. We must remember that new problems offered themselves with the conquest of new territories, and our administration had to grope its way to find the proper solution. Whatever enemies Mr. McKinley may have had, partisan hatred, envy, and cavil ceased at the bedside of the stricken man. Both the North and the South, Republicans and Democrats, see in him the representative of the nation, and all unite in their admiration of his courageous behavior in the hour of trial and in the face of death.

The halo of martyrdom now surrounds his head, and history will gladly and fully recognise the merits of his administration. His memory will be kept sacred by the side of his predecessors Abraham Lincoln and James A. Garfield.

ANARCHISM.

BY THE EDITOR.

ANARCHY means lawlessness,¹ and anarchism is the theory that there ought to be no laws, no government, no ruler. Now, in the original sense of the word, the tendency of the American political ideal is anarchistic, for liberty and independence are the keynotes of our history. The underlying principle of our political institutions is that the men to whom the public affairs of both the several States and the United States are handed over, are not the rulers but the servants of the nation. Properly speaking, we have no government but an administration. The president of the United States is not a sovereign, and the citizens are not his subjects, but he is the chosen leader, the *primus inter pares*, entrusted to attend to certain duties which are in the interest of all but can in their very nature be performed only by one person.

The people of the United States never found fault with anarchism so long as anarchists merely expounded their theories, and we must state here that there are quite a number of avowed anarchists who are opposed to law on account of the *compulsion* to obedience which the idea of law implies, and are therefore consistently opposed to all violence as a matter of principle. These anarchists, the peaceful anarchists so called, long ago gained a hearing and preached their doctrines to limited audiences. They were, however, ridiculed by some of their own friends as milksops and sissies, and the word anarchism, as commonly understood, accordingly denotes with the large masses of the people a defiance of the law by assassination and destruction.

The American people are very patient and are always inclined to allow every theory to be put into practice to show the results to which it leads. Anarchism cannot complain of not having had a

¹ Derived from ἀρχή, a first principle, a rule, government, and a privative, meaning *not*.

fair trial. The anarchist papers were not suppressed, and anarchist speeches were tolerated. But now that violent anarchism exhibits dangerous consequences, the people become indignant and feel like stamping it out as a nefarious weed that threatens to choke the harvest of good citizenship.

But if we love liberty and abhor government, why are we not all anarchists and why do we believe in law? The old conception of law is the view that law is the ukase of the government and serves to maintain the machinery that keeps the people in subjection. What, then, is the American conception of law where the term government has ceased to mean sovereignty over the people and has actually become the administration of public affairs? How can law, which inevitably means compulsion, be united with liberty?

Kant said that the principle of ethics consists in laying down maxims of conduct, and all those sentiments or motives to action are moral which can be made universal maxims. Now as to liberty, we mean to assert our own liberty and, as a matter of moral consistency, respect the love of liberty in others. For the sake of maintaining liberty as a general principle we deem it wrong to trespass upon the rights of others and recognise the necessity of self-restriction. If all men were truly honest, well-intentioned, and moral, there would be no need of enforcing self-restriction by law, because every one would as a matter of course refrain from wronging his fellow beings, and the truth is that the higher a civilisation the more lenient the laws can be. Progress implies a wider scope for individual liberty and a relaxation of legal coercions. American civilisation has actually reached the point where law has ceased to imply the idea of suppression and indicates the order which *for the sake of preserving our liberty* must be maintained. Our laws are not imposed upon us by rulers but are established by the legally chosen representatives of the people. Law in this sense is nothing but Kant's principle of morality applied to the domain of social life. Law empowers the authorities of the administration to employ force against those who do not possess sufficient self-control to abstain from trespassing upon the rights of others.

It is true that there are laws which are neither wise nor just, and frequently there are men in authority who are unworthy of their trust and abuse their office for personal gain. But we ought to be wise enough to remember that the world is nowhere perfect, and that we can improve conditions only by constant vigilance and by the repeated endeavor to correct our mistakes. There are

hours in which we feel desperate about the slowness of progress; but we should not lose patience. *Eppur si muove!* Liberty has been increasing slowly but constantly and its progress would be quicker but for its false friends who identify liberty with lawlessness.

The world would gladly accept the gospel of freedom were it not for the skeleton in the closet, the grinning sham freedom of violent anarchism, with its gospel of hatred, its bloody deeds of darkness, its contemptible treachery, its narrow-minded and stupid logic, and its insanity-begotten aspirations.

Anarchism (i. e., the violent anarchism that would sanction assassination) is as erroneous as it is immoral. Its doctrines can never become universal maxims. The anarchist's notion of liberty is licence, his ideal of progress is the destruction and ruin of his betters, his propaganda consists in preaching hatred and spreading terrorism, the methods he commends are felony and murder. Should his ideas gain a foothold in the minds of our people it would not lead us onward to a higher civilisation but back to barbarism, to a state of society in which the hand of every one is against that of every other and war is the general rule.

Happily we need not be afraid of anarchism, but though we must deeply deplore the erratic deed of a criminally insane individual who figures as an exponent of this dangerous doctrine, there is no need of being alarmed or resorting to means of repression that would make the remedy worse than the evil.¹

It is generally expected that Congress will pass a bill for the protection of the lives of our Presidents and other high officials. No doubt the step is justified. But would it not be proper to extend the same protection to all people. If the murderer's intent has been proved by a deed beyond the shadow of a doubt and the victim has escaped only by good luck or by the skill of physicians, the law should, under aggravating circumstance, empower the judge or jury to treat the assailant as a murderer. There are cases in which the victim of an attempted murder becomes a cripple for life and leads a miserable existence ever afterwards, while the assailant escapes with a comparatively light punishment. Humane laws are a blessing, but leniency toward and a consideration of the interests of the criminal should not be bought by a withdrawal of the protection to law-abiding citizens.

THE LEGENDS OF GENESIS.

BY H. GUNKEL.

[CONTINUED.]

HISTORY OF THE TRANSMISSION OF THE LEGENDS IN ORAL TRADITION.

THE most important element in the history of the legends is probably this: in older times as the outward circumstances in which they arose were shifted, the legends also incurred certain alterations. Thus they forgot who the king of Gerar really was (xx. 26), and put in the king of Egypt instead (xii. 10 ff.). Incidentally it seems, according to Winckler, that a confusion arose between Mizraim (Egypt) and the North Arabian tribe of the Muzrim, to whom Gerar belonged; and Hagar also has been changed from a Muzritish Arabian woman to a woman of Mizraim, that is, an Egyptian. Or at a time when the Philistines had possession of Gerar this people also was brought into the legend of Gerar, whereas the oldest version of the story (xxi. 22 ff., 26) knows as yet nothing of this fact. The figure of Hagar, once the type of a tempestuous Bedouin woman (xvi.) has lost this characteristic color in the later tradition which was not familiar with the desert. The stories of Jacob's breeding devices while in Laban's employ, once the delight of the professional hearers and therefore quite detailed, were later much abbreviated for hearers or readers who had no interest in the subject. (See *Commentary*, p. 307.) Of the theories regarding the gradual origin of human arts and trades (iv. 17 ff.) only fragments have been preserved. Very often the characteristic elements of the legend, when far from the places where they were understood, grew colorless or were replaced by others. This is particularly clear in the legends of sanctuaries, of which we shall speak later. Still other legends were probably entirely for-

gotten because the interest in them had died out. And in addition to this the imagination, which is mightily stirred by such narratives, develops them almost involuntarily. We can here and there recognise such continuations and developments due to the free play of the imagination.

LIGHT ON THE HISTORY OF RELIGION.

The most important feature of this study is the history of religion. In very many legends of Genesis a monotheistic tendency is to be observed, an avoidance of mythology to which we have referred (*The Open Court*, pp. 270 and 535). This feeling continued to grow in Israel and was the cause for the fading out of a number of legends. In the case of the myth of creation, of which we have older variants of a different attitude, the history of this elimination of the mythological elements is still to be observed. The narrative of the Deluge too has lost much of its color in the oldest Hebrew account (that of J), and doubtless from this very reason. Others, like the legend of the marriage with angels (vi. 1-4) and of Mahanaim (xxxv. 21-22a), which were once in existence in older Israelitish tradition, are in their present form entirely mutilated. Of the Nephilim, the Hebrew "Titans," which are said to have been very famous once (vi. 4), we have nothing but the name.

MODIFICATION OF THE THEOPHANY.

Furthermore, we may observe how naïvely the older legends speak of Jahveh's appearance on earth, but how the later time objected to this and made the revelation of the divinity ever more intangible. While according to the oldest belief the divinity himself walked without reserve among men—as in the present form of the legends of Paradise and of the Deluge—the later time decked the theophany in the veil of mystery: God appeared only in the darkness of night and vanished with the rising of the sun (xix.); or he appeared to men without their recognising him (xviii), and in this way the divinity, though revealing himself, nevertheless did not wholly unveil his nature. Still later versions put some subordinate divine being in place of the divinity himself, J calling it "the angel of Jahveh," and E "the angel of God"; though this device was not observed consistently; passages enough have been left which presuppose the appearance of Jahveh himself, the older version peeping forth from behind the newer one.

This same point of view has led to the change of God's appear-

ance on earth to the apparition in a dream, or to the declaration that the angel remained in heaven and spoke to the patriarch from there: the mystery of the dream-life left a veil for the divinity who revealed himself, or in the other case he was not seen at all, but only heard. The last stage in this development is represented by those legends in which the divinity no longer appears at a definite point in the story, but dominates the whole from the ultimate hidden background, as in the stories of Rebecca and of Joseph.

Thus we progress in Genesis by many stages from crass mythology to a belief in providence which seems to us altogether modern. It is a marvel indeed that the legend of Penuel (xxxii. 25 ff.) is transmitted to us in such primitive form; in this the device has been to leave it undefined who the God really was that attacked Jacob.

THE DIVINITY AND THE SANCTUARY.

We recognise in this process of refining the nature of the theophany at the same time the dissociation of the divinity with the sanctuaries: the oldest belief that the God belonged to this particular place and could operate nowhere else, is not clearly found in a single legend of Genesis. On the contrary, the opinion of the legend is that the places are sacred to the divinity because he had once in primitive time appeared here to some ancestor. Even the very old legend of Hebron, which actually has God appear and eat, does not allege that the divinity came forth out of the tree. In the story of Hagar's flight, the mother of Ishmael meets the divinity at the well, but no explanation is given as to what connexion he had with the well. The great age of this whole point of view is to be gathered from the story of Bethel: the oldest religion had thought to find the God of the place in the stone itself, as the name of the sacred stone, *beth-el*, or "house of God," shows; but those of the later age believed that God dwelt high above Bethel, in heaven, and only a ladder preserved the connexion between the real dwelling of God and its symbol. This belief in the heavenly dwelling of the divinity rested, as the legend shows, upon a polytheistic basis: Jacob sees many divine beings going up and down the ladder.

Many legends of sanctuaries are transmitted to us in very faded form: from the story of Ishmael (in both versions) and likewise from the legends of Hebron (xviii.), Mahanaim (xxxii. 2 f.), Penuel (xxxii. 25 ff.) and others, we no longer gather that the scenes of the stories are places of worship. The legend of the

sacrifice of Isaac, originally a legend of worship, has lost all its aetiological purpose in the version transmitted to us and remains nothing but a character sketch. In the legend of Penuel too the aetiological element is now forgotten. The anointing of the stone at Bethel, once a sacrificial ceremony, seems in its transmitted form to be no more than a sort of rite of consecration. The Mas-sheba, once sacred stones, symbols of the divinity, are finally mere memorial or tomb stones. The cave of Machpelah, once a place of worship, is nothing but the burial-place of the patriarchs in our form of the narrative. And so on.

The fading out of these legends of worship shows plainly that these stories are not preserved for us in the form in which they were probably told originally on the spot for the purpose of establishing its sanctity, but as they circulated among the people in later times and far from the places concerned. At the same time we see from this colorless character of the legends concerning the popular sanctuaries that the latter had ceased to occupy the foreground of religious interest with the people, or at least with certain groups of the people. The bond between religion and the sanctuaries was already loosened when the passionate polemic of the prophets severed it. How else could the people of Judah have accepted the "Deuteronomian Reformation," which destroyed these places with the exception of the royal temple at Jerusalem! (2 Kings xxiii.).

GOD'S RELATION TO MAN.

Genesis furnishes the most varied utterances concerning the relation of the divinity to mankind. In the oldest legends we hear how God holds men in check, how he guards and favors certain individuals in accordance with his sovereign pleasure, and how he glorifies and aggrandises his people above all others. In certain of the oldest legends God's action in such cases seems not to involve at all any thought of the moral or religious attitude of men: God reveals himself to Jacob at Bethel simply because Jacob happens to come to Bethel; similarly at Penuel the divinity assails Jacob without any evident reason; God is pleased with Abel's offering simply because he loves Abel the shepherd; he protects Abraham in Egypt and gives a fortunate outcome to the patriarch's deception; in any conflict of the patriarch with third parties God takes the part of his favorite even when the latter is plainly in the wrong as in the case of Abraham in dealing with Abimelech (xx.

7), or when he has indulged in very questionable practices, as in the case of Jacob with Laban, and so on.

But alongside these there are other legends upon a higher plane, according to which God makes his favor to depend upon the righteousness of men: he destroys sinful Sodom, but saves Lot because of his hospitableness; he destroys the disobliging Onan, and exiles Cain because of his fratricide; Joseph is helped by him because he has deserved assistance by his chastity and his magnanimity; to Abraham he gives a son because of his kindness to strangers. These legends all belong, taken absolutely, to a later time which has a finer ethical sense, yet they are all primitive in Israel. The belief that God looks with approval upon the just and rewards the wicked according to his sin is certainly familiar to the religion of Israel from the beginning (cp. 1 Sam. xxiv. 20; 2 Sam. iii. 39). From a broader point of view we may include here another group of legends which tell how God has compassion on the outcast and despairing; a particularly affecting instance of this is the legend of the exile of Hagar (xxi. 8 ff.).

A third variety of legend emphasises strongly what it is that wins God's approval, to wit, faith, obedience, invincible trust,—these God imputes as righteousness. At God's command Noah built a ship upon dry land; following God's word Abraham left his secure home and migrated to alien lands, trusting in God's promise that he should become a nation despite the fact that he had not even a son as yet. Thus they won the favor of God. The legend of the suit for the hand of Rebecca also shows how such steadfast trust in God is rewarded. In the legend of the sacrifice of Isaac we have a wonderful character sketch showing how the man of true piety submits to even the hardest and most terrible trials if God so commands. The famous prayer of Jacob, xxxii. 10–13, portrays the humble gratitude of the pious man who confesses himself to be unworthy of the divine favor. The narratives and pieces which speak thus of favor mark the climax of high religious feeling in Genesis; it is these especially which give value to Genesis even to the piety of the present day. We see in them a comparatively late development. This conclusion is supported by other reasons in the case of most of them: the Babylonian legend of the Deluge, for instance, knows nothing of the trial of the hero's faith; Jacob's prayer is quite secondary in its connexion, and what a contrast this prayer with its deep feeling makes with the remaining conduct of the eel-like Jacob! What a difference between it and the legend which stands beside it, Jacob's wrestling with the di-

vinity! It is to be noted also how peculiarly inconcrete the story of Abraham's exodus is; while the narrative of the covenant, chapter xv, is perhaps a later composition without any basis of tradition!

NOT MERELY A TRIBAL GOD.

Thus we can discern here a series of thoughts about God leading from the crudest up to the highest. But in any case these legends teach that it is an error to think that ancient Israel conceived only of a relation between God and Israel; on the contrary it is everywhere a matter of the relation of God to individual men. It is true that these persons are in part race types, but the legend looks upon them as persons and depicts God's relation to them in large measure just in the way in which the people of that time believed that God dealt with individuals. We should deprive many of these narratives of their whole charm if we failed to recognise this fact: the reason the legend of Hebron was heard so gladly by ancient listeners is that it tells how God rewards hospitality (thine and mine also!); and the story of how God hears the voice of the weeping boy Ishmael in the wilderness is touching because it shows God having compassion on a child: this God will also hear the cry of our children!

RELIGIOUS AND PROFANE MOTIVES MINGLED.

Another line of development is seen in the fact that the elder stories have a naïve way of mingling profane and religious motives, and clearly without taking any offence at it: thus the legend of Abraham in Egypt celebrates the shrewdness of the patriarch, the beauty of his wife and the steadfastness of God. The legend of the Deluge praises not only the piety, but also the shrewdness, of Noah (in the story of his sending out the birds); the legend of the flight of Hagar (xvi.) gives quite a realistic picture of the condition of affairs in Abraham's household and then tells of God's assistance. These legends come, therefore, from a time when profane and sacred matters were still frankly united, when the men of Israel fought at the same time for God and the popular hero ("a sword for Jahveh and Gideon!" Judges vii. 20), when lively humor was not inconsistent with piety, as for instance the merry butcher Samson who is at the same time God's nazir (devotee), or the humor of the legend of Abraham in Egypt. Now we see by the variants especially of this last legend that later times no longer tole-

rated this mingling of profane and sacred motives, or at least that it offended by the attempt to glorify God and profane qualities of men at the same time. Accordingly this later time constructed stories which are specifically "sacred," that is, which deal only with God and piety, and in which profane interests are relegated to the background. Such legends are those of Abraham's exodus, of the covenant, of the sacrifice of Isaac, and so on. Here the formerly popular saga is on the point of becoming "legend," that is, a characteristically "sacred" or "priestly" narrative. Whether this phenomenon was connected with the fact that the legends were at that time making their way into certain definite "sacred" or "priestly" circles, we are unable to say.

The earlier times knew also legends of the patriarchs which were altogether of profane character, such as the legend of the separation of Abraham and Lot, or that of Jacob and Laban. In later tradition religious elements made their way into even these legends and gave them a religious coloring. For instance, objection was taken to the notion that Canaan belonged to Abraham simply because Lot did not choose it, and an addition supplied to the effect that God himself after Lot's withdrawal personally promised the land to Abraham (xiii. 14-17). Similarly, later narrators hesitated to say that Jacob had run away from Laban and accordingly interpolated the explanation that God had revealed the plan to him (xxx. 3).

ETHICAL NOTIONS.

Furthermore, a whole history of ethics can be constructed from these legends. Many of the legends of the patriarchs are filled with the pure enjoyment of the characters of the patriarchs. Consequently many things in these characters which are to us offensive caused no hesitation in the time which first told the stories, but were on the contrary a source of pleasure or of inspiration. The people of old took pleasure in Benjamin's career of plunder (xlix. 29), in Hagar's defiant spirit (xvi.) and in the courage of Thamar and the daughters of Lot, who took seed of a man where they could find it, and further in the shrewd deceit of Abraham in Egypt, in Joseph's cunning when he introduced his brothers to his prince as shepherds (xlvii. 1 f.), in Rachel's trick by which she deceived her father so perfectly (xxx. 34), and especially in the wiles and schemes of the arch-roguer Jacob. It is impossible to ignore the great rôle played by deceit and cunning in these legends of the patriarchs, and the amusement the people of old got out of it, and

the character which they thus reveal to us. Then we see from many examples how the later tradition took offence at these stories, re-interpreted them or remodeled them and tried to eliminate the questionable features as far as this was possible. This is most evident in the variants of the legend of the danger of Sarah: here the later narrators have remodeled the whole story, which plainly appeared highly questionable to them, changing, for instance, Abraham's lie into a mental reservation (xx. 12), the disgraceful presents which the patriarch receives for his wife into a testimonial of good repute (xx. 16), and even finally deriving Abraham's wealth from the blessing of God (xxvi. 12); similarly, the deportation of Abraham (xii. 20) has been changed into its opposite, (xx. 15), and so on.

The defiant Hagar of chapter xvi. has been changed into a patient and unfortunate woman, in order that no offence might be taken with God's compassion upon her (xxi. 8 ff); the attempt has been made to explain Abraham's treatment of Hagar by adding that God had commanded him to put her away (xxi. 11). Especial pains has been taken to clear Jacob of the charge of dishonesty in his relations with Laban: in several long speeches the narrator undertakes the demonstration that there is no shadow upon Jacob; Jacob's wives and finally Laban himself are obliged to recognise his uprightness (xxx. 4 ff.; 36 ff.). Here too the resort is, to ascribe to the authority of God that which seems questionable to men: God always caused the herds to bring forth in Jacob's interest (xxx. 7), and God himself revealed to Jacob the color of the newborn for the coming year (xxx. 10 ff.). With somewhat less energy the narrators have taken hold of the story of Tamar; yet here too they have done their best to wash Judah white: Judah, they urge, did not go to Timnath until his wife was dead. And a similar endeavor has been made to give at least for Lot himself a somewhat more decent shape to the story of Lot's daughters, which was very offensive to those of the later age: they say that Lot was deceived by his daughters.

THE PATRIARCHS NOT SAINTS.

The olden time undoubtedly took delight in the patriarchs, but it did not consider them saints, but told of them quite frankly all sorts of things that were far from ideal. Some of the old stories are in this respect exceedingly true to nature: they portray the fathers as types of the Israelitish nationality, just such as individ-

ual men in Israel are. Thus the story of the flight of Hagar (xvi.) sketches the people in Abraham's household: Sarah as the jealous wife, Hagar as the defiant slave, and Abraham as the peace-loving husband. The later time with its "sacred" or "priestly" feeling could not tolerate such things. On the contrary, this age saw in the patriarchs always models of piety, and of that intense and tender piety which belonged to this later age. Thus there has entered into the portraits of the patriarchs a peculiar dissonance: the very Abraham who thrust his son Ishmael into the wilderness (xxi. 14), who does not hesitate to turn Sarah over to the foreign king and even to accept presents for her (xii. 16), we are asked to regard as the same who is the lofty model of faith for all ages! And the cunning Jacob is the same who speaks the wonderful prayer of gratitude! We resolve this dissonance and free these legends from the unpleasant suspicion of untruthfulness by recognising that the different tones are the product of different periods.

The earlier time did not hesitate to recognise here and there the rights of aliens when brought into conflict with the patriarchs: for instance, Pharaoh's right as opposed to Abraham's (xii. 18 f.), and Esau's as opposed to Jacob's (xxvii. 36); indeed some of the patriarchs have been simply abandoned: Simeon, Levi and Reuben were cursed by their great-grandfather (xlix. 3-7)! Israelitish patriotism was at that time so sound that it tolerated such views. But the later times, with their onesided, excessive reverence for "the people of God," could not endure the thought that the patriarchs had ever been wrong or done wrong. Thus we see how one of the narrators takes pains to show that Abraham was not altogether in the wrong in his relations with Abimelech (in the speech, xxi. 11-13). From the same motive, in order to avoid saying anything bad about the patriarchs, only a fragment of the story of the curse of Reuben has been transmitted (xxxv. 21-22*a*), and the story of Simeon and Levi has been cast into several forms (xxxiv.): first excuses for the brothers were sought—they were defending the honor of their sister (J)—and finally they were even justified and their betrayal of Shechem represented as quite the natural thing. Here, too, God is finally made to take their side (E, cp. xxxv. 5). We do not always relish such modifications, and sometimes it seems to us as if they made the matter worse, rather than better. Thus, the lie of Abraham in introducing his wife as his sister (xii. 13), in which the earlier narrators take evident pleasure, is after all more tolerable than the mental reservation which is put in its place, which seems to us Jesuitical (xx. 12). But despite

these instances we must not surrender our gratification at this gradual improvement in ethical judgment which we can see in Genesis.

On the history of ethical taste which is to be found in these legends we have already treated in the preceding pages (§ 3), and have but a few points to add here. We gain a deep insight into the heart of the primitive people when we collect the chief motives in which the eye of the legends takes pleasure. This is not the place for such a summary; attention may, however, be called to the fact of how little is said of murder and assassination, and on the contrary, how much is said of peaceful occupations and household affairs, especially of the begetting of children; eating and drinking, too, play quite a rôle. These narrators are thoroughly posted in the life of peasants and shepherds and are therefore a prime source for our "archæology"; but they are not at home in political affairs: in this they are simple and natural.

The older legends are often quite coarse: for instance, the legend of the defiant Hagar (xvi.), or Jacob's deception of his blind father and the delight of the listeners (xxvii.), or the exceedingly coarse way in which Laban's quick-witted daughter deceives her father (xxxi. 34 f.): it must have been a stocky race that took pleasure in such stories. How very different are the later stories which overflow with tears, such as the legend of the exile of Hagar (xxi.), of the sacrifice of Isaac, and especially the legends of Joseph! Here a different generation is expressing itself, one that loves emotion and tears.

Still another distinction between the older and the later time is that the former was interested in the familiar things of its nearest surroundings, while the latter tries to give a piquant charm to its stories by locating the legend far away and introducing the description of foreign customs, as in the story of Joseph.

CRITERIA OF THE AGE OF THE LEGENDS.

Accordingly we have an abundance of grounds on which we can establish the age or the youth of the narratives. Sometimes we are enabled to outline a very brief preliminary or pre-natal history of the legend in question, as for instance in the case of the legend of Hagar (xvi.), in which first an "El," then Jahveh himself, and then his messenger, was the divinity that appeared. Often a series of various arguments lead to a given conclusion, that a legend is late or early; thus the legend of Abraham in Egypt is to

be regarded for many reasons as very old; it is very brief, has a primitive local coloring, and does not idealise its personages, and so on. On the other hand many arguments lead to the conclusion that the legend of Joseph is very late: it has the latest, spun-out style, few ætiological elements, contains the belief in Providence, and so on. But very often the various considerations cross one another: in that case it is evident that the legend contains a confused mixture of early and late elements: thus the narrative in chapter xv., containing no complications, seems to be relatively late, but the theophany in fire and smoke is surely a very primitive conception. The different phases of development have not been distinct and clear cut: early features often continued to hold their own for a long time; hence it will be necessary to conceive of this outline of the history of the legends not as simple and straightforward, but as very confused and full of vicissitudes.

TRIBAL LEGENDS.

If we take one more survey of the history of these transformations, we shall surely have to admit that we can get sight of only a small part of the entire process. These transmutations must have begun at a very early period, a period so early that our sources give us no insight into it. This should warn us against supposing that we are able to arrive always at the very primitive significance of the stories from the historical and ætiological allusions which we find in the narratives. In this connexion we may refer to the legends in which there have been no such allusions from the beginning, especially the legend of Jacob and Laban. And a special warning is needed against rashly interpreting as tribal legends those legends whose heroes are plainly ancestors of tribes, for it may be, as has been shown above, that the story was applied to the tribal hero long after its origin.

And if it is scarcely possible for us to declare the original significance of the legends from the sources handed down to us, neither may we claim to know in every case who the originals were of the figures in the legends of the patriarchs. Some of them are really names of countries, or races, and of tribes, as for instance, Israel, Ishmael, Ammon, Moab, Rachel, Leah, Hagar, Keturah, and the tribes of Israel. In an inscription of Thotmosis III (ca. 1500 B.C.) mention is made of a Canaanitish tribe or district J'qb'ar, which would correspond to a Hebrew Ja^{ca}qob'el, (Hebrew l=Egyptian r); and the name Jacob-el would be related to Jacob as Jephthahel

and Jabn^eel are related to Jephthah and Jabne: they are all names of tribes or of places, like Israel, Ishmael, and J^erahm^eel. Even on this evidence we should conclude that Jacob was originally the name of a Canaanitish district, which existed in Canaan before the Israelitish immigration.¹

PATRIARCHS DISGUISED DIVINITIES.

Still another question is, whether these tribal names were not also originally names of divinities, as for instance Assur is at the same time the name of the God of Assur (Assyria). This is to be assumed for Gad, which is at the same time the name of the god of fortune, and also for Edom—cp. the name Obed-edom, “servant of Edom,” Wellhausen Composition², p. 47, 2. ed. Names of divinities have been suspected further in Selah (cp. the name Methuselah=man of Selah), R^eu (cp. the name R^eu-el), Nahor (cp. the name 'Ebednahor=servant of Nahor), Terah (perhaps the same as the North-Syrian god Tarhu), Haran (cp. the name Beth-haran=temple of Haran). Sarah and Milkah are, as we know, names of the goddesses of Haran, with which the Biblical figures of Sarah and Milkah have perhaps some connexion. This suggests very easily the thought that Abraham, the husband of Sarah, has been substituted for the (moon-) god of Haran. The name Laban too suggests a god; L^ebana means moon; the fact that Laban is represented as being a shepherd would correspond to his character as a moon-god: for the moon-god may be represented as the shepherd of the clouds. In ancient as well as in modern times the attempt has been repeatedly made to explain the figures of Abraham, Isaac, and Jacob also as originally gods. There is no denying that this conjecture is very plausible. The whole species of the legend—though not indeed every individual legend—originated in the myth; at least many legends are derived from myths. And such an interpretation is very natural for the stories of Jonah in the whale's belly, of Esther (Istar), of Samson (Semes's sun) and others. What is more natural than to attempt this interpretation with the legends of Genesis whose origin goes back in part to prehistoric times when myths were the order of nature? But—as we look at it—the attempts in this line hitherto made have not been exactly fortunate and have sometimes failed to demonstrate their theses. Of such pieces as can be interpreted with reasonable certainty as remnants of mythical narratives there are not many among

¹Cp. Ed. Meyer ZAW 1886, p. 1 ff.

the tales of the patriarchs (we are not now speaking of the legends of the beginnings): the note that Abraham with 318 servants slew his enemies (xiv. 14) may in Winckler's opinion go back to a moon-myth, the moon being visible 318 days in the year; Jacob's wrestling with God suggests that this Jacob was really a Titan, and consequently we can scarcely avoid seeing here a faded out myth; Joseph's dream that the sun, the moon, and eleven stars were compelled to bow down before him must have been originally an oracle referring to the Lord of Heaven before whom the highest powers of heaven bow, although it seems that this dream was introduced very late into the story of Joseph.

CAUTION NEEDED IN INTERPRETATION.

But before we are warranted in declaring with regard to a figure in Genesis that it bears the impress of an earlier god, we must demand that not merely certain elements of a story permit a mythical interpretation, but that whole legends have striking resemblances to known myths, or that they can be interpreted as myths in perfectly clear and unquestioned fashion. Such a demonstration as this has not been given by investigators hitherto.¹ Let us hope that those who attempt it in the future may be more successful! But let us by no means fail to recognise the fact that Israel in historical times, when these legends were told, saw in Abraham, Isaac, and Jacob, not gods but men, its ancestors. And we must further demand that those investigators who propose to find mythological foundations to our legends must first of all investigate most carefully the history of the legends which lies before us so clearly in the sources. Only for the oldest elements of the legends

¹ The older theory of Goldziher (*Der Mythos bei den Hebräern*, 1876), which depended chiefly on the etymologies of names, is long since discredited. Stucken (*Astralmythen*, I. Abraham, 1896, II. Lot, 1897) bases his assertions upon individual elements of the legends, for which he hunts together an amazing abundance of parallels from all over the world; but these parallels are often only very incidental. As Etana, carried up to heaven by an eagle, according to the Babylonian myth, looks down upon the earth, so Abraham and Lot, according to Stucken, look upon the land from Bethel, and so Abraham looks up to heaven and upon Sodom. But such analogies will not stand attack. Winckler, *Geschichte Israels*, II., 1900, who continues to build upon this uncertain foundation, depends especially upon the characteristic numbers: the four wives of Jacob are the four phases of the moon, his twelve sons the months; the seven children of Leah are the gods of the days of the week, the 300 pieces of silver which Benjamin the youngest receives are the 30 days of the last month, the 5 state dresses are the 5 intercalary days; Joseph's coat suggests the garments of Tamar and Istar (and every other garment!); his being thrown into the cistern denotes the descent of Tammuz into the under world; the dipping of his coat in blood and his father's belief that he had been eaten by a wild beast suggest the slaying of Adonis by the boar, and so on. After such a review we cannot yet see satisfactory solutions of the problem in either of these works, although we gladly recognise the extensive learning and the keenness of them both. And yet we would emphasise the point, that there is no reason on principle against a mythical interpretation of the legends of the patriarchs.

may a mythical origin be ultimately expected. Accordingly we are unable to say what the figures of Abraham, Isaac, and Jacob, which chiefly interest us, may have signified originally. But this is by no means strange. These matters are simply too primitive for us.

Apologetic meditation is wont to lay great importance upon the historical verity of Abraham; in our opinion there is no longer any room for this assumption, and moreover it is hard to see what significance this position can have for religion and the history of religion. For even if there had once been a leader by the name of Abraham, as is generally believed, and who conducted the migration from Haran to Canaan, this much is beyond question with every one who knows anything of the history of legends, that a legend cannot be expected to preserve throughout so many centuries a picture of the personal piety of Abraham. The religion of Abraham is in reality the religion of the narrators of the legends, ascribed by them to Abraham.

[TO BE CONTINUED.]

WHAT IS LIFE?

A SUNDAY ADDRESS.

BY WILLIAM M. SALTER.

THERE are two noble concerns of man. One is to know his duty in life, and to do it. The other is to understand the great world about him, to understand himself as a part of the world.

Religion has always in some fashion met these concerns. It has not only given a rule of life, it has sought to make existence intelligible. It has aimed to banish the sense of strangeness which man has as he confronts the Universe, to make him feel at home in it. The religions that lie directly back of us did this in a very simple way. They told us of a Creator of the world; they explained the steps of the process,—in six days it was all done. They explained evil; they explained death. They pictured the Creator ever watching over, and now and then interfering in his world,—and one of them pictured him as sending down a Son from the heavenly heights in which he lived to rescue man from evil and from death, and point the way to heaven where man might go and live forever. How finite and comprehensible seemed the world in such a view! How simple was life! And in a way how affecting and beautiful the whole story!

And now that science makes us doubt whether the world ever was created, whether a hand from without ever interfered in it, whether Jesus was more heaven-sent than other men, and whether heaven itself is more than boundless space and innumerable planets and suns, how strange the world again becomes! The old familiar house in which we lived has been torn down, or rather melted in thin air, and we have to get our bearings and take our reckonings anew. It was, as we see, a kind of fairy-tale in which we believed, a sort of dreamland in which we were living,—and the world is other, vaster, more mysterious than we thought.

And yet the human mind has the same need as ever. It raises the same wondering questions. It has the same deep strong desire to know, to understand this wondrous frame of things, to be at home in it, to be a child of the universe, instead of a stranger. A religion for to-day must meet this need. It must face the new world and give some reasonable account of it. It is a great thing, the greatest thing, to inspire men with a vision of the right, and with courage to do it and dare for it; but it is only second to this to make men serene, at peace with the world because they see their place in it, happy in existence, fighting their battle for the right and the just in the light, and not in darkness.

It is with the hope that I may contribute, if ever so little, towards making those who come here feel at home in the world, that I am taking up the subjects for these two Sundays, "What is Death?" and "What is Life?" I would help you see the meaning of both. I would have you not shrink from the thought of death or regard it as an outlaw or a blot on the fair face of the world, but as a normal and even happy and beneficent part of it. I would have you see with Whitman and say with him: "Beautiful . . . that the hands of the sisters, Death and Night, incessantly, softly wash again and ever again this soil'd world." I would have you not merely submit, but consent and even praise "Our Sister Death," as all the great processes and forces of nature. My guide is science. I wish to admit everything it teaches. I wish to hold nothing and to hope for nothing that is inconsistent with it. I wish to follow the full sweep of all the physical, chemical, biological, psychological research and results of our time. It was said of Faraday that when he went into his oratory he turned the key of his laboratory. His science was one thing and his religion another. But the two things should interpenetrate. I have faith in the possibility of a religion that shall have part of its inspiration from science. I think that the conflict of the two is a passing phase—not that by a sort of hocus-pocus now becoming familiar, science will play into the hands of the old religion, but that religion will have a new birth through science, that knowledge itself will suggest what is beyond knowledge, that what we see and what we rationally dream of will be recognised as of one texture, so—

"That mind and soul according well
 May make one music as before,
 But vaster."

What can we say about life? It is of course premature to

speak of any final, finished doctrine,—yet there are hints, partial aspects of the truth, that we may gather together.

Life is of course a quality or attribute of many things. There is not only our human life, but animal life. Still lower down the scale there is vegetable life. Man, animal, plant,—all alike, though so different, live. What do we mean by saying so?

In the broadest sense anything may be said, I suppose, to be alive that moves of itself, instead of being pushed from without. If any of the wretched flying papers of which our Chicago streets and vacant lots are full on a windy day, were to take to flying when there was no wind, we should be amazed and think that somehow they must be alive. They are dead things, only because it takes something else to move them. The waves on our lake are pushed by one another, and all together they are pushed by the wind, but if they arose without any wind, and above all if one arose by itself and no other had caused it, if there were a spontaneous rising and swelling of the water, we should say the water there must be alive. Of course, none of these things happen, and it is something of a strain on our imagination to picture them, but they serve in a simple way to bring out the idea that is, I think, in all our minds when we speak of life. If you come on some strange object as you are walking along a country road, and can't make out whether it is alive or dead, you perhaps poke it or shove it, and if it moves only as you make it move you call it dead (perhaps it never was a living thing), and if it moves of itself you call it alive. Movement from within,—that is life.

Well, strange as it may seem, there is, in this broad general sense of the word, more life in the universe than we are at first aware of. There is a vast deal of movement that is produced by other movement, but, as we examine carefully, we find that every now and then we come upon movement that there are no outside causes to explain. When, for instance, you throw a ball up into the air, the upward movement is intelligible enough, for it is caused by the movement of your arm, but what causes the downward movement that sooner or later takes place? Is there somebody up there that gives the ball a push back? What even makes the ball stop? For there is evidently more than the friction of the air that hinders it from going up indefinitely. The real fact seems to be that the ball comes down, not because anything else makes it come down, but from its own intrinsic attraction or gravitation or weight. In the strict sense of the word, so far as I can see, it moves itself. It moves because it is so constituted, because its matter is not

mere matter, but a seat of living force. "Attraction," "gravitation," "weight," are not properly explanations of the movement, but other ways of describing it. All we can say truthfully is simply that the movement comes from within,—that the attraction, gravitation, and weight are inherent, not produced from without. And so it is wherever the so-called law of gravitation holds good,—so it is with all bodies throughout the wide world (so far as we know it). Movement is taking place every day, freshly beginning every day, movement is indeed eternally going on,—which is not caused by other movement, but arises from depths of energy within each object itself. In a sense, then, the whole universe is alive, for the earth and the sun and the stars and the whole choir of heaven, yes, and the tiniest fragment of dust under our feet, move, not because of anything that pushes them, but because of unexhausted and inexhaustible supplies of energies within themselves. You can throw up a ball again and again, and again and again, and it will always repeat the downward movement; it never tires or wearies of doing so; its action can be mathematically predicted—that is what we have in mind when we speak of the law of gravitation, but the law does not make it move, it is only an abstract statement of the fact and way in which it does move. So with the earth and the sun—as masses they may disintegrate, but the essential particles of which they are composed will never cease to have their inner vital attractions. They may make and remake worlds without end, and be as fresh as on creation's morn.

Must we not say the same of those infinitesimal movements by which neighboring particles of a like substance draw near to one another and refuse to be separated—to which we give the name cohesion? Are we to imagine external influences, hidden vises of some sort, pressing them together, or is it their own attractions that are at work? What, too, of the delicate movements that result in the formation of crystals—the wondrous little pyramids, for instance, which a solution of common salt may run into as it evaporates, and which almost seem, Tyndall said, a mimicry of the architecture of Egypt? Are not these movements, too, spontaneous? Is there any external force to which we can attribute them? Surely no one will say, to use an explanation which Tyndall only cited to dismiss, that there are invisible workmen in between the molecules piling them up in the order they assume. All we can say is, that there is this tendency, this architectural instinct (so to speak), this wonderful living movement, in the particles themselves. They are not dead particles that have to be put together by a hand out-

side them, but are instinct with a life and motion of their own, and with this very definite and beautiful type of life and motion—at least with one having these beautiful results.

We have been dealing with masses and little masses (or molecules); but the same considerations apply to the union of the atoms themselves,—the union called chemical. When two atoms of hydrogen and one of oxygen rush into one another's arms, as it were, and form a molecule of water, no one thinks of any outside force pushing or compelling them. The force, the spring of the movement, is in themselves; they have a positive affinity, one might almost say a craving, for one another, and, when circumstances allow, their mutual movement and union are inevitable. In other words the processes of chemical union are, equally with the other types of movement I have referred to, in a sense, living processes.

All about us then, even in the lower inorganic world, are store-houses, springs, fountains of life. They are store-houses that never grow old, springs that never weary, fountains that are ever fresh. A chemical element never loses its specific attractions, its inherent power of movement, any more than a particle of earth ever loses gravity. It may combine a hundred times, a thousand times, ten thousand times,—each time as readily, as powerfully, as exactly as the last; its energy is an unfading, undying, immortal thing.

Yet there is somewhat more wonderful in the world still. In the broad sense of spontaneous movement, life is everywhere in the world—and really in the last analysis, all derived movements rest on original, native, movements. But there are more wondrous potencies than those we have described. These are life, but there is a more-life—a deepening and multiplying of inward potency, and this is what we call life in the narrower, specific sense.

I have spoken of atoms uniting in a chemical compound. But suppose there were a compound which on being broken up to any extent tended to restore itself, which somehow managed to get new atoms to replace those that are lost, and thus preserved its form though its substance was altering and kept its identity in the midst of change, that would be a wonderful compound indeed, and its potencies far higher than those involved in the mere formation of a compound in the first place. Yet that is essentially the meaning of life, in the specific sense. Suppose water, on suffering any loss of its oxygen or hydrogen, at once reached after fresh oxygen or hydrogen to make good the loss, suppose the molecules were somehow bent on keeping themselves whole, and became thus a seat of

alternate destructive and constructive activities, I make bold to say that in the essence of the matter water would be as truly a living thing as a plant or an animal is. It happens, however, that the only compound that has this marvellous inner potency is that exceedingly complex compound made up of carbon, hydrogen, oxygen, and nitrogen, to which the name protein is sometimes given. It is the substance of protoplasm—that semi-fluid matter which is in every plant and every animal, which Professor Huxley styled the “physical basis of life.” This compound is ever suffering loss and yet it ever seeks to make good the loss—and this is the essential process of life.¹ We may suppose that, in the course of time, it has adapted itself and organised itself² better and better to serve the purpose of keeping itself whole. The outcome of the process has been to make it a sort of machine, with various parts working together for an end. Our bodies are a kind of machine, and those infinitesimal structures of which our bodies are composed, that we call cells, are machines.³ The difference from ordinary machines is, as I explained last Sunday, that they are self-feeding machines, self-repairing machines, and, within limits, self-reproducing machines. That is, they are *living* machines, in contradistinction to those which man makes, which are in every case dead machines—having to be operated by something or somebody outside themselves.

The single cell from which every living thing starts, and from which man's bodily organism starts as well,—the seed or germ as more familiarly called—is a machine, i. e., a contrivance for an end, the end being to maintain itself—and, perhaps it should be added, to grow and reproduce itself.⁴ I need not go into details—though they make a fascinating study. The simplest cells are made up of parts—nucleus and nucleolus, cell-substance and centrosome, are some of the technical names—and students of the subject are gradually learning or divining their respective functions, just as we learn the functions of the organ of the body as a whole. From start to finish in the living or organic world there is mechanical contrivance—only it is inwardly, not outwardly, produced, or, as we might

¹This is beautifully brought out in an article “To Be Alive, What Is It?” by Dr. Edmund Montgomery, in *The Monist*, Vol. V., pp. 166 ff.

²Or made use of and perpetuated “accidental” variations arising within it that were favorable to this end.

³See *The Story of the Living Machine* by H. W. Conn (New York, D. Appleton & Co., 1899—a remarkably lucid little book).

⁴Is growth a sort of surplus maintenance, or is there an instinct of growth in addition to the instinct of maintenance? Reproduction would appear to be simply an incident of growth.

say, it is begotten, not made. The living machine itself grows—that is the wonder of it; it has grown; it has made itself,¹ led, forced, driven from within. There is nothing like it in the world—a parallel would be if a locomotive engine got its own fuel, grew and increased in size, made its own repairs and detached from itself parts of its structure, that grew into new locomotives.² There are architectural forces in nature; there are machine-making forces in nature. The impossible, the inconceivable to man, nature accomplishes.

" Not human art, but living gods alone
Can fashion beauties that by changing live."

Our energy comes from the food we eat. But the deeper mystery of life consists in this,—that by our voluntary action we appropriate food, that we have an elaborate mechanism for doing so. The question of life is the question of the origin of this mechanism. The food that passes into it comes from the environment; but the mechanism itself does not come from the environment; it is fashioned from within, it is the outcome of specific chemical attractions, appetencies, impulses, demands. When you can account for the attractions of the chemical elements by their environment, when you can account for the gravity of bodies by their environment, then may you hope to account for the essential phenomena of life by surrounding forces. The truth is, there are, as there must be, original factors in the world, *Bausteine*, and life (or chemical activity and appetency) is like gravity, one of them. If we wish to account for *them*, we have to go back to the maker of all things (if there be a Maker), not to any of the other things that are made.

I have spoken of the life man has in common with animals and plants. We can hardly understand ourselves, save as we perceive the large essential outlines of this common life, in which the humblest amœba and the humblest speck of vegetable protoplasm share as well. Yet man is more than vegetable protoplasm, more than an amœba. How? In that the inner springs of his life are deeper, wider, richer. Man differs from the lower orders, because to their sensibility he adds more sensibility, because to the dim, groping instincts of the plant and the half-conscious processes of the animal, he adds a fuller consciousness—adds reason and knowledge and moral perception. These give man an additional independ-

¹ Not excluding a taking advantage of "accidental" variations.

² Cf. *General Biology*, by Sedgwick & Wilson, p. 4.

ence with respect to the outside world—they make him still more a living being. In a sense, the downward motion of a ball is a living motion, because it comes from the ball's own nature and is not caused from without. For all that, a ball may be kicked and thrown and tossed, and be practically unable to resist. How different a man! Where the ball has only gravity with which to counteract disturbing influences, man has a host of powers—by his perception and intelligence he may outwit them or escape them, by his muscular energies he may even attack them, and by concert with his fellows he may win a victory where he would fail by himself. If man were merely the passive creature of his environment, if he had no will or energy of his own, he would not really be a living thing. The very meaning of life is a more or less original, independent attitude towards surrounding influences. The only things in the world that may be entirely shaped by circumstances are dead things—if indeed there are any absolutely dead things. Life, as I have shown, is, from beginning to end in the scale of ascent, self-movement, *reaction* from a store of energy within. The exciting stimulus may no more of itself account for the effect, than a spark accounts for the explosion of a magazine of gunpowder. Even inanimate things are store-houses of independent energy; much more so man.

Hence we see what progress of life means for man. It is in becoming more and more a self-centered being. It is in getting more and more a fund of thought, of will, of principle, by which he may, within limits, shape forces about him instead of being shaped by them. Life is action from within, and more life means more "within" to act from. It is the feeble, unvitalised man who does simply as others want to have him do, or who goes with the crowd and cannot stand alone, or who swears by his party or his Church or his newspaper and does not examine into things, or who is the victim of his last book or the last set of circumstances in which he finds himself. If I want an example of strong self-sustained life, I think of Goethe who though lapped in luxury, the favorite of a court, and the idol of his countrymen, remained, as Huxley has remarked, through all the length of his honored years, a scholar in art, in science, and in life. I think of Huxley himself, ardent, devoted, unworldly, in his constant pursuit of scientific truth. I think of Herbert Spencer, turning neither to the right nor to the left, but finishing at eighty the work he set out to do at forty. Yes, I think of that pagan saint Marcus Aurelius, who though an emperor and tempted to all vanity, could write the "Med-

itations," and who could meekly say "Even in a palace life may be led well." The power of the inward over the outward—that is the power of life. And it is shown in humble men, in men we never heard of, as well as in men like these.

And yet life starts in desire, and progress begins with vague, hovering ideals. Who can tell what an *amœba* is after when it sticks out its pseudo-podia or feelers, and draws neighboring objects into its jelly-like, filmy mass? We can only say it has a rude, dim instinct to live. Who can tell what slumbering, vague desires are in the protoplasm of a plant with its unceasing motion, with its firm determined bent to make up for every loss in its substance—even to increase and grow? Dissatisfaction, want are the parent of every achievement. But if so, why should we human beings discredit the vague, ill defined hopes and yearnings that may be in our hearts now? The dreams of one age may gradually become the realities of the next. The vague hopes of humanity now may be prophetic of what humanity shall sometime be. First, desires, wants, dumb inarticulate strivings, afterwards thoughts, clear perceptions, firm will—this marks the ascent of plant to man and of man to the higher man. More and higher life means more desires, greater thoughts, more and more determined will. This is the vital method of progress, as opposed to those mechanical devices on which men sometimes lay such stress. Institutions, says Huxley, do not make men, any more than organisation makes life.¹ The only firm institutions are those which men make, as the only stable combinations of matter are those arising from inner, vital attractions. When the will and thought and energy of a people go into an institution, then it is there to stay. The only salvation for society as for the individual, is from within—it is more life.

Will life end with our planet? In a sense, yes; but if the energies that make for life really belong to nature and are inherent in it, strange would it be if they should never again assert themselves. In new worlds it is reasonable to believe that there will be new life. There may be different forms of life, there may be other chemical compounds than those with which we are familiar, but they will be alive in the same sense that ours are, in case they move from inner springs, lose their substance only to restore it, and perpetuate themselves in a series if they cannot in an individual. It is not a special set of elements that make life; life is rather a kind of union, of organisation of elements, a kind of process among them, whatever the elements be—namely, a kind resulting

¹ *Science and Culture*, etc., p. 72.

from inner forces, from the spontaneous and native attraction of the elements themselves. And the future forms of life may develop consciousness,—feeling, thought, and will,—as truly as those with which we are familiar now do. If feeling, thought, and will really belong to nature, if they are as truly, though not as universally, a part of its living energy, as chemical attraction or gravity is, then must they, when the occasion arises, appear again.

But how about *our* consciousness,—does it live on or, at least, rise again? I take for granted that it is interrupted at death. It sometimes lapses during life, and it surely does or may at death. Some day the consciousness of the race will end, and every day and every second some individual consciousness is ending. But is it an absolute end? There would be no meaning to such a question, if consciousness were born of the elements through which it expresses itself, and which it more or less controls. But the truth seems to be that it is a fresh expression of nature's inner resources. Chemical attraction is not derived from gravity, it is a new form of living energy; and consciousness is not derived from chemical attraction,—it is a fresh and independent expression of the forces lying at nature's heart. The unity our minds crave is not in the various forms of energy that appear, but, if there be unity, in the hidden well from which all alike stream.

If so, it does not follow that our consciousness stops absolutely, because our physical life ceases. It may, but it may not,—there is no inherent necessity for its cessation as there would be if it were but a form of physical or chemical energy. If one is bent on treating consciousness as some sort of physical or chemical activity, he may be led to doubt whether it exists outside himself, for in all the minutest processes of the body or brain of other persons he never discovers it,—and he may with entire rationality conclude that they are automata (without consciousness).¹ He might doubt its existence in himself, did he not directly experience it. Consciousness is *sui-generis* and unlike all in the world beside, unlike even the most delicate tissues and movements of man's own bodily substance. Science, exact science—and the more exact the better—discovers nothing inconsistent with the possibility of a resurrection of our consciousness after death. This added spring of life may be a spring for other forms of life as well as for that which has its ending here.

But why *should* our consciousness go on? The answer lies, so

¹ How well such a position may be argued, readers of Huxley are aware. See his "On the Hypothesis that Animals are Automata, and its History," in *Science and Culture*, pp. 206 ff.

far as an answer can be given, in the unfinished nature of our present state. Man is an uncompleted being. It is quite possible that the whole race will come to an end before it, or any part of it, reaches the perfection which it is possible to think of, and the potencies of which really exist. Cohesion may be perfect at once. Chemical attraction may be perfect at once—the first time hydrogen and oxygen come together they may form as perfect a molecule of water as they can ever form. But a human soul is never perfect. When we know the world as it has been imagined God knows it,—know it in all its infinite sweep, in all its hidden depths and measureless possibilities,—when we attain in life and character all we should like to attain, when we have come to the end of our ideal, then indeed we may come to the end of ourselves,—but not till then.

Why *should* we live again? What a question! Is life then as we know it enough to us? Is there nothing we are trying for and cannot reach? Is there nothing we crave to see and do not see? Have we no visions, no haunting ideals? Are we not homesick at times for a beauty, a perfection we do not find on earth? Or are we afraid to let these slumbering ideals awaken in us, do we stifle them and deaden them! Oh, I say to you, trust your soul, open the windows of your heart and look away to the unattained!

And if you wish something that would seem like a positive reason or ground for expectancy, I point you to the world itself. I point you to what it has itself brought forth, since the earth parting from the sun began to “spin its way through the awful depths of space.” I point you to the teeming energy of the world, to its ascending scale of life, to all that is fair and beautiful already here. Who would have dreamed it in those dim days of long ago? If not, the future may surpass all the dreams we can have now. These thinking, feeling, aspiring selves of ours belong to the world—they are not strangers in it, but are born out of it—their aspirations and all the essential ideals they conceive are an outgrowth of their essential being—and who will say that we cannot reach our end and be satisfied, that human society, spiritually conceived and taken in its essential sympathies and loves, cannot rise to the ideal that is prefigured in its nature and become elsewhere if not here (though it can become more and more so here) a veritable “Kingdom of God”? It is our sense of the infinity of the world that gives us hope. When we see that it is really a question of whether the universe is big enough to give satisfaction to our souls, then every sense of what is generous and vast in nature seems to encourage

us. The very capaciousness of space, the very boundlessness of time, give us large and tranquil thoughts.

It is an old saying that in the midst of life we are in death,—indeed, the truth of science is that it is by daily dying that we live. Our life substance is being continually destroyed; only because this is so are the constructive activities of life called in play. Destruction makes way for construction; death is a kind of call on life. Who knows but that that greater death which sooner or later overtakes us all, is another gracious minister and starts energies into play deeper than we had known before,—that it is the death of the body, and freedom, new birth to the soul?

“Some parturition rather, some solemn immortal birth;
On the frontiers to eyes impenetrable
Some soul is passing over.”

THE CHINESE PROBLEM.

BY THE EDITOR.

WESTERN people, even those who have visited China, find it hard to understand the present crisis, not only because the Chinese are a nation that in its habits, history, language, literature, tradition, and religion differs widely from any one of the Eu-



A CHINESE TEA MERCHANT.

ropean races in the Old World as well as in America and Australia, but also because the question is complicated and presents various aspects.

The contrast between rich and poor, literate and illiterate, the powerful and the wretched, is mild in Europe and even more so in



A MANDARIN'S HOUSEHOLD.



A MANDARIN BANQUET.

America when compared to the social differences of China. How grand is life in the imperial household, and what a display of wealth is exhibited by the mandarins and rich merchants, while the multitudes are as mere dregs, unworthy of consideration or even sympathy, except when they become dangerous by being seized with a revolutionary spirit and threaten the overthrow of the dynasty! This contrast produces interior troubles which are great, and thus China is not unlike a witches' cauldron, seething and boiling with rebellion and problems.

The ruling dynasty is not indigenous, not Chinese, but barbarian. In 1644, the Tartars took possession of Peking, and placed

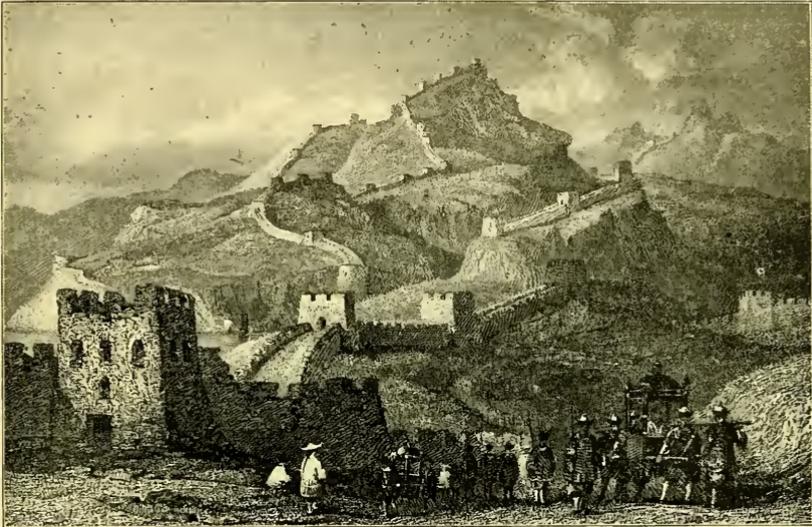


THE HOME OF A WEALTHY CHINESE MERCHANT.

Shun-Shih upon the throne of the Empire of the Middle, whose family adopted the name of the Tai Tsing, i. e., the Great Pure Ones. Tsung Ching, the last emperor of the Ming, an indigenous Chinese dynasty, fled and after wandering about for some days in misery threw himself into the Yang Tse Kiang and was drowned. The Tartar dynasty forced upon the Chinese nation their ugly hair dress, the cue on a shaven head, and the Tartar tunic, but it adopted without reserve the whole Chinese civilisation. And yet although the mass of the Chinese people wear the Tartar cue, and the Tai Tsing dynasty is as Chinese in customs, tendencies, and

perhaps even in blood, as any former dynasty has been, the Chinese continue to hate the Tartars as foreigners, barbarians, and tyrants.

The Chinese are a people that respects culture, and they are ruled by a literary aristocracy called the Mandarins, viz., literati who have passed the state examinations, which are very severe, and have



THE GREAT WALL.¹

received appointments by the government. The large masses of the population are very poor, and there are everywhere innumer-

¹ Shi Hwang Ti, the first emperor who united (in 221 B. C.) the whole of China under his scepter, and ruled from 237 till 210 B. C., was a warlike monarch and a despiser of literature. He persecuted the literati and issued an edict that on penalty of death all the canonical books should be burned (213 B. C.). For the protection of the country against the inroads of the Tartars, whose territory forms now a part of the Chinese empire, he had the Great Wall erected through his General Meng T'ien; this is a colossal work worthy to be compared to the pyramids of Gizeh. Though more than 2000 years old, it still stands as a monument to its builders.

A Chinese historian says that one third of the population of the empire had to be pressed into service for the completion of the work, and more than 400,000 of the laborers died from maltreatment, overexertion, and lack of proper food.

General Meng T'ien is supposed to be the inventor of the writing-brush which replaced the cruder methods of scratching the letters on bamboo sticks with a knife. When the tyrant Shi Hwang Ti died, on the downfall of the Ts'in dynasty, Meng T'ien ended his life by suicide.

Tradition relates that the Great Wall was built by Shi Hwang Ti as the result of a prophecy that his empire was endangered by Hu, which is the name of the Tartar tribes in the North. The prophecy was unexpectedly fulfilled to the letter through the ruin which befell his house when his second and unworthy son Hu Hai usurped the throne.

Fu Su, the rightful heir, died in banishment, but the usurper was soon murdered (in 207 B. C.) by Chao Kao, the ambitious eunuch who had helped him to ascend the throne.

The Ts'in dynasty was succeeded by the house of Han, whose first sovereign, Liu Pang, received universal recognition in 202 B. C.

able individuals who are almost constantly on the point of starvation. It is a condition produced by the lack of system prevailing in China, for there are no high roads in the country, no means of an easy exchange of commodities, no good money of intrinsic value, etc. The hungry proletarians do not know how to seek relief from their troubles, and so they band themselves together in secret societies whose avowed aim consists in the restitution of the good old times as they are supposed to have been under the Ming dynasty.

While the standard of morality is comparatively high, while there is a great respect for learning, for authority, for ideals of all noble ambitions, education is not so much low as one-sided.



KUNG YUEN, THE COURT OF EXAMINATIONS AT PEKING.¹

Knowledge of natural forces or of any practical kind is almost absolutely absent, and the study of the literature of ancient China, the only knowledge that is deemed worthy and great, costs much time and renders the mandarins unfit for practical business.

The religions of China are noble in their purity and might have become a factor for good. But the uncritical state of mind which is produced by a one-sided education—it is not a lack of education but rather an over-education—renders the Chinese extremely superstitious, so as to make Buddhist and Taoist priests vie in their efforts to promote the general credulity. The literati as a rule are simply followers of Confucius, whose doctrines are a system of morality based upon the principle of authority, otherwise

¹ This and the last two pictures are reproduced from Wells Williams's *Middle Kingdom*.

neither affirming nor denying any religious truths as to God, the soul, and an after-life.

The Western foreigners with their practical science might have come to the rescue of the Chinese, and for a while it seemed as if they would become the leaven that should leaven the dough of this stagnant civilisation. Adam Schaal, a German Jesuit, gained the ear of Shun-chih, and Kang Hi, his glorious son and successor, introduced many important reforms at the instigation of Father Ricci and others. But an unlucky star rose over the Jesuit missions. Jealousies between the Dominicans and the Jesuits led



THE TEMPLE OF CONFUCIUS IN SHANGHAI.

to quarrels on subjects concerning the Jesuit policy of yielding to the Chinese the right to regulate their mundane affairs according to their own notions. The Jesuits did not condemn Confucius as a pagan and infidel but suffered him to be regarded as a great moral teacher. They further translated the word God according to the ancient Chinese fashion by "Shang Ti," "the Lord on High," thus indicating that the ancient Chinese authorities had not been absolutely bare of divine grace. The pope decided against the Jesuits, but the Dominicans had little reason to enjoy their victory, for the Chinese authorities, little relishing the Dominican spirit, proscribed Christianity and drove even the Jesuit converts into exile.

Among the Protestant missionaries we must mention Gützlaff, a native Pomeranian, as specially successful. He was not an educated man, not a scholar, and scarcely a European. His books betray a gross ignorance in many respects but show a great zeal for the cause of Christianity. In spite of his shortcomings he must have been a remarkable man, a missionary genius, for the traces of his activity can be recognised in the Tai Ping¹ rebellion. He understood how to render Christianity palatable to the Chinese, and if we can trust the reports of MM. Callery and Yvan he was a Chinese half-breed, and thus Christianity naturally assumed in him a Chinese character.

Dwelling on the similarity of language used by the Christian Tai Ping rebels and Gützlaff's sermons, this remarkable missionary is thus characterised by MM. Callery and Yvan :

"M. Gutzlaff had the art of inspiring the Chinese people with the greatest confidence. He was of a middle stature, and tolerably stout; his prominent eyes sparkled beneath thick lashes, which were overshadowed by long black and bushy eye-brows. His face, with features the reverse of angular, and its light olive complexion, seemed to belong to that variety of the human race which we call the Mongol. In his Chinese dress, he was so exactly like a native, that he could have gone through the streets of the walled city of Canton without being recognised.

"One evening, during our stay in China, we spoke of him to the mandarin Pan-se-tchèn, who was much attached to him, and one of us expressed his astonishment at finding in a European the characteristics of the Chinese race. The mandarin quietly replied :

"'Nothing can be more natural. Gutzlaff's father was a native of the Fo-Kien settled in Germany.'

"This fact appears to us so extraordinary, that we should hesitate to relate it if Pan had not assured us that M. Gutzlaff himself was his authority.

"At all events, whether his origin was Chinese or not, M. Gutzlaff perfectly knew how to adapt himself to the ideas of a people who are at once sensual and mystical. He founded in China a sort of secret society called the "Chinese Union," the object of which was the conversion of the Chinese to Christianity by the Chinese themselves."

The Chinese are not naturally averse to Christianity. If either the Jesuit fathers or men like Gützlaff had had their way, China might by this time have become in the former case Roman Catholic, in the latter Protestant Christian. Christianity in China has become entangled with politics, and the Christian religion is regarded by the Chinese as the religion of the red-haired devils, the barbarians, the immoral foreigners who import opium and ridicule

¹ Tai Ping has become the name by which the rebellion of 1850-1867 is known among Western people. The leader of the Tai Ping rebels, Hung Hsiu Ch'üan, designated his rule the Ping Chao, or Peace Dynasty, because the final end of his mission was "to bring peace upon earth," and he was frequently called the *Tai Ping Wang*, or Great Pacifier.

the most sacred traditions of the nation. Christianity as commonly presented to the Chinese is not the Christianity of Jesus, but Western Christianity of some sort or other, and to all outer appearance the rupture with Chinese tradition is more important than the morality of the Christian faith. A great number of Western missionaries seem to think that they must change the Chinese into Europeans, otherwise their conversion would not be complete, and thus they fail in their efforts toward Christianising the country. As an instance of the wrong methods of missionarising I quote a passage from the Rev. Hampden C. DuBose's book *The Dragon, Image, and Demon*, where he describes the Chinese institution of preserving the family traditions in Ancestral Halls, forming sacred centers of family life, and though family traditions are sacred to us, our Christian missionaries proposed to destroy them as pagan in China and request converts to renounce them. DuBose says¹:

"These buildings are not so conspicuous as the idol temples, but they are very numerous, as any family or clan may have its temple, generally marked by the funeral cedar. Here the 'spirit tablets' of departed forefathers are kept, 'containing the simple legend of the two ancestral names carved on a board,' and 'to the child the family tablet is a reality, the abode of a personal being who exerts an influence over him that cannot be evaded, and is far more to him as an individual than any of the popular gods. The gods are to be feared and their wrath deprecated, but ancestors represent love, care, and kindly interest.' If the clan do not own an ancestral hall, there is 'in every household a shrine, a tablet, an oratory, or a domestic temple, according to the position of the family. It is a grand and solemn occasion when all the males of a tribe in their dress robes gather at the temple, perhaps a great 'country seat,' of the dead, and the patriarch of the line, as a chief priest of the family, offers sacrifice.

"In these halls the genealogical tables are kept, and many of the Chinese can trace their ancestry to ten, twenty, thirty, and sometimes even to sixty generations. These registers are kept with great care, and may be considered reliable.

"Much property is entailed upon these ancestral halls to keep up the worship, but as this expense is not great, all the family have shares in the joint capital, and the head of the clan sometimes comes in for a good living. At baptism converts to the Christian faith renounce their claim to a share in this family estate because of its idolatrous connexions.

"Should a man become a Christian and repudiate ancestral worship, all his ancestors would by that act be consigned to a state of perpetual beggary. Imagine, too, the moral courage required for an only or the eldest son to become a Christian, and call down upon himself the anathemas not only of his own family and friends, but of the spirits of all his ancestors.'

"When we preach against this form of paganism it seems as heathenish to the Chinese, as if at home we taught a child to disobey his father and despise his mother. 'It forms one of the subtlest phases of idolatry—essentially evil with the guise of goodness—ever established among men.'"

¹ Pp. 81 ff.

If Christian missionaries cannot find a way in which they can make it possible for converts to continue to honor their ancestors, if they are bent on destroying everything properly Chinese and attempt to change their converts into imitations of European culture and habit, they do not deserve success and we cannot blame the Chinese Government for regarding them as a public nuisance.

The writer of this article is not opposed to missions, nor does he believe that all the missionaries of China are guilty of the errors here censured. He knows several missionaries and cherishes the highest respect for them. He has corresponded with some of them, who he believes are a credit to their country and to the faith which they promulgate. The fact remains nevertheless that there



PROCESSION OF THE LADIES TO AN ANCESTRAL HALL.

are great numbers of missionaries who are not moved by the right spirit and among them those who are pious Christians, yet lacking in tact, lacking in education, lacking in wisdom, exercise perhaps the most injurious influence and hurt both the cause of their religion and of the country whence they came.

The missionary problem is perhaps the gravest complication in China, but the hatred of the Chinese is not directed against Christianity as such but against the religion of the Western foreigners. It is true there are passages in the New Testament that are extremely offensive to the Chinese, for instance Luke xiv. 26 :

“If any man come to me, and hate not his father, and mother, and wife, and children, and brethren, and sisters, yea, and his own life also, he cannot be my disciple.”

A CHINESE COURT SCENE.¹

¹ It is not an unusual occurrence that the sons of criminals beg the judge to be allowed to take upon themselves the punishment that is to be inflicted upon their fathers.

A broad interpretation of these words might surmount the difficulty, but Christianity as commonly preached to the Chinese implies a contempt for Confucius and the institutions of the sages of yore together with the national character of the Chinese. Thus, only the lowest dregs of the nation are converted and most of them for sinister purposes. Sometimes (as Dr. Hirth, a well-known German sinologue, told me) these converts are criminals who thereby seek to shield themselves against the severity of the law; as many missionaries in pious innocence accept the statements of their converts in good faith, it happens that burglars and thieves are baptised and then protected by the interference of European consuls against the prosecution of the Chinese authorities which are ingenuously assumed to be instituted on account of their faith.

In addition to the missionary problem, there is the commercial problem which serves to render the social conditions still more intolerable to the poor. The Western trader is exempt from Chinese jurisdiction, and although this is a necessity both in the interest of Western residents and in consideration of the barbaric methods of punishment as well as the summary ways of dispensing justice in China, it increases the hatred of foreigners in a high degree. Think of it: a Chinaman cannot defraud a foreigner without being liable to be severely punished; but if a Chinaman be cheated by a European or perhaps an American trader, he has no redress whatever. The wronged Chinaman can go to the ambassador or minister of the nation to whom the man who beat him or cheated him, belongs, but the ambassador has been sent to protect his countrymen, not to sit in court over them and punish them. He is apt to hear and accept the statement of his countryman and cares very little whether or not the plaintiff goes away satisfied.

The Chinese are upon the whole very reliable in business; even the coolie laborer keeps his word, and Chinese merchants stick to their contract though it may be merely oral, even when by an unforeseen change of circumstances they should be the losers.

Maltreatment of the Chinese at the hands of Europeans is very common. A captain who in a German port had whipped a Chinese deckhand so mercilessly that the latter tore himself loose, and jumping overboard drowned himself, declared before court that Chinese hands must receive the barbarous punishments to which they are accustomed in China, otherwise they would have no respect for their superiors. No investigation would be held if similar accidents or deaths on account of cruel treatment occurred in Chinese waters. A young bank employee whom the writer met in

travelling endorsed these views most emphatically. He said: "If a Chinaman does not at once make room for me in the street I would strike him forcibly with my cane in the face." "And that goes unpunished?" I ventured to ask him. "Should I break his nose or kill him, the worst that can happen would be that he or his people would make complaints to the Consul, who might impose the fine of a dollar for the misdemeanor, but I could always prove that I had just cause to beat him."

The Chinese are possessed of extraordinary patience, but if their patience is exhausted, their rage knows no limits. The indignation of the Chinese against foreigners has been smouldering for a long time and the ambassadors at Peking received many warnings, but they could not believe that the meek Pekingese would ever dare to attack them.

Under such conditions it is all but impossible that the Chinese people should have any respect, let alone love or admiration, for Western civilisation; and yet on the other hand it is quite natural that a great rebellion should break out which was at the same time a national Chinese reaction against the Tartar tyrants and a Christian movement such as was the Tai Ping rebellion.

The rebellion in China, which broke out in 1850 and was finally suppressed in 1864 by General Gordon, was the product of all the factors that oppose the present Chinese Government. It was national Chinese as opposed to the Tartar usurpers; it was Christian, but it was a Chinese Christianity after the fashion of Gutzlaff, not dressed in European broadcloth, and using the terms of the Protestant translation of the New Testament. There were several leaders at the head of the movement, but two were of special prominence, Tien Teh (Heavenly Virtue), a person who claimed to be a descendant of the ancient Ming dynasty, and Hung Hsiu Ch'üan, a Christian who called himself Tien Wang, or Heavenly King. The former was nominally the emperor-elect of the rebels, but he seems to have been a mere figure-head, and after his death even the latter, the real soul of the rebellion, became the acknowledged head of all.

The Tai Ping rebellion might have succeeded had not the English Government, trying to ingratiate itself with the Chinese authorities, offered their best general to help them to suppress the Tai Ping. The fact seems strange at first sight that a Christian nation should suppress a Christian movement in China with bayonets and guns; but we must bear in mind that the Christianity of the Tai Ping rebels, not being the Europeanised Christianity of the

English missionaries, was regarded as spurious, and thus the English government cherished grave doubts as to the advantages which she would reap if in the place of the hated Tartar dynasty the Chinese would be governed by a Christian, but none the less a Chinese ruler. An indigenous dynasty would probably pursue a policy that would be more hostile to foreign traders than the Tartar dynasty was, who on this occasion might be taught how useful to them an English alliance would be. On the other hand, Christian China



德天

TIEN TEH, THE PRETENDER OF THE TAI PING REBELLION.

would have a claim to considerations such as no one thinks of granting to old pagan China.

Sir George Bonham visited the rebels and gave an account of their character which seems to have had much weight with the British Government. He says:

“I found the insurgents had established a kind of government at Nankin, consisting, in the first place, of Taeping, the Sovereign Ruler, who is supposed by the believers of the new sect (if such do really exist) to hold the position or rank, either spiritually or in a corporeal sense, of younger brother of Our Saviour. There was little attempt at mystery as to Taeping's origin on the part of the insurgents,—it was admitted by several parties that he was a literary graduate of the Canton

province, who, being disappointed in his literary honors, took to what the Chinese are in the habit of calling 'strange doctrine,' that is, he studied the missionary tracts, copies of which were procured, there can be little doubt, from the late Dr. Gutzlaff's Union. Taeping and his small nucleus of adherents then embarked in this insurrection, and, after three years' perseverance and general success, they ended by capturing Nankin and Chin-Keang, where we found them in full force. Under this Sovereign Ruler are the five princes above alluded to, first and second ministers, and a host of so-called mandarins—most of whom are Cantonese. I should not estimate their force of real fighting men at less than 25,000; though I believe that of the original number who started from Kouang-Si, not more than 7,000 are now with Taeping."

Sir George Bonham translates also the answer which the leader of the Tai Ping rebels gives to the English embassy sent to him, and this answer, though full of benevolence for the English, leaves no doubt that according to the ancient Chinese tradition he, the Tai Ping Emperor, regards all nations as his subjects.

"The Heavenly Father, the Supreme Lord, the Great God, in the beginning created heaven and earth, land and sea, men and things, in six days; from that time to this the whole world has been one family, and all within the four seas brethren; how can there exist, then, any difference between man and man; or how any distinction between principal and secondary birth? But from the time that the human race has been influenced by the demoniacal agency which has entered into the heart of man, they have ceased to acknowledge the great benevolence of God the Heavenly Father in giving and sustaining life, and ceased to appreciate the infinite merit of the expiatory sacrifice made by Jesus, our Celestial Elder Brother, and have, with lumps of clay, wood, and stone, practised perversity in the world. Hence it is that the Tartar hordes and Elfin Huns so fraudulently robbed us of our Celestial territory (China). But, happily, Our Heavenly Father and Celestial Elder Brother have from an early date displayed their miraculous power amongst you English, and you have long acknowledged the duty of worshipping God the Heavenly Father and Jesus our Celestial Brother, so that the truth has been preserved entire, and the Gospel maintained.

"But now that you distant English 'have not deemed myriads of miles too far to come,' and acknowledge our sovereignty, not only are the soldiers and officers of our Celestial dynasty delighted and gratified thereby, but even in high heaven itself our Celestial Father and Elder Brother will also admire this manifestation of your fidelity and truth. We therefore issue this special decree, permitting you, the English chief, to lead your brethren out or in, backwards or forwards, in full accordance with your own will or wish, whether to aid us in exterminating our impish foes, or to carry on your commercial operations as usual; and it is our earnest hope that you will, with us, earn the merit of diligently serving our royal master, and, with us, recompense the goodness of the Father of Spirits.

"Wherefore we promulgate this new decree of (our Sovereign) Taeping for the information of you English, so that all the human race may learn to worship our Heavenly Father and Celestial Elder Brother, and that all may know that, wherever our royal master is, there men unite in congratulating him on having obtained the decree to rule.

"A special decree, for the information of all men, given (under our seals) this

26th day of the 3d month of the year Kweihaou (1st May, 1853), under the reign of the Celestial dynasty of Taeping."

If the British diplomatists expected to earn the gratitude of the Tartar dynasty, they were greatly mistaken. The assistance which General Gordon gave them in the suppression of the Tai Ping rebellion, was regarded as the service of vassalage and a temporary return on the part of the British to the consciousness of their duties toward the Son of Heaven, to whom all the nations of the earth owe allegiance. But the friendship of the Chinese authorities with the British Government soon began to subvert the confidence of the Chinese in their rulers, and the secret societies again increased in power, finding supporters even among the highest mandarins and princes of imperial blood. The present Emperor was suspected of being a friend of Western civilisation, while the Empress Dowager favored the partisans of national traditions.

According to the rules of filial piety so deeply engraved on the hearts of the Chinese people, the highest virtue is obedience to parents. Thus it happens that the Emperor's first duty is respect for the wishes of his mother, or of her who stands in the relation of mother to him. This is the reason why the Empress Dowager is *de facto* ruler of China.

The Empress knows that the dangers which threaten the throne of the Tartar dynasty through the secret societies at home are more serious than the threats and attacks of the Western powers. She seems to have saved the throne by allying herself with the secret societies against the Powers and thus demonstrating to her subjects that the Tartars are solidary with the Chinese against the foreign devils. An alliance with the Powers, or merely a friendly *entente* with them, might have roused the slumbering lion and made a quick end of the Tai Tsing dynasty.

* * *

The history of the relations between Europe and China exhibits a series of blunders both on the side of the Chinese and the European governments; and the root of the evil on either side is haughtiness.

It is reported that Emperor Charles V. in his old days used to say :

"Quantula sapientia mundus regitur!"

[With what little wisdom the world is governed !]

How true that is! If the men that fill the leading positions of the world would only use a little discretion, if it were merely the

common sense of a pious farmer or peasant who has religion enough to be afraid to do wrong, how much better would the world fare than now when diplomats claim that nations are not bound by the moral maxims which individuals are bound to respect. Think what wrongdoing might have been avoided by a little dose of prudence in modern history! Think of the Opium War with China, think of the Boer War, think of the War of Secession in our own country. As to the latter, the money it cost would have sufficed to buy off all the slaves of the South several times over. But the trouble is that both parties as a rule are impervious to reason, and their conflict becomes inevitable, each side having the advantage to declare that though they themselves be wrong in many respects, their adversaries are not less blameworthy.

So far, the best argument of a belligerent party has commonly been the street-boy's answer to his antagonist: "You are another!"

THE LEGEND OF THE ORIGIN OF THE MANCHU DYNASTY.¹

BY THE REV. R. MORRISON.

THE Tai Tsing family (the present ruling dynasty of China) claim a supernatural sanction for their occupation of the imperial throne. It is stated in their ancient traditions that the first intimation of the subsequent glory of the family was given at "the Long White Mountain, which was upwards of 250 li, or 60 miles, high. On the top of it, was a lake, 80 li in circumference, from which sprung three rivers. It was there declared by a supernatural voice, 'This land will produce a Holy Man who shall unite in one all nations.'

"At the foot of the mountain was a pool of water, at which, tradition says, three Celestial females came to bathe. After bathing, a divine magpie holding in its bill a certain fruit, flew and placed it in the garments of one of the females named Ki. She swallowed it, and immediately brought forth a son, who could speak as soon as he was born, and whose person and figure were extraordinary. To him it was said, 'Heaven has born you to tranquillise disordered nations.' The name given him was Ai-hsin-chio-lo. After his birth, his mother disappeared, and the boy having placed himself in a bark, floated down the stream of a river to a certain shore, where having ascended the beach, he broke off willows and framed a seat on which he sat down, in the wilderness. There were in that land contending Chieftains, who fought and killed many. One who went forth to draw water, saw the boy, and was astonished at his extraordinary appearance. Having returned, and told the people of the Clan, they came out and questioned him respecting his name and surname. He said, 'I was born of the Celestial Female Fu-ku-lun, and am ordained by Heaven to

¹ We reproduce this timely article from the Rev. R. Morrison's *View of China*, pp. 10-11.—ED.

settle your disordered state.' All astonished said, 'Heaven has brought forth a Holy One,' and forthwith constituted him their Sovereign. They fixed their abode at the city Go-to-le, in the wilderness of Go-han-hwui, on the east of the Long White Mountain. They denominated their country Man-chow.

"It happened after this, that the people of the state rebelled and killed all the family except one boy, whose name was Fan-cha-kin, who ran into the wilderness, and escaped from a rook or magpie alighting on his head, and being seen by his pursuers at a distance, was mistaken for a rotten trunk of an old tree. From this, the family was preserved from becoming extinct.¹ The next person of eminence, who is now termed the Sixth Ancestor,² having revenged the murder of his family, and fixed himself in their former place of abode, he inherited the name of Ai-hsin-chio-lo; and his descendants still retain the two last syllables of the name, and wear a red girdle to distinguish them."

Tai-sung, the Manchu prince, when about to enter upon the subjugation of China, wrote down "seven grievances" which he laid before heaven in a solemn manner. His words are:³

"Ere my Grandfather had injured a blade of grass, or usurped an inch of ground that belonged to Ming, Ming causelessly commenced hostilities, and injured him.—This is the first thing to be revenged.

"Although Ming commenced hostilities, we, still desirous of peace, agreed to engrave it on a stone, and take a solemn oath in confirmation of it, that neither Manchow nor Chinese should pass the respective limits; whoever dared to do so, should, the moment he was seen, be destroyed; and that the party which connived at any violation of this treaty, should be exposed to the judgments of Heaven. Notwithstanding this oath, Ming again passed the frontier with troops in order to assist a People called the Ye-hih.—This is the second thing to be revenged.

"When a subject of Ming passed over the frontier and committed depredations in my territory, I, agreeably to the oath above stated, destroyed him. But Ming turned his back on the former

¹From the preservation of Fan-cha-kin, the Tartars venerate the magpie, and prohibit its being shot. They have an annual ceremony at the spot where this deliverance took place in commemoration of it.

²The sixth Ancestor is denominated in the Miao'hao, Chao-tsou; the fifth, Hing-tsou; the fourth, King-tsou; the third, Hsien-tsou; the second, Tai-tsou; and the first, or Shun-che, She-tsou. Tai-tsou waged his first war about A. D. 1600, with one hundred soldiers and thirty suits of armour.

³Translated by Rev. R. Morrison, *ibid.*, p. 9.

treaty confirmed with an oath, complained of what I had done ; put to death an envoy of mine ; and having seized ten men on the borders, caused them to be slain.—This is the third thing to be revenged.

“Ming with troops, passed the frontier to assist the Ye hih, and caused my daughter, already betrothed, to have her destination changed, and be given to another person of the Mung-ku nation.—This is the fourth thing to be revenged.

“For many generations, I held as my frontier, the Chai-ho hill, and places adjacent ; my people cultivated it ; but Ming has refused to allow them to reap, and expelled them from thence.—This is the fifth thing to be revenged.

“The Ye-hih committed crimes against Heaven ; but Ming acted with partiality and gave entire credit to their statements, whilst he sent a special envoy to me bearing a letter, in which he vilified and insulted me.—This is the sixth thing to be revenged.

“Formerly the Ha-tah, assisting the Ye-hih, twice came and invaded me. I announced it to Heaven, and reduced the Ha-tah. Ming formed a conspiracy with him and others, to attack me and restore him his kingdom ; and in consequence, the Ye-hih several times invaded the Ha-tah territory.

“In the contentions of neighboring states, those who obey the will of Heaven conquer ; those who oppose the intentions of Heaven are defeated and destroyed. How can those who have died by the sword be restored to life ! or those who have obtained the people, return them again ! Heaven establishes the Prince of a great nation ! Why does Ming feel resentment against my country alone ?

“The Gih-lun, and other nations, united their forces against me, to invade me. Heaven rejected Gih-lun for commencing bloodshed ; but my nation flourished as the Spring. Ming is now assisting the Ye-hih, who are under severe reprehension and wrath ; and is thereby opposing the will of Heaven, reversing right and wrong, and acting in the most irregular manner.—This is the seventh thing to be revenged.”

MISCELLANEOUS.

ROBERT WILLIAM BUNSEN.

(1811-1899.)

The recent *Short History of the Progress of Scientific Chemistry in Our Own Times*,¹ by Dr. William A. Tilden, F. R. S., Professor of Chemistry in the Royal College of Science, London, which gives in concise compass a historical survey of that succession of wonderful events which led up to our present knowledge of chemistry, has suggested to us to offer to our readers a portraiture of one of the central and dominating figures of that development, one of the grandest that have adorned the annals of research, and one who by the simplicity and enormous compass of his work occupies a place by the side of Galileo and Faraday in the pantheon of Science,—Robert William Bunsen. The elementary student and reader may follow admirably in Dr. Tilden's little book the history of the development of theoretical chemistry, but of the numerous fascinating personalities of that development naturally nothing could be said. It remains, therefore, for the reader to seek this material in other places.

Robert William Bunsen, joint discoverer of spectrum analysis, was born at Göttingen, March 31st, 1811, and died at Heidelberg in 1899. His long life spanned thus the chemical achievements of the century, forming a magnificent arch that connected the great inquirers of the past with the workers of to-day. Berzelius was his most intimate friend; Gay-Lussac his instructor; Dumas, Liebig, Wöhler, Mitscherlich, Weber, Magnus,—all were his contemporaries and intimates. Living to the great age of eighty-eight, he was destined to witness the rise and death of most of the century's and his country's greatest inquirers,—many of whom had been his colleagues and pupils: Kirchhoff, Helmholtz, Kopp, Hofmann, Strecker, Kolbe, Kekulé, Pebal, Lothar Meyer, and lastly Victor Meyer, his successor in the chair of chemistry at Heidelberg. Outliving them all, there in his later years, says Sir Henry Roscoe, "Bunsen stood alone in his glory, like some strong oak in the forest which still holds firm root unmoved by the tempests which have smitten both young and old around it."

Twenty years ago, in the columns of *Nature*, Sir Henry Roscoe, one of Bunsen's most distinguished pupils and most intimate friends, gave this estimate of Bunsen's scientific work:

"The value of a life devoted to original scientific work is measured by the new paths and new fields which such work opens out. In this respect the labors of Robert William Bunsen stand second to those of no chemist of his time. Out-

¹ Longmans, Green, & Co., London, New York and Bombay. 1899. Pages, x, 276.

wardly, the existence of such a man, attached, as Bunsen had been from the first, exclusively to his science, seems to glide silently on without causes for excitement or stirring incident. His inward life however is, on the contrary, full of interests and of incidents of even a striking and exciting kind. The discovery of a fact which overthrows or remodels our ideas on a whole branch of science; the experimental proof of a general law hitherto unrecognised; the employment of a new and happy combination of known facts to effect an invention of general applicability and utility; these are the peaceful victories of the man of science which may well be thought to outweigh the high-sounding achievements of the more public professions."

Last year, in March, six months after his great master's death, Sir Henry Roscoe delivered a Bunsen memorial lecture before the Chemical Society of London.¹ This lecture teems with personal recollections, and gives us so vivid and rare a picture of the man, as he worked in his laboratory, lectured to his students, and enjoyed the simple yet refined intercourse of his friends, that we shall quote from it at length, after we have given some of the meagrest data of Bunsen's life.

Bunsen was successively teacher and professor in Göttingen, Cassel, Marburg, Breslau, and Heidelberg (1852-1889). His first classical research was one on the cacodyl compounds, which placed him in the front rank of experimentalists, and by which he incidentally lost the sight of his right eye, was nearly poisoned, and lay days between life and death. His next research was the investigation of the composition of the gases of iron furnaces for German and English manufacturers, of the modes of measuring gaseous volumes, and of the methods for separating the several gases. The results have been characterised as "a model of the application of the methods of scientific investigation to the elucidation of industrial problems," and Bunsen's direct proposals are estimated to have led to economies that must be "reckoned by millions rather than thousands of pounds." Bunsen collected the theoretical results of those researches in his work *Gasometric Methods* (the only book he ever published), which is epoch-making, and covers a field too vast to be even epitomised here.

One of Bunsen's best-known discoveries is the carbon-zinc battery which bears his name, and which rendered possible the more perfect electrolytic preparation of metals, the preparation of the metals of the alkaline earths, the electrolysis of acetic and valeric acids, etc., etc.

We must pass over a host of other important investigations, both chemical and physical, to the researches on spectrum analysis, which constitute one of the crowning glories of the nineteenth century. Bunsen writes (1859) to Roscoe of his and Kirchhoff's work as follows: "At the moment I am engaged in a research with Kirchhoff which gives us sleepless nights. Kirchhoff has made a most beautiful and most unexpected discovery; he has found out the cause of the dark lines in the solar spectrum, and has been able both to strengthen these lines artificially in the solar spectrum and to cause their appearance in a continuous spectrum of a flame, their positions being identical with those of the Fraunhofer lines. Thus the way is pointed out by which the material composition of the sun and fixed stars can be ascertained with the same degree of certainty as we can ascertain by means of our reagents the presence of SO_3 and Cl. By this method, too, the composition of terrestrial matter can be ascertained and the component parts distinguished with as great ease and delicacy as is the case with the matter contained in the sun. Thus I have been able to detect lithium in twenty grams of sea water. For the

¹*Transactions*, vol. 77, 513-554. Reprinted in the *Smithsonian Report* for 1899.

detection of many substances this method is to be preferred to any of our previously known processes. Thus, if you have a mixture of Li, Ka, Na, Ba, Sr, Ca, all you need to do is to bring a milligram of the mixture in our apparatus in order to be able to ascertain the presence of all the above substances by mere observation. Some of these reactions are wonderfully delicate. Thus it is possible to detect five one-thousandths of a miligram of lithium with the greatest ease and certainty, and I have discovered the presence of this metal in almost every sample of potashes."

Then followed the discoveries as caesium (1860) and rubidium (1861), leading to the separation by others of thallium (1861), indium (1863), germanium (1886), gallium (1875), scandium (1879), etc.

Celebrated, too, were Bunsen's researches on chemical geology, especially those concerning the volcanic phenomena of Iceland; on the metals of the platinum group; etc., etc. Of his famous burner, we will hear later. We now revert to Sir Henry Roscoe's recollections.

First let us take this picture of the master working in the laboratory: "When he first came to Heidelberg, in the summer of 1852, Bunsen found himself installed in Gmelin's old laboratory. This was situated in the buildings of an ancient monastery, and there we all worked. It was roomy enough; the old refectory was the main laboratory; the chapel was divided into two; one half became the lecture room and the other a storehouse and museum. Soon the number of students increased and further extensions were needed, so the cloisters were inclosed by windows and working benches placed below them. Beneath the stone floor at our feet slept the dead monks, and on their tombstones we threw our waste precipitates! There was no gas in Heidelberg in those days, nor any town's water supply. We worked with Berzelius's spirit lamps, made our combustions with charcoal, boiled down our waters from our silicate analyses in large glass globes over charcoal fires, and went for water to the pump in the yard. Nevertheless, with all these so-called drawbacks, we were able to work easily and accurately. To work with Bunsen was a real pleasure. Entirely devoted to his students, as they were to him, he spent all day in the laboratory, showing them with his own hands how best to carry out the various operations in which they were engaged. You would find him with one man showing the new method of washing precipitates, so as to save time and labor, or with another working out a calibration table of a eudiometer, or with a third pointing out that the ordinary method of separating iron from aluminum is unsatisfactory and carrying out a more perfect process before his eyes. Often you would find him seated at the table blowpipe—the flame in those days was fed with oil—making some new piece of glass apparatus, for he was an expert glass blower, and enjoyed showing the men how to seal platinum wires into the eudiometers, or to blow bulb tubes for his iodometric analyses. Maxwell Simpson, who worked with Bunsen in the fifties, tells me that one day he saw Bunsen blow a complicated piece of glass apparatus for a pupil, who quickly broke it; Bunsen then made him a second, which at once met with a similar fate; without a murmur Bunsen again sat down to the blowpipe and for the third time presented the student (who we will trust looked ashamed of himself) with the perfect apparatus. Then he would spend half the morning in the gas-analysis room, going through all the detailed manipulation of the exact measurement of gaseous volumes, and showing a couple of men how to estimate the various constituents of a sample of coal gas, and pointing out the methods of calculating the results, and then leaving them to repeat the processes from beginning to end for themselves.

"His manipulative ability was remarkable; his hands, though large and powerful, were supple and dexterous. He was amusingly proud of having a large thumb, by means of which he was able to close the open end of a long eudiometer filled with mercury and immerse it in the mercury bath without the least bubble of air, a feat which those endowed with smaller digits were unable to accomplish. Then he had a very salamanderlike power of handling hot glass tubes, and often at the blowpipe have I smelt burnt Bunsen, and seen his fingers smoke! Then he would quickly reduce their temperature by pressing the lobe of his right ear between his heated thumb and forefinger, turning his head to one with a smile as the 'agony abated,' while it used to be a joke among the students that the master never needed a pincette to take off the lid from a hot porcelain crucible.

"Accuracy of work was the first essential with him; most of us learned for the first time what this meant. Six weeks' work was spent on a single silicate analysis, but most of us contrived to keep two such analyses going at once, while an analysis of coal gas occupied a week or ten days. Not that he was averse to quick processes; indeed, many of his own investigations contain novel proposals for shortening chemical methods, but this was never done at the expense of accuracy.

"After having learned his methods of quantitative work, of silicate analysis, for example, and after having gone through a course of gas analysis, those of us who had already been more or less trained elsewhere were set upon some original investigation. Lothar Meyer, who worked at the next bench to myself, being a medical student, was set to pump out and analyse the blood gases; Pauli and Carius worked on gas absorption, employing for this purpose Bunsen's recently invented absorptiometer; Russell was set to work out a new method of sulphur determination in organic bodies; Matthiessen was put on to the electrolytic preparation of calcium and strontium; Schischkoff analysed the gaseous products of gunpowder fired under varying conditions; Landolt had to find out the composition of the gases in various portions of a flame, and I worked by myself in one of the monk's cells upstairs on the solubility in water of chlorine when mixed with hydrogen and carbonic acid, the object being to ascertain whether this gas obeys the law of Dalton and Henry.

"These are only some of the investigations on a variety of subjects carried on in the old monastery by Bunsen's pupils under his supervision, and they indicate only a tittle of his activity, for at the same time he was engaged in investigations of his own. He always had two or three on hand at once."

Here is the story of the invention of the famous Bunsen burner and the Bunsen battery: "Some short time before the opening of the new laboratory the town of Heidelberg was for the first time lighted with gas, and Bunsen had to consider what kind of gas-burner he would use for laboratory purposes. Returning from my Easter vacation in London, I brought back with me an Argand burner with copper chimney and wire-gauze top, which was the form commonly used in English laboratories at that time for working with a smokeless flame. This arrangement did not please Bunsen in the very least. The flame was flickering; it was too large, and the gas was so much diluted with air that the flame temperature was greatly depressed. He would make a burner in which the mixture of gas and air would burn at the top of the tube without any gauze whatsoever, giving a steady, small, and hot, nonluminous flame under conditions such that it not only would burn without striking down when the gas supply was turned on full, but also when the supply was diminished until only a minute flame was left. This was a difficult, some thought it an impossible, problem to solve, but after many fruitless attempts

and many tedious trials he succeeded, and the Bunsen burner came to light. So general, indeed so universal, has the use of this become that its name and value must be known to and appreciated by millions of the human race. Yet how few of these have any further ideas connected with the name of its author!

"Another discovery which early brought him prominently before the public was that of the Bunsen, or as he preferred to call it, the carbon-zinc battery. The manufacture of either the battery or the burner might, had the inventor wished, have been so guarded as to bring in a large fortune. But Bunsen had no monetary ambition, although he fully appreciated the importance of applied science; and this is a fine trait in his character. He not only disliked anything savoring of money-making out of pure science, but he could not understand how a man professing to follow science could allow his attention to be thus diverted from pure research. 'There are two distinct classes of men,' he used to say; 'first, those who work at enlarging the boundaries of knowledge, and, secondly, those who apply that knowledge to useful ends.' Bunsen chose the first—perhaps one may say the higher—part, and the notion of making money out of his discoveries, or of patenting any of them, never entered into his head. As illustrating this habit of mind, I remember that once we were talking about a former pupil of his, of whose scientific ability he entertained a high opinion. 'Do you know,' he remarked to me, 'I can not make that man out. He has certainly much scientific talent, and yet he thinks of nothing but money-making, and I am told that he has already amassed a large fortune. Is it not a singular case?' To which I replied that I did not find it so very remarkable."

When the new laboratory was built, the research-work which Bunsen had initiated and which his afterwards famous disciples carried on, was tremendous. But, in addition, "there were the beginners, to the number of sixty or seventy, all of whom were looked after by the professor, and with some of whom he would spend hours showing them how to detect traces of metals by aid of the 'flame reactions,' or how to estimate the percentage of dioxide in pyrolusite by his iodometric method. So from Bunsen all who had eyes to see and ears to hear might learn the important lesson that to found or to carry on successfully a school of chemistry the professor must work with and alongside of the pupil, and that for him to delegate that duty to an assistant, however able, is a grave error.

"How, it may be asked, could a man who thus devoted himself to supervising the work of others in the laboratory—and who, besides, had a lecture to deliver every day, and much university business to transact—how could he possibly find time to carry out experimental work of his own? For it is to be noted that Bunsen never kept an assistant to work at his researches, and unless co-operating with some one else, did all the new experimental work with his own hands.

"It is true that in certain instances he incorporated the results of analyses made by a student whom he could trust, into his own memoirs; notably this was the case with the silicate analyses which he used in his chemico-geological papers, and with many of the examples given in illustration of some of his new analytical methods. Then, spending the whole day in the laboratory, he was often able to find a spare hour to devote to his own work of devising and testing some new form of apparatus, of separating some of the rare earth metals, or of determining the crystalline form of a series of salts.

"Again the editing of the research, and the calculations, often complicated, which that involved, were carried on in the early morning hours. When, for four summers after the year 1857 I spent my vacations working at Heidelberg, I lived

in his house, and although I rose betimes, I always found him at his desk, having begun work often before dawn.

"Then, although he frequently travelled during the vacations at Easter and in the autumn, often, I am glad to remember, with myself as companion, he generally returned after a short absence to continue an unfinished, or to commence some new, research, and during these quiet days much work was done by both of us."

Then follows a description of Bunsen as a lecturer: "Bunsen lectured on general chemistry every morning in the week from 8 to 9 in the summer, and from 9 to 10 in the winter semester. The lectures were interesting and instructive, not from any striving after oratorical effect, or by any display of 'firework' experiments, but from the originality of both matter and illustration. His exposition was clear, and his delivery easy, and every point upon which he touched was treated in an original fashion; no book, of course, was used or referred to; indeed, he avoided much consultation of handbooks, the only two which I have seen him occasionally turn to for the purpose of looking up some facts about which he had doubts were Gmelin and Roscoe and Schorlemmer. When occasionally one of the practicanter consulted him about a passage in some manual which appeared defective, he would laughingly remark that most of what is written in books is wrong.

"The illustrative lecture experiments, which he invariably performed himself, were generally made on a small scale, were often new, always strictly relevant to the matter in hand, and never introduced for mere sensational effect. He paid much attention to these experiments, and after the table had been set in order for the particular lecture by the assistant, he would regularly spend half an hour, sometimes an hour, in convincing himself that all was in readiness and in rehearsing any experiment about the success of which he was not perfectly certain.

"He used few notes, but it was his habit to write up any numerical data in small figures on the blackboard, and to refresh his memory with these when needed. When I attended the lectures in the early fifties, Bunsen used the notation and nomenclature of Berzelius, writing water H, and alumina Al_2 . Later on, he still employed the dualistic notation, writing KOSO_3 , HOSO_3 , for K_2SO_4 and H_2SO_4 ; indeed, I believe that he never adopted our modern formulæ or used Cannizzaro's atomic weights, although his determination of the atomic heat of indium and his work on cæsium and rubidium were amongst the most important contributions towards the settlement of those weights.

"Bunsen did not enlarge in his lectures on theoretical questions; indeed, to discuss points of theory was not his habit, and not much to his liking. His mind was eminently practical; he often used to say that one chemical fact properly established was worth more than all the theories one could invent. And yet he did much to establish the evidence upon which our modern theories rest."

It is interesting to note that Bunsen's constitution, having stood him in stead for eighty-eight years, was vigorous: "It carried him fairly well through a long life; still, continued exposure to the fumes and vitiated air of the laboratory induced bronchial troubles, from which in later life he suffered considerably. Beyond one sharp attack of peritonitis when travelling with Pagenstecher in the Balearic Islands, I do not think he ever had a serious illness. His habits were frugal, the only extravagance in which he indulged being his cigars. Of these he consumed a fairly large number, always having one or a part of one in his mouth; but as he generally allowed it to go out many times before he finished smoking it, the time it lasted was much above that of the average smoker."

At last the end came: "In 1889 Bunsen retired from active university life, resigning his professorship, and therefore his official residence, and retiring to a pretty little villa in Bunsenstrasse, which he had purchased, where he spent the remainder of his days in quiet repose. His chief relaxation and enjoyment throughout his life in Heidelberg was to wander with Kirckhoff or Helmholtz or some other of his intimate friends through the chestnut woods which cover the hills at the foot of which the town lies. As the infirmities of age increased and his walking powers diminished, he was obliged to take to driving through the woods along the charming roads which intersect the hills in all directions. Writing became a difficulty, and in his latter days the news of him came to me through our mutual friends Quincke and Königsberger.

"Almost up to the last Bunsen continued to take a vivid interest in the progress of scientific discovery, and, though suffering from pain and weakness, ever preserved the equanimity which was one of his lifelong characteristics. Three days before his death, so Quincke writes to me, he lay in a peaceful slumber, his countenance exhibiting the fine intellectual expression of his best and brightest days. Thus passed away, full of days, and full of honors, a man equally beloved for his great qualities of heart as he is honored for those of his fertile brain, the memory of whom will always remain green among all who were fortunate enough to number him among their friends." μ.

DR. LEWIS G. JANES.

OBITUARY NOTICE.

It was with the profoundest regret that we learned of the death of Dr. Lewis G. Janes, lecturer and expositor of science, ethics, and religion, at Greenacre, Maine, on September 5th last. Dr. Janes was very prominent in the free religious and ethical circles of this country, and was an early contributor to *The Open Court*. He did a large amount of historical, sociological, and ethical writing, also, for other magazines (*Westminster Review*, *Popular Scientific Monthly*, *Unitarian Review*, *Boston Index*, etc.) and was an indefatigable lecturer.

Dr. Janes, on his father's side was a direct descendant in the seventh generation from Geo. William Bradford of Plymouth Colony; and, on his mother's side, also in the seventh generation, a descendant from Peregrine White, born on the Mayflower in Massachusetts Bay. "He was born," says a writer in the *Boston Evening Transcript* of September 9th, "in the city of Providence fifty-seven years ago, his parents being people of broad and liberal views in religion and all subjects affecting the well-being of society. What is more, they were enthusiastic Abolitionists, and . . . great friends of Frederick Douglass. He was a pupil in the grammar and high schools, from the latter of which he graduated. . . . Early in life, being of studious habits, Dr. Janes mapped out for himself a literary career, and into such a career he gradually settled. Having become a resident in the city of Brooklyn, he identified himself with Rev. J. W. Chadwick's church, and in the Sunday school there he took charge of an adult Bible class, which became so large and was attended by so many earnest seekers after truth that the class grew into the famous and successful Brooklyn Ethical Culture Association. Dr. Janes became president and his position afforded him splendid opportunities for preparing and presenting many addresses bearing on the religious, philosophical, sociological, and political life of the community. He was always a close and fearless student of the theory of evolution, so that when, during the holding of the Parliament of Re-

ligions in Chicago during the World's Fair, a course of meetings was held for the consideration of the subject of evolution, Dr. Janes was invited to preside at the meetings, which he did with rare tact and sound judgment. . . .

"For many years Dr. Janes was one of the most active members of the Free Religious Association, as were his parents before him, and on the retirement of Colonel T. W. Higginson from the presidential chair, Dr. Janes was appointed his successor. Nor was he less interested in the work of the Liberal Congress of Religion. During the past few years he has done much to make that congress a great power in the world, and has taken a prominent part in the meetings which have been held at the various expositions, including the Paris Exposition last year.

"Five years ago he took up his residence in Cambridge where he founded and directed the now well-known Cambridge conferences which were held through the winter months; while his splendid work as director of the Monsalvat Conference School of Comparative Religion at Greenacre, every summer during the same term of years, won for him a fine reputation and endeared him to all who have been privileged to attend those unique gatherings.

"Among the best-known works of which Dr. Janes was the author may be mentioned: *A Study of Primitive Christianity*; *A Life of Samuel Gaston, a Forgotten Founder of Our Liberties*; *Health and a Day*; *Life as a Fine Art*, etc."

We append to our notice the following tribute to his character and talents by Sister Sanghamitta, a Buddhist nun, and a friend and fellow lecturer at Greenacre:

"In life he was the dear husband, father, friend. To the poor in spirit he had always a ready ear. To the aspirant for spiritual knowledge and seeker after truth, he had a helping hand. When strangers to this country and its religion came from far distant lands, it was Dr. Janes who extended the helping hand of good fellowship, and that in his calm, unbiased way gently, but firmly showed that they *had* truths to give, and that the people of America would do well to listen to them.

"I must now lay my tribute to the feet of this noble life now past. Day after day I attended Dr. Janes's course of lectures, and in the spirit of the Buddha's teachings I must say that the way in which he conducted these lectures was marvellous. No matter what the subject was, or what religion, it was always carefully and unbiassedly treated.

"Dr. Janes was one of the few who has kept alive the spirit of the Congress of Religions held in Chicago in 1893. His was the mind prepared to receive it, and he has nobly continued planting the seed.

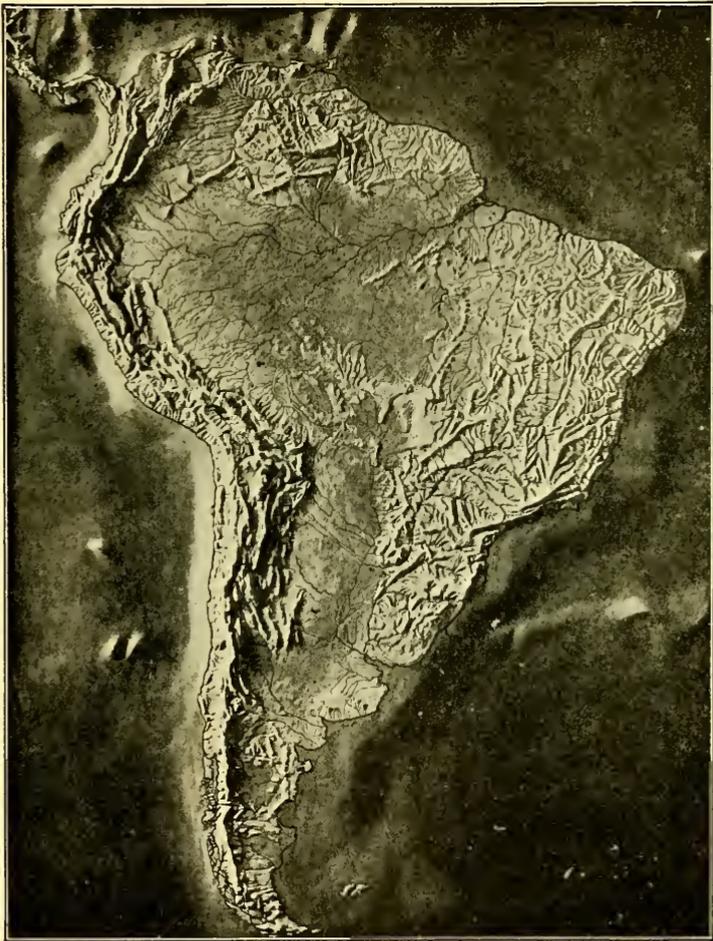
"The funeral service was held at Oaklea, the homestead of Mrs. Bangs, Greenacre. On the open green in front of the old home, assembled those who had been with him at the last. Here in the place he loved so well, among the sweet flowers of summer, a fitting tribute to his memory was rendered by the musicians of the Summer School, and words of praise were offered to the Eternal, by the Rev. M. Newton, pastor of the Orthodox Congregation, Eliot, as well as words of love and regret by other old-time friends. Dr. de Buy who had assisted in the conduct of the lectures, spoke these words of the Buddha Dr. Janes had loved so much, 'Behold, brethren, he said I exert you, saying, decay is inherent in all things, but the truth will remain forever. Work out your salvation with diligence.'

"This grand and noble man, possessed with high ideas of truth, feeling the world his country, peoples of all nations his brethren, all religions one in essence,

universal in his interests, must be a great loss to the present period. All true souls, men and women, who have come in contact with Dr. Janes and his work, have been made the better thereby, and thus the chain is welded that will bear fruit in ages to come. 'By his fruits ye shall know him.'"

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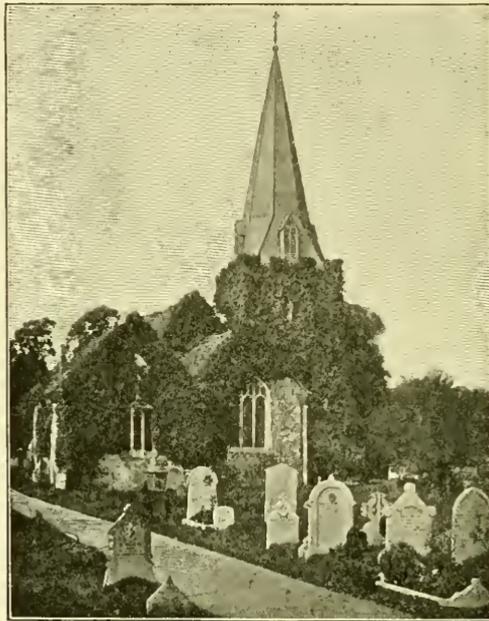


RELIEF MAP OF SOUTH AMERICA.

(From *Tarr and McMurry's Geography*. Third Book.)

and, in addition, combining the best scientific and educational features of European manuals with uncommon originality and breadth of treatment. It is a delight

to compare Tarr & McMurry's books¹ with the ordinary run of geographies. They are of convenient size, easily handled, durably bound, and of superior typography. The maps are small and graded, and never burdened by unnecessary detail. Their number and variety (political, physiographic, meteorologic, geologic, industrial, commercial, statistical, ethnologic, etc.) form a distinctive feature of the work, the political and physiographic maps being particularly beautiful, though the former do not, we think, approach to the artistic perfection of the best products of European map-making. The illustrations, which are admirably chosen and made, are mostly actual photographic scenes, in organic and logical connexion with the text, and set these books immeasurably above their competitors in this field. By the courtesy of the publishers we are enabled to reproduce here a specimen map and two illustrations from the work.

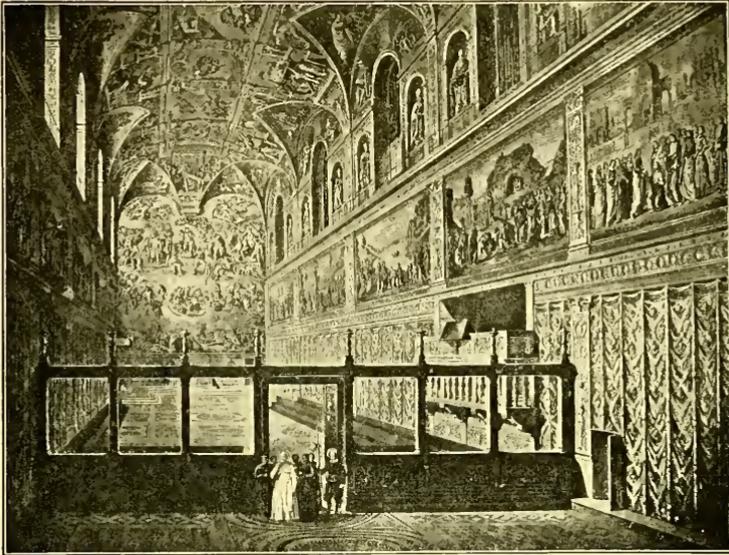


THE CHURCHYARD DESCRIBED IN GRAY'S ELEGY.
(From *Tarr and McMurry's Geography*.)

The authors being respectively a professional geologist and a professional educationist, it was to be expected that physiographic features and their relationship to the development of human civilisation and industry generally should be emphasised more than is ordinarily the case. Geography is thus lifted from its barren isolation in the curriculum, and made an integral part of instruction. The same is true of the authors' treatment in respect of climatology, ethnology, etc., and notably of their constant association of their subjects with the history of civilisation.

¹ *Tarr & McMurry's Geographies*. A Three-Volume Series of Text-books for Class Use. By Ralph S. Tarr, B. S., F. G. S. A., Cornell University, and Frank M. McMurry, Ph. D., Teachers College, Columbia University. Vol. I.—Home Geography and the Earth as a Whole (60 cents). Vol. II.—North America (75 cents). Vol. III.—Other Continents, and Review of the Whole (75 cents). New York: The Macmillan Co. 1900-1901.

If this were not so, the devotion of so large a part of the school course (the text of the three volumes covers over 1800 pages) to geography pure and simple would seem entirely unwarranted from an economic point of view, especially as mathematical geography is very sparingly treated in the books, and as the publishers have just announced a fourth, supplementary volume by another author on New England.



THE SISTINE CHAPEL IN THE VATICAN.
(From *Tarr and McMurry's Geography.*)

As it is, the work is a model compend of the combined physiographic, political, social, industrial, and general cultural conditions of the world. The statistical maps and tables are unexcelled for variety, and the marvellous cheapness of the books, (considering the vast expense that their preparation must have entailed,) is the culminating feature that renders consideration of them at the hands of the educational public imperative.

T. J. McC.

MR. W. M. SALTER ON THE SOUL.

Old-time readers of *The Open Court* may still remember a controversy which Mr. Salter had with the editor on causation and life; and we are glad to see that in many respects Mr. Salter has accepted some arguments as to the *vis viva* that must be assumed to be inherent even in inorganic matter. The stone that falls is not passively attracted by the earth, but possesses gravity which we take to be a quality of the stone, not a pressure exercised by some power outside, and thus the descent of the stone is an active action of its mass. We regard this quality, inherent in all matters, as being ultimately the same force which is noticed in the autonomous movements of life, for life in the narrow sense of the word is simply

organised life in contradistinction to the unorganised spontaneity of the manifestations of chemical and mechanical movements.

While thus we are glad to state that we can accede to Mr. Salter's views as to the way in which life builds itself up, we disagree with him in his suggestions as to the possible immortality of the form of life that is reached in consciousness. Mr. Salter believes that "there is no inherent necessity" for the cessation of consciousness in death. He does not controvert the position maintained by *The Open Court*, that the essential feature of a man's character is not the material of which it is built, nor the vitality which is indispensable for its manifestation, nor feeling nor consciousness in general; but the concrete and definite form of life, of vitality, and of feeling or consciousness. Form is not a nonentity, but it is the most important and the most real feature of reality. The immortality of man's soul is constituted by a preservation of its form, and we can definitely trace how the form of man's soul is preserved, not only in his own life but also in the development of the race. If consciousness is supposed to be an independently parallel factor, not a feature, an accompaniment of other features (viz., the physiological changes), of man's life, we have the old dualism in a new and only slightly modified conception, which would render the problem more intricate and more mysterious than ever. But our contention is that a very definite and very satisfactory theory of immortality can be established upon a purely monistic basis, with exact scientific arguments.

The main difficulty of the new view consists in the lack of a full comprehension as to the reality of form. Man is by nature so materialistic that he shrinks from the belief that purely spiritual facts are spiritual, viz., formal, and endeavors to attribute to them some kind of a sublimated substance; yet they are real enough without being material, but it takes time to appreciate the truth of it.

COLUMBUS AND TOSCANELLI.

The celebrated Florentine astronomer of the fifteenth century, Paolo Toscanelli, has always been considered as the first person to launch on the world the idea of the discovery of America. Every writer on the subject, without exception, awards him this merit, and for this it was that a monument has been raised to his memory in his native city. This universal opinion is based on the statement made by the early biographers of Columbus—his son Fernand and Las Casas—that the discoverer of America had been in correspondence with Toscanelli concerning the grand conception, that the learned Florentine had approved his project and that, in order to encourage and enlighten him, had sent him a copy of the letter and map said to have been addressed by the latter in 1474 to a monk named Fernam Martins, belonging to the Privy Council of King Afonso of Portugal. The purpose of this pretended letter and map was to show the monarch that the true route to the East Indies was West, across the Atlantic, and not East by doubling the Cape of Good Hope. The map, which no longer exists, traced this route, while the letter, which has been preserved by the Columbus family, expatiates on the advantages offered by the new over the old course, and labors to show how easy of accomplishment it is.

Mr. Henry Vignaud, the scholarly First Secretary of the United States Embassy at Paris, where he has been the invaluable lieutenant of our diplomatic representatives in France for more than thirty years, from the days of Minister Washburne down to those of the present incumbent, General Porter, has just completed, after many years of labor in the quietude of his superb collection of Americana

kept in his country-house near Paris, an important historical and critical volume,¹ which examines this whole subject in a most thorough and judicial manner.

The aim of Mr. Vignaud's work is to prove that the authenticity of Toscanelli's map, letter, and correspondence with Columbus, has been too readily accepted, and that there are many and very good reasons for believing that Toscanelli did not write the letter of 1474, that he did not make the map which accompanied it,—that both are forgeries,—and that he never had any intercourse with Columbus whatever. Mr. Vignaud goes still further and shows that Columbus's grand conception had quite another origin than the supposed suggestions and advice of this Italian savant, and that the real purpose of the document wrongfully attributed to him was to hide the true source of this conception. THEODORE STANTON.

PARIS, August, 1901.

BOOK NOTICES.

HYPOTHESIS FOR A CEPTACLE THEORY. By *Oren B. Taft*. Chicago: The Lakeside Press. 1900.

The problem of the soul is its unity, and Mr. Oren B. Taft has invented the new name "ceptacle" for it, meaning thereby that which is the "relating of itself to itself within itself in anything." It stands for unity in plurality and produces the consciousness of identity in the ego. The ceptacle, it is claimed, and perhaps rightly so, is "a nature-fact," the question is only whether or not it exists as an entity in itself and without the relations which constitute it. The author seems to take the latter view: at least he describes the origin of ceptacles and their preservation in the development of life. The term "ceptacle" is subject to criticism, because it seems to imply the separate existence of a vessel (a receptacle) and its contents, and that the author does not seem to mean. Another term of doubtful usefulness is the word "intelligence-matter," but the application which is made of it goes far to justify its introduction. Mr. Taft says:

"The first eighteen verses of the chapter of the Gospel of St. John, we take it, is a fundamental statement, from the Christian point of view, of the Spiritual Idea—God in man. From this Ceptacle point of view it will accord equally well as a statement of Antecedent, realising Itself to Itself in its own expression where Idea is 'Flesh' as Intelligence-Matter in evolved human body. The Idea in both is that in Intelligence-Matter it realises its Being as its everlasting Self. Here it is embodied in the individuality of Jesus Christ. In the fulness of this development in this individual Ego-Identity, it knows its Being in an At-One-Ness with itself, as its own Antecedent or Father."

We add that the author is not a philosopher by profession but a business man, being the president of the Pearson-Taft Land Credit Co., which position involves great responsibility and circumspection. And the business world of Chicago knows that Mr. Taft fully deserves the confidence and credit which form the cornerstone of his flourishing business. Philosophers may not find in the book a

¹ *La lettre et la carte de Toscanelli sur la route des Indes par l'Ouest*. Adressées en 1474 au Portugais Fernam Martins et transmises plus tard à Christophe Colomb. Etude critique sur l'authenticité et la valeur de ces documents et sur les sources des idées cosmographiques de Colomb. Suivie des divers textes de la lettre de 1474 avec traductions, annotations et fac-simile. Par Henry Vignaud, premier secrétaire de l'ambassade des Etats-Unis, vice-président de la Société des Américanistes de Paris, vice-président du XII. Congrès des Américanistes, membre de la Société de Géographie de Paris, de la Société des Antiquaires de Worcester, de l'Association Historique de Washington, etc., etc. Paris: Ernest Leroux, éditeur, 28, Rue Bonaparte.

treatment of the psychological problem such as they are accustomed to, but they should not for that reason think less of it, for it is always interesting and instructive to know what a thoughtful man thinks of the soul, its origin, and destiny.

P. C.

A very readable and suggestive little book has recently appeared in the *Citizen's Library of Economics, Politics, and Sociology*, under the title of *Social Control, a Survey of the Foundations of Order*. It is by Edward Alsworth Ross, professor in the University of Nebraska. Its object is to determine "how far the order we see all about us is due to influences that reach men and women from without, that is, *social* influences. . . . Investigation appears to show that the personality freely unfolding under conditions of healthy fellowship may arrive at a goodness all its own, and that order is explained partly by this streak in human nature and partly by the influence of social surroundings." (New York: The Macmillan Co. 1901. Pp. 463. Price, \$1.20.)

We could wish that books of the type of Mr. T. N. Toller's *Outlines of the History of the English Language* were in the hands of every student of English. The interest, profit, and intellectual pleasure to be derived from a study of the history of a composite language like English can scarcely be paralleled in the realms of educational and purely literary pursuits, and the broadening effect on the individual of such a study is immeasurable. Mr. Toller's book is similar to that excellent little work on the same subject by Professor Lounsbury, which has long been a standard manual in our academies and colleges. (New York: The Macmillan Co. 1901. Pp. 284. Price, \$1.10.)

Persons desirous of informing themselves thoroughly on the history of the great diplomatic questions which are now occupying the American public mind, will profit by consulting the recently published work of John B. Henderson, Jr., entitled *American Diplomatic Questions*. Mr. Henderson has thoroughly discussed the five great questions of American diplomacy, namely, "The Fur Seals and Bering Sea Award," "The Interoceanic Canal Problem," "The United States and Samoa," "The Monroe Doctrine," and "The Northeast Coast Fisheries." (New York: The Macmillan Co.; London: Macmillan & Co., Ltd. 1901. Pages, ix, 529. Price, 10s. 6d.)

Mr. James Wilford Garner's recent work *Reconstruction in Mississippi* gives a detailed study of the political, military, economic, educational, and legal phases attending the recovery of one of the Southern States from the effects of the Civil War. This period of Southern history, while exceedingly interesting and important, is greatly misunderstood in the North, and largely inaccessible. Mr. Garner's work, therefore, is opportune and of value. (New York: The Macmillan Co. 1901. Pp. 442.)

Correa Moylan Walsh has written a very technical work on *The Measurement of General Exchange-Value*. He has explained and analysed, critically and mathematically, the four kinds of economic value; weighting; the question of means and averages; etc., etc. The volume is a ponderous one and contains an excellent bibliography. (New York: The Macmillan Co. 1901. Pp. 580. Price, \$3.00.)

ESSAYS ON NUMBER

- I. CONTINUITY AND IRRATIONAL NUMBERS.
- II. THE NATURE AND MEANING OF NUMBERS.

By *Richard Dedekind*, Professor of Higher Mathematics in the Collegium Carolinum, Brunswick, Germany. Authorised Translation by *Wooster Woodruff Beman*, Professor of Mathematics in the University of Michigan. Pages, 115. Portrait of Dedekind. Red Cloth, 75 cents. (Just published.)

CONTENTS

I. Continuity and Irrational Numbers: Properties of Rational Numbers; Comparison of the Rational Numbers with the Points of a Straight Line; Continuity of the Straight Line; Creation of Irrational Numbers; Continuity of the Domain of Real Numbers; Operations with Real Numbers; Infinitesimal Analysis.

II. The Nature and Meaning of Numbers: Systems of Elements; Transformation of a System; Similarity of a Transformation. Similar Systems; Transformation of a System in Itself; The Finite and Infinite; Simply Infinite Systems. Series of Natural Numbers; Greater and Less Numbers; Finite and Infinite Parts of the Number-Series; Definition of a Transformation of the Number-Series by Induction; The Class of Simply Infinite Systems; Addition of Numbers; Multiplication of Numbers; Involution of Numbers; Number of the Elements of a Finite System.

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The author aims in this work to throw some light on such questions as the relative loss of control by the Church over the masses; the decline and the increase of Church property; Sabbath desecration; decrease in efficiency of the Churches; the significance of the modern type of worship; the significance of the changes in religious conception; and to ascertain as exactly as possible the essential mental processes involved in worship. The conclusions are based on historical and statistical inquiries.

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II. THE TONE OF AWE AND SELF-EFFACEMENT IN PROFESSOR PARK'S
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PHYSICAL PREPARATION FOR ISRAEL IN PALESTINE. *G. Frederick Wright*

Contents of July, 1901

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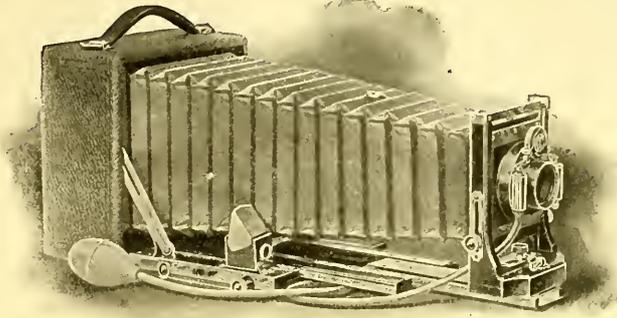
Attention is called to the Editor's article in the July number upon the *Crossing of the Red Sea by the Children of Israel*, which is accompanied by a map. In succeeding numbers other articles will continue his presentation of the numerous points in which recent scientific discoveries are confirmatory of biblical history, closing with his final discussion of the newly discovered evidences bearing on the credibility of the Flood.

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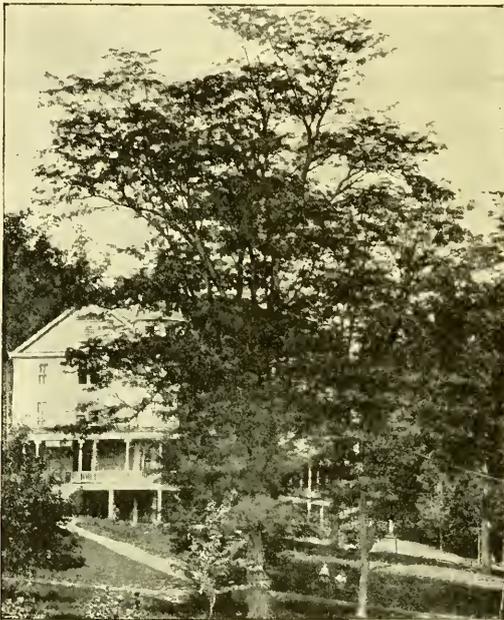
The Open Court Publishing Co. has procured from Elisabet Ney, the famous sculptress, the original model of her well-known bust of Schopenhauer, made in 1859, a year before the death of the great philosopher. (Photographs on application.)

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