

# The Open Court.

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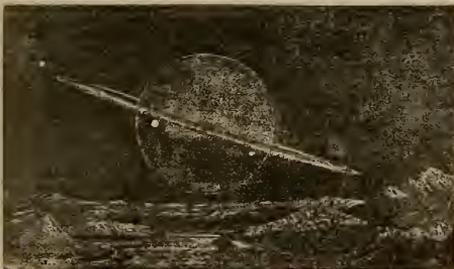
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## THE RINGS OF SATURN.\*

BY DR. M. WILHELM MEYER,

DIRECTOR OF THE URANIA SOCIETY OF BERLIN.

THE most marvelous of all the wonders of the broad heavens is Saturn with its rings. From our very first experiences made with the eyes of childhood, we are so universally accustomed to see everything about us tend with irresistible force towards the ground, that at first thought we cannot comprehend at all how the millions of heavenly bodies that fill the firmament about the earth can possibly persist unsuspected in empty space. Indeed, our experience of the universal vertical descent of bodies has become so inseparably flesh and blood with us, that there are a great many otherwise perfectly normal people who cannot understand how it is that our colored brothers in Asia and Australia, who walk about upon the earth beneath our feet, are not precipitated headlong into the heavens; whereas our colored brethren on their part can naturally also not understand why it is that we are not dashed against the ceilings of our rooms, as soon as twelve hours afterwards the tables are turned, and in consequence of the daily rotation of the earth we come to stand below and our fortunate antipodes are handsomely brought to the top.



SATURN AS SEEN FROM ITS SATELLITE DIONE.

But in the case of Saturn we see surrounding the ball of the planet an enormous ring, suspended in space without any support whatever. Although indeed with the expenditure of much thought we have come to understand that the force of attraction which causes the fall of bodies to the surface of the earth, does not universally act from above to a direction be-

neath, (for in the universe there is neither an above nor a beneath,) but that the earth attracts us and things on it just as a magnet does a piece of iron; and notwithstanding the fact, further, that we have also come to the knowledge that beyond our planet other terrestrial worlds exist which with the same rights as our world also exert a power of attraction on the things about them, we still do not understand how this stupendous ring-shaped body which gives throughout the impression of a solid mass, and which according to the statements of astronomers is twenty-two times larger in diameter than the earth, is not instantaneously precipitated upon the planet and shattered into a thousand tiny fragments.

As a matter of fact, now that the actual form of the ring of Saturn has been more accurately investigated by the perfected instruments of modern optical science, this state of things has given our acutest thinkers considerable difficulty. Let us look into the problem a little more closely before we attempt a solution.

The second drawing accompanying this article represents our strange planet as it appears through good telescopes; and I may add here that the appearance of Saturn is materially different in different years, but that the present period is a very favorable one for the study of the rings. For in the course of the planet's revolution about the Sun the ring of Saturn, which, like the axis of the earth, retains a constant fixed position of inclination, assumes very different situations with reference to our line of vision. Often, as at present, it distinctly exhibits to us its broad side; at other times we look directly upon the sharp edge of the ring, and are then unable to make out all of its interesting features. Since Saturn performs one revolution about the Sun in every twenty-nine and a half years, all the different phases of the ring accordingly are repeated with reference to us within that period of time; and while now it presents to us the surface of the one side, namely, the southern side, it will exhibit to us next year its narrow edge, and the surface of the other side will in years following grow more and more distinctly visible. But the southern side, which we now see, will not be again visible in its best position until the second decade of the next century. The time is therefore yet favorable. Let us employ it to advantage.

\* Translated from *Nord und Süd*.

## THE OPEN COURT.

The first thing we observe is, that the shading of the ring in its different parts considerably varies, and that the ring is unmistakably composed of several rings lying one within another. The separation of three of these rings is very plainly distinguishable. Of these the middle one is the brightest. Extending in from the latter towards the ball of the planet, the hazy form of the so-called "dusky ring" is visible, exhibiting a partial transparency; as can be distinctly seen in the cut at those places where the ring sweeps across the spherical surface of the ball and affords through itself a shimmering glimpse of the contours of the latter. Interiorly, moreover, this ring of haze is very sharply outlined against the dark background of the heavens, and becomes lost though not very gradually in the direction of the body of the planet, from which a space separates it about equal to the distance between us and our antipodes.

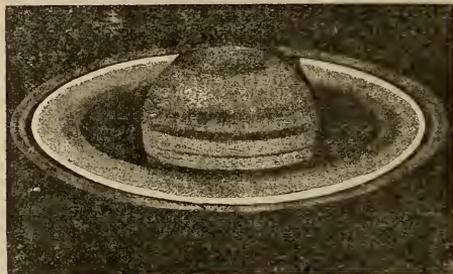
In the bright middle ring not less than two earths could be placed side by side.

Beyond this central ring, at its sharply defined edge, a broad chasm opens precipitately up. This gap is estimated to be about thirty-three hundred miles in width. It is called the Cassinian division, after the man who first discovered it two hundred years ago. Beyond this division, finally, a third, smaller ring is observed, independently suspended, and encompassing the others. In this outermost ring is observed upon careful inspection still another line of separation, more indistinct and more hazy than the Cassinian line, which is the reason of its not having been discovered until much later, that is about fifty years ago. It is called the division of Encke, or, in the English usage, very characteristically, the "pencil" line. It divides the outer ring into two others.

In the centre of this curious and complicate construction, the spatial extent of which so greatly exceeds that of our own world, swings the enormous ball of the planet Saturn, a globe more than nine times larger in diameter than our world, and upon which, consequently, room for nine times nine, that is for some eighty times, more plants, animals, and human beings could be found than upon our planetary place of habitation. In the direction in which the ring extends, a slight compression is distinctly noticeable in the spherical form of the planet. This compression is equal in amount to one eleventh of the entire planetary diameter; that is to say, to constitute a perfectly spherical planetary form, there is lacking at each end of the diametrical line about half an earth.

Upon the surface of the planet a number of zones are plainly distinguishable, about as sharply marked as are, say, the painted ones upon our ordinary school globes. Especially noticeable, about the pole of the planet, is a bluish grey cap, which the God of Time

has donned; for at so great a distance from the life-giving source of light, the old fellow must be greatly troubled with frost and cold. In reality these divisions and belts must correspond to actual zones of temperature. For upon Saturn also it must be colder at the poles than at the equator, and consequently the clouds in the different divisions of the heavens must form into groups so diverse that seen from a distance they exhibit the striped appearance shown in the cut.



THE RINGS OF SATURN.

At the top to the right the planet casts upon the rings a distinctly visible shadow, which furnishes, moreover, striking information regarding the topographical conformation of these curious bodies. Each ring is, as regards itself, slightly arched; the curvature, in the direction of the great division, falling off very precipitately.

Our scenic picture represents the wonderful planet as it would appear to the human eye from its fourth satellite, Dione. Beyond the Saturnian system of rings, the separate features of which we have up to now alone considered, no less than eight satellites or moons revolve at varying distances about the pale globe and make its planetary world the most varied in the entire solar system. Its nearest satellite, Mimas, revolves about the ring at a distance that is only four times greater than the diameter of the earth; this satellite is accordingly eight times nearer to Saturn than our moon (the nearest heavenly body in our environment) is to us. This tiny, celestial body, which appears to us in our best telescopes as a mere vanishing point of light, and which is represented upon our scenic picture in the left prolongation of the ring almost at its apparently greatest distance from the same, speeds round its course, which is almost thirty times greater than the circumference of the earth, in less than a day.

The second satellite of Saturn, Enceladus, not much larger than the first, is visible in the drawing upon the disc of the planet a little beneath the ring to the right. The third, Tethys, is farther up to the left, apparently adhering to the ring, and likewise in tran-

sit across the surface of the planet. This satellite is noticeably larger than the first two, which fact is not wholly due to the nearness of the point of view which the artist has selected in placing us upon the fourth satellite Dione. The latter is some 239,000 miles distant from the centre of Saturn, which corresponds approximately to our distance from the Moon, or thirty diameters of the earth.

The relation of this point of view to Saturn is therefore the same as that between the earth and the Moon. Yet how infinitely different the aspect of the heavens there appears! A gigantic sphere, more than thirty times larger in appearance than the Moon to us, covers a large portion of the vault of the heavens, and surrounding it, suspended in space like a halo about some sacred head, stands that mysterious ring. Both globe and ring we see revolving with stupendous whirl about their common axis. Saturn itself completes its rotation in ten hours, the ring in thirteen.

Ever new wonders are revealed to our astonished eyes the more closely we observe this distant world. We discover that the rings are extraordinarily flat. If we were to construct a model of the size of our drawing we should have to make the rings out of thin paper, in order to obtain a faithful representation of it. It is believed that their greatest thickness is not more than 140 miles. Seen from the earth this thickness is not measurable. When the earth occupies a position with reference to Saturn, such that we look directly upon the edge of the rings, they disappear entirely for moderately powerful telescopes and only in the best do faint traces of them remain visible.

Inasmuch as the satellites of Saturn move almost in the plane of its rings, we should, if placed on them, always look at the edge of the rings; as the artist has very correctly represented. In fact every proportion of size as well as of illumination represented in the drawing, is founded upon calculations that are absolutely devoid of error. The foreground, of course, is the production of the artist: it is always allowed him to deviate from the actual truth in this respect, in order to heighten the effect of the whole by some fictional invention. What the real character of the surface of this satellite is, which in our best instruments appears to us only as a diameterless shining point, we have no idea whatever. It has been inferred from certain facts that its entire diameter does not exceed 560 miles, so that it measures in this dimension four times less than our own Moon. But it will have to be admitted that there may also be on Dione mountains and valleys like those that cover the surface of the satellite of the earth. But whether water and air, which the phantasy of our artist has bestowed upon this distant body, and which our Moon as we know

has not, are also really found there, I of course am unable to say.

But this is enough. We have now become acquainted with so great a number of curious facts having the perfect guarantee of science, that we shrink when examining them from any attempt at their explanation.

It is known that the rings of Saturn have been regarded as an accidentally intact remaining specimen of the primitive form in which nature eternities ago cast the matter that makes up its mighty creations. The Sun and the planets were once balls of vapor of a flat, compressed, lentiform shape. They revolved with such tremendous speed about their axes that the outermost portions at the equator could no longer keep up with them, and were thrown off as vaporous rings. The latter, once more rent asunder, collected their mass about some single point of each original ring, and in this way formed the planets with their moons. This is the well known nebular hypothesis of Laplace.

This hypothesis gives us at once the ring of Saturn, and to a superficial examination the question would thus seem to be disposed of. But upon closer observation this brilliantly illuminated formation with its countless, and in its greater features, constant details, can certainly not be regarded as an unsubstantial nebulous concretion. At the farthest we could only consider as such the innermost dusky ring, which is, as we have seen, partially transparent; although its stability militates against even such an assumption. But how out of the original nebulous ring this solid mass could have become so accurately and uniformly crystalized that in the course of millions of years it became a solid petrified ring, is utterly incomprehensible, since the nebulous ring could not have existed undisturbed by itself.

But no matter. There are multitudes of things in the world that we are not yet able to explain, and in the present instance especially we have to do with an occurrence that must have taken place eternities ago. Yet taking even the simple assumed fact that the ring of Saturn is a solid body, here too we fall again into inextricable contradictions. It has been calculated that upon the earth at least there is no material that is so firmly solid as possibly to resist the many opposing forces that are acting in the interior of a revolving ring of this kind. It would be broken into a thousand fragments. And it has been demonstrated beyond a doubt that the material of which the Saturnian system was constructed, is much less dense than the material of the earth. Finally, the slightest displacement of the ring from its position of equilibrium would inevitably cause it to be hurled upon the surface of the planet. Such slight disturbances of equilibrium occur

everywhere in the universe. Still, the ring of Saturn has not been dashed upon the planet! It cannot possibly consist of solid materials.

What now have we left to explain this phenomenon? The ring is not gaseous and not solid. Consequently it must be fluid. A veritable Okeanos such as the ancients conceived the medium encompassing the earth! What an absurd idea! A stupendous sea held unsuspending in the air above our heads, the waters of which are driven about in their circular orbit with such tremendous rapidity that no time is left them to plunge down like a dreadful deluge upon the planet!

The same reasons that militate against the possibility of a nebulous ring plainly make impossible the assumption of an aqueous ring. The eight satellites beyond it would produce necessarily in its waters still more powerful and complicated tidal phenomena than our Moon in the waters of the earth. The requisite equilibrium would be at once destroyed; the ring would collapse and either be precipitated upon the planet, or form, if its velocity were great enough, a satellite for the time being in a composite fluid state, which possessing all the capabilities of development, would then be in a condition to go through all the stages of cosmic formation like its other companions, the eight satellites beyond the ring.

Since this possibility also has been undermined by the merciless logic of mathematical analysis, the question of the physical constitution of the rings becomes really exciting. According to our ideas a thing must be either solid or fluid or gaseous. But the rings of Saturn are none of the three. Yet something manifestly existent they are, and not merely an hallucination of our senses or ghosts of an imaginary world of possible four dimensions. Who will help us out of this intricate dilemma which almost makes us despair of our logic?

The solution is as easy almost and as striking as that in the story of the egg of Columbus. The rings, regarded as a whole, are, it is true, neither solid, fluid nor gaseous, but consist of millions of little solid bodies, each of which possesses the power of independent movement, like a particle of sand in a cloud of dust that has been stirred up by a desert wind. The rings of Saturn are really such clouds of stones, which are probably not larger than the stones upon our streets. But each single stone acts like a satellite. It is kept in a fixed path by forces of attraction and repulsion. This path must retain unchanged within certain limits the position it has assumed with reference to the contours of the ring. This is why the contours themselves remain unchanged. Of course slight disturbances of the very kind that make the stability of the ring as a whole impossible, displace at times a

number of these paths; the course of all heavenly bodies indeed being subjected to alterations of this kind. But inasmuch as each point of the ring is movable with regard to itself, the equilibrium of the whole cannot be at all disturbed in this way, but only certain individual features of the ring will appear changed in consequence; as was indeed not long ago distinctly noticed. It was seen, for instance, that the so-called pencil line grew more distinct at times and then again grew very indistinct, and especially that its position with reference to the great division was temporarily displaced. The form of the ring is consequently by no means constant.

It may at first glance seem improbable, from this explanation, that the great contours of this ring-shaped cloud of dust have nevertheless for centuries remained the same. But it has recently been shown by exact calculation that the outlines of the ring are wholly determined by the attractions exerted by the eight satellites, and that indeed an entirely formless cloud of stones, if it were precipitated about Saturn, with the requisite velocity and at the same distance the ring now occupies, would necessarily assume in every detail the exact form that the rings at present possess. And accordingly this apparently so unfathomable problem is brilliantly solved.

And thus we recognize with wonderment that the heavens have fixed upon the brazen firmament the same symbol of eternity, the ring, which we human beings with a spirit of presentiment invented countless ages ago, to seal figuratively a lasting, happiness-promising, fruit-bearing union. In all places in which nature has seen fit to produce greatness of permanent stability, she has previously compounded her material and her force into a ring. In the most distant nebulas which we see flickering upon the borders of the universe, we often find this again; and the millions of little stars that in their totality produce the pale light of the milky way also unite into a brilliant garland of suns which encloses the great, immeasurable island-world in which our huge Sun but plays the part of one of those little stones in the ring of Saturn.

Let us therefore respect the ring on our finger. That which it tells us of the eternity that flows back within itself, we read in the eternal heavens; it is no empty dream. Though forms may change, one thing eternal remains—the harmonious order that created them.

#### THE GROWTH OF CONSCIENCE.

MR. SALTER in declaring that ethics cannot be based on facts, does not sufficiently appreciate the truth that experience actually teaches man. Man is educated in the severe school of natural facts, ruled by the unalterable law of cause and effect. Man's

whole existence and also his moral existence, his conscience is a product of this education.

Is conscience truly beyond the pale of science? If it were, we should have to accept the mysticism of its existence. Let us see how man's conscience originates.

A child observes the behavior of his parents, he listens to their instruction. He imbibes almost unconsciously with his first impressions the ethical nature of his mother. He notices the disdain of his father, for instance, when somebody told him a lie, he witnesses the contempt with which the liar was alluded to or thought of. All these many experiences are implanted into the soil of an inherited disposition which has come down from ancestors, swayed by the same motives and acting in a similar way.

Whenever a temptation arises to tell a lie, all the memories of former experiences that are of a similar nature will be more or less dimly awakened. Not the moral injunctions of his parents and teachers alone will be awakened, but also the evil examples of his bad comrades. There is perhaps one among them who lied and he succeeded with his lie: he extricated himself by a lie out of an awkward situation. Such instances are dangerous, for they corrupt the souls of the weak. Yet there is most likely also another instance of some one who heaped shame upon himself; the lie was found out and his plight was changed from bad to worse. In addition to these reminiscences other considerations awaken, such as: Even if the lie be not found out, I should in the future have to class myself among liars!

Conscience is by no means a simple and unanalyzable fact; it is not at all one single voice. Conscience is the combined experience of innumerable lessons, taught us by our teachers' injunctions and by observation of surrounding events.

Conscience is as little a faculty, having a special seat or organ in the brain as is for instance memory, imagination, or will, or any other abstract concept designating a special attitude, phase, or quality of the mind. The term "conscience" is an abstraction which covers a special group of psychical activities. Conscience in any other sense is a ghost, and to believe in it is a superstition. It does not appear that Mr. Salter adopts the ghost-idea of conscience, but it seems to me that he fails to see what conscience actually is. By conscience we understand the sum-total of all those impulses which serve for the regulation of human action. But there is no conscience that demon-like lives as a mysterious being somewhere in the abodes of the soul.

If man's life consisted of single and isolated moments, he would have no choice but to obey the impulse of the moment. Since his life consists of mo-

ments that are coherent forming all together a unity, and since before obeying an impulse that prompts to action, man can and will have to take into consideration other impulses, a choice is offered and he will naturally choose to follow that impulse which promises the greatest amount of pleasure. This is the beginning of rational action. Man's life, however, is not only a complex unity of many coherent moments, it is also interwoven with the lives of his fellow-beings. His actions affect others; and in whatever way he affects others, they will again affect him. The principles of his conduct are brought home to him. He may try to evade the consequences of his actions. Exceptionally he may apparently succeed, but not in the long run. He can as little escape the consequences of his actions as he can annul any law of nature. His life is intimately bound up with the lives of all his fellow beings; and sooner or later the truth will dawn upon him that his life is only the part of a greater whole. He will die, but the greater whole will continue, and the worth of his life will have to be judged in the end by that which remains of his actions after death. He will hear the men praised whose lives were a blessing to mankind, he will see their deeds continue working good and perhaps preserving their individual memory. He will learn to detest the man who leaves an inheritance of curses. The examples of the one as well as the other are most impressive and will contribute much in forming the conscience of man's soul.

Conscience does not well up from a mysterious source, but it grows from natural conditions, and for that reason it is not at all infallible. The conscience of a man well instructed and surrounded by noble examples, is different from the conscience of the uneducated. The conscience of a savage is often grossly mistaken. The most shameful acts are performed often against all natural inclinations not for the sake of gaining some personal advantage but solely because they are erroneously considered as "right."

In a certain sense it is proper to proclaim that man should obey the behests of his conscience; but conscience is not one special voice in man. It cannot be compared to a person, although figuratively we may call it the God in us, the prophetic soul, or the judge of our actions. It is not rounded off as are individual beings; but consists of many thoughts, the mean while accusing or excusing one another (Rom 2, 15).

One most essential part of man's conscience must be the sincere desire to criticize the different propositions of conscience. Conscience must not be blind, but its principle feature must be that of examination. And exact examination is not possible without knowledge. Thus it is an essential principle of a well directed conscience to aspire for more knowledge, for

more light, so as to be able to judge the better. A healthy conscience is constantly growing.

It cannot be denied, that upon the whole the voices of conscience, i. e., those impulses which lift man above the transient advantages and the petty egotism of his limited individual interests, naturally tend to preserve his soul; they find approbation by his fellow men and let him partake of the superindividual life of humanity. According to natural law the immoral element of humanity is constantly discarded as unfit to survive. However, the moral aspirations that tend to bring man into harmony with the conditions of his existence especially with the social relations of mankind, preserve his soul, and must in this way very soon acquire a greater strength than the lower desires of his animal nature.

The impulses of man's animal nature, hunger, thirst, acquisitiveness of all kinds, i. e., the impulses arising from the wants of his individual existence, appear to originate within himself, they are considered as expressions of his individual existence. But the superindividual voices of his conscience seem to come to him from the outside of his surroundings. They teach him to restrain the animal impulses and to set himself in accord with those conditions which are more comprehensive and more lasting than his individual existence. They bring him in union with that greater whole of which his individual existence is but a small part and a transient phase.

In this way the many promptings to action in the soul of man are mainly divided into two classes: the first we call egotistic motives; they urge man to follow his natural appetites; and the second we will call the superindividual aspirations; they keep man's natural appetites in check and teach man regard for the greater whole to which he belongs. The former appear to him as expressions of his individual will and the latter as manifestations of an outside power higher, nobler, and stronger than himself. The latter alone form that which is generally called conscience. Conscience, accordingly, is justly considered as invested with authority and its promptings appear naturally in the shape of commands.

The recognition of this authority for the purpose of regulating conduct in accordance with its laws, is the beginning of all ethics; and thus it is this authority which represents the basis of ethics.

The authority which finds expression in man's conscience, however, is by no means beyond the scope of science. We can investigate it and we must investigate it. The more we understand its origin, the better we shall be able to judge of its importance and the less we shall be liable to be guided astray by an erring conscience.

#### THE MISGOVERNMENT OF CITIES.

AMONG the intellectual activities of Chicago, one of the most conspicuous is the *Sunset Club*, a social institution composed of a thousand men, drawn together, not by congenial taste and opinion, the principle and bond of clubs in general, but by the eccentric attraction of diversity in sentiment, and egoism in thought. In this club is represented every shade of difference running up and down the whole gamut of popular debate, and sounding every variety of belief concerning art, science, law, sociology, divinity, and politics. Although the club is limited to a thousand members, its terms of admission are very liberal. Any man of respectability and character seems to be eligible if he has brains enough to make an idea for himself, and individual sense enough to express it. It is the custom of the club to have a semi-monthly banquet, and when the feast is ended, the moral and mental faculties of the members are warmed into exercise by some "burning question of the hour."

The burning question for debate at the first banquet of the season was, "Needed reforms in municipal government," with Chicago as the terrible example and unspeakable villain of the play. The colossal wickedness of the specimen offered for examination so appalled the critics that they seemed consciously unable to do justice to the subject, and therefore made their arguments in the hopeful spirit of men firing buckshot against an iron-clad ship. It was Mrs. Partington again, sweeping back the high tides of the Atlantic ocean with her broom. Judge Altgeld, the principle speaker of the occasion, in utter despair at the situation, distrustful of a people who had themselves betrayed the trust of citizenship, actually abandoned the principle of representative government in the administration of city affairs, and appealed for safety to the one man power. Like the discontented people of Israel, he exclaimed "Give us a king"; not in those words exactly, but in these: "It is better to have one man who is personally responsible, even though known to be dishonest, than to have a board which is known to be honest at the head of affairs." A demurrer to that count would be sustained by Judge Altgeld without the formality of argument, because he knows that the opposite of the statement is the political inspiration of the people known as the Anglo-Saxon race. He knows that they insist on making the laws themselves directly, as in the town meetings of New England, or by their representatives as in the State legislatures. He knows that the principle for which they are ready to die is that it is better to be represented in a parliament of thieves, than not to be represented at all.

That the city council should have degenerated into a "political machine" lubricated and run by "patronage," was in the opinion of Judge Altgeld, one cause of the accumulated corruption which makes the council chamber so unhealthy, and he recommended what he called the "New broom" remedy, or in other words, frequent rotations in office. The weakness of this plan is that new brooms cannot be depended on to sweep away corruption, so long as the corrupt constituencies furnish the brooms. No doubt the machine referred to is a very artful and dangerous combination of the mercenary and vicious elements, a labor-saving contrivance for the promotion of municipal jobbery and robbery, but the original cause of it lies in the moral foundations of the town itself, in the precocious development of a swamp into a rich and splendid city. Maggots are most abundant in the richest cheese, and great as the stealing is, it is less than the opportunity. What wonder is it that a lot of aldermen, most of whom suffered in early life from hunger, neglect, and privation, suddenly bribed with plenty, and surfeited with riotous living, succumb to that aldermanic malady known as fatty degeneration of the conscience! If their fall from virtue is great, look at their temptation. When the allied sovereigns visited England after the abdication of Napoleon in 1814, Field Marshal Blucher, who was there on the staff of

## CORRESPONDENCE.

## SOUL FORM.

*To the Editor of The Open Court :*

I was very much interested in your article entitled "Revelation," also in another article which seemed to have been suggested by the first, entitled "Soul-Life and the Preservation of Form." Throughout your science is correct and your logic good, but in the end, you aim to establish a conclusion which does not seem to me to be justifiable from the premises stated, or from any premises which I can postulate; viz., that the soul is immortal because its form is preserved.

Probably, I do not know what the soul is, but I have always supposed it was the mind, and since the mind seems to be generated in the nervous system, especially in the brain as electricity is generated in a battery, I am driven to fear, that when the brain is decomposed the evolution of mind will cease. If mind is a force analogous to electricity or heat, then we may be sure its quantity considered as energy will never be diminished, even though it may be transmuted into other forces as the principle of the correlation of forces suggests as possible. If mind is but a portion of the universal mind or God, to which it returns on the death of the body, then I do not see how its form can in any way continue any more than I can conceive of the form of a wave as in existence after the sea has become calm. For obvious reasons the immortality of the soul is a most interesting question, which cannot be decided by mere faith and hope. If anything in favor of the universal hope can be derived from science I shall be glad to see it, and hence these hastily written lines. H. D. GARRISON.

[We should not call God the universal mind, because that seems to imply anthropomorphism. According to the usual meaning of the term we cannot think of mind as being without a physical basis, as it has been called, i. e., without a brain. And who will think of God (the immanent God of Monism) as having a brain? Mind is not force, but a special form of force, viz., of brain-activity. The energy used up in brain-activity is of scarcely any amount and if it has been transmuted into other forms of energy, it ceases to be mind. That which perseveres is the continuity of form. The continuity of form in brain-activity is first the basis of personality, and secondly that of continued soul-existence or of immortality. Think of yourself as you were yesterday and as you will be to-morrow. In a certain sense you were, you are, and will be the same person. In another sense you are not the same as you were, for there are constantly little changes and modifications going on within you. In spite of all changes you continue to live and to feel yourself as being the identical person you always have been so far as your memory goes, and farther even, for the ideas that constitute your personality have a history which antedates your birth and their further existence and evolution is not concluded with your death. The elements and the true contents of your personality continue to exist in other persons, not otherwise than you of to-day are the continuance of you of yesterday.]

We do not desire to repeat ourselves, and therefore we refer to the editorial articles on the subject mentioned by Professor Garrison.—Ed.]

MR. MONCURE D. CONWAY AND ST. ANTHONY.

*To the Editor of The Open Court :—*

I HAVE—in common with many friends of animals in England—read with much surprise the article from the pen of Mr. Moncure Conway on *St. Anthony's day* which appeared in your columns on June 12th. The object of the article is to prove that the present increased consideration for the lower animals is not

the King of Prussia, spoke in rapturous admiration of London. "It is a splendid city," he said, "a splendid city—to loot." So the invading army, now in the occupation of Chicago, exclaim with the old Field Marshal, "What a splendid city—to loot!" Considering the wealth of spoil in sight their moderation is amazing.

The speaker who followed Judge Algeld wanted the city administration placed on an ethical foundation, for he said: "Take whatever system you please, unless you have it backed up by high-minded men, you will not have a high-minded city government." This was such an obvious truism that it met the unanimous approval of the club; but, unfortunately, it was extraneous to the subject-matter of debate, for the puzzle of the banqueters was this conundrum: While we are waiting till thieves become honest men, how shall we deprive them of the opportunities for theft; and how shall we protect ourselves against them while they are learning to keep the commandments? "Give us a business men's ticket," said the orator, "and help to put out bummers aldermen and rascals that try to make money by black-mailing corporations and giving away the franchises of the people." This was much applauded, and the sentiment of it was repeated by several debaters. "The city is a business corporation," said one, "and it ought to be run on business principles," and another one said, "I should like to see a mayor in Chicago who had backbone enough to take the position that the government of Chicago is a business organization for business purposes only, and not for politics." This well meaning reformer was innocently oblivious of the fact that one reason why corruption flourishes in the government of great cities is that their administration is "for business purposes only." A great city is not a business corporation; it is a social commonwealth. Unhappily, the mayors of too many great cities have had backbone enough to regard their dominions as "business organizations," using politics as a subordinate agency to promote "business purposes only."

Some of the debaters appealed for salvation to that vague and misty fiction called the "better element," meaning the "richer element," composed of those comfortable people who care little for civic duties, or any other duties outside the lines of "business." One of the speakers with a Prairie Avenue tone of thought exclaimed: "If the better element of either party were to spend as much time as they spend in the evenings of the Sunset Club—then the municipal government in the hands of such men would be all that could be desired." Another eloquent member indignantly inquired, "Is the city run in the way a business corporation should be run? No. And why? Because you gentlemen here, who are representing the so-called better element of this city, do not take the trouble to select the man that is fit to hold the chair." There was a delightful self-complacency in all that, for we like to be placed among the "better element," but the phrase is used as a false description of the richer classes, and it throws an undeserved reproach upon the poor. That was not the meaning intended by the men who used it at the Sunset Club; but it is a colloquial expression that comes easy to a speaker, and it often fails to represent his real sentiments. The better elements of society are so confusedly mixed through the various degrees of quality and callings that it is impossible to separate them by any visible test of money, houses, lands, rank, or influence. Only those whose lives are governed by the principles of justice, charity, and toleration constitute the "better element," and these may be found among all classes, from the millionaire down to the poorest laborer, or up to him if the laborer is the better man. The history of the world gives evidence that government by the richer element alone has never yet been wise, or just, or merciful.

M. M. TRUMBULL.

the outcome of Christianity and the teaching of the Bible, but is due to the effects of Darwin's teaching and the consequent fellow feeling with apes and dogs which makes us "wondrous kind." Mr. Conway says that after diligent inquiry he has not been able to assure himself that a single Society for the Protection of Animals existed in Europe or America before the publication of Darwin's "Origin of Species." If this is how Mr. Conway writes after diligent inquiry there is matter for speculation as to the value of his opinion on subjects where the inquiry has been absent altogether or at any rate not diligent. The facts are altogether the other way. Darwin's teaching had no more to do with the rise and progress of Zoophily than Tenterden steeple with the formation of the Goodwin sands.

The "Origin of Species" was published in 1859, the "Descent of Man" in 1871. The English Society for Prevention of Cruelty to Animals, now called the Royal Society for Prevention of Cruelty to Animals, of Jermyn St., London, was founded in July 1824. Mr. Conway could not have seen one of its reports without seeing on the title-page "65th or 66th etc., etc., Annual Report." A prominent member of that and other kindred societies writes me, "I have not here the needful papers but I feel sure that at least a hundred other (Foreign) Societies for Prevention of Cruelty to Animals and branches in the United Kingdom were in full work before 1859. Martin's Act was passed in 1822 and from that time the movement dates, not from Darwin's books which, in my opinion, have tended much more to enforce the cruel lessons of Nature and the absolute right of strength against weakness, than his theory of the brute origin of humanity has done to draw us closer in sympathy to the lower animals." From a wide acquaintance with the defenders of the rights of animals, I have no hesitation in saying that the overwhelming majority of such tender and merciful folk are drawn from the ranks of those who follow "the exploded superstition known as Christianity."

Mr. Conway says that "Buddha and St. Anthony have the honor of being the only prophets known to religious history as having shown any consideration for animals."

An examination of the Old Testament with the aid of Cruden's Concordance under the words "Beast" and "Cattle" would go far to rectify this error, and a perusal of the "Life of St. Francis of Assisi" would not be unfruitful. Even were it otherwise the whole genius of Christianity is in favor of tenderness towards the beautiful creatures of our Father's hand. The teaching of Zoophily is *implicitly* if not *explicitly* in the Bible, and I may profitably quote here the words of De Quincey used in connection with the subject of slavery. He says "Christianity throws herself broadly upon the pervading spirit which burns within her morals. 'Let them alone,' she says of nations; leave them to themselves. I have put a new law into their hearts, and a new heart (a heart of flesh, where before was a stony heart) into all my children; and, if it is really there, and really cherished, that law, read by that heart, will tell them—will develop for them—what it is that they ought to do in every case as it arises, though never noticed in words, when once its consequences are comprehended." Cruelty to animals is at war with the whole spirit of the Bible, it is not a case for a text here and there but of the genius of the whole. Imagine a chapter on experimental physiology by St. Luke, or a dissertation on vivisection by St. Paul. Mr. Conway compares Christianity in this respect with Buddhism much to the disadvantage of the former, yet some years ago I heard him defend the atrocities of vivisection in a lecture at South Place, London, when he demanded the abolition of the English restriction on physiological experiments. Imagine a Buddhist cutting up animals alive. Let us hope that the influence of St. Anthony has converted Mr. Conway to Zoophily.

EDWARD BERDOE.

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