

THE Freethinker

Edited by G. W. FOOTE.

VOL. XXXI.—NO. 31

SUNDAY, JULY 30, 1911

PRICE TWOPENCE

It is an essential part of the religion of the Hindus to confer gifts upon the Brahmans. This is a precept more frequently repeated than any other in the sacred books.

—JAMES MILL, *History of British India.*

The Dying Book.

CHRISTIANITY has long been like a sack of salt in a stream of water. Gradually the salt is washed out, but the sack itself remains, and the name "Christianity" is still legible on the outside.

A hundred years ago Thomas Paine had just ended his laborious life. He was the hated author of the "infamous" *Age of Reason*; a book which the British authorities tried to suppress, and for publishing which dozens of men and women were condemned to long terms of imprisonment, the heroic Richard Carlile actually spending nine years and seven months in English gaols. Thomas Paine's great book is still a "wicked" one at Birmingham, where the Education Committee of the Town Council cannot allow it to lie upon the bookstall at Town Hall meetings. But it is often praised elsewhere. Only the other day the Rev. R. J. Campbell, of the City Temple, told his hearers that they would find a good deal of what he was saying to them in "Tom Paine." It is notorious that nearly all Paine's positions are now occupied by the so called Higher Critics. What it was a crime to publish a hundred years ago is now quite orthodox—outside Birmingham. Christian divines now teach what a century ago was "infamy" in Thomas Paine. Thus does the whirligig of time bring in its revenges.

Nearly all that Thomas Paine said about the Old Testament is endorsed by these Higher Critics. This I have abundantly shown in the careful notes to the Twentieth Century edition of the *Age of Reason*. Even the diabolical suggestion that any Old Testament prophecy which was fulfilled was really written after the event is put forward now without the slightest hesitation by Christian scholars like Canon Driver.

A great deal of what Thomas Paine said about the New Testament is also endorsed by very respectable divines. He was called a "filthy beast" for smiling at the story of the miraculous birth of Jesus, and doubting whether a ghost could be the father of a bouncing boy. But even the great Sir Oliver Lodge—the Churches' scientific big gun, brought out to thunder against "infidels"—actually tells his Christian friends that they should lose no time in giving Jesus two human parents instead of one, as being less improbable and more decent. Mr. Campbell in one of his New Theology books plainly calls the story of the Nativity "poetry" and "not history." The discussion on "the Virgin Birth" has been going on for some time in Christian circles, and the "traditional" school is gradually winning all along the line.

Matthew Arnold, some forty years ago, saw that all the Bible miracles were doomed. And he said so. The time was coming, he declared, when educated and intelligent persons would put the Bible miracles side by side with other miracles; and from that moment they would cease to be believed.

That moment has been slowly but surely arriving. We may now say that it has arrived. Bible miracles are being denied by the very clergy. They will soon

cease to be taught from pulpits. But they will be taught in Sunday-schools—for the men of God will stuff the children with these pious falsehoods as long as possible.

There was a royal-hearted man of genius amongst Thomas Paine's contemporaries who believed Bible yarns as much as he did, and ridiculed many of them in his bold, bright, inimitable fashion. He was the one great poet of Scotland, and his name was Robert Burns. He flung his glove in the face of "a' the priests that's out o' hell"—where he evidently thought most of them resided. In a poetical address to one of the cloth, he said:—

"O Pope, had I thy satire's darts
To gie the rascals their deserts,
I'd rip their rotten, hollow hearts,
An' tell aloud
Their jugglin' hocus-pocus arts
To cheat the crowd."

But he did not confine his lash to the "rascals." He laid it upon their Holy Book. Not directly, so to speak, for that would not have done; but indirectly, so that everybody with brains enough could understand what he meant. Just look at this from "Death and Dr. Hornbrook":—

"Some books are lies frae end to end,
And some great lies were never penn'd,
Ev'n ministers, they hae been kenn'd,
In holy rapture,
A rousing whid, at times, to vend,
And nail't wi' Scripture."

Lying was the trade of these gentry, and their Holy Book had a strong resemblance to themselves. "Some books are lies frae end to end." Burns didn't name one—for he was a sly dog; but any reader of the text could supply the sermon.

It is getting admitted now that the Bible is "lies frae end to end." Only the grave, solemn, designing priests of the Holy Oracle boggle at the word "lies." They prefer to call the falsehoods "legends," "symbols," "allegories," and other soft, delusive names,—which remind one of Erasmus Darwin's description of Unitarianism as "a feather-bed to catch a falling Christian."

It has been said that all religions die of one disease—being found out. The same observation applies to holy books. Ever since the days of Voltaire and Paine the Bible has been undergoing this process. It is no longer the Word of God, but it contains the Word of God; that is, the Word of God is in it, but you must find it and dig it out for yourself. The clergy can give you no help in the matter. Each good Christian, therefore, has a Bible of his own. "Inspiration" means only personal preference. What one good Christian considers the Word of God another good Christian may consider the Word of the Devil.

At present the Bible is lavishly praised as literature. On inquiry it turns out that what is really praised is the English Authorised Version. This has not been supplanted by the Revised Version, as it would have been if the Bible were still regarded as the authoritative source of religion. If one were listening to the voice of the Almighty, one would be too much concerned with the meaning of what was said to admire it from a literary point of view. There is something sarcastic in suggesting that the Omniscient occupies a high position amongst ancient and modern authors.

G. W. FOOTE.

What is the Use of Religion?

WE are a practical people. The man in the street says so; and the newspapers, which cater for the man in the street, say the same thing. We are not led away after severely logical theories, like the excitable Frenchman; we do not fill our minds with philosophical ideas, like the German; we are severely practical. We pride ourselves on the fact that we do not ask ourselves is a thing true, but will it work? Our statesmen do not ask whether a proposed measure is just, but do the people desire it? To call a thing Utopian is enough to damn it to the ordinary Englishman. He is above all things practical—a born pragmatist; a good, hard-headed, shrewd man of the world, not wasting his time in the pursuit of unrealisable and unprofitable ideals, but keeping strictly to the region of the severely practical. It is a blessed word!

And yet it may be that your typically practical man is, in the deepest sense of the word, less practical than the Utopia-hunting Frenchman or the philosophic German. His hard-headedness, his worldly shrewdness, may expose him to exploitation in a far more certain manner than is the case with those of an opposite type of mind. Such imagination as he has is apt to work within narrow limits. He can see certain aspects of a subject, and see them strongly; but other aspects are non-existent to him, and on this blind side he is quite defenceless. He can appreciate the inventor of a new gun, because that has an obvious and practical application—someone is to be killed. He cannot so well appreciate the social value of the man who is working for conditions that will make the new gun unnecessary, and so he continues paying for new guns for long after it might be otherwise necessary. He can appreciate the invention of a new machine, or the discovery of a new dye, because these things have a clear commercial value. He cannot so easily perceive paying for the support of men who, for sheer love of discovery, strive to give man a greater knowledge, and therefore a greater mastery over natural forces. As a practical man he will not offer a Field Marshal less than £1,000 a year. As a practical man he cannot give a Michael Faraday more than £150 as a pension.

Take the same thing in religion. Once upon a time religion was assumed to do a practical work for man. It not only saved him in the next world; it looked after him in this. If he was afflicted with disease, religion took him in hand and cured him. If he sowed seeds, religion helped him raise the harvest. If he needed rain, religion helped him get it. If he wished to know anything about himself, or about the earth on which he stood, or about the heavens above him, or about the nature of life, or about the beginning and end of things, religion was ready with instruction. Of course, all this help and instruction cost something; but at least man then got something for his money—or he believed he did, and that amounted to the same thing. Religion and science were then interchangeable terms, or at least science existed under the patronage of religion, and its teachings were accepted because they received the sanction of religion.

What remains of this to-day? Practically nothing but the name. The doctor and the sanitarian have taken the place of the priest in the cure and prevention of disease. Scientific agriculture has taught the farmer to do without religion in his enterprises. No one looks to religion for any positive information concerning man or the world, and, indeed, teachers of religion have given up all pretence of being able to furnish any. They admit that in the regions of the known and the knowable, secular science, with its non-religious methods and aims, is supreme. They admit—some of the more candid ones, at least—that, so far as can be seen, a man can be as good, as useful, as intelligent without religion as he is with it. They hand over the whole domain of this life to non-religious agencies, and, as a *practical*

people, we continue to maintain a large army of preachers with costly and elaborate organisations who cannot show that, as priests, they perform any useful function whatever this side of the grave. It is a blessed thing to be a practical nation, and not to be misled by Utopias!

This, for example, is the kind of verbiage with which a "practical" people permits itself to be befuddled. It is taken from the *Christian World* for July 20:—

"Theology is on its way to becoming a science by adopting the spirit of science.....It was modern science which showed the world that the way to approach truth was the New Testament way, that of humility, of obedience, and of faith; of humility, finding that only by learning could you become a real teacher; of obedience, knowing that allegiance to fact was the essential of progress; of faith, holding that the truth could never lead us astray. The wonderful thing here is that science had recovered for man the faith which theology had lost."

It is significant that in the very act of attempting a vindication of religion, there should be displayed a striking instance of the dishonesty of mind engendered by religion. None but a theologian could identify the humility inculcated in the New Testament with the scientific teaching that only by readiness to learn from every new fact, and to correct or discard accepted opinions whenever necessary, could a man become a really valuable teacher; or, the blind obedience of the New Testament with the wide-eyed loyalty to truth of the scientific investigator. Still less is there any likeness between the faith in human knowledge and power, which lies at the root of scientific progress, and the stupid credulity that goes by the same name in the New Testament and in Christian annals. There are many forms of human crookedness in the world, but the most detestable and the most evil is surely that which seeks under cover of an identity of terms to foist upon the public entirely different things. A shopkeeper who did this would be liable to judgment before a magistrate. If there were similar regulations in the mental sphere, laymen would be shut out of the police-courts owing to the number of clerics who would be awaiting judgment.

But, suppose it were all true; suppose science had not endorsed religious teaching, be it noted, but had taught men how to deal with life, and that religion was quite willing, even eager, to accept its guidance. What then? Will anyone pretend that the maintenance of religion is justified because its professional teachers, instead of opposing science, are willing to follow its guidance and merely reiterate its teachings? Do we starve our scientific teachers and overpay our priests for that? To justify the expenditure of money and time and energy on religion, it should be shown that it has truths of which science is ignorant, and performs social services that science cannot discharge. But if this is so, in what direction are we to look for them? Instead of discovering them we find the admission that not only in matters of positive discovery, but even in the cultivation of a healthy mental attitude towards life, it is science that has shown the world in which direction true development lies. If we are to be guided by religion, well and good, we know where we are. If we are to be guided by science, well and good again. Then, too, we shall know where we are. But let us at least have done with the solemn humbug of maintaining a religion for the benefit of the nation, and in the same breath asserting that religion only repeats useful teachings in proportion as science enunciates them. It is the maintenance of this condition of things that makes the verbal dishonesties of the *Christian World* possible and palatable.

Of course, religious apologists have not taken up this attitude out of love for either science or scientific method. It is part of the game that vested interest and privileged teaching always plays against a conquering enemy. We see the same thing in politics when a decaying aristocracy professes great concern that the "will of the people"

shall prevail. In the face of scientific teaching, religion has only one of two courses to follow. It must either crush it, and remain openly and honestly master of the situation; or it must accept the teaching and harmonise it with its own doctrines, and strive to maintain a position by trickery and dishonesty. It tried the first plan for centuries, and failed. It has now fallen back upon the second, and ultimately it will fail here likewise. You may perpetuate a species of plant or cuttings, but the cuttings have a short life unless they can throw out new roots and derive perpetual nourishment from the soil in which they are placed. Religion, too, may be perpetuated by slips planted here and there, but that also must derive support from the life and thought of to-day if it is to really live. And the one certain fact of the situation is that this nourishment is no longer obtainable.

The vitalistic reasonings of primitive mankind, and the mechanical reasonings of Newton, Laplace, Lyell, and Darwin, represent the two extreme limits of a continuous line of development. The beginning of the line gives us religion, the end gives us a universe in which religion has no real place. The mechanical theory of things has not established its foothold easily; but once established, it is indestructible. A people may rub along without much knowledge, but once the knowledge has been acquired and permeates their life, it is not again easily surrendered. All men to-day, be they religious or non-religious, recognise with varying degrees of appreciation the value of scientific work. The regrettable thing is that along with a partial appreciation of the fact that organised human knowledge is our only guide, and organised human industry our only help, there should so often go the support of another system of thought that gives no useful guidance, and of a body of men that give no help. Had we a little more imagination we should recognise that this attempted reconciliation of science and religion is the attempted fusion of two utterly irreconcilable frames of mind. We are trying to keep the savage alive in a civilised environment. And what takes place when a primitive people are overtaken by a complex and advanced civilisation, has taken place with religion. Just as a savage people under such conditions are decimated by the vices and diseases of a civilised people, without being able to acquire the better qualities of their rulers, so religion has lost the savage strength and unsophisticated honesty it once possessed. It has become a sycophant to the enemy it could not conquer. It has lost the opportunity for the expression of its primitive virtues, and can only retain its vices—both original and acquired.

C. COHEN.

The Signs of the Times.

IN certain moods, Christian divines speak of unbelief as if it were a negligible quantity. They graciously admit that in the mid-Victorian period Freethought was a reality to reckon with. Then leading Freethinkers were intellectual giants, who did great damage, for a time, to the Church of God. But to-day Atheism is a thing of the past, the propaganda having long ago fizzled out. It is true that there are still a few Secular lecturers, but nobody listens to them; and there are two or three journals devoted to the advocacy of sceptical views, but they have no circulation. At the Wesleyan Conference just held at Cardiff, however, a very different tone prevailed. The President's opening address was pitched very largely in the minor key, and though the reverend gentleman claimed to be "an optimist by temperament and faith," the facts upon which he dwelt undoubtedly made for pessimism. He said:—

"In many directions these were great days, thrilling with activities and enterprise, and they were almost breathless with its perils. To all that there was a momentary exception in the religious world. There was not just the same confidence and exuberant activity. Instead, both in this and other lands, there

was a prevalent sense of disquiet and disappointment. Many of the signs were sinister. In saying that he was not quoting outside and prejudiced criticism, nor yet the judgment of men inside whose unenviable idiosyncrasy was to be forever fouling their own nests. Some of the signs were patent. There was the indifference to organised Christianity. How far that was due to the Churches themselves or to the anti-Christian propaganda which was holding a very carnival of misinterpretation and misrepresentation, he would not for the moment inquire, but it was one of the serious facts of the situation."

There were other signs, such as "the unsatisfactory attendance at public worship, a decrease in Church membership reported with such melancholy uniformity from all the Churches through a brief succession of years, and overshadowing finance," all of which tended to depress and discourage Christian workers. It will be remembered that, speaking from the chair of the Free Church Council a few months ago, the Rev. Charles Brown adopted the same lugubrious tone.

One session of the Conference was taken up with a discussion of what is called "the work of God." Of course, it is not God's work at all, for God has never been known to engage in any work whatever. What was really meant was the work of the Church, only it sounded more dignified to describe it as the work of God, just as it sounds more dignified to speak of clergymen as men of God. However, all the speakers agreed that God's work was not succeeding very well. There had been five lean years, not merely devoid of progress, but full of retrogression. Much was said about "the infinite power of the ever-present Spirit of God," the inexhaustible resources of Divine grace, and the efficacy of earnest prayer; but there was no getting away from the humiliating confession that hydra-headed Scepticism was infesting the land. Dr. Ballard called "the attention of the brethren to the gravity of the situation in which they lived." The *Methodist Times* for July 20 reports his speech as follows:—

"He was not concerned with the decrease in membership, but with the decrease in worship. They had to face the fact that four-fifths of the adult population of this country were outside the Churches and their services. It was not true that that vast and terrible number of their fellow-creatures were outside through mere indifference or mere sensualism. There was something underneath and behind—namely, the general decline of religious conviction.....He begged to say that Christian Evidences were more necessary to-day than ever they had been in the history of the Christian Church.....He begged that Conference to face the facts of the case and the needs of the situation. The facts were in the main fourfold—unbelief was to-day more than it ever was; it was bolder than it ever was; it was more influential than it ever was; it had more opportunities than it had ever had."

Whatever may be thought of Dr. Ballard as an argumentative defender of the Faith, it is beyond doubt that what he told the Conference is true; and when he warned the brethren that "there must be no shallow denunciation of the Higher Criticism," he rebuked both the President and himself. The President had already given an exhibition of his shallowness and lack of fairness in his allusion to "the anti-Christian propaganda which was holding a very carnival of misinterpretation and misrepresentation." We confidently challenge Mr. Haigh to prove that charge. Where is that "very carnival" being held, and who are holding it? As a matter of fact, Freethinkers do not interpret Christianity at all, but merely accept the interpretations of its champions; and everybody knows how numerous, conflicting, and mutually destructive these are. Does not Mr. Haigh know that the Wesleyan interpretation of Christianity is regarded by large sections of the Church as a misinterpretation? Freethinkers only criticise accepted interpretations of the Gospel; and doing this, they are delivered from all danger of misrepresentation.

The most damning statement in Dr. Ballard's frank address was that Christian Evidences "were more necessary to-day than ever they had been in

the history of the Christian Church." That is equivalent to an acknowledgment that Christianity has failed. In the most Christian country under heaven only one-fifth of the population profess faith in Christ. After fifteen hundred years four-fifths of the British people never darken a church door. Is this a sign that Freethought is a negligible quantity? Does this represent the fruit of the operation of "the infinite power of the ever-present Spirit of God" during all those centuries? And the significant fact is that while the divines thus write and speak even the one-fifth is steadily melting away. In other words, Freethought is triumphing all along the line. As Dr. Ballard freely admitted, it was never so great, influential, bold, and free as it is at the present time. It is at once permeating and despoiling the Churches, at once transforming and annihilating theology, and at once broadening and emancipating the human intellect. In short, its prospects of final and complete victory are brighter than they ever were before.

It is only natural that Christians should resort to all sorts of devices in order to minimise the decadence of belief. The Rev. Mr. Hornabrook, ex-President of the Conference, proudly "declined to exaggerate the importance" of the decrease in membership. Why, he is reported as saying, "there was a danger lest they should be more concerned about numbering the people than about saving the people." That is exceedingly silly talk, because the numbering comes after the supposed saving, and its alleged object is to ascertain whether or not any saving work is being done. "They must not conclude that the Divine Spirit was inoperative amongst them because they had not been able to report an increase in number"; but what on earth is the Divine Spirit's work if not that of saving lost people, and if he does that work the number of the saved is bound to increase. But during the last five years, not only have there been no additions to the number of the saved, but many thousands of those who professed to have been saved have managed to become lost again, and that in spite of "the infinite power of the ever-present Spirit of God." This only shows how unutterably foolish is the Church's perpetual talk about her Divine Head, her Sovereign Lord, her rever-failing Redeemer! It is nothing but pious twaddle. The only rational explanation of the downward trend in the Churches is the fact that the eyes of the people are being slowly opened, and that their minds are throwing off the yoke of bondage to priestly claims and ecclesiastical absurdities. As Dr. Ballard said, underneath and behind all the falling off in Church membership and attendance is "the general decline of religious conviction." The overwhelming majority of people—four-fifths of the adult population—stay outside church and chapel not because they are wickedly indifferent, or morally asleep, but because they have experienced an intellectual awakening; not because they are culpably reckless, but because they are acquiring self-reliance and self-respect.

It is never safe to prophesy, for time has an awkward habit of confounding prophets. Christian prophets are innumerable, and they all predict superb achievements for the Church in the immediate future. This temporary set-back is in order to try their faith, strengthen their zeal, and deepen their love. The grandest revival of religion ever seen is on the threshold, and to-morrow the Church will be clothed with irresistible power and dazzling glory, and she shall go on conquering and to conquer. But this is an oft-repeated but never fulfilled prophecy; and at present the signs of the times are dead against it. We shall not join the prophets; but we cannot disguise the fact that the signs of the times, being against the Christian religion, are necessarily in our favor. There is no mistaking the truth that, particularly during the last fifty years, Christianity has been in the process of disintegration, and that during the last quarter of a century the process has been considerably accelerated. It is possible, of course, that there may take place before

long a serious recrudescence of the worst forms of superstition, or a revival of the blind faith that is now dying, and that the march of science may receive a violent check; but, at present, the signs of the times point to no such possible eventuality. They are, rather, such as to fill the scientific heart with glowing hope, and to supply the Freethinker with calm confidence. Science is beginning to do for man what formerly the gods alone were believed capable of doing, but never did. We are not likely to be cursed with a return of the Dark Ages. The probability is that we shall never again bow the knee to any other god but science, nor walk by any other light than that of knowledge.

J. T. LLOYD.

Chance and the Cosmic Order.

ONE of the commonest criticisms urged against the Monistic interpretation of the cosmic order is the one which alleges the inconceivability of this order having been brought about by "chance." This criticism seems to be due to an inveterate misconception as to fundamental principle of the Monistic philosophy, which is supposed to be committed to the assumptions that in the beginning there was no order or law in the cosmos; that the present order has arisen from this primitively fortuitous state of things; and that, as there was no law to guide the starting of the process, it must necessarily have been due to "chance." Whereas what the Monist (or the Materialist, as I prefer to call him) really believes is, firstly, that there never was a "beginning"; and, secondly, that the cosmic order arises necessarily from the primordial relationship between matter and force, which relationship is as eternal, fundamental, and self-existent as are matter and force themselves.

In the present article I shall attempt briefly to set forth the grounds for, and the real significance of, the Monistic position; but, in the first place, it may be worth while to point out once again that there is no such thing as "chance" in the ordinary meaning of the word, and to indicate its true philosophic meaning.

What does the scientist understand by "chance"? What is the true meaning of the statement that if a number of counters marked with letters of the alphabet be thrown down at random they will "chance" to form a certain combination? It means, not that the disposal of the letters is wholly uncontrolled and fortuitous, but that the conditions governing their disposal (such as the weight and balance of each counter, the resistance of the air, the inequalities of the surface on which they fall, etc.) are not casually connected, but act on each counter independently of the others. A chance result means, not a result uncontrolled by law, but a result arising from the simultaneous action of independent conditions. It is this principle which makes possible the mathematical theory of probability. If chance events were absolutely fortuitous, no such mathematical theory would be possible—the occurrence of such events would be completely outside our power of prediction, and could never be brought under any formula.

But the Materialist denies that, even in this philosophical sense, chance has been the ruling principle of the world. He denies that the result of evolution—the cosmic order, as we know it—is a result arising from the action of independent laws, but affirms that the laws have arisen from, and are casually connected with, one fundamental law which underlies them all. What is this law?

The Materialist sees reason to believe that the primitive, homogeneous matter-force out of which he holds the universe to have arisen is, in its essential nature, *unstable*. It possesses within itself a tendency to change, to disrupt, to segregate, to differentiate. It may be that the cause of this instability lies deep down in the very nature of matter and force them-

selves. For if, as Herbert Spencer has shown reason to believe, evolution be an integration of matter and dissipation of motion, it would seem that matter and motion, though ever united, play opposite parts in the evolutionary process. This opposition-in-unity would be at its maximum under primordial conditions wherein the matter might be assumed to exist in a state of complete disintegration, and the force might be assumed to exist completely in its dynamic form as motion; and hence may arise the primordial instability. But whatever be its cause, this instability must necessitate a tendency towards breaking up the primal uniformity, and this tendency, operating through infinite time and space, would pass on through transformation after transformation, ever widening, ever elaborating; the underlying principle of the whole process being an advance from homogeneity to heterogeneity, from indefiniteness to definiteness, from instability to equilibrium.*

The goal of the cosmic process, then, is *equilibrium*, and equilibrium implies *order*. All evolution, inorganic and organic, is a striving after equilibrium and a concomitant establishment of symmetry and order. This is seen everywhere. The equilibrium of molecular forces in a precipitating solution results in the symmetry of the crystal. The moving equilibrium of a planetary system goes along with the beautiful order and regularity of its elliptic orbits. The development of living order depends on an equilibrium between the forces of nutrition and waste. The development of psychic order depends—as Spencer has shown—on a correspondence, that is an equilibrium, between the external stimuli and the internal responses to those stimuli. The development of social order accompanies an increasing equilibrium between the rights and duties of the communities and those of its individual members.

And along with the evolution of the material universe must go the evolution of its properties and the development of its laws. Recent investigations in physics lead us to the belief that the atom is not the ultimate form of matter, and that the so-called elements are not really elementary. If this be so, then we may reasonably assume that the properties peculiar to any given atom—say that of oxygen or hydrogen—are the result of the particular combination and arrangement of the lower form of matter—force (electrons) constituting such atom. The properties of the oxygen atom and the hydrogen atom produce, in their turn, the properties peculiar to any given combination of oxygen and hydrogen, such as water. And so on for all other inorganic compounds, till, passing upward without break into the inorganic world, the properties of protoplasm would be the product of that special combination of carbon and other elements of which it is composed, and the properties of brain and nerve plasm would result from those of simpler protoplasm combined with other elements, such as phosphorus. Thus, branching out into ever-widening ramifications, and rising up through ever-ascending degrees of complexity, would evolve those settled and immutable manifestations of matter and force which we collectively designate the laws of nature.

But though the cosmic order is regarded by the Materialist as the outcome of one supreme and fundamental law, he also recognises that the subsidiary laws arising therefrom, acting and reacting in endless combinations, may operate in different ways. Equilibrium and order are ever the goal, but the roads leading to it may be vastly numerous. Thus the cosmic result, as we know it, may be regarded somewhat as we might regard a grain of desert sand compared with an entire Sahara. For one case in which the final consummation is reached in the evolution of mind there may be millions of millions of cases in which the evolution fails to reach that goal. Not everywhere is the great drama being enacted in the required sequence—not everywhere has even the curtain been rung up. There may be vast regions in

the abysmal depths of space where yet no atom of ponderable matter has been evolved. There may be solar systems or individual planets in which the physical or mechanical conditions preclude the existence of sentient beings; worlds of majestic beauty and order in which the final act of the drama—Consciousness—alone is wanting. Physical science supports this view, and the telescope gives us indications which lead to the same conclusion. There are suns too hot and planets too cold—there are worlds too massive and worlds not massive enough to be the abodes of life. The planet Neptune, which receives only a nine-hundredth part of the light and heat received by the earth, and whence the sun would appear but as a minute star, may be capable of supporting life of a sort, but one could scarcely expect it ever to become the home of highly-organised beings. A body similar to the sun in mass and dimensions, even though it may have cooled sufficiently for the origin of life, would perhaps be equally unfitted for an advanced evolution, for its immense gravitational force might effectually bar the physical development of higher animal forms. On the other hand, worlds of small dimensions and mass would probably lose, by reason of their feeble gravitational force, all those constituents of their atmospheres whose molecular energies exceed a certain limit. Some physicists think that the moon may have lost her atmosphere in this way. Astronomers also tell us of multiple stars—systems in which the mechanical conditions are such as would appear to be averse to the maintenance of a permanent equilibrium, for the tidal disturbances and perturbations of movement resulting from such conditions would in all probability seriously affect the stability of these systems—they contain within themselves the elements of their own destruction. And finally, those startling and dramatic appearances of "temporary stars," blazing out for a short while and then dying down, like distress signals on the dark ocean of space, seem to indicate gigantic catastrophic events interrupting the normal order—stupendous forces of destruction and wreck terminating in a brief period the evolutionary work of unnumbered ages.

And now we may ask the teleologist, where, in all this, can we perceive a Purpose—where distinguish a Design? Controlling forces there undoubtedly are, but they reside within the cosmic process, not outside of it. Law and causation, indeed, rule everywhere, but they achieve no pre-appointed purpose—they are directed to no determined end. Through the infinitudes of time and space the tides of being flow and ebb; evolution and dissolution run their eternal course. Here and there a sidereal system glimmers in the boundless void. Here and there a feeble gleam of Consciousness awakes—perhaps only to flicker out again like a rush-light in a gale. Here and there the cosmic tempest, moderating its fury, may fan the feeble gleam into the glorious flame of Intelligence and Reason.

A. E. MADDOCK.

Divinity Barred from the Stage.

(Reprinted from the New York "Truthseeker.")

THE Bill originating with the American Federation of Catholic Societies, and introduced in the Legislature at Albany by Assemblyman Foley, prohibiting on and after September 1 next the presentation in any theatrical performance "of any living character representing the Divine Person," was signed on June 13 by Governor Dix and became a law.

The State of New York thus gives to Jesus of Nazareth the legal status of a Divine Person, rejecting by implication the Unitarian and Rationalistic belief in the humanity of Christ and affirming his organic relation with God as the father of Mary's oldest child.

Apart from the religious censorship of the stage here involved, the law is in conflict with the pro-

* See the chapters on "The Law of Evolution" and "The Instability of the Homogeneous" in Spencer's *First Principles*.

vision of the national Constitution prohibiting an establishment of religion. It takes the first and most necessary step in the establishment of Christianity by setting up a "divine person," which is fundamental to religions of the messianic family to which Christianity belongs. These are the Hindu religion, whose Divine Person is Krishna; Buddhism, which gives that title to Siddhartha Gautama (or Gotheimer); Confucianism with its Confucius of that ilk; Zoroastrianism; Mithraism; the Egyptian cults affirming divine incarnations, and a dozen other faiths and systems built on the same idea and the same Person under different names and aspects. It is purely theological legislation, and settles by a vote of Tammany Hall politicians and the approval of a Tammany governor a question concerning which the best Christian scholars are divided, and which is answered in the negative by all scholars not orthodox Christian in their religious professions. For if Christ is a divine person, the incarnation is a fact, the virgin birth is historical, and he who was the legal son of Joseph was the consequence of conjugation between a Jewish girl and a ghost. That is the verdict, crystallised into law, of the Foleys, the Caughlans, the Higginses, the McGraths, and the Sullivans of Tammany Hall and the New York Legislature.

What a chance a Freethinker, learned in criticism, would have had, as a member of New York's law-making body, to enlighten his fellow-members and the public through a discussion of the Foley Bill. The section in Robertson's *Pagan Christs* on "The Gospel Mystery-Play" would have answered the purpose. Robertson there makes it plain that the Divine Person appeared upon the stage before he appeared in the Gospels—that is, that the story of the last supper, the agony, betrayal, trial, and crucifixion of Jesus is an adaptation of an older mystery-play added to the document now called the Gospel of Matthew. After reviewing the play and proving his point, the author says:—

"As has been remarked, it is not to be supposed that the play as it stands in the gospel is primordial; rather it is a piece of technical though unliterary elaboration, albeit older than the play in the *Acts of Pilate*, for if we divide it by its scenes or places we have the five classic acts; first, the Supper; second, the Agony and Betrayal, both occurring on the mount; third, the trial at the high priest's house; fourth, the trial before Pilate; fifth, the Crucifixion.....But the theory of the dramatic origin of the coherent yet impossible story of the Supper, Agony, Betrayal, the two Trials, and the Crucifixion, does not depend on any decisive apportionment of the scenes. It is borne out at every point by every detail of the structure as we have it in transcription; and when this is once recognised, our conception of the manner of the origin of the gospels is at this point at least placed on a new, we might say a scientific, basis."

In the light of this demonstration we see the significance of what the legislature of the State of New York has done. Fifteen hundred to two thousand years ago some dramatist wrote a miracle-play. The biographers of the mythical Christ made this play an addition to their story to give it a dramatic end. The Christian Church accepted the play and produced it until in the course of time Church and State became separate, when, having abandoned the Gospel as drama and denied that it ever was such, it procures the passage of laws to prevent anybody else from reproducing the play which it originally plagiarised for its own purposes. The act of our legislature, therefore, prohibits the appearance on the stage of "any living character" representing the hero of an old Jewish or heathen play that we may conceive of as being presented by strolling players who made one-night stands in Mediterranean towns two thousand years ago.

GEORGE MACDONALD.

Acid Drops.

The Christian Churches won't like Lord Kitchener's appointment at Cairo. They will never forgive him for his action after Omdurman. He knew very well that education was the thing most wanted in the Soudan, so he asked the British public to give him £100,000 to establish a Gordon College at Khartoum. But he made up his mind that there should be no religious wrangling in that institution, and he made arrangements for dispensing with a chair of theology. This was a terrible annoyance to the Anglican Church in particular, as it hoped to plant a man, with a good salary, in that chair. Lord Kitchener made the Churches still angrier, if possible. He refused to admit Christian missionaries into the Soudan on any pretence whatever, on the ground that the country wanted rest and peace for recuperation. Great pressure was put upon Lord Kitchener to let the missionaries in, but he was never a docile personage, and the Archbishop of Canterbury made as much impression upon him as he might have made by talking to the great pyramid.

We quite understand the reluctance of the British Government to recognise a Republic headed by Freethinkers. But it is a public scandal that the Portuguese Republic has been treated so disdainfully by our Foreign Office and Parliament. The ex-King of Portugal is a friend of our own Royal Family, who would probably be glad to see him seated on his throne again; but that is extremely unlikely, for no nation loves a coward, and King Manuel ran away from Lisbon, helter skelter, without striking a blow for his crown.

Mrs. Besant has been lecturing at Manchester on "How Man may Master his Destiny." From the brief report of her lecture in a religious weekly, it appears that she now misunderstands Determinism. She understood it when she was an Atheist, but Theosophy has altered all that. "As men sow they reap," she says; and she seems to fancy that this truism proves Free Will. Of course men reap as they sow. But it is not always the same men. One man sows and another reaps—it may be the next day and it may be a hundred years after. Causation is inevitable. That is all the sowing and reaping illustration comes to. And what is Determinism but Causation carried into the fields of psychology and ethics?

Theosophy talks in a high and mighty way, but it makes no discoveries. "If," Mrs. Besant says, "you make others happy, happiness inevitably shall be yours." How much better was this expressed by a great Atheist (Ingersoll) who said: "The way to be happy is to make others happy." And as a matter of chronology Ingersoll said this before Mrs. Besant ever heard of Theosophy.

It is pleasant to see that Mrs. Besant can still talk good sense when she is not advocating her oriental nostrum. Here, for instance, is an extract from her recent lecture at Essex Hall on "The Value of Islam":—

"It is often claimed with regard to the position of women that Mohammedan women are badly treated. But take, for instance, the Mohammedan law of inheritance; it is a model as compared with that of the rest of Christendom. A woman is not a nonentity. Every daughter must have a dowry, and if divorce follows it must be paid back. As for polygamy, there is no law against that even in the Christian parts of the Bible. Bishops and deacons are told only to take one wife; the others can please themselves. Until Christian countries clear their streets of prostitutes it does not become them to criticise. The Mohammedans may have more wives than one, but they are sheltered and respected within the home."

The last shot hits the bull's-eye. Heaps of Christians have one wife at home, and another in the streets, whom they share with fellow Christians. Mrs. Besant might have added (perhaps she did) that polygamy is really rare amongst Mohammedans, and is considered very "bad form" in the best society.

Aspects of Islam is a series of lectures delivered at the Hartford Theological Seminary, in Connecticut, by Dr. D. B. Macdonald. It appears to be a fair-minded book in comparison with most Christian literature on that subject, but it contains some things calculated to make a disinterested critic smile. Mohammed, for instance, is stated to have been "a pathological case"—he "fell into fits and saw and heard strange things." Well, not to beat about the bush, so did Jesus Christ. He cultivated morbidity in solitude and practised prayer and fasting to put himself into an ecstatic condition. Mohammed did nothing of the kind. Like several other great men in the history of the world, he had an epileptic tendency—which was his misfortune but not

Whatsoever thy hand findeth to do, do it with thy might; for there is no work, nor device, nor knowledge, nor wisdom, in the grave whither thou goest.—*Ecclesiastes ix. 10.*

his fault. Dr. Macdonald makes another charge against the founder of Islam. "He forged the awful machinery of divine inspiration," the American doctor of divinity says, "to serve his own ignoble and selfish purposes." Awful! But also comical. "Thus saith the Lord" is a regular expression in the Christian Bible. *This* machinery of inspiration, of course, was *not* forged. And who can say that Christian Churches have ever served the "ignoble and selfish purposes" of priestcraft? Mohammed was rather too fond of the ladies for British clerical taste, but he carried on no intrigues, what he did he did openly, the women he consorted with were his wives. He found polygamy existing, and he limited it. Jesus Christ found polygamy existing, and he never said a word against it. Mohammed forbade alcohol altogether. Jesus Christ turned water into wine to keep a spree going.

We did not know that drink was so short in the Birmingham district. Two young men were charged before the Stipendiary with breaking into Camp Hill Presbyterian Church and stealing a bottle of wine. Perhaps they preferred parson's port to publican's sherry.

At the Conference of the National Association for the Prevention of Consumption it was remarked by Dr. Marcus Paterson (medical superintendent of the Brompton Hospital Sanatorium, Frimley) that one method of spreading the disease was the use of the chalice in Holy Communion. Dr. Paterson explained this assertion by stating that "most people who were well did not go to church, but when they fell ill they did." Maladies and funk take people to the house of God.

The chalice used in the Holy Communion is—either literally with the Catholics, or symbolically with the Protestants—filled with the Blood of Christ, which, according to the Scripture, is the only thing that saves. Yet in this case it is actually the medium for spreading a terrible disease. "For the blood is the life," the Bible says; but in the present instance it ought to read, "For the blood is the death."

From the reports of Dr. Frank Ballard's anti-infidel lectures some Christians may have gained the impression that unbelief was on its last legs. At the Cardiff Conference, however, Dr. Ballard rose to call the attention of the meeting to the "gravity of the situation." He said: "Unbelief was to-day more than it ever was; it was more influential than it ever was; it was bolder than it ever was; it had more opportunities than it had ever had." We can imagine distinct shivers passing through the assembly. It had just been listening to speeches on the power of God, and of Jesus, etc., etc.; and now Dr. Ballard, who has made it his special work to crush unbelief, tells them authoritatively there is more of it than ever, it is bolder than ever, more influential than ever, and has better chance of finding expression! What becomes, then, of the power of Jesus? And what, oh what, of the power of Dr. Frank Ballard in his crusade against unbelief? Things couldn't have been worse if, instead of consistently running away, Dr. Ballard had discussed religion with unbelievers under fair conditions.

Dr. Ballard also told the Conference that, while four-fifths of the people were outside the Churches, "it was not true that that vast and terrible number of their fellow-creatures were outside through mere indifference or mere sensualism. There was something underneath and behind—namely, the general decline of religious conviction." Really, we shall begin to form quite a high opinion of Dr. Ballard if he goes on blurring out the truth at this rate. Of course it is not sensualism that robs people of religion. Religion has always been found consonant with the most extreme sensualism. And, paradoxical though it may seem, some of the greatest sensualists in the world have been the ascetics of the Christian Church. And this not merely because many of them were actually pronounced sensualists before they became ascetics, but also because they never ceased to be psychological sensualists, their asceticism being merely its obverse side. And, of course, it is not indifference to religion—in the sense of not troubling whether religion is true or false—that develops unbelief. The majority of Freethinkers have, as a matter of fact, taken a keen interest in religion. Had they not done so they might still be faithful servants of a creed which finds its greatest security in the mental slothfulness of man.

At the same meeting "Gipsy Smith" told the audience of his wonderful success as an evangelist in Paris. This is a theme that gentleman loves to dwell on, and as it is about himself he doubtless regards the testimony as unimpeachable. Well, at Paris, Gipsy Smith preached to 1,500 people,

and when he talked about Jesus "their handkerchiefs came out." Whether to wipe away their tears, or whether French politeness led them to hide their faces, we are not told. When he asked how many of the people wanted him to pray for them more than half of the audience stood up. So he distributed cards asking those who believed in Jesus Christ as their Savior to sign them. And 53 French people returned the cards. *Fifty-three* out of 1,500, or out of 750 who stood up to be prayed for. Gipsy Smith should pay more attention to details. We suggest that instead of merely stating that the handkerchiefs came out, he should report streaming eyes and quivering bodies. And the fifty-three ought to have at least another figure—say a five—in front. Doubtless these details will be attended to in later editions.

Another answer to prayer is on the way. A number of the Churches prayed for rain on July 16. As usual, no time-limit was fixed. The Lord was left to arrange matters with the barometer. So whenever the rain came it would be an answer to prayer.

The Vicar of Tonbridge evidently has but a poor opinion of his parishioners. This is the way he describes "the moral and spiritual condition of our town":—

"What Sabbath-breaking, what worldliness, what immorality, what carelessness and indifference to the claims of God. Consider the state of multitudes of the young people. They seem to have broken through parental control and to have taken the reins in their own hands. These young people will be the men and women of the future, and as they are, so will the nation be."

Now this is what we call a nice testimony to the value of the vicar's work among the people of Tonbridge. If the moral consequences are as he describes them, we suggest that he withdraw from his post, and so leave the people to the play of common sense unassisted by spiritual illumination. The results could hardly be worse.

The Bishop of South Tokyo reports that Japan has found it possible to take its place among the first-class Powers without being Christian, and therefore the Japanese feel it is not necessary to be Christian to get on in the world. Probably the Bishop regrets that the Japanese were not compelled to become Christian before being accepted as an equal of the European Powers. We beg to remind the Bishop that Japan complied with the condition tacitly laid down by the Christian nations of the world. Japan might have been ten times as civilised as she is, her moral character might have been beyond reproach and her intellectual capacity beyond question. None of these things would have been sufficient. What Japan had to do was to show that she could *fight*. And when Japan had shown this in her war with Russia, then the Christian nations agreed that this was the true mark of a civilised nation. Capacity for fighting, not greatness in art, or science, or life, is the principal thing that commands respect amongst the Christian nations of the world.

Why will Christians quote their own Book so loosely? Last week's New Theology organ followed a practice that is now almost universal amongst Christians. It represented Paul as saying: "Be able to give to every man a reason for the faith that is in you." But where, to begin with, does Paul say this? The text is in the fifteenth verse of the third epistle to Peter: "Be ready always to give an answer to every man that asketh you a reason of the hope that is in you." The *hope* was the hope of a resurrection to immortality, and the belief in the resurrection of Christ was the *faith* on which it rested. It is idle to pretend that Christians were ever fond of free discussion.

The gush over Welsh loyalty when the King and Queen made their progress through the Principality was quite delirious. Nerve specialists must have been necessary in all the great newspaper offices. One incident, at the opening of the new University College at Bangor, seems to have knocked the reporters silly. During the religious ceremony the spectators melted with sentimentalism on seeing Mr. Lloyd George and Mr. Balfour sharing the same hymn-book. "The eyes of men," the *Chronicle* reporter said, "were made glad and a little astonished" at this spectacle. But what a peculiar tribute it was to the moral value of Christianity. Christians were astonished at seeing two Christians who differed in politics sharing the same hymn-book during Christian worship. And this nearly two thousand years after Christ!

Holy Russia worships a dead Jew but it persecutes living Jews. The treatment of that unhappy people, in fact, gets worse and worse in the land of the White Czar. No less

than 120,000 Jews were expelled from Russia in 1910, of whom no less than 93,000 went to the United States. Jewish children are more and more debarred from educational possibilities. According to the Central German Jewish Relief Association the Anti-Semitic movement in Russia "is becoming more heartless, tyrannical, and widespread from hour to hour." Fancy a Jew getting converted to Christianity in face of these facts! Happily, such conversions are very few and far between. And so much money is spent on the job that every converted Jew costs more than £10,000.

"Nothing but the patience of an infinite God could have watched with joy the first faint beginnings of human things." So says the sentimental organ of the New Theology—and we feel inclined to endorse it. Any being with a reasonable amount of patience would have considered the process intolerably slow. But, as the poet says, "God moves in a mysterious way his wonders to perform."

The moral advantage of religion should be conspicuous in clergymen. Here is a case in point—reproduced from the *Daily News* of July 20:—

"How a clergyman fell into the ranks of the criminal was related at the Central Criminal Court yesterday, when Richard Percival Durnford, aged 50, was found guilty of obtaining by false pretences a typewriter, a quantity of stationery, and money with intent to defraud. He was sentenced by the Common Serjeant to twelve months' hard labor.

A conviction at Guildford in 1903 was proved, Durnford then being sent to prison for a year on a charge of false pretences. Since that date he had twice been convicted.

Detective-Serjeant Rixon told the Court that the prisoner was a clergyman in the Church of England, and had acted as curate at Garston, near Liverpool, and at Ware, in Dorsetshire. For some time he was also in Scotland. Then he joined the Roman Catholic Church, but was turned out. He became connected with a temperance society, and convened a meeting, with the result that he obtained possession of £6, which was banked. This account he overdraw to the extent of £200, by giving cheques. Later, he became pastor of a Nonconformist chapel at Edgware.

Detective-Serjeant Burton gave supplementary details, and said that the accused was pastor of a chapel at Hendon at one time. Since the chapel had been closed prisoner had come into possession of a number of cheques, which he gave to tradesmen, and which purported to be drawn in his favor. He invariably passed as Raymond Dunn.

Addressing his lordship, in quiet and cultured tones, accused disputed the statement that he was Raymond Dunn, as the real person who bore that name was undergoing a term of five years' penal servitude, he asserted.

'I still plead not guilty, though the jury have disbelieved my story,' he added, 'and if I were to face my Maker now he knows I am not guilty of the intention to defraud.'

Sentence was passed as stated."

The Christian Evidence Society ought to publish a collection of these interesting cases.

Piety is the finest cloak in the world for rascality. Here is one of the latest pieces of news from Berlin:—

"Several monasteries and a nunnery in South Germany have been neatly swindled by two persons of ascetic appearance, describing themselves as the Syro-Chaldaic Bishop of Nazareth and his chaplain. The sham bishop received numerous offerings for masses and for good work in his diocese. He permitted himself, despite his asceticism, to be very hospitably entertained; at the convent in Mendelheim he found the cooking particularly good, and remained eight days. At length, while he was staying at the Beuren Monastery, favored by the Kaiser, the bogus bishop aroused suspicion. The police were called in, and soon established his identity as a cow dealer who became a deacon, and, on being discharged, a commercial traveller."

History is full of this sort of comedy.

Christianity in general, and the Christian Churches in particular, are the greatest humbug in the world. Jesus Christ was a propagandist tramp; yes, a tramp,—for he had not where to lay his head, and the police would run him in as a vagabond if he lived that sort of life to-day; and money seems to have been very scarce with him, for he had to get some by a miracle in order to pay the tax-gatherer. Now the Bishop of London is a conspicuous representative of that same Jesus Christ. And is he a tramp, with nowhere to lay his head? Listen! On Wednesday, July 19, his lordship held a garden-party at Fulham Palace, which was attended by some two thousand guests. "Oh, what a surprise!" if Jesus Christ had appeared amongst them. Fortunately the Bishop is not troubled with guests like that.

A wail went up from the Wesleyan Conference at Cardiff over the increasing disrespect for the blessed Sabbath.

Sunday golf was vigorously denounced, and the War Office was blamed for letting Territorials do rifle practice on the Lord's Day. Shooting straight was a good thing in its way; but it could be bought at too high a price.

A piece of cynical hypocrisy has recently occurred at Southend-on-Sea. The authorities have shut all the picture theatres on Sunday. They have also started a new Sunday band of their own on the end of the pier. Piety is satisfied, and Sabbatarianism is at peace.

The Church of England Men's Society at Bath has been considering the question of ladies' headgear. One clergyman held that ladies' hats would have to be reduced in size if men were to be attracted to church. We suppose the men want to see the ladies' faces. But male regulation of female costume has never been a successful business. Priests have dabbled in it, but with no particular prosperity—not even in the matter of low-necked dresses.

The death of Sir Percy Bunting removes a very characteristic figure from Nonconformist circles. He was as much a partisan as any Churchman or Catholic. His ideal of things was the perpetual government of England by Liberal Dissenters. As editor of the *Contemporary Review* he showed how he understood liberty and free discussion. When the Secular Education League asked him to publish an article in reply to the articles by the Rev. Mr. Shakespeare and Dr. Sadler that appeared in the September number of his magazine, he declined to entertain the idea, although the reply was written by so eminent a Nonconformist as Mr. Halley Stewart. Fortunately the editor of the *Nineteenth Century*—and *After* had healthier notions of mental hospitality, and Mr. Stewart's reply was accepted and published in the April number of that magazine. Sir Percy Bunting was a lawyer and his greatest virtue was "respectability." He did not possess any particular force of intellect or character. But he belonged to the class of "safe" men who succeed in England; men who, having no originality, never make serious mistakes.

The United Methodist Conference at Manchester had some talk about the rubber, coconut, and cotton plantations in Africa in connection with its missionary work. Rev. Udy Bassett said the plantations were more successful than they had ever been; he was afraid there was too great eagerness for dividends. They had 20,000 rubber trees which were going to pay handsomely. Rev. C. Stedeford also spoke hopefully of the prospects of the rubber estate. But what are the prospects of saving the darkies' souls? That is the question. And it doesn't seem to be answered very optimistically.

Missionary exhibitions and bazaars were suggested in special aid of the darkie soul-saving business. This was objected to by the Rev. Thomas Naylor, who said that many of them were sick of bazaars, and even doubted their morality. But the suggestion was accepted. United Methodists can't forego money-making schemes which raise the wind successfully.

There is hope for Christianity still. We see that "Alf. Shepherd, ex-convict" is billed to discourse in the Albion Hall, Gloucester, on "the horrors of sin" and similar topics. He appears to be quite an authority on wickedness, as his "sentences before conversion amounted to 37 years 10 months." He is also a realist, appearing at least in one lecture in "prison dress and chains." We expect to hear of the total conversion of Gloucester. Perhaps a few Free-thinkers there may hold out, but the rest of the population can hardly resist the appeals of this Protestant saint. No doubt his conversion is genuine, for it was effected by the Salvation Army; though it must be admitted that he is rather *passé* for his old profession.

Lord Hugh Cecil seems to have been the ringleader of that rowdy exhibition in the House of Commons on Monday, when the Prime Minister was bowled down by the Tory swell mobmen. It was the most disgraceful scene witnessed in parliament since the old days when the bigots were baiting Bradlaugh. Those who took part in it are no more fit to sit in the national legislature than any criminal out of a prison or any lunatic out of an asylum. It was an absolutely hooligan performance. And its apparent leader, Lord Hugh Cecil, is the most pious member of the House of Commons. He is a leading spirit in the latest attempt to Christianise the Chinese. And on the whole we are rather glad of this. The noble lord, with his cheek and his rowdyism, is a warning against his religion.

Mr. Foote's Engagements.

(Lectures suspended for the present.)

To Correspondents.

PRESIDENT'S HONORARIUM FUND, 1911.—Previously acknowledged £271 8s. 9d. Received since:—R. L. M., £2; R. Lancaster, £1; J. A. T., 5s.; Newcastle Branch (per A. W. Hutton), 10s.; Philip G. Peabody (Boston), £4.

THE VANCE TESTIMONIAL FUND.—Previously acknowledged, £92 9s. Received since:—R. L. M., £1; A. H. Smith, 2s. 6d.; *Huddersfield N. S. S. Branch*: John Brook, 1s.; R. Tabrum, 1s.; W. H. Spivey, 2s. 6d.; Mrs. Spivey, 1s.; R. Crowther, 1s.; Miss France, 1s.; A. Hanson, 1s.; A. Rowley, 1s.; W. Cliffe, 14s.; A. Parrish, 1s.; A. Leeson, 1s.; J. K. Whiteley, 1s.; Miss Garside, 6d.; S. Bells, 1s.; Jas. Wilkinson, 2s.; Ald. Allen Gee, 2s.—total £1 12s.; W. H. Harris, 1s.; Anne Capon, 5s.; R. Lancaster, £1; C. Brooks, 5s.; Librepensador, 5s.; W. Horrocks, £1; J. Burrell, 2s. 6d.; Newcastle Branch (per A. W. Hutton), £1; Philip G. Peabody (Boston), £1 1s.; W. T. Pitt, 3s.; J. G. and J. Crozier, 5s.; Two H. B.'s, 5s.

W. H. SPIVEY.—Glad the Huddersfield "saints" have so much sympathy with Miss Vance and that they hope she will fill the secretaryship for many years yet.

ANNE CAPON.—Mr. Foote and family are all keeping well.

J. W. WHITE.—Impossible to insert a notice so worded. We can only give publicity to your hope that the members of the West Stanley Branch will attend meetings advertised in the *Freethinker*.

S. R. TAYLOR.—In the circumstances there is no more to be said. Thanks, all the same.

X. Y. Z.—You are engaged to a young lady; she is a Church-woman, you are a Freethinker; she wants to be married in a church, and you want to be married at the registrar's. You ask our advice in this difficulty. But how can one man advise another in such a personal matter? Besides, the difficulty should have been dealt with before a formal engagement was made. We would help you if we could, but it is impossible.

JOSEPH BATES.—Glad to hear you stood your ground so well at Nelson. We note your permanent address is 435 Alfreton-road, Nottingham.

J. KING.—There is no need to discuss Renan's fancy biography of Jesus at this time of day. The *Vie de Jesus* was written when he had only just broken away from the Catholic Church and was still under the glamor of the religion he had abandoned.

CLAUDE BOWMAN (U.S.A.).—We are familiar with the verse you have copied out and sent us, and have often used the last line in one of our lectures. The verse (anonymous) was printed in the *Freethinker* many years ago. Glad to hear "how much you appreciate" this journal.

SIDNEY BETTS.—We fear we shall not be able to use it. The reverend gentleman's statement about Japan was really not worthy of more than a few lines of criticism—even if so much. Mr. Foote would visit Huddersfield willingly if a suitable hall could be obtained. Glad the "saints" keep pegging away there as far as possible.

A. F. THORN.—You were sanguine to expect the *Athenaeum* to insert your letter. It was never strong on free discussion.

J. WHITBY.—Out of print. Cannot help you re the Brazil papers.

A. W. HUTTON.—Mr. Foote will gladly pay Newcastle a visit, if a suitable hall is available, this side of Christmas. He was written to at the end of last winter's lecture season, when it was too late to make further engagements with a prospect of success. Pleased to have your renewed praise of the *Freethinker*.

R. H. GRANT.—The editorial department and the publishing department are quite distinct. What you may leave at the latter on Monday afternoon would not usually reach the editor till Tuesday morning. He lives out of London in order to avoid it as much as possible, and his letters are posted on to him, except on Tuesdays, when he spends most of the day at the office. No one represents him editorially in his absence—for he is editor, sub-editor, reader, and everything else connected with the paper rolled into one. Would it were otherwise, but it can't be altered without money.

W. STEWART.—We are tired of saying that Tuesday morning is too late for paragraphs. Why didn't you post your letter on Sunday night instead of Monday night? All we can do now is to repeat our hope that the Edmonton Branch platform will be well supported.

THE SECULAR SOCIETY, LIMITED, office is at 2 Newcastle-street, Farringdon-street, E.C.

THE NATIONAL SECULAR SOCIETY'S office is at 2 Newcastle-street, Farringdon-street, E.C.

When the services of the National Secular Society in connection with Secular Burial Services are required, all communications should be addressed to the secretary, Miss E. M. Vance.

LETTERS for the Editor of the *Freethinker* should be addressed to 2 Newcastle-street, Farringdon-street, E.C.

LECTURE NOTICES must reach 2 Newcastle-street, Farringdon-street, E.C., by first post Tuesday, or they will not be inserted.

FRIENDS who send us newspapers would enhance the favor by marking the passages to which they wish us to call attention.

ORDERS for literature should be sent to the Manager of the Pioneer Press, 2 Newcastle-street, Farringdon-street, E.C., and not to the Editor.

PERSONS remitting for literature by stamps are specially requested to send *halfpenny stamps*.

THE *Freethinker* will be forwarded direct from the publishing office, post free, at the following rates, prepaid:—One year, 10s. 6d.; half year, 5s. 3d.; three months, 2s. 8d.

Sugar Plums.

Mr. Philip G. Peabody, of Boston, U.S.A., from whom subscriptions are acknowledged in this week's *Freethinker*, belongs to the legal profession, as did Colonel Ingersoll, with whom he enjoyed an intimate friendship. Mr. Peabody is the best known leader of the Humanitarian movement in Boston, and perhaps in the Eastern States generally. He does us an honor by giving us his support. We are proud of having so many friends in America.

Mr. J. A. Jackson, who was prosecuted and fined for translating and circulating in China an article of Sir Hiram Maxim's on Missionaries, is at present in England, and an article from his pen will appear in next week's *Freethinker*. Mr. Jackson says his counsel quoted largely from our *Defence of Free Speech*, but these quotations were rigidly excluded from the native papers—so great is the terrorism exercised by the missionaries over there.

Mr. Joseph Bates has been fighting with beasts—not at Ephesus, but at Nelson. The beasts at Nelson were two-legged, but they were not exceeded in ferocity by Paul's four-legged opponents. We conclude this from reports in the *Nelson Leader*. Mr. Bates has incurred the dire hatred of the Salvation Army for criticising the policy of their "General." They tried to march a procession through his meeting, and they used their hand to drown his voice. The opposition to Mr. Bates has been organised, but he is wearing it down, and the local "saints" have stood round him gallantly in face of dangerous attacks. More than once the police had to guard Mr. Bates by taking him to the police station. The good Christians used all sorts of missiles, and the police are looking for one of them who flourished a bowie-knife. "By their fruits you shall know them."

"The annual conference of the National Secular Society of England has just been held at Birmingham (June 4). In the *Freethinker* of June 11, President Foote, Charles Bradlaugh's worthy successor, reports the conference to have been harmonious and successful. On the 5th the members had an excursion to Stratford-on-Avon, an incident of which outing Mr. Foote relates:—

'One unannounced and unexpected feature was a brief address by me from the stage of the Shakespeare Memorial Theatre to the N. S. party comfortably seated in the dress circle. The invitation was sprung upon me as I entered the Memorial building, and I was so hot and dusty that I felt like declining; but I was so pressed to "oblige," and so sensible of the curator's kindness, that I gave way; and the spot, and the surroundings, and my love for the Master inspired me to perform a not too easy task with some degree of success, which was exaggerated by the kindness of my audience. I shall always regard that sudden opportunity as a signal honor.'

Mr. Foote ranks with Ingersoll as an admirer, student, and interpreter of Shakespeare. It is great to be equal to an occasion like that which his gifts enabled him to improve."—*Truthseeker* (New York).

Miss Kough "reported" herself at our office on Tuesday. We were glad to see the change at Yarmouth, together with diminished solicitude about Miss Vance, had done her much good. She informed us that Miss Vance had benefited a great deal by her holiday at Yarmouth and was looking ever so much better. She returned to London on Monday evening. We have not seen her yet, but we hope to do so in a day or two.

We invite all who intend to subscribe to the Vance Testimonial Fund to send in their subscriptions as soon as possible. We should like to see the Testimonial presented to her at a public function in September. Will the "saints" kindly enable us to get this done?

The Testimony of Lord Kelvin and Dr. Wallace.

"The British mind has a singular and perhaps fortunate capacity for resting contentedly very far short of simple finality. It thrives in an atmosphere of antagonism. It never tries to press the axioms of one department into conformity with those of another. It can pursue with happy inconsistency two parallel or even hostile courses of thought, without being troubled by the problem of reconciliation.....Englishmen love to think and act in watertight compartments, with no communication possible or desirable."—*Saturday Review*, April 30, 1904.

"As when one sense is carried to great perfection, the others are usually less acute, so mathematical reasoning seems, in some degree, to injure the other modes of ratiocination. Napier wrote nonsense on the Revelations. So did Newton on the same book and the prophecies of Daniel. Now, Dr. South, you know, used to say that the Revelations either found a man mad, or left him so."—HORACE WALPOLE, *Walpoliana*, 1819, p. 93.

"A religious belief that is scientifically preposterous may still have a long and comfortable life. Any worshiper can suspend the scientific part of his mind while worshipping. But a religious belief that is morally contemptible is in serious danger, because, when the religious emotions surge up, the moral emotions are not far away. And the clash cannot be hidden."—Prof. GILBERT MURRAY, *Hibbert Journal*, October, 1910.

THERE is an underlying fallacy attached to these lists of scientists who give—a carefully qualified—assent to belief in religion or a God. The compilers of these lists are trading upon the ignorance of the general public as to the range and progress of modern science and the capabilities of the human mind.

At one time it was possible for one man to grasp the whole of the known science of his time. Francis Bacon did so—and we may note, by the way, that the very fact that he could do so caused him to reject the new system of astronomy of Copernicus with contempt—but it is no longer possible for one mind, however powerful, to master more than an infinitesimal portion of the known science of to-day.

The ordinary man who reads nothing but the daily and weekly papers has an exceedingly hazy notion of science and scientists in general. In his imagination, a professor is a man who knows everything; all the knowledge of our time is supposed to be at his command, ready at a moment's notice to settle the most complicated questions submitted to him for solution. If the ordinary man is told that a certain professor is an unbeliever, he is not surprised; he merely thinks that such a man wishes to disprove religion in order to lead an immoral life, or that "he wants to get his name up," to use a slang phrase. It is to these, and such as these, that books of *The Religious Beliefs of Scientists* order are addressed.

The fact is that no mind can keep pace with the progress of science to-day. If a man were able to read with the rapidity of a Macaulay—who has been credited with being able to read four lines at a time—and was capable of reading continuously, he would be unable to keep pace with the weekly outflow of scientific work as represented by the books which daily pour from the press in all civilised countries, and the transactions of scientific societies all over the world, as printed in their journals, to say nothing of carrying out any special research work himself.

To give one instance of the enormous growth of the science of to-day, take the lately published work of Professor Lafar on Mycology—dealing with the micro-organisms of Fermentation and Yeast. The second part of the second volume deals with enzymes and enzyme actions of yeast, a subject which has developed so amazingly within recent years, and is still being so highly developed that we are told "it would be impossible for any single writer to keep pace with the enormous number of publications that have appeared, and to summarise at all adequately the work thus presented to botanists and chemists."* A list of books and papers dealing

with the subject is given at the end of the book. It covers more than 180 pages, each page containing from twenty to forty titles. And this is only one branch of the science of biology!

A further instance can be seen in the growth of crystallography. Once relegated to a subsidiary part in a course of geology and mineralogy, it has grown so enormously that it now embraces the structure and character of metals, the structure and physical properties of all solid matter, and forms the fundamental groundwork of chemistry. The latest sciences like psychology, ethnology, and sociology have made astonishing progress.

Now it is a significant fact that when a scientist comes forward to defend religion, he generally finds the proofs in a science upon which he is *not* an expert. Thus Lord Kelvin, while admitting that the term a "fortuitous concourse of atoms" was not an inappropriate description of the formation of a crystal—with whose structure, as a physicist, he was perfectly familiar; it was, he declared, utterly absurd as applied to the coming into existence, or growth, as presented in the bodies of living things*; for which he posited a Creative Intelligence. But as Sir Thisleton Dyer, the Botanist and Director of Kew Gardens, rightly pointed out:—

"In the domain of physics to the exploration of which Lord Kelvin has devoted an honored lifetime, he would be a bold man who would cross swords with him. But for dogmatic utterance on biological questions there is no reason to suppose that he is better equipped than any person of average intelligence."†

And although Sir Burdon Sanderson, while disagreeing with Lord Kelvin upon the matter in dispute, professed to be shocked by the comparison of Lord Kelvin with the person of average intelligence, yet it is obvious, when we consider the enormous output of Lord Kelvin's work in thermo-dynamics and physics, that he could not possibly have found the time to devote to biological questions, and the very fact of his attributing to biologists a return to "vitalistic" principles proved that he was not acquainted with the subject; for not a single biologist came forward to support his contention against the repudiation of Sir Thisleton Dyer, Sir Ray Lankester, Sir Burdon Sanderson, and Professor Karl Pearson.

No one would think of claiming that Lord Kelvin was a greater genius than Sir Isaac Newton; yet Newton, as we have seen, wrote nonsense on religion. And Sir Thisleton Dyer, in comparing Lord Kelvin with the "average man," in his attempt to find a foundation for religion in biology, said no more than Professor Tyndall when he declared Newton to be less, rather than more, capable of dealing with these questions. His words apply so well to the case in hand that we quote them; they are from the famous Belfast Address:—

"When the human mind has achieved greatness and given evidence of extraordinary power in one domain, there is a tendency to credit it with similar power in all other domains. Thus theologians have found comfort and assurance in the thought that Newton dealt with the question of revelation—forgetful of the fact that the very devotion of his powers through all the best years of his life to a totally different class of ideas, not to speak of any natural disqualification, tended to render him less, instead of more, competent to deal with theological and historic questions."

We see another instance of the same kind in the case of Dr. Wallace, in the extraordinary aberration by which he has wrecked a scientific reputation built up by a lifetime of labor and research. We refer to his return to the old geocentric theory that our earth is the centre of the universe, the only inhabited world among the hundreds of millions known to us, and that the universe was created solely for the sake of man—a return, in fact, to the thought of the Middle Ages.

Dr. Wallace—like Lord Kelvin—professed to prove his thesis from a science not connected with the one to which he had devoted his life as a naturalist, but

* *Nature*, March 30, 1911, p. 140.

* *The Times*, May 4, 1903.

† *The Times*, May 7, 1903.

fantastic theory in the *Fortnightly Review* (March, 1908), it was unanimously condemned by the astronomers. Professor Turner, Savilian Professor of Astronomy at Oxford, in the *Fortnightly* for April, and Mr. Walter Maunders, in *Knowledge* for the same month, easily demolished the flimsy structure. As was the case with Lord Kelvin, not a single expert came forward to support Dr. Wallace's conclusions. However, undaunted by his condemnation, Dr. Wallace—who, to do him justice, has never been lacking in the quality of courage—expanded his article into a book entitled *Man's Place in the Universe*.

But the strangest coincidence in connection with this theory was the fact that after many years of laborious gauging, measuring, and recording the motions of the stars, and at the very time that Dr. Wallace was writing his article, the astounding discovery was made, and was published shortly afterwards, that ours is not the *only* universe. This fact, more worthy of attention than a thousand Coronations, has not yet been discovered by the halfpenny press—perhaps because these things are “so unsettling, you know.” The honor of making this amazing discovery belongs to Professor J. C. Kapteyn, of Groningen, who published it to the world at the Congress of Arts and Sciences at St. Louis in 1904, and which has since been completely verified by Mr. A. S. Eddington, Chief Assistant at the Royal Observatory, Greenwich.

Professor Turner, in “A Further Note on the Views of Dr. A. R. Wallace,” *Fortnightly Review* (April, 1907) observes:—

“What alters the case completely is the recent discovery that the universe of stars is not single, but multiple, in character; we are surrounded by not one universe, but *at least two*, and we cannot be permanently at the centre of both, for they are in relative motion.”

Thus, once and for ever, was the earth deposed from its proud position as the centre of the universe.

Dr. Wallace's latest apology for faith, *The World of Life*, consists in a frank return to the old design argument discredited by Darwin. The validity of its arguments may be judged from the drastic criticism of that organ of advanced religious thought, the *Hibbert Journal* (April, 1911), which observes “that it is, in some respects, an eminently unscientific work, in which the author far outsteps the legitimate bounds of scientific speculation.” And, further, “Dr. Wallace's views remind us of the well-known schoolboy's remark about the wonderful benevolence and forethought of the Creator in making the rivers run through the towns.” Dealing with his contention that the Creator endowed wood with its properties in view of the coming race of men, the reviewer remarks, “It is difficult to treat this argument seriously.” It is melancholy to see the degradation of a great intellect to the level of discourse at a little bethel.

Our leading scientific journal, *Nature*, reviewing the same book (June 8, 1911), remarks, with sorrow, that “Some of these tendencies to unbridled speculation seem to have reached an extreme limit in the twilight of a noble life, as when it is gravely suggested to substitute for the idea of a single Creator orders of angelic beings, each charged with the task of originating and exercising supervision and control over special evolutionary processes!” And, while recognising his love of humanity, regrets “the intrusion by the author of these wild speculations.”

Religion has been ousted by science. There is no science to which you can turn and find that it relies upon the supernatural. As science progresses so religion dwindles. At one time everything happened by the will of God, now everything happens by natural law. Take a text-book of chemistry; we do not find that the chemist recognises any interference of divine power in his domain. We do not find him saying, “When two parts by weight of hydrogen combines with sixteen parts by weight of oxygen, the product is water, unless Providence interferes and ordains that it shall form something

else.” Or, take a text-book of astronomy, in the *Nautical Almanack*, compiled at Greenwich Observatory, prediction of events to take place in the heavens are made years in advance, but they do not add, “unless God makes other arrangements.” As Professor Huxley well said of these workers, “The majesty of fact is on their side, and the elemental forces of nature are working for them. Not a star comes to the meridian at its calculated time but testifies to the justice of their methods—their beliefs are one with the falling rain and with growing corn.”* This is the reason why the religious have always looked upon science with dislike and suspicion, and is the true cause of the celebrated conflict between religion and science, which will continue until one of the combatants are completely destroyed. But of this more hereafter.

W. MANN.

The Meaning and Limits of Mendel's Law.

THE problem of hereditary transmission is of profound interest and importance to the human race. The semi-spiritualistic vagaries which in unscientific circles have so long surrounded this subject are now likely to be deposited on the dustheap of discarded superstitions. The various theories of heredity from time to time advanced by philosophically minded scientists have all shared the essential attribute of materiality. Darwin's provisional hypothesis of Pangenesis, Spencer's theory of physiological or constitutional units, Weismann's doctrine of the continuity of the germ-plasm, to name no others, all postulated a material basis for hereditary phenomena. But in reality the most realistic interpretation ever advanced is furnished by what is known as Mendel's Law.

While leading the leisured life of an abbot in the Augustinian monastery at Brünn, Gregor Mendel carried out his now famous pea experiments in the spacious garden attached to the cloister. Mendel displayed an early interest in botanical phenomena, and began his scientific studies in the days of his novitiate. His researches seem to have been given a definite direction by the Darwinian discussions which rent the air in the sixties of the nineteenth century. Mendel's discoveries were communicated to the Brünn Society in 1865, and were published in the following year. But they fell stillborn from the press. A subsequent essay appeared in 1869, but failed to awaken the slightest interest.

During his research period Mendel experimented with various forms of living matter, but next in magnitude to his studies in the hereditary phenomena of peas were his elaborate inquiries concerning bees. He collected queens of all obtainable races, and had as many as fifty hives under observation. He secured many successful crosses between various varieties of bees, although his general results were indecisive.

Professor Bateson contends that Mendel's failure to impress his biological contemporaries is to be traced to the magnitude of his discovery and the startling novelty of its consequences. To this Bateson attributes the surprising fact that the illustrious Nügel entirely missed the importance of Mendel's discovery.

“Nügel was of course especially devoted to the study of heredity, and even made it the subject of elaborate mathematical treatment; as we now know, he was in correspondence with Mendel, from whom he received a considerable series of letters and illustrative specimens. These must have utterly failed to arouse his interest, for when in 1884, the year of Mendel's death, he published his great treatise on heredity, no reference was made to Mendel or his work.”†

That Mendel's discovery passed unheeded at a period when Darwin and other naturalists were striving to solve the riddle of heredity seems on the surface a very remarkable fact. But in reality it is

* *Lay Sermons*, 1874; p. 277.

† Bateson, *Mendel's Principles of Heredity*, pp. 54, 55.

merely one of those little ironies which eternally accompany the activities of men. Nevertheless the curious circumstance remains that the Society which published Mendel's memoirs exchanged its publications with most of the academies of Europe, including both the Royal and the Linnæan Societies.

For thirty years Mendelism faded from scientific remembrance or recognition. But in 1900 it was rediscovered and confirmed through the independent researches of de Vries, Tschermak, and Correns. Since that date ever increasing inquiries have been prosecuted throughout the entire domain of experimental biology.

Mendel's methods prove that he had long pondered the problem he sought to solve. A careful examination of the writings of his experimental predecessors had familiarised him with their methods of investigation. He was thus forced to conclude that "their failure to reach definite and consistent conclusions was due to a want of precise and continued analysis." To arrive at unequivocal results, he realised that it was an all-essential condition to select pure breeding organisms, to examine each character separately, and to guard himself against the danger of confusing the offspring of one organism with those of another. With such precautions as these, he was quite certain that definite results could be obtained from experiments upon a sufficiently large number of subjects.

Mendel ultimately chose the garden-pea (*Pisum sativum*) as the subject of his researches. The numerous cultivated varieties present striking differences in appearance; they may be self-fertilised—another feature of immense advantage to the experimenter.

The idea that every pea-plant character must be separately studied was ever present in his mind, and the manner in which he reduced his precept to practice is best illustrated by a description of one of his experiments.

Mendel selected two varieties of the edible pea, one with a tall stem—from 6 to 7 feet in height, while the other was dwarf-stemmed— $\frac{3}{4}$ to $1\frac{1}{2}$ feet in height. He then fertilised one plant with the pollen of another. The generation grown from this first hybrid crossing all developed into plants with tall stems. So far as outward appearance was concerned, these hybrid pea-plants were in no way different from the pure tall variety. As the tall characteristic manifests itself in the first hybrid, or F1 generation, to the total exclusion of the dwarf characteristic, Mendel termed it a *dominant* character; the dwarf characteristic, on account of its suppression in this first hybrid generation, he called *recessive*.

The tall hybrid dominant F1 generation was then carefully self-fertilised, and in turn produced seeds. These seeds formed the second, or F2, generation. But when the plants arising from these seeds reached maturity the majority displayed the tall stem, but a minority manifested the dwarf stem. These "talls" and "dwarfs" were in no way distinguishable from the *pure* tall and *pure* dwarf grandparent plants from which they were descended. After the plants of this F2 generation had been enumerated, it was seen that a fairly constant numerical ratio existed between the two varieties. Taking a general average, there were three talls to one dwarf, or, in Mendelian language, 75 per cent. dominants and 25 per cent. recessives.

When the plants of this F2 generation flowered they were again subjected to self-fertilisation; the "talls" fertilised "talls" and the "dwarfs" fertilised "dwarfs." The resultant seeds were then carefully guarded from foreign admixture, and separately sown. When the plants grown from the dwarf or recessive seeds were examined, it was discovered that they yielded the dwarf type alone. All subsequent generations grown from these dwarf (recessive) seeds bred true to the dwarf type, thus necessitating the conclusion that the plants thus generated contained none of the dominant or tall germ cells.

An examination of the descendants of the dominant plants yielded very different results. The tall F2 dominants were subjected to the same guarded experiments previously conducted with the short recessives. But their descendants displayed both tall and dwarf characters in definite proportions. The recorded results were as follows:—

1. Plants which gave birth to a mixed generation comprising both talls and dwarfs, the proportion again averaging three tall plants to one dwarf.

2. Plants which produced talls exclusively, which, when subsequently tested, bred absolutely true to the tall or dominant type.

The ratio of the impure dominant plants to the pure dominant plants worked out as 2 to 1. Or, to put the results in another way, the entire generation brought into being through the self-fertilisation of the original hybrid yielded three kinds of pea-plants, thus distributed:—

25 per cent.	50 per cent.	25 per cent.
Pure dominants.	Impure dominants.	Pure recessives.
Or 3 dominants : 1 recessive.		

The theory advanced by Mendel for the purpose of explaining the foregoing phenomena has been generally accepted by his disciples. He contended that the results of his researches were precisely those that must occur if both the male and female sex cells (gametes) of the cross-fertilised garden-pea contained in equal numbers either the dominant or recessive character, but not both. This being granted, when the male and female germ-cells unite at random they manifest in their offspring the identical numerical proportion of dominants and recessives which Mendel's hypothesis requires.

Mendel explained his results by assuming that the gametes or sex cells of his peas were not themselves hybrid. As the first cross-fertilisation demonstrated, when the tall plant was crossed with the dwarf, the offspring of this hybridisation all carried every outward and visible sign of pure inward dominance, and the results obtained in the third hybrid (F2) generation agree exactly with Mendel's interpretation. For, as previously shown, the recessives produced recessives only; while the dominants generated one-third pure dominants, the remainder consisting of impure dominants and recessives.

It is consequently obvious that the female plant pollinated by the original cross carried in her ovum the germ-cells which respectively contained the characters of tallness and dwarfness. As an inevitable consequence both these characters entered into the constitution of the original fertilised ovum or zygote. If, however, the germ-cells which were developed in this ovum are restricted to the possession of either the tall or dwarf constituents of heredity, it follows that at some subsequent stage of germ production there must occur a separation of the two opposed characters; or, to put the case more strictly, there takes place a separation of the *factors* upon which the dominant or recessive characters ultimately depend. This dissociation of the tall and dwarf characters is termed segregation; the characters thus segregated are called *allelomorphic*; an *allelomorph* is therefore one of a pair of mutually exclusive characters which two pure races or varieties respectively display. These *allelomorphic* qualities are of such a nature that one is exhibited in perfection to the complete visible exclusion of the other by each cross-bred descendant of two cross-bred races. As we have seen in the instance of the cultivated pea-plants, some of these *allelomorphic* characters are tall (dominant), while the others are dwarf (recessive). But plant forms intermediate in height between these extreme forms are quite as rare as they are in the pure tall or pure dwarf plants whose original intercrossing generated the remarkable hybrids which presented the phenomena we have somewhat laboriously studied. Finally, tallness and dwarfness may be looked upon as a pair of mutually antagonistic or incompatible unit characters, each of which may replace, but not blend with, the other in the offspring arising from their union. According to Mendel, each plant possesses

two sorts of germ-cells, tall and dwarf, in approximately equal numbers. As stated by Bateson and Saunders: "If two similar gametes meet, their offspring will be no more likely to show the other allelomorph than if no cross had ever taken place."

The experiments just described are substantially those which led Mendel to his discovery of segregation. His inquiries concerning the shapes of the ripe seeds, the color of the seed-skin, and similar plant characters, in their hereditary manifestations, afforded certain evidence of the operation of Mendel's Law.

Hereditary phenomena of a kindred character have been witnessed in various animals and plants. When dealing with simple hybrid characteristics certain results may be confidently anticipated. But research work upon complex organic characters has already revealed many anomalies. Nevertheless, large numbers of unquestionable instances of Mendelian segregation have been established. Mendel's results have been confirmed through the investigations of Bateson, Punnett, Saunders, and Tschermak. But whether Mendel's Law applies universally to hybrids remains an open question. Tschermak encountered unexpected results, and de Vries discovered that some of his peas did not breed true, but threw plants of various heights. Various fruits, cereals, and other valuable vegetable products appear amenable to Mendel's Law. W. L. Balls, in his *Studies of Egyptian Cotton*, publishes a list of important plant characters, many of which are of considerable commercial value. All the desirable qualities appear to be dominant, and important improvements are likely to arise through selection.

But Professor Biffen's Cambridge experiments with cereals are of still greater social and economic importance. By crossing a variety of wheat which is highly susceptible to the rust disease with one practically immune to its attacks, Biffen ascertained that the first hybrid generation was almost as much at the mercy of the disease as the ordinary hybrid variety. The next generation, however, manifested marked modifications, and the green resistant plants growing among the yellow ones displayed a very striking contrast. The recessives were sown, and came true to seed, and their descendants maintained their rust-proof character. Successful experiments such as this open up wide possibilities in the physiology of disease resistance.

T. F. PALMER.

(To be concluded.)

Nature and Freethought.

"Earth, ocean, air, beloved brotherhood!"—SHELLEY.

EMERSON said, "Our age builds the sepulchres of our fathers." It is equally true that Freethought has built the sepulchres of the gods. Freethought has warred against the blight of superstition and the ban of unreasoning faith. It claims the "poetry and philosophy of insight, and not of tradition," and a new inspiration results from its unbiassed study of Nature.

As Freethinkers, we possess reticence and modesty because of what there is still to learn. Our imperfect conception of the cosmos goes hand in hand with aspiration. In peering forth at the stars—which were once specks to light the world—we do so from an atom in immensity, a grain of sand on a limitless shore, and our effort to realise distance is swallowed up in an appalling vista of creation. The telescope—once condemned by the Church as a wicked aid—has revealed scintillating points in the sky as giant worlds, and by its aid the haze of the Milky Way becomes a fathomless galaxy of stars. Therefore, we no longer believe that "a fourth part of the stars fell into the sea," but instead, finding we can but touch the fringe of existence, with Voltaire we exclaim, "Our ignorance every instant overwhelms us!"

By Freethought we have achieved a glorious emancipation from the thralldom of a superstition which is now in the throes of death. We are shackled by no dogma, chained by no creed; but we freely thread the complexity of Nature's cryptic workings, while labor encourages and philosophy spurs to fresh exertion. We believe in the ultimate perfectibility of mankind, and we seek to promote almost the deification of intellect.

Knowledge, therefore, is *Life* to us! The record of the rocks is ours, in spite of theology, for the tangled skein of geological fact has been unravelled by independent and unfearing scrutiny. "Sacred revelation" we have turned into puny farce, and in its place we have voiced the childhood of the world in data vouched for by the sum of demonstrable knowledge. Evolution is a hopeful, not a hopeless, history, and it has relegated the "fall of man" to the realms of fiction.

So we have turned our backs for ever on the solemn visage of the gods. We have wandered from them, urged by Reason, and have gathered flowers on ground we were once forbidden by Faith to tread. And these prove fairer than we ever knew; we have culled them without penalty; their perfume has arisen like incense before the Altar of Truth. Nature's message has proved lasting, and the sea making melody with the rocks and the stones has been anthem to our quest. We have heard in the eternal wash and beat of the waters of knowledge that poverty shall someday cease, and that the worker will eventually be garlanded with the diadems won by Mighty Toil.

We possess reverence. Not reverence for myth or fable, not reverence for *fear*, which was the very heart of an ignorant past, but a glorified reverence for Science, for Art, for Truth, for Mother Earth! Yes, Eternal Mother Earth! for we are children from a fecund and protean world, and we stretch our arms towards the awakening day while the babble of the stream entrances and the forest's myriad leaves clap their tiny hands in wild acclaim!

We believe that there are other regions to tread, more scope for mind, infinite hope for man. We even look for an answer as to the actual meaning of Life. In the meantime, we await with stoical fortitude inevitable, inexorable Death.

But the gods are gone. Death, therefore, is robbed of its theological sting. And the only victory for the grave we know is the blessed silence of repose.

So, like the bubble on the river, we are in readiness to return to the bosom of that Parent who has made us what we are.

A. FAGG.

ORDER COUNTERMANDED BY AN APOSTLE.

The venerable Rector of St. Luke's has a saintly and apostolic appearance. He also has decided opinions of his own on most matters, and is not averse to expressing them. Recently, unknown to him, the vestry decided to have the next supply of coal for the church put in a different cellar from the one commonly used. When the coal was delivered, the rector, seeing the drayman making what he thought was a mistake in its disposal, interposed, and in no uncertain terms bade the darky place the coal in the cellar always used for that purpose.

The senior warden, several days later, was much annoyed to discover that his orders had been disregarded, and that the coal was in the same old cellar. With wrath in his eye he complained to the coal dealer. The latter declared that he had carefully explained to the drayman where to put the coal. So as to settle the matter, the darky was called up.

"Sam, you black rascal," thundered the coal man, "didn't I tell you to put that coal for St. Luke's in the cellar opening on Fourth-street?"

"Yassah."

"Mr. Smith tells me you didn't do it. Why can't you carry out my orders?"

The darky grinned sheepishly, hesitated, scratched his head. "Well, boss, you see, I done started to put dat coal wher you tole me—yassah. I done started—an' ole St. Luke hiself he come out and gimme fits about it."

SUNDAY LECTURE NOTICES, Etc.

Notices of Lectures, etc., must reach us by first post on Tuesday, and be marked "Lecture Notice" if not sent on postcard.

LONDON.

OUTDOOR.

BETHNAL GREEN BRANCH N. S. S. (Victoria Park, near the Fountain): 3.15 and 6.15, F. A. Davies, Lectures.

CAMBERWELL BRANCH N. S. S. (Brockwell Park): 3.15, Andrew Allison, "Dr. Warschauer's God"; 6, W. Davidson, "The Mark of the Beast."

EDMONTON BRANCH N. S. S. (The Green): 7.15, H. Dawson, "Blasphemy."

FINSBURY PARK: 11.30, W. Davidson, a Lecture; 6.30, Mrs. Boyce, a Lecture.

ISLINGTON BRANCH N. S. S. (Highbury Corner): 12 noon, Ivan Paperno and Walter Bradford. Newington Green: 7.30, Ivan Paperno, a Lecture. Highbury Corner: Wednesday, at 8, Ivan Paperno, a Lecture.

KINGSLAND BRANCH N. S. S. (Ridley-road): 11.30, Miss Kough, a Lecture.

NORTH LONDON BRANCH N. S. S. (Parliament Hill): 3.30, W. Davidson, a Lecture.

WEST HAM BRANCH N. S. S. (outside Maryland Point Station, Stratford): 7, Miss Kough, "Immortality."

WOOD GREEN BRANCH N. S. S. (Jolly Butchers Hill, opposite Public Library): 7, Mr. Rosetti, "Sir Oliver Lodge's Reason and Belief."

COUNTRY.

INDOOR.

WEST STANLEY BRANCH N. S. S. (Co-operative Ante-Room): Saturday, at 7.30, Important Business Meeting.

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Chairman of Board of Directors—MR. G. W. FOOTE.

Secretary—MISS E. M. VANCE.

THIS Society was formed in 1898 to afford legal security to the acquisition and application of funds for Secular purposes.

The Memorandum of Association sets forth that the Society's Objects are:—To promote the principle that human conduct should be based upon natural knowledge, and not upon supernatural belief, and that human welfare in this world is the proper end of all thought and action. To promote freedom of inquiry. To promote universal Secular Education. To promote the complete secularisation of the State, etc., etc. And to do all such lawful things as are conducive to such objects. Also to have, hold, receive, and retain any sums of money paid, given, devised, or bequeathed by any person, and to employ the same for any of the purposes of the Society.

The liability of members is limited to £1, in case the Society should ever be wound up and the assets were insufficient to cover liabilities—a most unlikely contingency.

Members pay an entrance fee of ten shillings, and a subsequent yearly subscription of five shillings.

The Society has a considerable number of members, but a much larger number is desirable, and it is hoped that some will be gained amongst those who read this announcement. All who join it participate in the control of its business and the trusteeship of its resources. It is expressly provided in the Articles of Association that no member, as such, shall derive any sort of profit from the Society, either by way of dividend, bonus, or interest, or in any way whatever.

The Society's affairs are managed by an elected Board of Directors, consisting of not less than five and not more than twelve members, one-third of whom retire (by ballot) each year,

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