

by Digenis, and the old Doukas, who now appears *in propria persona*, consents to the match, and is invited to the wedding, which is celebrated in Cappadocia with unprecedented magnificence. After the termination of the nuptial festivities, which last for three months, and the departure of his father-in-law, Digenis takes the place of his father as guardian of the frontier, and now first acquires the title "Akritas." The office, however, does not satisfy his love for adventure, and he determines to travel about with no other companions than his wife and his servants. His tents accompany him everywhere, and the wedded pair support life without difficulty on a diet of birds, deer, goats, and wild boars. The Emperor Romanos I. sends him a respectful invitation, but he prefers a meeting on the banks of the Euphrates, where many civilities are interchanged.

In the month of May, the beauties of which are lauded by the poet with the enthusiasm of a German Minnesänger, Digenis sets up his tents in a flowery meadow, which is most elaborately described, and one fine day, while he is taking a siesta, Eudoxia, who goes to wash her feet in a limpid stream, is assailed by an enormous dragon, who takes the form of a handsome young man. Her shrieks bring her husband to the rescue, and the monster resumes the three heads which pertain to his normal condition. He is, however, speedily despatched by the hero's sword, and a lion who springs from a mound is killed with a club. Nor does trouble end here. Returning to his tent after his double victory, Digenis amuses himself by playing on the lyre, accompanied by his wife's voice, and so admirable is the performance that it attracts an audience consisting of three hundred Apelates, who, not knowing with whom they have to deal, threaten to put him to death if he will not give up Eudoxia. But the conventional British tar who was more than a match for six Frenchmen was a puny whipster compared with Digenis, who, armed with club and shield, completely puts the marauders to rout, with much loss of life.

Other adventures, interrupted by gaps, follow. A victory, which Digenis gains over the brigand chief Philopappos, brings with it a new interest; for the chief, bent on vengeance, seeks and obtains an alliance with a female warrior named Maximo, reputed to be a descendant of the brave Amazons whom King Alexander brought from the country of the Brahmins—

ὁ βασιλεὺς Ἀλέξανδρος ἤγαγεν ἐκ Βραχμάνων.

His object, he explains, is to carry off a young lady of whom Joannikos, another chief, related to Maximo, is enamoured, and who has somehow fallen into the hands of a warrior who is living with her at a place called Trósis. Of course the old man means Digenis and Eudoxia. Maximo promises him assistance, and gives Philopappos one hundred picked men, headed by her chief warrior Melemendzis. Guided by Philopappos, the troop soon reaches the spot where Digenis is stationed; but the attack has been foreseen, and the young hero is perched upon a rock whence he can overlook the movements of his enemies. Noticing the position taken by Digenis, Philopappos points him out to Melemendzis, and gives his opinion that the safest plan will be to carry off Eudoxia without attacking her husband; but the gallant warrior thinks the scheme shabby, and refuses to have anything to do with it. In a short time Maximo herself arrives, and, hearing that Digenis is travelling about alone with his young wife, loads Philopappos with reproaches. Why did he persuade her to bring an army against one man whom she could exterminate single-handed? To justify her words Maximo advances to the Euphrates to attack Digenis, who is stationed on the opposite side; but he politely entreats her not to cross the river, as it is the duty of a man to put himself out of the way when his antagonist is a lady, and he follows up the utterance by fording the river. Maximo receives him with her lance, which is, however, shivered against his solid armour, and when she attempts to draw her sword he smites the mare upon which she is seated, and she falls to the ground. Her entreaty that her life may be spared is of course granted, all the other adversaries of Digenis are killed or put to flight, and in the end Maximo, after expressing her admiration for her adversary, implores him to meet her in single combat on the following morning. In the fight that ensues Digenis is of course the victor, but there is between the combatants a more than amicable reconciliation, which is not without its parallel in history.

Having pacified the whole of Romania, the hero returns to his palace in the Euphrates, the marvels of which are described at length. During the remainder of his life peace is never disturbed in the region which is under his command; but he dies at the early age of thirty-three, having first buried his father and mother, and his beloved Eudoxia, who attends him to the last, does not long survive him. Thus ends the epic, the gaps in which are in some cases filled up with the aid of popular songs relating to the same hero.



DAWSON'S DAWN OF LIFE.\*

SINCE the lamented death of Sir William Logan, whose authority first impressed the world with the great discovery of the Laurentian series of fossil-bearing strata, no one can have a better claim than Dr. Dawson to take up the wondrous tale. Having been called upon to assist, so to say, at the second birth of the

earliest known of organic forms, it befits him to record first the history of its disinterment from the tomb of geological ages, to define and vindicate its place amongst recognized organisms, and to indicate the bearing of this new and momentous range of facts upon the science alike of to-day and of the future. The tale of the discovery itself has never been told with anything like the fulness and clearness with which Dr. Dawson has brought it before the public. The way for it was undoubtedly prepared by the careful surveys of the Canadian beds made by Sir W. Logan and his assistants, as well as by the chemical examinations of Dr. Sterry Hunt into the structure and composition of the rocks and minerals, and those of Dr. Carpenter and others into the comparative nature of the shells and minor organisms of existing kinds at great submarine depths, illustrating the mode in which the pores of these minute skeletons became infiltrated with mineral matter when deposited at the sea bottom. Some specimens collected at Burgess, in Ontario, by a veteran mineralogist in Canada, Dr. Wilson, were sent by him to Sir W. Logan as minerals remarkable for their structure, with the result that certain laminae of a dark green mineral pervading them was found on analysis by Dr. Hunt to be composed of a new hydrous silicate allied to serpentine, which he named Loganite. No suspicion of its organic nature arose at that time. Some years later, in 1858, other specimens differently mineralized with serpentine and pyroxene were found in the limestone of the Grand Calumet, on the Ottawa river. Struck with the resemblance of these mineral forms to the Silurian fossils known as *Stromatopora*, Sir W. Logan showed them to Dr. Dawson as well as to Mr. Billings, the palaeontologist of the Survey, suggesting with his wonted sagacity that they were too much alike in form, though mineralized by different substances, to be merely mineral or concretionary. A professional reputation was hardly to be risked upon the speculation of these specimens being organic. But it was wisely suggested by Dr. Dawson that slices of them should be examined microscopically, anticipating that, if really fossils, while presenting merely concentric laminae and no cells, they would prove to be protozoa rather than corals. No organic structure was, however, in the first instance detected, nor was any definite belief evoked by Sir W. Logan's exhibition of some of the specimens as possibly Laurentian fossils at the Springfield meeting of the American Association in the following year. With the exception of Professor Ramsay, Sir William found none of his zoological friends more disposed to listen to him in London in 1862. A reference to specimens from the Calumet as probably Laurentian fossils was made in the General Report of the Geological Survey in 1868. It was about this time, we learn from our author, that he was led by a conversation with Dr. Hunt upon the mineralization of fossils to have some fresh specimens prepared for the microscope. He was delighted to find in one of the earliest specimens examined a well-defined group of tubuli, or organic canals, penetrating one of the calcite layers, giving proof, not only of these layers representing the true skeleton of the fossil, but also of its having affinities with the Foraminifera, whose tubulated supplemental skeleton, as delineated by Dr. Carpenter, was evidently of the same type. Greeted with enthusiasm by Sir W. Logan, the announcement was received with determined scepticism by a great number of geologists, nor can it be said that all doubt as to the organic nature of the *Eozoon Canadense*, as it was appropriately named by Dr. Dawson, has subsided at the present hour. Hence the value of the work before us, in which cumulative proofs of the fact which the writer was foremost in proclaiming are brought together in a form intelligible to all readers.

The draught which the first announcement made upon scientific belief was indeed sufficiently startling to excuse some tardiness of reception. To be suddenly called upon to admit the existence of organic remains in rocks which had all along been regarded as altogether azoic and hopelessly barren of fossils was to put a strain upon geological orthodoxy. Then came the estimate of the range of life opened by the depth of these deposits. Taking together the three great series pervaded by the newly-discovered organisms, the Lower and Upper Laurentian and the Huronian, their united thickness extending to at least 15,000 feet in the earth's crust, it became probable that the time which went to the deposition of these masses was not much less than that which made up the entire range of geological life from the end of that age to this. The dawn of life was carried as far back beyond the so-called primordial rocks which had been held to contain its first traces, as these were removed beyond living action or experience, making what has been considered the birth of the primeval fauna an introduction of comparatively modern date. And all this upon the evidence of a single minute fossil of a character little recognizable by geologists, if not wholly wrought out of a creative fancy. The time moreover was not ripe for the accurate appreciation of the evidence in question, our knowledge of the lower forms of life in general, as well as of the structure of minerals and of the conditions of mineralization of organic remains, being far below what it is now. Since that time further allied forms of the same fossil have been met with, not only in the Upper Laurentian or Huronian series of the North American continent, but in Laurentian limestones in Massachusetts and New York, approximate types of foraminifera being yielded by the succeeding palæozoic rocks. Specimens of *eozoon* were found in a dark micaceous limestone at Tudor, in Ontario, as little metamorphosed as many Silurian fossils. Soon the organism was recognized in Bavaria and elsewhere in Europe. The mode of occurrence of all these forms in the limestone beds, the interpenetration of their tubular spiracles by lime

\* *The Dawn of Life; being the History of the Oldest Known Fossil Remains, and their Relations to Geological Time and to the Development of the Animal Kingdom.* By J. W. Dawson, LL.D., F.R.S., F.G.S., &c., Principal and Vice-Chancellor of McGill University, Montreal. London: Hodder & Stoughton. 1875.



or calcite, and their association with layers of fragmentary eozoon, were strictly in accordance with the theory that these old Laurentian limestones were truly marine deposits, entombing the remains of the minute sea animals of their time. Nor did eozoon, although the most prominent exponent, remain the only witness to the great fact of Laurentian life. Fragments of a different organic structure were met with, besides casts in siliceous matter, betokening smaller species of foraminifera. Carbon is found in the Laurentian rocks in the form of graphite or plumbago, and that not wholly or even mainly in veins or fissures, but in the substance of the limestone or gneiss, in regular layers. Such is the abundance of it that our author estimates the amount of carbon in one division of the Lower Laurentian of the Ottawa district at an aggregate thickness of not less than twenty or thirty feet, not inferior to that of our true coal measures. Now we know of no agency in past geological time capable of deoxidizing carbonic acid, and fixing its carbon as an ingredient in permanent rocks, other than vegetable life. Unless, then, we are to suppose that there existed in the Laurentian age a vast abundance of vegetation, either in the sea or on land, we have no means of explaining the origin of the Laurentian graphite. Of worm burrows, again, very perfect traces exist, at least in rocks of the upper eozoic age, though not, our author considers, in the Lower Laurentian series. Great beds of oxide of iron are also met with, sometimes seventy feet in thickness. Whence could these have come save from the deoxidizing agency which vegetable matter exerts? Such has been the efficient cause in producing bedded deposits of iron, in the case of modern bog and lake ores, in the clay iron-stones of the coal measures, and apparently also in the great ore beds of the Silurian rocks. May not similar causes, Dr. Dawson asks, have been at work in the Laurentian period? Any one of these reasons might in itself scarcely suffice to establish the existence of abundant animal and vegetable life in the Laurentian age; but the cumulative force of so many evidences leaves little room for doubt with regard to the main proposition. It would even seem that the Laurentian graphite represents an exuberant amount of vegetable growth in those old seas, corresponding to the great supplies of carbonic acid in the atmosphere and the waters; the eozoic ocean, moreover, having been even richer in carbonate of lime than those Silurian seas whose vast limestone sediment we are able to measure.

Microscopic examination has made it possible to define the structure of eozoon with approximate clearness. In this ancient fossil we have the skeleton of a creature belonging to that simple and humbly-organized group of animals which are known as protozoa. As a familiar example of this group we may take the common *ameeba* of stagnant pools. Viewed under a low magnifying power, this is a small patch of jelly or protoplasm, irregular in form, and constantly changing its aspect as it moves, throwing out finger-like processes or pseudo-pods as extempore limbs. Seeming to flow rather than to creep along the microscopic slide, its body appears to be of a semi-fluid consistency. On closer examination signs of a higher organization appear. Its outer layer is found to be clear or transparent, and more dense than the inner mass, which seems granular. At one end a curious vesicle can be seen gradually to expand, and to become filled with a clear drop of liquid, which, by a sudden contraction, it expels through a series of pores in its outer tissue. This, which is known as the percolating vesicle, is the organ both of circulation and excretion. In another part of the body may be seen the nucleus, a little cell capable at certain times of producing by its division new individuals. Food taken in through the wall of the body is seen to undergo a digestive change, the long arms or processes into which the outer layers of the body extend themselves serving for prehension as well as locomotion. Destitute as these creatures are of the traits held in general most proper to animals, they appear to exercise a degree of volition, and show the same appetites and passions with animals of a higher type. Equally simple in type, but somewhat differently organized, Actinophrys, another of the fresh-water class of protozoa, illustrates the varieties of form and structure to be noted among these simple creatures. In the sea are living swarms of equally simple organization, but having the power of secreting around their soft bodies exquisitely minute shells or crusts of carbonate of lime, having a single orifice, and in many cases multitudes of microscopic pores through which the soft gelatinous matter can ooze, and form outside long extensile fringe-like processes for collecting food. The shell may consist of a single cavity only; but oftener, after one cell is completed, others are added, forming a series of cells or chambers communicating with each other, and often spirally or otherwise arranged in most symmetrical and beautiful forms. Some of these creatures, usually termed *foraminifera*, have the power of motion; others are locally attached and sessile. Much larger forms than any now known to exist were abundant in the earlier geological seas, growing in the same manner as these smaller species by the accretion of successive additional chambers, and constituting in the end thick beds of calcareous matter, such as the chalk and nummulitic limestone of Europe and the orbitoidal limestone of America. The structure of eozoon under the microscope, defined with great clearness in the illustrations of Dr. Dawson, shows the place to be assigned to it in this series. He has felt himself enabled to give us a restoration, on a magnified scale, of the aspect which it may be conceived to have presented in life, showing the calcareous skeleton or framework, a series of more or less rounded chambers, the animal matter or tissues filling up these chambers and constituting the living and secreting organism, and the *tubuli*, canals or *pseudopodia*, rising up

for the prehension of the food which the animal drew from the waters. In fossil specimens the skeleton is represented by a white crystalline marble, and the cavities of the cells by green serpentine, filling by subsequent interjection the place of the living tissues. The lowest layer of serpentine represents the first gelatinous coat of animal matter which grew upon the sea bottom, resembling, whilst as yet no shell was formed upon its surface, the shapeless film of living slime found in some parts of the deep-sea bed, and named *Bathybius*, or the pulpy sarcode of sponges or corals. By the process of gradual secretion there grew upon this primary layer a delicate calcareous shell, perforated by innumerable minute tubuli and by some larger pores or septal orifices for the passage of the soft gelatinous matter which hardened into the branching pseudopods or tentacles for the seizure of food, as well as for the nourishment of the skeleton itself. So were formed, layer by layer, the successive growths of sarcode and of calcareous framework, spreading at the same time by lateral extension, and by upward growth; the vitality of the lower layers becoming in turn exhausted, and the living process creeping upwards throughout innumerable ages till the result was a solid building of cellular limestone thousands of feet in thickness. What length of time subsequently went to the upheaval of these massive strata, so as to form the lofty cliffs and escarpments which they now exhibit to the eye, is a problem in itself too difficult for the resources of science. But the mind reels under the attempts to realize the ages which must have elapsed whilst these minute and delicate organisms were heaping up their calcareous and siliceous *débris* at unknown ocean depths, to be followed as world-builders by the no less patiently working stromatopore of the Silurian and Devonian systems, the globigerinæ and their allies in the Chalk, and the nummulites and miliolites in the Eocene. Of the ultimate origin or beginning of anything, science, if she speaks at all, speaks with bated breath. By what process or at what point of time life first began to stir in the waters and to take to itself a form and an organism, we are as far as ever from being able to express in words. Whether from these simple and elementary types were evolved all the varieties, widely differing and infinitely graduated, in which we know life now to exist, is the question which may be said for the present to be the most difficult within the range of science. Are these primordial forms even now extinct? May we hope to see a veritable specimen of eozoon dredged up alive from the depths of the Atlantic or the Pacific? Even this would not surprise Dr. Dawson, seeing that living congeners have been found working at the plastic ooze which is the rudimentary form of chalk. But beyond doubt we have in the lowly form around which he has thrown so much new interest the means of studying the phenomena of life at its earliest traceable point of dawn.

#### LONGFELLOW'S MASQUE OF PANDORA.\*

AMONG the varied successes and failures of newer men, it is pleasant to welcome yet another gift from the veteran but unfaltering hand of the poet in whose song a fellow-countryman and fellow-poet has said that

Limpid verse to limpid verse succeeds  
Smooth as our Charles, when, fearing lest he wrong  
The new moon's mirrored skiff, he slides along,  
Full without noise, and whispers in his reeds.

On this side of the Atlantic Mr. Longfellow has for many years been the best known and most read of American poets; and his popularity is of the right kind, and rightly and fairly won. He has not stooped to catch attention by artifice, nor striven to force it by violence. His works have faced the test of parody and burlesque (which in these days is almost the common lot of writings of any mark), and have come off unharmed. We may scarcely reckon him among the masters of verse in its complete height and depth. We must not seek here for the consummate grandeur of emotion or contemplation. But he walks in regions fair and beloved of the Muses, if apart from tragic pomp and lyric shout; and in these it is good to follow him, and to give thankful ears to a music which we may find one day to have a secret of its own. He is always a true and genuine poet, if not a great one; and his work is healthy and natural with a freshness and serenity which have not recovered themselves, as is often the case, after first losing themselves in any of the manifold dangers of art, but which have never for a moment been lost.

The eponymous poem of the present collection is "The Masque of Pandora," a mixed dramatic and lyric interlude, presenting the well-known myth in a simple and straightforward construction, though with considerable expansion of its original elements. The scene opens in the workshop of Hephestus, who sees his handiwork, till then but a perfect statue, quickened by the breath of Zeus. The Graces salute her in a chorus, of which one part is in the form of a sonnet—an experiment in lyrical dialogue allowable to a skilled hand, but not to be rashly imitated. Then comes a fruitless errand of Hermes to Prometheus, who will have none of the gods or of their gifts, and sends Pandora back with her conductor. Not so Epimetheus, in whose house we next find her, happy and accepted by him at the hands of the gods with unquestioning happiness. They are interrupted by Prometheus, and after an exchange of single lines between him and Epimetheus (we leave it to Mr. Lowell to find a good word for Mr. Longfellow's

\* *The Masque of Pandora; and other Poems.* By Henry Wadsworth Longfellow. London: Routledge & Sons. 1875.



SIR J. DAWSON ON GENESIS v. LYELL.

[30651.]—THE *Contemporary Review* gives a most mischievous quasi-scientific article by Sir J. W. Dawson, on "The Deluge: Biblical and Geological." The very moderate geological knowledge current among all popular teachers will easily show that no such fancy "submergence" as this deluge of his ever occurred, or has ever occurred since the Glacial times; and in the absence of evidence, or even protest from anybody, that it is not "Biblical," the rabble will assume it to be what he calls it, and his vain attempt at reconciling one fallacy with another, Lyellism with the vulgar Church notions of Genesis, will only be hailed as a new triumph over "God and His book."

We shall see, by two or three quotations, how totally his fictive deluge differs from the only Scriptural one; but first let me thankfully acknow-

ledge that he does somewhat amend the current Lyellian fallacies as to the relation between the Mammoth age and the present. He insists (*Cont. Rev.* p. 887) that "the palæocosmic period is much nearer to us than we had imagined"; that it was (p. 885) a comparatively "continental" age, its "lands exceeding in extent those which we now have," and that the change to our present conditions could be (p. 886) by no "slow processes," but only causes of an "abrupt and cataclysmal character," involving "abnormal action of currents of water diluvial in their character."

Later, indeed, he pares this down (p. 888) to "conditions of submergence and somewhat active current drift, and a somewhat rapid physical change,"—we shall presently see with what shade of reason. But the "chief supply of water" for his deluge he brings (p. 892-897) from "the Indian ocean." Now the chief source named in Genesis—nay, the sole source divinely predicted (vii. 4) is "rain upon the earth"—rain "from heaven" (viii. 2).

Next difference: the catastrophe, he says, consisted in "submergence of a vast region of Eur-Asia and Northern Africa"; and one of the things undetermined yet (p. 898) is "its precise geographical limitations." Now, the Biblical one's effects, at least thrice written as predicted by God himself, were (vi. 17) "to destroy all flesh wherein is the breath of life from under heaven: everything that is in the earth shall die"; and (vii. 4) "every living substance that I have made will I blot out from off the face of the ground." What kind of worship does the Canadian geologist expect to be yielded to a God who utters such oracles, and then just submerges a "region of Eur-Asia," &c.? We have here nothing to do with what the next chapter may say occurred. The witnesses could know nothing of the calamity's extent, whether ten miles beyond their small horizon or ten thousand; the sole thing in question is their Deity's veracity. Did He fulfil His alleged words, or were they like Delphic juggling oracles? The so-called "American Apostle of Free Thought" most pertinently asks of such expounders, (who, in the pulpits, doubtless, are legion), Why was your God so very careful and artful to make Noah mistake a partial flood for a general one? No ark was ever needed, you imply, save to create this misbelief; and especially no birds need have entered it. They were brought thereto merely to make him believe a fallacy!

But a third difference, not only would the Dawson flood fail to blot out any single species of all that the record says were destroyed, but it would extirpate innumerable species that, according both to Scripture and to Darwin, suffered not at all! "The meaning," he says (p. 892), of the last clause in vii. 11, "is the invasion of the land by the ocean." Now, whether such invasions were sudden and catastrophic enough to extirpate any whole species of mammals or not, (and it would need to be inconceivably sudden, to blot out any but some most sluggish kinds, to say nothing of birds)—it would infallibly put an end to all the freshwater fauna. But this, of which Scripture is silent, Darwin found far more ubiquitous and similar over the globe than either denizens of the land, air, or sea. His famous "Origin of Species" devoted chap. xiii. to this insoluble puzzle, that baffled him beyond all else, that of this world's organisms' four mansions, while the air and salt water, that are each an undivided whole, and land that is practically in but two masses, have endless local diversities of population, the fresh waters, whose ten thousand basins are as inaccessible to each others' inhabitants nearly as so many planets, are most uniformly stocked.

The freshwater creatures (but no others) must all perish by a Dawson "submergence," even were it as gradual as his ridiculous new reading of vii. 12-17 would make it. A greater than the Genesis writer has said that the antediluvians were "eating and drinking, marrying and giving in marriage, till the day that Noë entered the ark," not the week, but "the day that he entered" (finally, and was shut in) they knew not till "the Flood came, and took them all away."

That is also the most naturally implied in the prediction, "Yet seven days and I will cause it to rain upon the earth fortyfold" (some have translated), "and every living substance that I have made will I blot out," &c. The whole destruction was to be at that week's end—to be the work of a single day, though storms were only promised to be quite over at the end of forty. But Dawson tells us, "Forty days elapsed before the waters reached the vessel and floated it!" The whole downpour, then, was over by the exact day it floated! And the Assyrian tablet, by the way, instead of forty days, confines the whole storm to six. I have not the least doubt that, whenever the true view of the catastrophe's nature, as seen by Newton, and explained to the Royal Society by his greatest scientific contemporary, shall be revived, the surface geology will be seen to testify that a single day must have both swept the lands clean of all organisms, scoured and ploughed most of our vales, and begun lodging all our post-Glacial gravel drifts.

Noah's vessel, being founded on stone stools high enough to admit of pitching its bottom, was probably (though drawing 15 cubits) floated before a few minutes of the downpour. ~~had fallen.~~

The grand error at the bottom of the Canadian professor's view was also formerly mine, and comes down to all the geologists from some monkish misinterpretation of half a Hebrew couplet in vii. 11, assuming "the abyss" there to mean the ocean, whereas it means the sky, and there is not a single allusion to sea throughout the story. The late Cambridge astronomer, Challis, insisted on this. That "the fountains of the great immensity were loosed, and the cataracts of heaven were opened," are but two statements of one same act, in varied words, as usual in Hebrew verse. Sir J. W. Dawson rightly insists that the abyss (or the boundless) must here mean the same as in the sole previous occurrence of this word, i. 2; but it cannot there mean aught but planetary space. In that "beginning" only the very broadest senses of all the terms are admissible, and the "waters" ought to be rendered "fluids." The first verse declares the creation of the sky-stuff and the earth-stuff—i.e., space or æther, and matter. The next should be understood thus: "When the earth-stuff was shapeless, and gas and darkness was on the face of the immensity, then a breath from God stirred the face of the fluids, and God said, Let there be light." The change was from such a mass as the Orion nebula now appears, (but without light) to such as appears in the Andromeda nebula, both rotating, gravitating, and shining. Of all the works of that first æon, or day-period, those still affecting us in this seventh are only æther, matter, motion, and light (or rather fire). Of those ordered in the second æon, we only know that an expanse was to divide the fluids below from those above it, and is called sky. Of positive creatures of that day, however numerous, we read of none being pronounced "good," and none remain. In the third, the fluids under the sky were condensed "into one place," the mass that is now this planet, and solid matter ordered first to appear, which was called land, and the collections of fluid were now for the first time "waters." This was pronounced permanently "good," and so was afterward some of the vegetation, ordered to spring the same day. The fluids above or beyond the expanse, though not again named, are implied in the fourth æon to have become the sun and other lights. Gladstone, unhappily, came to grief before Huxley, by neglecting the repeated limitations of survival to "the fittest." We now inherit only so much of the products of each previous creative day as God saw to be permanently good. We must infer it is good on the whole for ichneumons to feed in the entrails of caterpillars; but as for the cat playing with a mouse, it is a fruit of our civilisation, and was never natural.

Darwin was doubtless right in saying that, of all the organisms on the globe at any given time, only a very few ever can have descendants here a thousand years or centuries later. As the present fauna is but a relic of what existed before Noah's flood, innumerable species that flourished in the "sixth day," or Mammoth age, not surviving into this seventh, so will innumerable of living species not survive the next catastrophe. For the stars testify, against Darwin, that catastrophes desolating the whole globe, with an average frequency of, at least, four or five per million years, are just as necessary as to-morrow's sunrise.

Yet this fact, two centuries established, which the atheist Comte held a chief reason for the school teaching of astronomy, and notorious, of course, to all outside a quack-ridden Dunceland, the Canadian professor utterly ignores! He passes it in silence, to remark that (p. 894) "Our knowledge of Nature enables us to conceive of greater miracles of physical change than any on record." Instead of what great ones it "enables us to conceive," he should have attended to what kind of ones it necessitates, as known these two centuries. E. L. G.



intermediate of these slits file slight indentations in the end of the tube, which, till these saw-cuts and indentations are made, is (or has been) turned perfectly true. The rationale of this soft tube is this. It will allow either the diamond dust, or the corundum, or the emery, as the case may be, to imbed itself into the end of the tube, and so form a saw or file having diamond, or corundum, or emery, on its cutting edge.

of an elevating rest without any other support, the tool will be raised perfectly true, and any packing, will be held with a screw, and can swivel round to any position, for turning or boring. I have all the details of the taper-turning attachment, and will send it as if "F.A.M." or other readers should desire to see it. I think it is a most excellent contrivance, but I think it is not new.

ARITHMETICAL PUZZLES.

[30658.]—"F.R.A.S.'s" third puzzle, p. 320, col. 3, *won't work*. He says: "Take any three figures, reverse them, add 1,000 to the original three, and from the result subtract the reversed ones. From the remainder subtract its own figures reversed, and the final result will always be 1,010."

For example .....	976
Reversed .....	679
<hr/>	
Add 1,000 to the original .....	1,976
Subtract the reversed ones .....	679
<hr/>	
	1,297

"From the remainder subtract its own figures reversed."

If this means 7,291, subtraction would be difficult, to say the least. If 679, then 1,297 - 679 = 618, and not 1,010, as stated.

Further, in the example given by "F.R.A.S.," the final process is addition (901 + 109), and not subtraction.

There must be a blunder somewhere. "F.R.A.S." says: "Multiply 123456789 by  $m \times 9$  ( $m$  being any number less than 10), and the result will consist of numerals, which, with the exception of one 0, are all  $m$ ."

The mystery of this is mainly in the way of stating it. The only curious thing about it is that  $123456789 \times 9 = 111111110$ . Obviously, if we then multiply by 2, 3, 4, 5, 6, 7, 8, or 9 (which is equivalent to multiplying the original sum by 18, 27, 36, &c.), the product will be all 2's, 3's, 4's, &c., except the one 0.

A further curious fact is that in each of these cases the figures added together total up to 9, or a multiple of 9; and if a multiple, the figures (such as 36, 45, &c.) again have the same property.

W. G.

VARYING E.M.F. AND DISTRIBUTION OF R.

[30659.]—THE work done in watts is in all cases equal to E.M.F. in volts  $\times$  C in amperes. Thus, in the first circuit you mention  $W = \frac{E^2}{R + R}$ . Calling the work done under the two following variations  $W'$  and  $W''$  respectively, we can express these in terms of  $W$  as follows:—

$$W' = \frac{E^2}{R + r - 2r} = W \cdot \frac{R + r}{R + r - 2r}$$

$$W'' = \frac{4E^2}{2R + r} = 2 \cdot \frac{E^2}{R + r} = 2W$$

In the first case the current is increased, so the variations would cause the carbon filament to glow more brightly. In the second case the current would cause two lamps in series to glow with the same brightness as the one under the first condition.

It is a rule in transformers that the E.M.F. of the induced current varies in the same proportion as that of the primary current, so the effect of the second variation would be to double the E.M.F. of the induced current. Of course this would have a different action on bodies through which it might pass, though it would not need a larger conducting wire.

J. Ball.

PROPHECY IN SCIENCE.

[30660.]—No doubt many are familiar with the following:—

"Soon shall thine arm, unconquered steam! afar  
Drag the slow barge, or drive the rapid car;  
Or on wide waving wings, expanded, bear  
The flying chariot through the field of air.  
Fair crews, triumphant, leaning from above,  
Shall wave their fluttering kerchiefs as they move,  
Or warrior bands alarm the gaping crowd,  
And armies shrink beneath the shadowy cloud."  
"The Botanic Garden," I. ch. 1, line 289.

The author, Erasmus Darwin, was born 1731.

Sm.

A RED RAINBOW.

[30662.]—THIS morning, at a few minutes before 9, I saw what was, to me at any rate, a rather curious phenomenon.

This was a well-defined rainbow, whose centre was away in a N.W. direction, and was of a red colour throughout.

Away to the S. and S.E. of where I was the land was high, and, so far as I could see, the sun had not yet risen over it. There were, however, some very bright red and orange clouds about the S.E. horizon, and I fancy that the rainbow was due to them.

As I have never before seen a similar rainbow, I thought that I might as well relate my experience.

Bertram Thos. Ord.

Gateshead-on-Tyne, Dec. 16.

REPLIES TO QUERIES.

\* \* \* In their answers, Correspondents are respectfully requested to mention, in each instance, the title and number of the query asked.

[69514.]—Red Nose.—To "Eos.—Will you kindly say how the iodide of potassium, prescribed in your reply to this query ("E. M." dated Sept. 20th) should be taken—viz., dose, time, &c., and much oblige?" W. A. B.

[69587.]—Alchemy (U.Q.).—About eighteen months ago an account was given by a reporter in a Nottingham paper of an interview which he had with Mr. Butcher, a dentist of Nottingham, who had been experimenting with hope of making a smokeless gunpowder, when, to his surprise, after the explosion, which blew the contents of a pail of water about, there remained a substance resembling gold, which he tested himself, and afterwards forwarded some to Somerset House, which, on its return, was declared to contain so much gold and other impurity. The article stated how many ounces of chemicals it required, and how many grains of gold were obtained when the experiment was tried at a neighbouring foundry with a large quantity. I intended at the time sending our worthy Editor the paper containing the article, but mislaid it. I may say I know the dentist, he having on two occasions drawn me two teeth. GEORGE HURTON, 26, Great Alfred-street South, Nottingham.

[69714.]—Drilling.—It is a treat to be able to tell "Eos" something. I have a piece of crystal of crystal (pure white), otherwise oxide of silicon crystallised, otherwise SiO<sub>2</sub> crystallised, which has been cut out of the centre of a lady's crystal smelling-bottle. Now, SiO<sub>2</sub> crystallised is the purest form of flint, which is SiO<sub>2</sub> coloured probably with a trace of iron. The piece is a perfect, solid cylinder, about 1/16 in. long by 1/16 in. full in diameter. It is perfectly square at each end—i.e., square to the sides; it is polished all over—i.e., sides and ends. It has the appearance of a tube when held obliquely to the light. It is, to my mind, a gem of workmanship. I bought it when on business at Edinburgh some years ago. Cost 10s., but that amount would not buy it from me. When I bought it it was stated to be cut out by a tube (revolving) of brass or soft metal, fed with corundum or diamond powder. Most probably the diamond powder, if cut in this country, but corundum if cut in Germany, where labour is (or used to be) cheap. I was told that after the round tube charged with—well, diamond or corundum powder, had penetrated far enough, a slight tap was given to the central core, and it broke off pretty sharp and true at the bottom, and then had to be polished outside and cut and polished at the ends. Now to business. If I wanted to cut out a hole in a piece of glass, whether the hole is 1/16 in. or 1/32 in. diameter, I should proceed as follows:—Fit into a vertical drilling machine (or, failing that, a lathe) a piece of brass (soft) tubing—copper is, perhaps, even better, as will be seen, as being softer. With a fine steel saw cut slits vertically in the tube, say, four or six, and then



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"The Story of Earth and Man," is the title of a book by Sir J. W. Dawson, L. L. D., a new edition of which has just been brought out by Harper & Brothers, New York. It was first published in 1873, and was a valuable addition to scientific works. The years that have passed since then has taken no whit from its worth. Some corrections and additions made necessary, the editor says, by the progress of discovery, have been made and notes have been added regarding other new points. The work is full of absorbing interest, and the new edition will be welcome.

---

+7.



do pref., 26; P. P. C. C., 144; C. St. L. & P.,  
14<sup>1</sup>/<sub>4</sub>; do pref., 39; Mil. L. S. & W., 82; do  
pref., 105<sup>1</sup>/<sub>4</sub>; Col's., H. V. & Tol., 23<sup>1</sup>/<sub>4</sub>; Tol.  
& O. C. pref., 50.

### New York Cotton Market.

NEW YORK, Aug. 30.—Cotton steady; up-  
lands, 97<sup>8</sup>/<sub>8</sub>; Orleans, 10; sales, 493 bales. Fu-  
tures opened steady; August, 9.38; September,  
9.32; October, 9.22; November, 9.16; Decem-  
ber, 9.17; January, 9.21; February, 9.29;  
March, 9.36.

### Oil.

PITTSBURG, Aug. 30.—Petroleum—Market  
dull; opened at 61<sup>7</sup>/<sub>8</sub>c, and at 1 o'clock this af-  
ternoon 62c was bid. The highest price was  
62<sup>1</sup>/<sub>8</sub>c, and the lowest 61<sup>3</sup>/<sub>4</sub>c.

### General Produce.



....The favor with which Principal Dawson's *The Story of the Earth and Man* has been received, can be seen in the fact that it has reached the ninth edition, in which it comes out as a "New Edition with Corrections and Additions." Substantially, its general statements and conclusions remain as they were in the edition of 1873. The author's conviction that Evolution has no basis in experience or in fact, is reaffirmed in this edition and supported with an argument that has only become somewhat stronger since first published. (Harper & Brothers.)

+5.



have been chosen to represent the Rhode Island Society of the Cincinnati: James M. Varnum, of this city, the great-grand-nephew of Gen. Jas. M. Varnum, one of the Judges of the Northwest Territory and Director of the Ohio Company; Frederick T. Sibley, of Detroit, Mich., great-great-grandson of Commodore Abraham Whipple, great-grandson of Col. Ebenezer Sproat, and grandson of Judge Solomon Sibley; and Charles E. Eumett, great-grandson of Col. Archibald Crary, one of the Judges of the Court of Common Pleas of Washington County N. W. Territory. Evidently only



THE STORY OF EARTH AND MAN. By Sir J. W. Dawson,  
LL.D., F.R.S., F.G.S. New York: Harper & Bros.  
1887. + 4.

This is the ninth edition, with corrections and additions, of Principal Dawson's standard book. It is well called a story, for all the interest of a story invests the great geologist's account of the genesis and development of the earth, and many of the illustrations are pictures of special incidents in the story. His answer to the argument for the evolution of man, remains one of the most lucid and satisfactory ever given.



ir- and enjoyed their reading much more than the  
he had previously their idleness. They never ne-  
re- lected their business. No one could charge the  
— with carelessness. They were better employ-  
k- than before. Moreover, two of these young me-  
ng had since become Christians, and were workin-  
n- members in the Church.

et Are not literature and science the hand-maiden  
e. of religion? Does not the above incident pro-  
n- it? All hail then to the Chautauqua work! Its i-  
to fluence upon the individual, the Church, the com-  
ve munity, the country, the world, cannot be estima-  
at ed. Most cordially we take it by the hand. ar



## Man and His Planet. + 2

"The Story of the Earth and Man," Harper & Brothers, by Sir J. W. Dawson, LL.D., of the McGill University, and author of "Origin of the World" and "Fossil Men," is a new and fuller edition of a valuable geological work. Its first appearance was in a series of papers in "Leisure Hours," but many additions have been made in the book to keep it abreast of modern discovery. The spirit in which it is written is higher than the mere dry and barren material one, and is expressed in the author's preface as follows: "In any case I have presented this many sided subject in the aspect in which it appears to a geologist whose studies have led him to compare with each other the two great continental areas which are the classic ground of the science, and who retains his faith in those unseen realities of which the earth itself is but one of the shadows projected on the field of time." Here the reader will find, treated in a clear and pleasant style, the first conditions of our planetary habitation under the phases of nebula; of solidity, becoming molten through interior heat; of moisture and its condensation into an enveloping ocean; of its subsidence and the successive changes which fitted the earth to be the abode of plant and animal life of wide diversity. The illustrations are numerous and helpful to the reader's understanding of the progressive march of these two kinds of life from the lowest to the highest forms. The author is an able opponent of the theories of the evolutionists and his discussion of the them is interesting. His account of the lowest and earliest form of animal life as exemplified in what he calls the "dawn animal," found by him in fossil state in Canada, is of special interest.

and influential parish a priest who has made himself bigger than his office and who refuses to fling away ambition.

M. Rouvier is simply the *redacteur* and not the author of present affairs in France. *Laisser aller* is essentially a French term for a frame of mind peculiarly French. The Parisian public will take things as they come, so long as they cannot retard their coming or precipitate their going. The French temper is feminine. It despises the man who wins her; it loves the man who conquers her. General Boulanger almost won her favor, but M. Rouvier has forced her into submission with loaded rifles and will be loved for proving himself stronger than the General. Is such a nation fit to be a republic? The idea of a republic rests upon consent; the French people consent to nothing that they are not forced to entertain. The test of political liberty is the freedom of the press, and the press of Paris is in daily dread of intellectual garroting. The strength of a republic must be self confident and self sufficient, seeking entangling alliances with none. The French Republic is geographically placed where its influence is either feared or courted by monarchical governments which are perpetually intriguing to change the map of Europe. Peace is the keystone of the arch



# WITH THE FOX HOUNDS.

## THE REASON THAT ENGLISHMEN CHASE SLY REYNARD.

**An Invigorating Sport that Wealthy  
Britishers Favor—The Traditions and  
Ethics of the Field—The Hunt and the  
Hunters—What It Costs.**

If there is one thing more than another that strikes Americans traveling in the fall of the year through England for the first time as being extraordinary, it is to observe the passion for fox hunting that all Englishmen and women of position possess. To the untraveled student, apart from its aspect of cruelty, it appears to be the fag end of sport, and hence the suggestion naturally arises that the English must have exhausted every channel of outdoor pleasure, fox hunting being the residue of the pool.

But mature observation compels a corrected impression that there is much to be said in its favor, especially when taking into consideration that the high state of cultivated country in England precludes the possibility of having anything akin to the majestic sport of our great West.

The rural Englishman, taught from childhood the skillful management of his pony, finds himself at manhood's estate the master of his horse. The saddle is in England far more used than the vehicle. Nor is it confined to the leisure classes. The humblest lad at work on his employer's farm is permitted to gallop off upon errands, if speed be needed. Then, having reached a certain stage of the riding art, the youth sighs to excel in the science, and his ambition to join in the chase follows.

The votaries of fox hunting term it the noble science, and regard it by common consent as the perfection of hunting. The explanation



A WATER JUMP.

or apology the English give for such an apparently undignified sport is that the fox is possessed of extraordinary speed and endurance, and being found in reasonable numbers affords a fair chance for sport. The English and the Irish gentry as well do not consider the size of the animal as necessary to add dignity to the pastime.

There are certain stringent laws regarding rights to traverse country, but they are not recorded in any written rules. They are tradi-



## NEW BOOKS.

*The Story of the Earth and Man.* By Sir J. W. Dawson. Harper & Bros., New York.

*The Fortunes of Words.* F. Garlanda. A. Lovell & Co., New York.

*Hints on Early Education.* Funk & Wagnalls.

*Sociology.* John Bascom. G. P. Putnam's Sons.

This new edition of Principal Dawson's "Earth and Man" has been supplemented by information gained since the first appearance of the book in 1873. The author reiterates his unaltered conviction that evolution is untenable or unthinkable, and that the Bible affords a far more reasonable explanation of the origin of the earth and its inhabitants than Darwin or Spencer. At the same time Principal Dawson recognizes that he is more and more out of line with the most advanced thinkers and students of the age. The ape imagined by Lubbock which, crossed in love, conceived for the first time in its addled pate the "dread of evil to come," and so became the father of theology, is still ridiculed, but with less vigor. The author gives credit to the evolutionists for their candor and the mass of facts which they are collecting for future use. The old argument against the theory which makes man the descendant of the ape is again gone over. The book is a fair presentation of the orthodox views of our origin.

As to Principal Dawson's attack upon leaders of science, such as Darwin, Spencer and Huxley, they will scarcely cause concern in the evolutionist camp. Here are the author's compliments to the evolutionist theory: "This evolutionist doctrine is itself one of the strangest phenomena of humanity. \* \* \* They (the evolutionist speculations) seek to revolutionize the religious belief of the world, and, if accepted, would destroy most of its existing theology and philosophy. They indicate tendencies among scientific thinkers, which, though probably temporary, must, before they disappear, descend to lower strata and reproduce themselves in grosser forms, and with most serious effects on the whole structure of society. With one class of minds they constitute a sort of religion. \* \* \* With another, and perhaps larger class, they are accepted as affording a welcome deliverance from all scruples of conscience and fears of a hereafter. In the domain of science, evolutionism has like tendencies. It reduces the position of man, who becomes a descendant of inferior animals, and a mere term in a series whose end is unknown. \* \* \* It obliterates the fine perception of differences from the mind of the naturalist, and resolves all the complicated relations of living things into some simple idea of descent with modification, \* \* \* reducing all things to a mere series, and leads to a rapid decay in systematic zoology and botany, which is already very manifest among the disciples of Spencer and Darwin in England." The notion that, because the facts of the evolutionist zoology cannot be classified and pigeon-holed with mathematical exactness, the evolutionist theory is therefore all wrong, is, so far as we know, wholly original with the author, and a most astonishing proposition to lay down.



# New Publications.

## Notices of Books. 71.

The Story of the Earth and Man. By Sir J. W. DAWSON, LL. D., F. R. S., F. G. S., Principal and Vice Chancellor of McGill University, Montreal, etc., etc. New York: Harper & Brothers.

This is a new edition of a work that appeared fourteen years ago. "Corrections and additions, rendered necessary by the progress of science, have been made in the text, and notes have been added with reference to other new points." The work states the progress of the forms of life on the earth, from the earliest period to which the evidences of life can be traced. Back even of that he goes, to the genesis of the earth, thus beginning indeed with "the beginning." The order of creation, as inferred from "the testimony of the rocks," corresponds with the order indicated in Scripture. This, however, is not the thesis which the present work seeks to establish. The coincidences are indicated by the way, as it were, the main purpose being to picture the scene presented by the earth during the successive ages which represent the "days" of creation. This is done with graphic force. Prof. Dawson is a firm upholder of the truth that all living things, and especially man, were created by the living God. The origin of man is shown to have been late in the succession of animals, and all that is known of primeval man concurs with the testimony of Scripture, that "God created man in his own image." Whether the theory of evolution can be applied to the origin of any inferior species is a question which need not be anxiously discussed. It is made to appear that it cannot be accepted as a true account of the origin of man.

Those who are fond of attributing such opinions to theological prejudice will take notice that the author is not a theologian, but a man of scientific attainments and achievements, who treats the question as one to be tested on scientific grounds alone. It cannot be alleged that it is a case of revelation or of metaphysics against science.



An Important Invention by  
**DR. LIGHTHILL.**

**THE NEBULIZER.**

[PATENT JUNE 21, 1887.]

This ingenious little apparatus, by simple mechanical means, converts any liquid medicine into a nebulae or vapor so very subtle and fine that it remains suspended in the air like smoke, and can be inhaled and retained within the lungs, or brought in direct contact with the middle ear by means of the eustachian tubes, with the cavities of the nose, the remote sinuses of the head, and the minute ramification of the bronchial tubes, without the slightest pain or discomfort. This method opens a new era in the cure of Consumption, Catarrh, Asthma and Deafness, for it brings the desired medicine, in its full remedial potency, upon the diseased tissue of these various organs as direct as upon the surface of the body, and thus

Consumption in early stages, or even somewhat advanced, can be cured, and in hopeless cases a more favorable condition of health produced, and life prolonged and made more comfortable.

Deafness, caused from affections of the middle ear, and consequently heretofore inaccessible to medication, can thus be reached with good success.

Catarrh in all its stages can be completely cured, and Hoarseness, Bronchial Affections, Hay Fever, etc., yield to this new system of medication as if by magic. In Asthma, from the very first application, suffering ceases, and natural breathing is re-established, and a perfect cure effected.

To patients at a distance an instrument and proper remedies can be furnished on application.

Thirty years of experience in the treatment of diseases of the respiratory organs and ear enables *Dr. Lighthill*, at the first examination, or on receiving a careful statement, to give a correct opinion as to the curability of the case, and no one will be accepted for treatment unless there exist reasonable chances for success.

**DR. LIGHTHILL**

Can be consulted daily at his office,

**115 BOYLSTON STREET,  
BOSTON,**

From 8 A. M. until 3 P. M.

FOR



Sea." The reviewer continues, "From all this it is evident that Clysma was a port on the Red Sea, at the eastern end of the canal, and that Heroöpolis was a town . . . 8½ miles west from Clysma."\* To this statement very serious objection may be made on the ground of inconsistency, if the writer wishes to be understood that the inscription "Ero Castra" is authentic and its evidence conclusive. If this be not admitted, the position of Dillmann may be adduced to offset such denial, but the writer would at least be consistent in saying that "if the Red Sea ever extended north of the point which it now reaches, it must have been in some prehistoric period" (p. 87).

The testimony of the early geographers turns entirely upon the question of the former extension of the sea. They speak of Heroöpolis as at the head of the "recess of the Arabian Gulf," which is called by Strabo after this city. Those who hold that the sea never came farther north than Suez, must hold that Hero is not at Tell-el-Maskhutah (on account of the discrepancy in the distances) and that it must be sought somewhere between "eight and three-quarters miles" and nine miles from the "inlet of the Arabian Gulf," not from Clysma. There is, however, good expert testimony against this belief, even if "the evidence that any sea ever washed the Serapeum is only 'conjectural.'" The following may be cited as holding to a considerable extension of the sea northward: Sir J. W. Dawson,† of McGill College, Montreal; Edward Hull,‡ Professor of Geology, Royal College of Science, Dublin, and Director of Survey of Ireland, etc.; Sir John Coode,§ and Du Bois Aymé.|| It is a well-known fact that to-day the Suez Canal is only kept open and navigable by the constant dredging that is carried on. If this artificial water-way is thus in danger of filling up and choking, why should not an arm of the sea, never of any very great depth at best, suffer a like danger? Professor Lepsius is said to have declared against this extension of the sea on the ground of the remains of a canal "north of Suez for a distance of three leagues." What does this prove? It would seem to indicate that the canal was put there to serve a purpose, that of water communication. What would be more natural after the filling up of the sea and the stoppage of water traffic in this way, than for the government to undertake to accomplish in an artificial way that which was no longer possible naturally?

(To be continued.)

It is proposed to organise a national pilgrimage from Ireland to Rome, on the occasion of the golden jubilee of the Pope, next year. A similar pilgrimage has not taken place since 1693. A deputation of priests will probably wait on Archbishop Walsh in Dublin shortly, to obtain his sanction.

\* The distance, "8½ miles," is derived from a quotation already given and not repeated here.

† Egypt and Syria (By-paths of Bible Knowledge, vi.), p. 58.

‡ Palestine Exploration Fund, Quarterly Statement, April, 1884, pp. 137-141.

§ Ibid., April, 1885, pp. 97-99.

|| Description de l'Égypte (1809), iii., 187-192; iv., 715-722.

## Current Literature.

### Books, Old and New.

THE MEISTERSCHAFT SYSTEM  
(The Meisterschaft Publishing Company, Boston)

is a simple and practical method for studying French, German, Spanish, and Italian, for acquiring the power of speaking these languages fluently. It is the origination and is under the control of Dr. Richard S. Rosenthal; and under his superintendence pupils begin to speak from their very first lesson. The essential principle of the system is to combine with an accurate knowledge of the grammar of the language constant exercise in the correct and varied use of words. It is computed that a certain number of words go to make up the vocabulary of every-day speech. These words have different terminations, and are used in varied senses; hence the importance of being made thoroughly familiar with them, and of being able to use them readily and correctly. It is the aim of the Meisterschaft system to give this knowledge and power. An acquaintance with the elementary principles of the language is assumed, and then selecting certain important words, as those most commonly used in conversation, it is shown in a series of graduated exercises how these may be applied. The mind is thus made familiar with both words and rules, and by constant exercise and repetition, judgment, memory, and speech are required and brought into active play. As a result, knowledge and interest are combined; and under such a method progress is certain, if not rapid. The system is based upon a strictly philosophical and scientific principle, and experience has shown its practicability and success. It is, therefore, most heartily commended as an admirable, if not perfect, method of teaching these foreign languages; and all who desire to become acquainted with either French, or German, or Italian, or Spanish, may with great advantage study this incomparable series of lessons. In the progress of modern education, and the extent of foreign travel, a knowledge of and a power to speak in French and German, at least, are almost indispensable; and for those who wish to understand, to speak, and to write these languages fluently and idiomatically, and in a comparatively short space of time, a better—a more simple and practical—system could not be supplied than that of Dr. Rosenthal, popularly known as the Meisterschaft System.

#### HALF HOURS WITH A NATURALIST

(Thomas Whittaker, New York, 1887).

This is one of the series of the "Half-Hour Library" of travel, nature, and science for young readers. The author is that famous and world-renowned naturalist, Rev. J. G. Wood, M.A., and in this most interesting work he gives the results of his rambles and observations near the shore. The work is divided into the following general heads: "Fairy Land among Sponges," "Homes under the Sea," "Some Wonders of the Sea," "The most gifted Insect Race," "The Marvel of Insect Life," "About Spiders

and their Webs," "Some noxious Insects," "Dragon-flies," "The Horse and his Structure." Under these general divisions the author has introduced a vast amount of the most valuable and interesting information about the animate and inanimate world, which will fill the mind of the young reader with amazement and delight, and stimulate him to further inquiry and research. It is a subject of exciting interest; it is treated by Mr. Wood in a most original and fascinating manner, and the volume possesses the rare merit of being able at once to instruct and charm. There are numerous appropriate illustrations; and as one of a valuable series of works, this is specially commended.

#### CHRIST AT THE DOOR OF THE HEART

(E. P. Dutton & Co., New York, 1887),

a series of sermons by the Rev. Morgan Dix, D.D., Rector of Trinity Church, New York. They are twenty-seven in number, and are on a variety of themes. Some of them are appropriate to the seasons of Advent, Epiphany, Lent, and Easter; and others are on general scriptural and church topics. They contain, therefore, as may be expected, sound expositions of Holy Scripture, and clear and forcible presentments of the principles and observances of the Church. In this respect the volume is of great theological and practical value, and will add to the already favorable reputation of Dr. Dix as a preacher and a writer. In these sermons he has displayed his power as an interpreter and his eloquence as a preacher; and both in their personal relation and their general influence they are highly creditable, and will be widely useful. It is by such sermons that the people will be duly taught, and that the errors and vices of the age will be in part counteracted. With such sermons before us, we rejoice to know that the pulpit, even in these modern days, retains something of its primitive power; and with such a preacher as Dr. Dix, the Church can take her stand side by side with any of the denominations among whom preaching is thought and made so much of. This is a volume worthy of the devout perusal of both preachers and people, and we hope that among both it will be widely circulated and prayerfully read.

#### HOURS WITH THE BIBLE

(J. B. Alden, New York).

This is the fourth volume of the famous biblical work of the Rev. Cunningham Geikie, D.D. It takes in the period from Rehoboam to Hezekiah, and is thus crowded with stirring incidents and scenes. The scholastic and theological merits of the work are worthy of all praise, and this volume, like its predecessors, is produced in a convenient and elegant form. This cheap edition, indeed, is a boon to the community, as it places an invaluable work within the reach of all. The demand for it is large; and this is a good sign of the times.

#### COURSES AND METHODS

(Ginn & Co., Boston, 1886)

is a handbook for teachers of primary, grammar, and ungraded schools, by Mr. John T. Prince. It gives a brief plan of studies which may be pursued in elementary schools—both



on the basis of a number of monuments found there and subsequently removed to Ismailia, the main one of which represented Ramses II. seated between the solar deities Ra and Tum. An examination of the texts prepared Mons. Naville for a result at variance with the theory of Lepsius, and he says that he formed the opinion that when the mound should be opened, and its contents brought to light, the city would be found to be dedicated to Tum, and not to Ramses. The results of the excavation, not theories, must justify this hypothesis.

What was found is well known. An immense wall surrounded the nucleus of the city. Inside this, occupying the southwest corner, was a ruined temple, dedicated to "Tum, the great god of Theku." Behind it a part of the *naos* was found, which belonged to one of the monuments already in Ismailia. Eleven hieroglyphic inscriptions of greater or less size, and two stones containing a Græco-Latin and a Latin inscription, were discovered, and are reproduced in the memoir.

The earliest of the Egyptian remains was from the time of Ramses II., and the latest from Ptolemy II. (Philadelphos), thus covering the ground at intervals between 1500 and 250 B.C. There is a probability that other Pharaohs besides those to be mentioned were active here, though no remains are found to prove it. This has been accounted for by the fact that the stone used for inscriptions was nearly all very soft and unable to stand exposure for a long time. Besides, when the Roman soldiery occupied this site, they levelled off the ground for their camp. The débris was cast into the subterranean chambers of which we have heard so much, and many monuments must have been destroyed or so hidden as not yet to have come to the light. As all of these chambers have not yet been excavated, a rich harvest may still await the spade. Of kings of the twentieth and twenty-first dynasties it is possible that we have some monuments at Tell-el-Maskhutah, though by no means certain. Remains have, however, been uncovered bearing the royal oval of Sheshonk II. (Shishak), Osorkon II., and Takelot, of the twenty-second dynasty, of Nectanebo I., a great warrior and an important king of the thirtieth dynasty, and finally of Ptolemy II. (284-247 B.C.).

Besides these, two other stones were found of great importance. One of them reads thus: LOEPO | POLIS | ERO | CASTRA = (*Loeopolis | ero | castra*). The meaning of *Lo* is unknown, but the rest is plain.\* Of this stone Dillmann says: † "By far the most important result, so far as geography is concerned, from the finds of Mons. Naville, is in the establishing of the site of Heroöpolis" (p. 5). This Heroöpolis is shown by the same inscription to have been also the Ero Castra of the Romans.

The other Latin inscription is longer and all

\* It is to be remarked that this stone is inscribed by two hands, the letter P in the second line marking the transition. Comparison with the fac-simile will also show that the first line was engraved in a character more like the Greek lapidary script, while the last three lines are evidently Latin. The P of the first line is the Greek *ρ*.

† Ueber Pithom, Hero, Clysma nach Naville. (Separatdruck.) Sitzungsbericht der K. Preuss. Akad. d. Wissensch. zu Berlin. Sitzung der philosophisch-historischen Classe vom. 30. Juli 1885, xxxix.

the work of one hand. It reads: DDNN VICTORIBVS | MAXIMIANO ET SEVERO | IMPERATORIBVS ET | MAXIMINO ET CONSTANTINO (NO) | NOBILISSIMIS | CAESARIBVS . . . | AB ERO IN CLVSMA | MI VIII @ | .\*

Of this "find" the reviewer for the *Andover Review* remarks (*And. Rev.*, vol. iv., p. 99): "M. Naville attaches great importance to a Roman mile-stone he found, which puts the distance between Heroöpolis and Clysma at nine miles. This only gives in round numbers what Bischoff and Möller (*Wörterbuch d. Geogr.*) state more exactly at eight miles and three-quarters." †

This writer would thus discredit the mile-stone. How could this *more exact* distance be known? Whence did it come to be thus "more exactly" determined? No ancient authority has been quoted or in any way cited that supports the figures as understood, by the reviewer, and yet they are thus taken on faith and thrown out to the disparagement of the work of Naville. The "Itinerary" of Antoninus does not give this interpretation any aid or countenance. It gives the following distances: ‡ (a) "Heliu (usque) Scenas veteranorum milia puls minus 18 (22), (usque) Vico Judæorum mpm. 12, (usque) Thou mpm. 12, (usque) Hero mpm. 24, (usque) Serapiu mpm. 18, usque Clysma mpm. 50." This citation does not accord with the *more exact* distance by about fifty-nine and one-quarter miles, or making allowance for the short Roman mile (1,614 yards) and assuming that the reviewer has failed to allow for the difference between the English and German mile, § the divergence might be reduced to something like

\* If there is a mistake in the last line, it is a double blunder, as there is a double designation of nine miles as the distance between Ero and Clysma, @ being the Greek *θ*.

† Cf. also *Andover Review*, iv., p. 87, where it is said: "In Bischoff and Möller's 'Wörterbuch der Geographie' (printed 1829), it is stated that 'Heroöpolis was a city in the east part of lower Egypt, on the southern bank of the river of Ptolemy, east from Pharbastis (i.e., Belbeis), 8½ miles northwest from the inlet to the Arabian Gulf.'" Later in the same article, this "inlet to the Arabian Gulf" becomes Clysma to the writer's imagination. This quotation is an unfortunate one. In the first place, examination shows that *Clysma* is not even hinted at, much less mentioned, in the original, and therefore it has been supplied by the reviewer in an unwarranted way. He makes his authority say what it does not say. In the second place, the whole interpretation of the statement of Strabo, etc., cited by Bischoff and Möller, as to the exact location of Heroöpolis, turns on the question whether indeed the sea never extended farther to the north than now. In the third place, the reviewer has omitted a very important part of the statement, which says that the site of Heroöpolis was at the present (1829) "*Abukechid*," which the maps of the "Description de l'Égypte" place at or very near the present "Tell-el-Maskhutah." In the fourth place, the writer does not seem to be aware of the contradiction which exists between the view of the dictionary and the geological argument (?) which he brings forward. If one is adopted, the other must fall, and *vice versa*. If Hero was at Tell-el-Maskhutah, then Clysma was nine (8½) miles away, very near the present Ismailia, and at the head of the "inlet" or "recess" of the sea according to Strabo. If, however, the sea never came farther north than Suez, and if Clysma was near Suez, and was the only place that ever bore that name on the isthmus, then Hero has not yet been found and the mile-stone is false. But all things point the other way. The whole strength of the review notice finally rests upon this one point, of which mention will be made later—the ancient bounds of the sea.

‡ *Vetera Romanorum Itineraria, sive Antonini Augusti Itinerarium*, . . . curante Petro Wesseligio. Amstelodami, 1735. Pp. 169, 170; and, *Itinerarium Antonini Augusti et Hierosolymitanum*, . . . ediderunt G. Parthey et M. Pinder. Berolini, 1848. Pp. 75, 76.

§ The quotation is from the German dictionary named.

twelve miles and one-half, on the basis of the long German mile (5.753 English miles). This explanation, however, is far from satisfactory.

But the mile-stone is really important, as is shown by the fact that Professor Dillmann devotes considerable attention to it in the paper already mentioned. Of it as bearing upon the location of Hero he says (p. 4) that it cannot be adduced in evidence, as it may have been removed from its original place and transported to the spot where found. The location he had already accepted as fixed by the other stone. The value of this one is due to the fact that it gives a distance to another place. Now, there are two courses open in regard to this stone, either to regard it as having sufficient evidential value to overthrow the correctness of the "Itinerary" (Naville) or as requiring the hypothesis of two places called by the same name somewhere on the Isthmus of Suez (Dillmann, pp. 7, 8). After an extended discussion of the various appearances of Clysma in early literature, Professor Dillmann arrives at the conclusion "that there was a Clysma near Suez. A Clysma nine miles from Hero must have been a second. Before this can be considered assured it must be proved that (1) the mile-stone originally stood in Hero and was not carried there later, and (2) that the inscription on it really affirms what Naville finds there, that Clysma was nine miles distant from Hero" (pp. 9, 10). On the basis of the existence of a Clysma\* a little to the north of Suez we are thus shut up to a choice between two, either the stone tells the truth, or it is false; it has been rightly interpreted, or it has been misunderstood. This is the sole question to be decided. The first point mentioned by Dillmann is of no importance whatever; for the story of the inscription is equally true or false whether it be found in Hero, Heliopolis, Tanis, Bulak, or the British Museum. The one question is as to the truth or falseness of the statement, and that belongs to others than the present writer to determine. It is a question in the department of Palæogeography.

The site, then, of Hero-Heroöpolis is at last proved to be where it was sometimes suspected to be, though no one seems to have been very positive about it. An important question arises in connection with this identification in regard to its proximity to the sea. The testimony of the old geographers is mentioned more or less fully by the *Andover* reviewer, beginning with Theophrastus, and continuing with that of Lucian and Strabo. Strabo is said to confirm the statement of Theophrastus in stating that Hero is "near the end of the Arabian Gulf," and "near Arsinoë are situated, in the recess of the Arabian Gulf, toward Egypt, Heroöpolis and Cleopatris." † "Lucian is quoted as saying that "a young man embarked at Alexandria, ascending the Nile, and sailed as far as Clysma, a port at the extreme end of the canal, at the Red

\* This hypothesis, it may be said, is not as absurd as it might seem at first sight; for we have as yet no hint as to the date, either of the city that has been identified (Dillmann) near Suez, or of the possible city which Dillmann says would be needed to accord with the record of the mile-stone.

† The *Andover* reviewer does not give this quotation *in extenso*, but says, "In another place (p. 804, not 884 as stated) he says it was near Arsinoë and Cleopatris," XVII., i., 26.



of young scholars in the science of Egyptology, in order that the next generation may have its Navilles, its Pooles, and its Petries.

Two such are now in training; and one of them, Mr. Griffiths, now in Egypt, has already won golden opinions from Renouf and Naville for his correct translations. We might start the matter, for instance, at Chautauqua, where, next season, there are to be given lectures on Egypt. Columbia College or Yale University would make a fitting centre where lectures and instruction could be given in three-month courses; which would at least give the student a beginning or start by which he could carry on the study by himself or at a distance. Will not President Barnard, interested in Egyptian research, or President Dwight, in *all* that makes a university, suggest this to their fellow-trustees whenever the "ways and the means" permit?

### The Biblical Tahpanhes.

BY THE REV. W. C. WINSLOW, PH.D.

THE advance proof-sheets of the report of the (recent) Fourth Annual meeting of the Egypt Exploration Fund indicate that the pamphlet\* will be one of great and varied interest. Nothing in it, however, is of greater importance, at least to the biblical student and reader, than the closing remarks of Mr. Petrie, which relate to his identification of the Tahpanhes of the Bible, or the "Pelusiac Daphnæ" of the Greeks, which we give at length. The "gold handle of a tray" is unique, being the only piece of gold plate ever found in Egypt. It is of incalculable value as a relic, aside from its being of solid gold, not only because it comes from the only building of Egypt directly specified and located in the Old Testament narratives—"Pharaoh's house in Tahpanhes"—but because it undoubtedly was part of a tray in the royal service of Hophra, to whose palace or castle fled the princesses of Judah from the wrath of Nebuchadnezzar—to this site where Jeremiah prophesied and Nebuchadnezzar burned the palace to the ground. The "gold plate" has been presented to the Museum of Fine Arts in Boston.

To appreciate and understand the

\* Its fifty-five pages will have the financial budget and list of donors; reports of Messrs. Petrie and Griffiths, and of Miss Edwards; lecture on the second season at Naukratis, by Mr Gardner, etc.

value of such corroboration of Scripture, let the reader go through the chapters of Jeremiah (xxxvii.—xlvii.) which portray the events immediately before and after the capture of Jerusalem and punishment of Zedekiah; the successful attack on Nebuchadnezzar's governor, who was slain, and the causes which led to the flight of "all the captains of the forces," who carried the royal daughters of Zedekiah to the palace of Hophra (the Apries of Herodotus) at Tahpanhes. Says Mr. Petrie:

The fifth month I began by going to Tel Defenneh with about forty of my people from Nebesheh. Defenneh is seventeen miles east of Nebesheh, in the middle of the desert between the Delta and the Suez Canal. Everything but water had to be fetched at the least twelve miles; yet I had as many as seventy people working there and living under the bushes around my tent. No soldiers, police, guards, or sheiks were needed in the place; my community behaved irreproachably, and I never heard even a squabble between the people. So soon as I arrived, I went to look at a reddened mound in the middle of the plain, and found that it was a large brick building of the twenty-sixth dynasty, or earlier, which had been burnt. This my men told me was called "The Palace of the Jew's Daughter," which at once recalled the flight of the Jewish refugees with the king's daughters to Tahpanhes. Everything confirmed this connection; the palace, or *Kasr*, proved to be the central fort of the great camp of the Karian and Ionian mercenaries, founded by Psammetikhos I.; and the pavement before the entry of Pharaoh's house, mentioned by Jeremiah, seems to be identical with a large pavement opposite the doorway of the fort. The whole of the fort was cleared out; but nothing remained of the high buildings except the substructures. In the offices around the palace, on the ground level, many objects were found; and in two chambers in particular a great quantity of fragments of painted Greek vases. These appear to have been partly made at Defenneh, and partly imported; and they are dated by the discovery of sealings of wine jars bearing the kings' names being mixed with them. A part of a great sandstone stela, probably of Psammetikhos I., was also found standing on the plain.

The sixth month was occupied in finishing clearing the palace and surrounding chambers. Beneath each corner of the palace-fort I took out a set of foundation deposits, of various metals and stones, all inscribed with the name of Psammetikhos I.; and beneath one corner were the bones of an ox sacrificed in the ceremonies of foundation, along with a large corn-grinder and other objects.

The enclosure wall of the camp—now level with the ground—was also traced; and much of the area of the camp was cleared on the surface, yielding many objects of interest, such as iron arrowheads, arms, tools, weights, a silver bowl, and a gold handle of a tray. The enormous quantity of weights found here and in the neighborhood is one of the most striking

points: about two thousand were collected while I stayed there, mostly small weights, such as would have been used by jewellers. An unusual amount of scraps of gold jewellery were found here also. I then packed up all the collections, and left Defenneh, otherwise Tahpanhes or Daphnæ, just six months from leaving England.

The general results of the Defenneh work are of double interest—Jewish and Greek. The Jewish connection we now see to have been with a Greek settlement, which therefore throws back the beginning of the Hellenisation of the Jews to before their captivity. This fort, on the high-road down into Egypt, would be the natural city of refuge to all Jews who fled during the successive Assyrian invasions; and here they lived almost entirely with Greeks. The interest of finding the only Egyptian building specifically named in the Old Testament is unique, and this is increased by the fact that its arrangement explains a special description given by Jeremiah. The Greek interest of the place is very great, particularly as coming just after Naukratis has been found. The contrasts and comparisons are most valuable; and the more so, as the residence of the Greeks at Defenneh is historically limited to just one century. Among the results of my whole season, four stand out above the rest: First, the temple of Aphrodite at Naukratis; second, the finding of Buto; third, the finding of the capital of the nineteenth nome, the city of Am; and fourth, the uncovering of the history of Tahpanhes, and its fort—Pharaoh's house—together with the Greek camp, which was their first settlement in Egypt.

"Tanis," Part II., will contain an elaborate section on Defenneh, or the biblical Tahpanhes, and it will probably follow Goshen, the next memoir of the Egypt Exploration Fund.

## Egyptian Exploration.

### Pithom.\*

NAVILLE AND HIS REVIEWERS.

BY REV. C. R. GILLETT,

Union Theological Seminary, New York City.

[The following excellent article is quoted by permission of author and editor, from the January number of *The Old Testament Student*, that our readers may be kept fully informed on this great matter.]

MONS. EDOUARD NAVILLE, in the employ of the Egypt Exploration Fund, went to the Delta of the Nile in the early part of 1883, to begin operations at Tanis-San-Zoan, but owing to the advanced state of the season, he turned his attention to the "Mound of the Statue" (Tell-el-Maskhutah) in the Wadi Timulat, on the old canal from the Nile to the Red Sea. The place had been identified by Lepsius with Raamses,

\* The Store City of Pithom and the Route of the Exodus By Edouard Naville. London, 1885. First Memoir of the Egypt Exploration Fund.

The Athenæum, London, No. 2994, March 14, 1885; Andover Review, vol. iv. (July), 1885.



### The Lesson and Message of Pain.

MYSTERIOUS as are the dealings of Providence as witnessed in the affairs of man, still it has pleased God to open here and there vistas through which we may see something of His mind and of His purposes toward us. Pain, for instance, at once locates disease, and gives warning of the higher solemnities of life. It is a kind messenger, admonishing of human frailty, man's dependence, and of the positive certainty of death. In this last sense, how merciful is Providence! Much of the mystery of life is removed, if read in the light which the simple fact of death casts over it.

Physical death is not the result of sin. It existed as a part of the purpose of God before man sinned, or was even created. This the bones of the pre-Adamite man prove. It was moral death which sin introduced. The cessation of physical life was from the beginning. And, that it be not too sudden, that we be, in some degree at least, prepared, there are given us both a general admonition in the death of those about us, and a special notice in the phenomena of sickness and pain, lessening of strength, loss of sight, gray hairs, and other physical failings. God's notices are thus, at once, long and numerous. He does not evict His tenants—tenants at will though we be—as a cruel landlord. His ways are not despotic. We well know that from the very cradle we take up the march to the grave. Every breath that prolongs human life shortens it. We are duly warned, and if not duly prepared the fault does not lie at the door of Providence, but at our own step and threshold.

### Parish Attachments.

EVERY communicant should be attached to some parish. Personal attachment to a rector is well; but canonical connection with some parish and enrolment on the parish books is a paramount duty.

If persons would detach by proper letter commendatory, and attach to the new parish by presenting it, statistics would be more reliable; people would have no ground of complaint for being neglected, and other great anxieties and troubles would be obviated. The "neglected people" of a parish are generally those who have "neglected" to make

themselves known to the rector in the proper and respectful way.

To live in this irregular, unchurchly, abnormal way is bad enough, and to die so raises, often, the question, Who *was* the rector? Was there *any*? Who may officiate without breaking the canons? Some one may claim the deceased who has no right to, and some one bury the body in violation of the law of the Church, all unknowingly and innocently at that.

These things may seem insignificant, but they are not, and have been known to entail upon the Diocesan the unnecessary labor of an investigation and to involve a great deal of trouble. They should be avoided.

### The Free Church Spirit in Boston.

THE live and wholesome spirit of the Massachusetts Free Church Association (of our Church), of which Dr. George C. Shattuck is president and the Rev. Dr. W. C. Winslow secretary, has had a deal of influence outside the pale in leading many to think and act in the right direction. Others now take note of the progress of the free church idea and practice in our communion, and are asking if what is good for "Episcopalians" is not good for "other denominations" as well? The Unitarians have had discussions on this topic, and Dr. James Freeman Clarke is well known as heartily in favor of free churches.

The last number of the *Unitarian* (a monthly) is editorially quoted by the *Evening Transcript*, of decidedly Unitarian tendencies, as follows:

Why should not the "Lowell-lecture" plan be adopted in our churches? In these courses of free lectures, given each winter in Boston under the Lowell Trust, every lecture begins at a quarter to eight exactly. The admission tickets, which are procured on application beforehand, are all numbered, corresponding to the seats, and up to forty-three minutes past seven the seats are reserved. Then, however, just two minutes before the lecture begins, all seats not taken are free, and the people unprovided with tickets, who have been waiting in the vestibule, come right in and take the vacant places, and without the slightest confusion in less than a minute every comer is seated. It wants to be more clearly understood in our churches that the owning or hiring of seats gives the right to occupy them, but not the right to keep them vacant. This is sometimes forgotten, and in some of our churches there are people who expect to come in even in the middle of the service and find their pews still waiting, empty, even on occasions when there may be very many strangers waiting for seats. We do not

believe that there are many persons of this kind in any church, but even a few such can nullify the hospitality of a whole congregation and get a church a bad name as selfish and exclusive. If we are to have the pew system, let us at least have it arranged so as to minimise its evils. As carried out at present in many churches, it is an outrage on the name and spirit of CHRIST.

Ten years ago such an article as the foregoing would not have appeared in the editorial columns of the genial and literary *Transcript*, or probably been seen even in the *Christian Register*. The plan suggested to minimise the evils of the pew system is the very least any pew church can or should do; but even that does not eradicate "its evils." Nothing short of free sittings, always free, can accomplish that. Nevertheless, we sympathise with the *Unitarian* in seeking after free church blessings—"if haply they might feel after (them) and find them."

### An American School of Egyptology.

WE have pleasure in laying before our readers the important articles which appear in to-day's issue on the Egyptological exploration movement. They will amply repay perusal. And these form only part of the treasures we have in store for our friends on this great subject. We know that many are profoundly interested in this matter, and are anxious for the fullest and most reliable intelligence. It will be the aim of THE CHURCH PRESS, as the recognised organ of the movement in America, to keep our readers thoroughly posted. In many respects it is, without doubt, one of the most important archæological, scientific, and biblical movements of the day, and should receive an increasing amount of attention and support from both scientists and divines. THE CHURCH PRESS may be relied upon to do its duty in the matter.

And now, in this connection, we are led to ask in all seriousness whether the time has not come to organise an American School of Egyptology. The material is fast ripening, owing to the discoveries and elucidations of the past five years respecting important points in history and ancient art; and we now have isolated students in Egyptology as well as those who interest the public in "the story of Egypt" by popular lectures. One of the proposed objects of the Egypt Exploration Fund is the training



for the Israelites to have encamped near such a place. It must rather have been a commanding height used, as the name implies, as a watch-tower to command an extensive view or to give signals. Baal-zephon—"the Lord of the North"—is generally understood to have been a mountain, though both Jebel Attaka and the northern peak of Jebel er Rabah may lay claims to the title. In any case, the place so named by Moses was "opposite" to the camp of the Israelites, and consequently across the sea.

After somewhat careful examination of the country, I believe that only one place can be found to satisfy these conditions of the Mosaic narrative, namely, the south part of the Bitter Lake, between station Fayid on the railway and station Geneffeh. Near this place are some inconsiderable ancient ruins, and flats covered with *Arundo* and *Scirpus*, which may represent Pi-hahiroth. On the west is the high spur or peak known as Jebel Shebremet, more than five hundred feet high, commanding a very wide prospect, and forming a most conspicuous object to the traveller approaching from the north. Opposite, in the Arabian desert, rises the prominent northern point of the Jebel er Rabah, marked on the maps as Jebel Muksheih, and which may have been the Baal-zephon of Moses. Here there is also a basin-like plain, suitable for an encampment, and at its north side the foot of Jebel Shebremet juts out so as to form a narrow pass, easy of defence. Here also the Bitter Lake narrows and its shallower part begins, and a "strong east wind" along with a low tide would produce the greatest possible effect in lowering the water. This conclusion I have endeavoured to indicate on the rough map accompanying this paper. It may be further observed as an incidental corroboration that the narrative in Exodus states that after crossing the sea the Israelites journeyed three days and found no water. From the place above referred to three days' journey would bring them to the Wells of Moses, opposite Suez, which thus come properly into place as the Marah of the narrative, whereas the ordinary theory of a crossing at Suez would bring the people at once to these Wells. They are also said to have journeyed for three days in the wilderness of Etham, and then to have come to the wilderness of Shur, or the Wall, whereas the wilderness of Shur is directly opposite Suez, and not three days' journey to the south. The three days' journey from the place of crossing would not be long journeys, the whole distance being about thirty miles, but there was now no reason for haste, and the want of water would not be favourable to long marches.

The question has often been raised whether, at the time of the Exodus, the Red Sea extended farther north than at present. In answer to this it may be stated, in the first place, that the terms of the narrative in Exodus imply, and the geological structure of the country proves, that there must have been a land connection between Africa and Asia north of Ismailia, at the place which is now the highest point of the isthmus. Further, without entering into details, I may say that there are some geological reasons for the belief that

there has been in modern times a slight elevation of the isthmus on the south side and probably a slight depression on the north side. It seems also certain that in the time of Moses a large volume of Nile water was during the inundation sent eastward toward the Red Sea. There is therefore nothing unreasonable in supposing that, as assumed in this article, the Bitter Lakes at the time of the Exodus constituted an extension of the sea. Further, such an extension would be subject to considerable fluctuations of level occasioned by the winds and tides. These now occur towards the head of the sea. Near Suez I passed over large surfaces of desert, which I was told were inundated on occasion of high tides and easterly winds; and at levels which the sea now fails to reach, there are sands holding recent marine shells in such a state of preservation that not many centuries may have elapsed since they were in the bottom of the sea. Since my return to England I have found that Professor Hull takes nearly the same view with reference to the condition of the isthmus at the time of the Exodus, which has also been advocated by Ritter.

In conclusion of this part of the subject, a word may be said of the names of the Red Sea. In the Bible the sea crossed by the Israelites is the "Yam Suph," or sea of weeds.\* This name I would attribute to the abundance of the beautiful green water-weed (*Ceratophyllum demersum*), which now grows very abundantly at the mouth of the Sweet-water Canal, and was probably much more abundant when a branch of the Nile ran into the narrow extension of the Red Sea now forming the Bitter Lakes. The name Red Sea is of later origin, and seems to have been derived from the colour of the rocks bordering its upper part. The eocene and cretaceous limestones assume by weathering a rich reddish-brown hue, and under the evening sun the eastern range glows with a ruddy radiance, which in the morning is equally seen on the western cliffs. Such an appearance would naturally suggest to early voyagers the name "Red Sea."

Another point of inquiry relates to the reasons why the army of Israel did not cross the neck of land between Lake Timsah and the Bitter Lakes rather than go farther south. A sufficient reason for this may appear to be the command to pass southward to the Red Sea, that God's purpose with reference to the Egyptians might be fulfilled. But if we look for prudential or strategical reasons in addition, these may be found in the difficulty of crossing at this place in face of an approaching Egyptian army, even if crossing there was practicable, which the considerations above stated render at least doubtful, and in the possible existence of Egyptian garrisons in this part of the isthmus, where at other periods they are known to have been posted. With reference to this last consideration, it has often been overlooked that the King of Egypt was, about this time, obliged to meet serious invasion of Libyans and other peoples of the west, and that this may have compelled him

\* It has been objected to the use of this name for the Red Sea that Kings it is applied to the Gulf of Akaba. But it is likely that in language it was the name of both gulfs of the sea.



to withdraw or weaken his garrisons in the east. This would give special facilities to the movement of the Israelites, and was a providential aid in their favour, while the special places in which such weakening or removal had occurred may have acted as a determining cause in certain movements.

If we were to judge from the probable requirements of the circumstances, we might infer that the garrisons ordinarily kept at the fortified cities in Goshen had been removed, that the Philistines, then subject to Egypt, had been entrusted with the guardianship of the highest point of the isthmus, the regular route north of Lake Timsah, and that garrisons had been retained south of that lake, while they had been withdrawn from the eastern side of the Red Sea. In any case, it seems certain that movements of this kind, necessitated by the military exigencies of the time, must have affected the early stages of the Exodus more than is usually supposed.

The recent revelations of the Egyptian records give us the right to affirm in this connection that a remarkable preparatory provision was made in the providence of God for the deliverance of His people, by political and military events altogether beyond their control. The campaigns of

Rameses II in Western Asia, extended as they were all the way to the banks of the Orontes, must have greatly weakened the Hittites and other nations of Canaan, while at the same time they created depletion and discontent in Egypt itself. The few years of the reign of Meneptah were harassed with the invasions of the Delta, to which reference has already been made, by the Libyans and other tribes from the west; and though these were repelled, this must have been with much loss to the Egyptians, and the eastern fortresses which held the Israelites in subjection must have been depleted of their garrisons. All these circumstances must have conspired with the increasing severity of the oppression to facilitate the mission of Moses and Aaron.

In this, as well as in the preceding articles, I have given my rough impressions, mostly written on the spot, and without access to means of reference which might have enabled me to quote those who have expressed similar or contrary views. My own conclusions are to be taken with the allowance due to such circumstances. They have at least such value as may attach to the first impressions of an observer of some experience in the study of difficult questions of geology and physical geography.



### The Collier's Ward.

OR made we tak' tu her? I cau' rightly say—

Hardly gied it a thought—it seemed natral an' right.

I'd worked wi' her feyther for mony a day,

An' we used to goo drinkin' together o' night.

Yo'm right—I wau' allays a staid sober mon—

About like my mates, neyther better nor wuss :

Wi' we dogs, or we pigeons, we'd spoort allays on,

An' if we got drunk, nobry made any fuss.

As I was a sayin', I'd worked wi' Joe Dunn  
Ever sence we wun lads up at Omerley Cross :  
How well I remember the day he begun !  
I'd got him the job to drive the gin hoss.

A moor roguisher hoss was never turned out,  
An' p'r'aps Joe was tu hony a-whippin' him in,  
For in less nor an hour th' hoss turned sharp about,  
Pick'd up Joe wi' his teeth, an' run round i' the gin.

From then till he died we wun mates, Joe an' me,  
At work or at play,—never had a cross word ;  
An' to see him killed djead seemed to come across me  
Moore pow'ful nor ever a sermon I'd heard.

Yo see we wun holin', booth in the same stall,  
At full length on wi' sides, an' peckin' away  
At the coal up above we, wen down come a fall,  
Missin' me, but crushin' poor Joe wheer he lay.

The rush o' the fall blowed the candles all out ;  
I hollered for lights, an' then crep' up to Joe,—  
"Is it yo', Bill?" says he, "I'm dyin' I doubt,—  
Con yo' pray fo' rae, Bill?"—Not a prayer did I know.

Just then I reme nbered I'd learnt the Lord's Prayer,  
Soo I said to poor Joe, "Say 'Our Feyther' wi' me."  
We said it together to "Thy will be done,"  
Then he fainted wi' pain, an' loosed hold o' me.

Then up come the men, eager offrin' a hond,  
An' we sot hard to work to get we mate free ;  
But the coal was soo rotten, it slipped just like sond,  
We seemed hours at work, soo anxious wun we.

At last he was clear—we meuv'd the last log,—  
He hauf turned, wi' a sikh, as if restless a-bed,—  
Called his wife by her neyme, twice whistled his dog,  
Said "Our Feyther," an' "Babby," an' "Bill," an' was djead !

He was draw'd up the shaft, an' we carried him whoam,  
An', o' coorse, nobry worked that week i' the pit :  
The gossips had to'd his wife all, 'fore we come,  
An' the news knockt her down just as djead as a nit.

no 4  
Shooken



1883-84.

# UP THE NILE

BY

**KHEDIVE STEAMERS;**  
**POSTAL DEPARTMENT MAIL STEAMERS**

(IN CONNECTION WITH THE UPPER EGYPTIAN RAILWAY  
BETWEEN CAIRO AND ASSIOOT);

AND BY

**DAHABEAHS.**

WITH MAPS.

Under the Special and Exclusive Contracts and Arrangements of

**THOS. COOK & SON,**

Sole Managing Agents of the Khedive Nile Steamers, and Sole Passenger Agents  
for the Steamers of the Egyptian Postal Department.

*Specialty appointed by H.R.H. the Prince of Wales Passenger Agents for the Royal British  
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# CONTENTS.

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	PAGE
Introduction ... ..	5
Dahabeah Arrangements ... ..	15
Outfit and Choice of Routes ... ..	17
Guide-books ... .. <i>See second page of cover and page</i>	18
Hotel at Luxor ... ..	20
Departure from Cairo ... ..	20
Daily Itinerary from Cairo to the First Cataract ...	22
Do. from the First to the Second Cataract ...	28
Return Voyage ... ..	32
Fares to the First and Second Cataracts ... ..	33
Extra Steamers to the First Cataract ... ..	34
General Observations ... ..	37
Movements of Cook's Nile Steamers ... ..	38
Rules and Regulations ... ..	40
Egyptian Postal Steamers ... ..	42
Fares by Postal Steamers ... ..	43
Service of Postal Steamers ... ..	44
Fares for Nile Tours ... ..	46
Tours to Palestine ... ..	48
Offices and Agencies of Thos. Cook and Son ... ..	49
Cook's General Tourist Arrangements ... ..	50



# THE NILE.

## INTRODUCTION.

THE events of the last eighteen months have created a greater desire than ever in the minds of those who can afford the necessary time and money to visit Egypt and the Nile; but the recent epidemic and the quarantine regulations which remain in force at the time this pamphlet is necessarily issued to the public will tend to deter many from making the journey to Egypt, and will involve upon us the necessity of answering an enormous number of inquiries from those who are doubtful as to the advisability of making the journey during the coming season.

The general travelling public will be aware that through the important position we hold in Egypt by our special contracts with the Government Administrations, that we are bound to keep not only our Chief Office, but all our Agents at Branch Offices, thoroughly posted as to the current events, and as to the advisability of intending travellers visiting Egypt, and those who have honoured us by their travelling arrangements for many years past will know that we feel our responsibility, and that our agents can be relied upon for good sound advice, and under no circumstances saying anything that would induce travellers to visit the country without we were perfectly satisfied that the journey could be made without any risk from epidemic or other causes.

We have delayed the publication of this pamphlet until about two months later than the usual date for issue, waiting the course of events, and in the hope that before its appearance a clean bill of health would be given by the Sanitary Department, and we have no doubt from the information we possess and our own observations that the epidemic will be entirely suppressed before the date that travellers, as a rule, commence their journey to Egypt; in fact, at the date of writing these notes the number of cases reported is so small that under ordinary circumstances no special notice would be taken of them, and we have no hesitation in advising any travellers who wish to do so to visit Egypt any



time after the middle of November. From the experience of past seasons we have no doubt that quarantine regulations causing delay to passengers *leaving Egypt* will most likely be in operation for about two months after the last case of cholera has been reported, so that we have confidence in hoping that by the time passengers have ascended the Nile and wish to leave Egypt, they can do so without any serious delay; but as doubts have naturally arisen in the minds of many intending visitors to Egypt, we have thought it advisable to reduce the number of advertised dates of departures of the steamers, and to commence the service a little later than usual; the first steamer therefore will leave Cairo on December 18th, and will be continued fortnightly during the season. Should the number of visitors to Egypt at the commencement of the year be greater than we at present anticipate, we shall be prepared to start supplementary steamers almost at any date required after a sufficient number of passengers are booked for the advertised steamers.

We have already booked passengers for the First and Second Cataracts, and have also let one dahabeah, and are quite prepared to undertake the responsibility of carrying out the necessary arrangements for any number, either by the advertised steamers, or by our dahabeahs—which are of the best description on the Nile and are adapted to the purposes of large or small family parties. We have recently had several inquiries by letter as to the feeling of the natives with respect to European, and especially English travellers on the Nile. In reply to these questions or doubts, we have not the slightest hesitation in taking upon ourselves the responsibility and safety of all travellers on the Nile, providing they conform to the rules and regulations of steamboat and dahabeah services. We know from our own personal observation that English travellers and their money were never received more thankfully and joyfully by the fellaheen of Upper Egypt than they were during the last season, and we have no hesitation in stating that there need not be the slightest fear on the minds of any one as to the probability of trouble arising between the fellaheen and travellers; on the contrary, they are only too glad to see them, and to have the opportunity of handling a little of their spare money, either in repayment for purchases or for small fees for services rendered.



It will be remembered by those who are conversant with the events of the past season, that the leading newspapers of England constantly reported through their correspondents certain services we rendered, not only to the Egyptian Government, but also to the English Government, especially by the arrangements we made for the conveyance of sick and wounded soldiers from Cairo to Alexandria, and also by the conveyance of a very large number of convalescents who were recovering from the effects of enteric fever, from Cairo to the First Cataract and back (not in our regular steamers, but in steamers obtained from the Egyptian Government for the purpose); and it is gratifying to us to record the fact that through our position in Egypt we were enabled to render important assistance to the medical department of the British army, and the assistance proved most successful in its results in enabling an unprecedented percentage of the officers and soldiers to return to their duties immediately after they finished the voyage on the Nile, the average being about 90 per cent. who were able to resume their duties in about 16 days after they had left the hospital. This gives another undoubted proof as to the great benefits to be derived by invalids of every description from a voyage on the Nile under favourable circumstances. We had the satisfaction of receiving several letters of thanks from the military department; and, although it is not our custom to publish testimonials, still we may be pardoned the publication of the following gratifying testimonial from H.R.H. the Duke of Cambridge.

“WAR OFFICE, PALM MALL, S.W.,

“8th February, 1883.

“GENTLEMEN,—The Lieutenant-General commanding the troops in Egypt having forwarded, for the information of the Field Marshal the Commander-in-Chief, a report of the cordial assistance rendered by your firm in conveying convalescents for sanitary reasons in your steamers on the Nile, I have now the honour, by desire of His Royal Highness, to convey to you an expression of his thanks for the admirable arrangements made by you on these occasions, by which the troops have greatly benefited. H.R.H. fully appreciates the public spirit evinced by you in conducting the various services on which you have been employed for military purposes in the above country.

“Your obedient servant,

“ARTHUR HERBERT,

“Lt.-General, Quartermaster-General.”



We also have the satisfaction of knowing that our representatives in Egypt were the means of rendering considerable assistance to various other military departments, which assistance was fully appreciated by the officers in command. Mr. John M. Cook, our managing partner, spent nearly the whole of the winter in Egypt, superintending the various arrangements, and received personally the thanks of the Right Hon. the Earl of Dufferin, General Sir Evelyn Wood, General Sir Archibald Allison, General Dormer, and many others of the chief officers of the staff. He also had the gratification of receiving the personal thanks of His Highness the Khedive, who, as a recognition of the services rendered, conferred upon him the Order of the Medjidieh. During the past season, when considerable doubts existed on the minds of many intending travellers as to the advisability of travelling in Egypt, we had the honour of making special arrangements for the conveyance of a very large number of distinguished officers and their friends who were in Egypt at the time.

Soon after the cessation of military action we organised special excursions for Lord Wolseley and eighty-four chief officers of the staff, &c., which was followed by similar excursions on the Nile for Lord and Lady Dufferin and their friends, General Sir Evelyn and Lady Wood and friends, and almost every week during the season special parties were organised for the officers and their friends who were then in the country. For Tel-el-Kebir we organised a number of special private arrangements, including those of Lord and Lady Dufferin and party, His Grace the Duke of Sutherland and party, His Grace the Duke of Athole and party, Lord Napier of Magdala and party, General Sir Evelyn Wood and party, and a considerable number of distinguished officers, some of whom, under our arrangements, visited Tel-el-Kebir several times during the season. We also were honoured by the arrangements for the return journeys, from Egypt to England, of H.R.H. the Duke of Connaught and suite, Lord Wolseley and suite, Lord Alcester and suite, Lord and Lady Dufferin and family, and almost every other government representative on either the military or civil staff connected with the late Egyptian Campaign, from many of whom we have received personal thanks for the manner in which our arrangements were carried out, and the comfort with which their journeys were accomplished.

Although through the peculiar circumstances connected with



Egypt during the past season, only three dahabeahs ascended the Nile, two out of the three were under our arrangements; one went to the Second Cataract and back, and the other conveyed Lady Brassey and her family to Luxor and back.

The above facts are further proofs of the confidence that all travellers now place in our arrangements, and show that wherever difficulties or troubles are contemplated we have gained the reputation of being able to carry out all our arrangements with perfect safety and to the satisfaction of the travelling public. We have, therefore, no doubt that whatever numbers may ultimately decide to visit Egypt and the East during the coming season that the great majority of these travellers will honour us with their arrangements.

\* \* \*

During the past fifteen years great changes and improvements have been made in the various modes of locomotion in almost every part of the globe, and increased facilities have been obtained by us through special contracts with almost every leading railway and steamboat proprietary on the face of the globe, the result of which has naturally been a considerable increase in the number of well-to-do and educated people who, by these special facilities and improved arrangements, have been induced to travel in districts where, without such special facilities and arrangements, they would have hesitated considerably before attempting to visit many of the countries now covered by what is universally known as "Cook's system of International Travelling Tickets."

Nowhere has a greater revolution been effected than on what used to be justly called the classic Nile, but which may now be considered the great water-way for a large number of travellers for health and pleasure.

Prior to 1869 the only mode of travelling on the Nile was by the luxurious and expensive dahabeah, or by small steamers, worked at irregular dates and at considerable inconvenience to travellers, by what was termed the Azizeeh Company—a company formed specially to work two or three of the small old steamers belonging to the Egyptian Government. But the steamers were mismanaged, in the same way that everything else at that date was mismanaged in Egypt, and travellers could not after they had paid their fares rely upon the steamers starting, and some were kept for weeks in expectation and then frequently had their money returned, and were disappointed in not being able to ascend



the river. The company naturally failed, and the steamboat service for a time was suspended.

This was the position when Mr. THOS. COOK, the founder of our business, engaged, in February, 1869, one of the small steamers for the first publicly-advertised party to the First Cataract and back.

In January of the following year, 1870, Mr. JOHN M. COOK, our present managing partner, succeeded in engaging the large new steamer *Beherah*, with accommodation for 44 passengers, which steamer had never before been used except for the guests of the Viceroy. To secure this steamer for a single voyage up to the First Cataract and back he had to pay to the Khedive Administration no less a sum than £1,848, which sum the Administration demanded to be paid in English or French gold before the steamer left Boulac. Mr. J. M. COOK thus personally conducted to the First Cataract and back the largest party of English and American tourists that had to that date ascended the river as one party.

During the voyage he was impressed with the idea that the traffic of the Nile might be considerably developed, and that through its development the fellahen might be considerably benefited. This was forced upon him by the fact that on more than one occasion during the voyage, when the steward required renewals of eggs, poultry, milk, &c., the captain would stop the steamer at a portion of the river adjacent to a productive village, when, either by signal of his steam whistle or by sending one of his crew, he commanded the Sheikh of the village to appear before him, and then, placing the list given by the steward in the Sheikh's hand, called upon him to demand from his villagers the food required by the steward. The various articles were invariably brought as speedily as possible, and the Sheikh received whatever small amount the steward thought well to give him for them, and he, in return, would pay out to the fellahen who had supplied the various articles such sum as he thought absolutely necessary, allowing a considerable portion of the amount paid him to remain in his own possession. This was a fair specimen of how the business was conducted upon the Nile as late as 1870.

Before leaving Egypt Mr. J. M. COOK commenced negotiations which resulted in the Khedive's Administration handing over to the firm of THOS. COOK & SON the



**SOLE AGENCY FOR THE PASSENGER SERVICE  
OF THE NILE STEAMERS,**

And during the autumn of 1870 the first announcements appeared of a regular fortnightly service from Cairo to the First Cataract and back, at fixed days for calling at the different points of interest and at fixed rates or fares for first class passengers.

Under the new arrangement the Khedive's Administration agreed to provide four small steamers and the one large one, the *Beherah*, for the passenger traffic, we undertaking what may be termed the hotel portion of the interior of the steamers and the advertising and procuring of passengers.

This arrangement proved so satisfactory to those who wished to travel by steam on the Nile and to the Khedive's Administration, that the arrangements were renewed every three years until the present date, the result being a gradual but constant increase in the number of passengers on the Nile steamers; amongst the passengers being the Emperor of Brazil and suite, a number of princes, princesses, and reigning dukes of Continental States, and other foreign dignitaries, from many of whom we hold testimonials of their appreciation of the manner in which the steamboat service on the Nile has been conducted.

In 1876 we succeeded in inducing the Khedive's Administration to try the experiment of putting on a

**STEAMER BETWEEN THE FIRST AND SECOND  
CATARACTS,**

To work in connection with the steamer from Cairo to the First Cataract. This experiment proved so satisfactory that on the second year a larger steamer had to be placed on the service, which is now worked regularly according to the time-tables shown on pages 38 and 39 of this pamphlet.

It having been represented to us, and having also seen from our own personal observation, that a considerable number of invalids visit Egypt upon the advice of their medical men, and for the special object of deriving the full benefit of the Upper Egyptian climate, and that many were deterred from so doing from the great expense of a dahabeah, and from the fact that if they required medical attendance in Upper Egypt they must take a medical gentleman with them on their dahabeah, we gave our special attention to this subject, and in compliance with the



requests made to us by invalids and medical gentlemen, decided upon establishing a small

#### **HOTEL OR HEALTH RESORT AT LUXOR.**

This was opened in 1877, and a competent medical gentleman was appointed to the position of medical attendant to the Hotel.

This experiment proved so satisfactory that, during the summer months, after the first season, we authorised the erection of additional rooms, making the establishment double the size; and this has been so appreciated that the books show that, from the date of the opening of the hotel, and during the Egyptian season, almost every room has been filled the whole time, many of them being occupied by visitors who have stayed from the day of opening to the closing day of the season.

The establishment is controlled and managed by our managers of the restaurant portion of the Nile Steamboat Service, under the constant and personal superintendence of Madame Pagnon, who is well known to Egyptian travellers as having had considerable experience of hotel management in Egypt for many years.

In connection with the hotel, arrangements are made by which all travellers by dahabeahs, as well as the steamboat travellers, can derive any benefit they may require, not only by securing the residing doctor's services, but by obtaining from the hotel any articles they may wish for their Nile journey.

Madame Pagnon also undertakes the supervision of the laundry arrangements for the dahabeahs and steamers, so that ladies travelling on the Nile may insure all the attention they require in that department during their stay at Luxor.

#### **SPECIAL STEAMERS.**

It having been repeatedly urged upon us the advisability of working a steamer on the Nile, allowing a longer time than usually shown by the time-tables, we tried the experiment during the season 1879-80 of an extra steamer, allowing four weeks between Cairo and the First Cataract and back. This steamer was patronised by thirty-three passengers, and all returned highly gratified with the special service. We therefore decided upon extending that arrangement, by announcing two such steamers during the following season. We do not intend to advertise a fixed date for these extra steamers during the season 1883-4, but shall be prepared to send a special steamer for 12 passengers at any date in accordance with the itinerary on pages 34 to 37.



It is scarcely necessary for us, nor is it our province to comment in any way upon the changes of government and administration that have taken place in Egypt, but as the present Khedive and his Ministers have personally expressed their appreciation of the part we have played in developing the Nile traffic, we may be pardoned referring to that fact and stating that we have been honoured by the present Khedive Administration with a new contract for a long term of years, under which we take the absolute control and working of the passenger steamers on the Nile.

Under this contract the Administration handed over to us seven steamers, which we have had to replenish and fit up in accordance with the requirements of travellers, and we wish it, therefore, to be understood that the

#### **STEAMERS ON THE NILE HAVE BEEN CONSIDERABLY IMPROVED IN ALL THEIR APPOINTMENTS.**

Through the long time the contract is granted to us we have taken upon ourselves to expend a considerable amount of money to secure the necessary improvements, and hope it is not necessary for us to assure the travelling public that under our arrangements they may rely upon everything being done that can possibly be done to insure as large an amount of comfort as it is possible to obtain on a steamboat service in such a country as Egypt.

In accordance with the new contract, we have refitted all the internal arrangements of the existing steamers, and the cabins have been made more roomy and comfortable. We have reduced the number of berths and added to the space of the different state rooms, so that with every berth occupied the steamers will not be inconveniently crowded, as they have hitherto been.

#### **THE "MASR,"**

The seventh steamer added to the fleet, is larger than the others, and has room on board for sixty passengers, of whom thirty-two can have single cabins. It has been entirely remodelled and refitted under our directions. The cabins and saloons are all on deck, and it resembles more the model of an American river steamer than any of its predecessors.

It started for the first time on February 1st, 1881, with nearly every berth occupied. This trip was the greatest success of



the season, and every passenger on board was exceedingly satisfied with all the arrangements.

The daily itinerary of the working of the steamers has been remodelled as per pages 22 to 33 of this pamphlet, and a full day is now given to Abydos instead of a few hours as heretofore.

The above outline will show our position as the sole managing agents of the steamers worked under the control of the Khedive Government Administration.

We now have pleasure in referring to a new steamboat service which the Egyptian Postal Administration started in 1880 between Assiout and Assouan for the special purpose of conveying mails between these two points; and improving the communication between the different towns and villages of Upper Egypt. As these steamers have accommodation for a limited number of first-class passengers, we have undertaken the sole passenger agency, by which we are able to give facilities and to book passengers

**FROM CAIRO TO THE FIRST CATARACT AND  
BACK FOR £22.**

**(Including four days' stay at Luxor.)**

It will be seen by the time-table on pages 44 and 45 of this pamphlet that these steamers will leave Assiout every Tuesday and Saturday morning, so that passengers can leave Cairo on Monday or Friday by railway, sleep on the steamers on Monday or Friday night, and commence their Nile voyage at 5 o'clock on the Tuesday or Saturday morning.

These steamers being specially appointed for the conveyance of mails will stop but a short time at each station; still they will stop a full day at the First Cataract, and allow a few hours at Edfou and Kenh, during which time a short visit may be made to these interesting places. At Luxor the steamers will stop only a few minutes, but as passengers will be allowed to break their journey at any point, they can remain there for three or four days until the following steamer, or for any steamer during the season. But it must be understood that to guarantee berths for the return on a subsequent steamer, passengers must state, before leaving Cairo, at what point of the Nile they intend to break their journey, and what steamer they intend to join on return.

Under this arrangement any travellers who wish can make the voyage of the Nile in fourteen or fifteen days (including a stay of



three or four days at Luxor) from Cairo to the First Cataract and back, at the cost of £22, or from Cairo to Luxor and back to Cairo in eleven days, with a stay of four days at Luxor, at the cost of £16.

From our own personal observations we have seen a very large number of travellers in Cairo who would have been glad to have made the ascent of the Nile, but they could not spend the three weeks occupied by the ordinary steamers. This new arrangement will meet their requirements.

We have also seen many invalids and others who have visited Egypt specially for the benefit of their health, who would have been glad to go up the Nile to derive the benefit of the Upper Egyptian climate, but who do not like to travel either by the steamboat service or the dahabeahs. Under this new arrangement, invalids, before leaving England or any other country, can make their arrangements at any of our offices, and secure berths beforehand on these steamers, and the rooms in the hotel at Luxor; so that they need not stay any longer than they wish in Cairo, but may proceed direct by railway and the new service of steamers to Luxor, and remain there as long as they wish, so that they return to Cairo before the close of the Egyptian season.

We were, therefore, thoroughly satisfied, from our own observations, that the new service of steamers, as arranged by the Egyptian Postal Administration, would be highly appreciated by a large number of travellers, and thus tend materially to improve the fellaheen, and be the means of circulating a large amount of money through Upper Egypt.

We can only add now that our anticipations have been fully realised, and about 400 first-class passengers took passage on these mail steamers during one season. These figures will show more than any comment the advisability of arranging this new service.

#### DAHABEAH ARRANGEMENTS.

Although our original pamphlet programmes of the Nile arrangements were written strictly in the interests of the Nile steamboat service, and for the purpose of giving information to those who wished to see the Nile as rapidly and as economically as possible; and although we have merited, to a certain extent, the accusation that we have ridiculed the expensive luxury of the dahabeah, still, during the past ten years, we have, at the request of private families, arranged for their voyage to the First or Second Cataract



by dahabeahs, and during the season of 1880-81 we had the pleasure of organising and carrying out no less than *eleven special private dahabeah parties*, and during that season, when not more than thirty-three dahabeahs went up the Nile, eight of them were under our arrangements.

We some time back leased three of the best known dahabeahs on the Nile, viz., the *Fostat*, *Gazelle*, and *Sultana*, and at the suggestion of a number of distinguished travellers who patronised our dahabeah arrangements we have added to this part of our business by taking on lease three other dahabeahs, viz., the *Ounas*, *Pharaoh*, and *Estelle*, and in 1881 we built a new one, the *Philetis*, and we now wish it to be understood that we are in such a position as enables us to provide, in the best possible manner, not only first class dahabeahs, but all their appointments and requirements. Plans of dahabeahs can be seen at our chief office, Ludgate Circus, London.

Through our position as managers and controllers of the steamboat traffic of the Nile we are enabled to give exceptional facilities to all travellers on dahabeahs under our arrangements. We can secure the best of well-informed dragomans, and can supply the best crews and servants that can be found on the Nile. To the present date we have not received a single complaint against the provisions and *cuisine* provided by us; but, on the contrary, we have received many flattering testimonials, assuring us that the dahabeah travellers have experienced as good if not better cooking and living on the dahabeahs under our command than in any of the hotels in the East.

Invalids and others engaging dahabeahs through us have the special advantage of being able to receive from the steamers constant supplies of fresh fruit, vegetables, poultry, &c., &c., and specially fresh beef, which cannot be had on board an ordinary dahabeah, unless seven or eight dahabeahs happen to meet together, enabling them to divide a whole bullock amongst them; they may also occasionally be towed for some distance, and, under our arrangements with our Cairo office, instructions are given to the officers in charge of the Khedive steamers to render any assistance that may be required by any dahabeah showing the flag of THOS. COOK & SON.

It will thus be seen that all who wish to travel on the Nile, and to secure the greatest possible comfort, need not hesitate to place their arrangements in our hands.



## OUTFIT AND CHOICE OF ROUTES.

In direct opposition to all existing guide-books and their stereotyped instructions, cautioning travellers to encumber themselves with a hundred useless articles they never want, we say : Come out to Egypt and on the Nile just as you would travel and are accustomed to travel anywhere else in spring or autumn. The climate from November to the end of March is delicious, dry, and warm, with few exceptions. No special precautions whatever are required, and it is quite sufficient to observe the regimen one usually is accustomed to. With respect to all the exaggerated rumours of dangers and frequency of ophthalmia, it is very rarely heard of amongst travellers. Good physicians and chemists are established at Alexandria and Cairo, and on board every Steamer there is a doctor, supplied with everything that may be wanted for ordinary cases of sickness or accident.

The only articles of *real* use is a white or green muslin veil, twined round the hat and covering the neck against the sun ; a parasol to be used as a stick, and thread gloves. Nor need any one be afraid of great heat during the Nile Excursion on board a Steamer ; on the contrary, be careful to take a warm shawl or a good overcoat along with you, as the evenings are very cool, and even during the day, when steaming against the wind, it is sometimes very cold. The only time when the heat is really felt is during the three days' stay at Luxor, the excursion to the Kings' Tombs, and when going from Assouan to Philæ ; still, as a rule, any person accustomed to open-air exercise can easily bear it, and the week spent on board the Steamer, before arriving at these places, is a capital preparation. Mosquitoes need not be feared, as they disappear from the cabins as soon as the Steamer moves.

All excess in eating and drinking must, of course, be carefully avoided ; the regular meals served in Hotels and on board the Steamers are all that is required. Coffee prepared in the Turkish fashion is served after all meals, and this delicious beverage can be had everywhere and at any time. Four meals a day are given on board the Steamers, viz., breakfast, lunch, dinner, and tea.

Great caution must be taken not to sleep with open windows, and not to lie exposed to the chilly night air. Very often severe diarrhoea results from carelessness in this respect. Instead of



imitating the Arabs in wearing the "fez," it would be much better to imitate them in wearing warm cloth round the stomach. The best time to visit Egypt and the Nile is from November to the end of March.

From all parts of Europe Railways lead to Venice, Trieste, Genoa, Naples, Brindisi, and Marseilles. The Peninsular and Oriental Steamers leave Venice every Friday, and Brindisi on Monday morning. The passage from Brindisi to Alexandria takes three days and a half. The price of passage is the same—£12 sterling First Class and £9 sterling Second Class—from Trieste, Venice, or Brindisi. The Austrian Lloyd's Steamers leave Trieste on Friday at midnight, stopping at Corfu for a few hours, and accomplishing the passage in five days. Both these lines are universally known for their splendid boats and the excellent first class accommodation they afford.

Full information respecting routes, fares, &c., can be obtained at our chief office, or any of our branch offices.

From Alexandria there is a Railway to Cairo; three trains run each way, in four hours by Express and six hours by Ordinary Trains. Tickets to be obtained at our offices in London, Alexandria, and Cairo.

The principal thing one must not forget is money, travelling in the East and Hotel accommodation being very expensive. English circular and bank notes generally lose 1 to 2 per cent. in exchange for gold; other notes are not current, nor can any payment be made except in specie. All travellers under our arrangements can be supplied with our circular notes or gold at the lowest rate of exchange.

#### GUIDE BOOKS.

These notes are not designed to supersede any of the existing guide-books, their only object being to give such special information as is generally wanted and wished for by intending Steamboat passengers. A few words may be added here concerning this subject.

"Cook's HANDBOOK FOR EGYPT AND THE NILE" is one of the most complete and most readable Handbooks published. Price 6s. With Five Maps. This work is out of print, but a new edition will shortly be published.

Baedeker's "Lower Egypt," 15s., contains elaborate geogra-



phical, historical, and ethnological notes, and is illustrated with 29 plans, 7 views, and 76 vignettes.

Murray's Handbook for Lower and Upper Egypt is published in two volumes, price 15s.

"Itinéraire de la Haute-Egypte," by Mariette Bey, is a practical description of the Nile monuments between Cairo and Assouan, and, emanating from official sources, is a valuable companion on a Tour to the First Cataract. An English edition of this valuable work has been published, price 7s. 6d.

Another interesting work, entitled "Nile Gleanings," has lately been published by Mr. Murray. It is written by Mr. H. Villiers Stuart, M.P., and goes fully into the ethnology, history, and art of ancient Egypt, as revealed by Egyptian paintings and bas-reliefs. Besides a sketch map of the Nile, there are fifty-eight coloured and outline plates from sketches and impressions taken from the monuments. The work is beautifully got up, and the price is 31s. 6d.

"The Land of the Pharaohs: Egypt and Sinai," is a handsome work, by the late Dr. Manning, and published by the Religious Tract Society. It is profusely illustrated with Pen and Pencil Sketches, and will serve as a souvenir for visitors to these ancient regions. It is handsomely bound, gilt edges, price 8s.

"Egypt: Descriptive, Historical, and Picturesque," is an elaborate work by Professor G. Ebers, translated from the original German by Clara Bell, and published in two volumes by Messrs. Cassell, Petter, Galpin & Co. It is beautifully printed on fine paper, and nearly every page is illustrated. Vol. I., £2 5s.; vol. II., £2 12s. 6d.

Messrs. J. S. Virtue & Co. have just published three volumes of an excellent work on Egypt and Palestine, to be completed in four volumes, entitled, "Picturesque Palestine, Sinai, and Egypt," edited by Col. Wilson, R.E., C.B., F.R.S., with the co-operation of Canon Tristram, Dr. Merrill, Dr. Schaff, and others. The illustrations are of the highest order, and the work, both for the table and the library, is worthy of its publishers. The price of each volume is 31s. 6d.

"Past and Present in the East," by the Rev. Harry Jones, is a new work published by the Religious Tract Society, price 5s.

"Palms and Temples," by Julian T. Biddulph Arnold, is the outcome of a memorable four months' voyage on the Nile. It is



well written and exceedingly interesting. This work is published by Messrs. Tinsley Brothers, price 12s.

### THE "HOTEL LUXOR," UPPER EGYPT.

For the special accommodation of invalids and others desirous of deriving the full benefit of the Upper Egyptian climate, an hotel or health resort has been established at Luxor.

Previous to this arrangement no accommodation of any sort was to be had anywhere on the Nile, and travellers intending to stay a month or more in Upper Egypt had to incur the cost and inconvenience of hiring a Dahabeah.

The Luxor Hotel was opened at the commencement of the season 1877-78, and the experiment has proved so successful as to induce our managers to double the size of the establishment. Our tickets allow passengers to break their journey at Luxor, on their way up or down the Nile, thus affording opportunities for the antiquarian to visit Karnak or Thebes, and to devote the time necessary for thoroughly examining these most interesting places.

Invalids intending to make the Nile their stay for the winter, will now be able to do so with more comfort than heretofore, and will have the attendance of a qualified medical gentleman, who resides in the hotel throughout the season.

Through the new steamboat service of the Egyptian Postal Department, letters are delivered at the Luxor Hotel regularly every Monday and Friday, and letters can be posted for Cairo, Europe, America, &c., every Wednesday and Saturday during the season.

Telegrams are received and forwarded regularly by English-speaking telegraph clerks, thus insuring communication between Luxor and any part of the globe.

Arrangements for a stay at Luxor Hotel can be made at any of our European Offices, or at our Office in Cairo (The Pavilion, Shepheard's Hotel) previous to starting. (See terms on page 43.)

### DEPARTURE FROM CAIRO AND DAILY ITINERARY.

Having secured a passage and paid for the Ticket, the preparations are soon completed; passengers have only to go on board at the appointed time with their luggage. Small change in copper—about ten francs a head—ought to be procured in



Cairo, and linen enough packed up to last for two weeks, no washing being done on board or by the way, except at Luxor. For a small gratuity the sailors will wash such articles as socks and handkerchiefs, but no ironing is done.

The state rooms contain one or two beds; in some boats there are all single cabins, with the exception of the stern and fore cabins, which are very roomy and always contain two or three beds. Any party applying in good time, and not minding the expense of a third berth, if the stern cabin contains three beds, can engage it beforehand, and thus secure greater comfort and privacy. Arrangements can also be made to have meals served separately in this cabin.

The ordinary course of steaming is shown in the following pages. It must, however, be borne in mind that any delay or faster steaming will necessarily change the time of arrival at the different stations all through, and it is only possible to give an approximate time-table. The rate of steaming is about eight miles per hour against stream, and from twelve to thirteen down the river.

THOMAS COOK & SON.

*September 22nd, 1883.*



## DAILY ITINERARY

Of the Khedive Administration Passenger Steamers as per Time Table on pages 38 and 39.

## SECTION I.

## CAIRO TO FIRST CATARACT AND BACK.

## FIRST DAY.

The starting-place is from above the new iron bridge "Kas-el-Nii," which leads to the Pyramids of Ghizeh. The Steamer generally leaves at 10 a.m., and arrives same day at noon at Badrachin (railway station, and starting-point to visit the site of Memphis, the Serapeum, the Pyramids of Sakkarah, Oonus and Dashoor). Under the new arrangements donkeys sent from Cairo the same day will be waiting at Badrachin to take the passengers to Memphis and the Serapeum.

We arrive back at the Steamer about 5 o'clock, and start immediately, and continue for a few hours, as far as Ayat, where we remain for the night. (Cairo to Ayat, 36 miles.)

## SECOND DAY.

In the morning we pass on our right the dwarf Pyramid, called "El Kedá," or False Pyramid. Towards noon we pass Wasta, a village of some importance. In the evening Feshneh is reached, where the Steamer remains for the night. (95 miles.)

## THIRD DAY.

We start early in the morning, and about noon pass the mountain "Gebel-el-Dayr," on the top of which stands a Coptic convent, whose inmates used formerly to plunge into the river as soon as a boat came in sight, and swimming towards it, with the greatest dexterity would catch hold of the small boat in tow, and climb on deck to ask for *backsheesh*, a practice which was stopped a few years ago by order of the Coptic Patriarch of Cairo.

We pass in succession the splendid sugar factories of Maghàga, Ben-in-Zaar, Samaloot, &c.



Late in the afternoon Minieh is reached ; it contains a fine palace belonging to the Viceroy, who generally spends a few weeks here in the winter; and a most extensive sugar manufactory, employing about 2,000 people. A visit to this establishment will well repay the trouble, and every attention is shown to visitors. The works generally commence manufacturing sugar about the beginning of January. We then continue to Beni-Hassan, two hours further. (170 miles.)

#### FOURTH DAY.

At Beni-Hassan, another halting-place for sight-seeing, swarms of beggars and miserable donkeys without saddles or bridles—the worst all along the Nile—await the arrival of the Steamer. This excursion is made early in the morning. The Rock Tombs of Beni-Hassan are reached in half an hour. The northern grottoes are high up on a hill to the left, and the Speos Artemedos straight on in a valley eastward—both ought to be visited. As soon as the excursion is ended the Steamer starts again. A few hours' course brings us in sight of the mountain "Gebel-aboo-faydah," and towards evening Manfaloot, a little town of some importance, is reached, but sometimes the steamers reach Assiout same evening. (250 miles.)

#### FIFTH DAY.

At Sioot, or Assiout, the residence of a Pasha, the Inspector-General of Upper Egypt, of which Assiout is the capital. The day is devoted to a visit to the large bazaar, and the hills behind the town, which afford a splendid view of the Nile Valley. A very important market is held at Assiout. Before the abolition of slavery it was the principal slave market ; but, minus this peculiarity, it offers still, at the present time, interesting features for the observer. Steamer leaves in the afternoon.

#### SIXTH DAY:

Girgheh is generally passed in the afternoon ; there is nothing of interest in this place—one of the dirtiest on the Nile. Bellianah is reached towards evening ; this town is the starting-point for visiting Abydos. This visit, however, is better postponed until



the return journey, starting from Bellianah. These ruins are so grand and magnificent that they cannot lose any of their charm and novelty, even after Karnak has been seen. Therefore, if we arrive at Bellianah early, the Steamer will proceed further until the Passes of Abooshoosheh are passed. (365 miles.)

#### SEVENTH DAY.

Kenah is reached towards noon. Donkeys will be in readiness on the left bank of the river, opposite to the town, to take the passengers to the Temple of Denderah, about an hour's ride. This is the first monument of the kind met with, and the impression it produces is never to be forgotten. It is rather puzzling at first to find one's way through the halls and through the heaps of ruins surrounding the walls, to discover any given site. However, a little practice will soon facilitate research.\*

After the excursion to Denderah, passengers and donkeys will cross the river and visit the town of Kenah. The best porous jugs and gargoulets for filtering the Nile water are made here; Kenah is also celebrated for its dates, and was once noted for its dancing girls. The latter, it appears, have now removed to Luxor, a place of greater attraction to visitors. (405 miles.)

#### EIGHTH DAY.

Arrive at Luxor about noon. Donkeys will be waiting, and immediately after lunch passengers will start for Karnak (only twenty minutes' ride from Luxor), and the whole afternoon will be devoted to that most important of Egyptian monuments. (450 miles.)

#### NINTH DAY.

At Luxor. The first day is generally devoted to a visit to the Kings' Tombs. Starting early in the morning across the stream, the donkeys having already been conveyed by

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\* The late Mariette-Pacha's "Itinerary to Upper Egypt," which has been translated into English, gives a very correct plan of Denderah, and gives full and accurate information concerning the various monuments on the Nile.





boats, in about an hour we arrive at the Temple-palace of Koorneh, and after having examined it continue our journey through the desolate valley, "Bab-el-Molook," to the Kings' Tombs. Only two or three of the most interesting need be entered—Belzoni's Tomb, No. 17, and Bruce's, No. 11. Luncheon is taken at the entrance to Tomb No. 6, which, by special permission of the Boulac Museum Administration, we have had cleared during the past summer, and this will allow a more comfortable way of taking luncheon than has hitherto been possible. After lunch, those who like to walk can go over the mountain chain, and come down near the Memnonium or Ramesium. The others return by the same way they came, and a halt is made at the Memnonium. On the way back to Luxor the ruins of the Temple of Amun III. and the sitting Colossi are visited.

## TENTH DAY.

At Luxor. Once more across the river, and partly over the same ground as the day before, to visit leisurely the Temple-palace of Medeenet Haboo, and after lunch make an excursion to one of the most interesting private tombs, No. 35, called "Dayr-el-Medeenet," situated on a hill behind the Memnonium. Close by are the Priests' Tombs, the largest of which may be visited by those who are not easily frightened by bats and rather rough and dangerous passages.

After making a second stay at the Memnonium the return to Luxor is effected. If still early a walk through Luxor and an exploration of the Temple, mostly hidden by Arab dwellings and stables, will finish the day.

## ELEVENTH DAY.

Half a day is left to the discretion of each passenger to visit Luxor itself and its Temple. The Steamer leaves at noon, arriving at Esneh at about 4 p.m. (485 miles.) The Temple of Esneh, which is distant only a few minutes from the river, is visited the same day.

## TWELFTH DAY.

The Steamer leaves early, and Edfou is reached towards noon. In the afternoon, excursion to the splendid Temple of Edfou, the most complete and best preserved monument in Egypt, giving



the best idea of the early Egyptian architecture. It is kept in custody by a Government officer, and is the only place where beggars are not allowed to bother you for *backsheesh*; but they are the more ravenous when you emerge again from the stronghold. (518 miles.)

#### THIRTEENTH DAY.

Leave Edfou early. Pass Gibel Silsileh in the forenoon. The quarries are better seen from the Steamer. Assouan, the limit of Upper Egypt and an important town, is reached in the afternoon. As soon as the Steamer stops, a swarm of Nubians come to offer ostrich feathers, eggs, and other articles for sale. The remainder of the day is devoted to the town and its bazaars. (585 miles.)

#### FOURTEENTH DAY.

After an early breakfast, donkeys and camels are waiting to carry us through the town and bazaar of Assouan and the cemetery, to the desert road leading towards Philæ. About a mile from the town, on the hills to the left, are the celebrated granite quarries where the obelisks were procured, and where one may be seen partly cut out of the rock. Continuing our road afterwards, in about one hour we arrive at the river, where a boat is waiting to convey us to Philæ. After exploring this enchanting place in every part, and lunching in the small temple amid the pillars overlooking the Nile, passengers bound to Wadi-Halfa cross the river here, and go on board the Second Cataract Steamer, which is anchored in front of the temple on the opposite side. Those who do not intend to go further up the Nile get into the boat or Dahabeah, and, instead of crossing the river back to the place where they embarked coming from Assouan, float down the river and stop a little above the Cataract. Landing here, they reach in a few minutes an eminence whence the finest view of the Cataract is obtained, and the Nubian boys are seen dexterously shooting the Cataract on logs of wood. They embark again and the boat proceeds across the river through small rapids to the village Mahattah. They then mount donkeys and camels, and return to Assouan by another road, striking to the left of the village, and coasting the Nile, all the way down enjoying the more



magnificent and varied views of the wild scenery. As a rule, guides and donkey boys do not like to take this way back, but the interest it offers is so great that on no account ought it to be abandoned.

[Passengers wishing to shoot the Cataract can do so—at their own expense and risk—by making arrangements the day before. The charge for a Dahabeah for a party to shoot the Cataract is from £8 to £12 sterling.]

#### FIFTEENTH DAY.

After breakfast, excursion to the Island of Elephantine on the other side of the river opposite to Assouan. The Steamer leaves Assouan about 11 a.m. Stop one hour for a visit to Kom Ombo in the afternoon. The Steamer will stay for the night at some distance past Edfou. X

#### SIXTEENTH DAY.

Arrive at Luxor in the forenoon. The remainder of the day is spent at Luxor.

#### SEVENTEENTH DAY.

Descend from Luxor to Bellianah, where donkeys have been telegraphed for from Luxor.

#### EIGHTEENTH DAY.

The excursion to Abydos is now made—a good two hours' ride through rich corn-fields.

In order to give as much time as possible to the visit of these ruins, which are amongst the most interesting on the Nile, we devote a whole day to this place, luncheon being taken along and spread in the Temple.

We are again on board towards evening, and should service require, the Steamer may resume its journey as far as Girgheh, eight miles further.

#### NINETEENTH, TWENTIETH, AND TWENTY-FIRST DAYS.

Continue the voyage without stopping, except at such places as were not visited according to Programme during the up journey; the Steamers only stop to coal, or for provisions, according to requirements.



## DAILY ITINERARY.

## SECTION II.

## FROM THE FIRST TO THE SECOND CATARACT.

The Khédivié Administration having placed a Steamer on the Upper Nile, to ply between Philæ and Wadi-Halfa, we inaugurated this new service six years ago. The experiment having proved a success, the Administration agreed to supply a larger and more comfortable steamer than the one with which we started the service. The voyage to Wadi-Halfa and back may be accomplished in 12 days, of which four and a half are employed in sight-seeing ashore, and after the return journey passengers will have to make the Upper Nile Steamer their hotel for two or three extra days, waiting the arrival of the Lower Nile Steamer at Assouan to take them back to Cairo. These few days will be found anything but unpleasant by those who delight in a soft climate and admire the beauties of nature. Varied scenes may be enjoyed every day, either by going in a boat round the Island, or down the river through the numberless rapids which precede the Cataracts, or by riding to the neighbouring villages and the granite hills which border the different camel paths towards Assouan. Were it only as a resting-place, Philæ would still be found delightful. Although navigation on the Upper Nile is quite as easy and secure, if not easier than that on the Lower Nile, it is desirable to allow three days' margin in case of any unforeseen delay above the First Cataract.

## FIRST DAY.

We are at Philæ, 5 miles from Assouan. Now we have left the confines of Egypt proper, and have entered Nubia. The Steamer by which we continue our voyage is waiting our arrival; our baggage has been transferred from the other steamer, and we remain here for the night.



The distances between the places of interest on the Upper Nile are very short, and with a few exceptions they all lie within a few minutes from the Steamer, so that although ample time is allowed for sight-seeing, several interesting places may be visited on the same day.

#### SECOND DAY.

An hour and a half's course brings us to Debod or Dabôd, a small village on the west side of the river (10 miles). Here is a ruin, in a good state of preservation, of a temple commenced by the Ethiopian King Ashar-Amun.

In two hours we reach Kardash or Gertássee, 15 miles from Debod, which possesses the remnant of a temple and a quarry.

In a few hours more we pass the narrow part of the Nile called "Bab-el-Kalabsheh," or Strait of Kalabsheh. For a distance of four or five miles the granite mountains inclose the river on either side, offering at every curve varied views of most grand and wild scenery. We get into the broad stream again, and Kalabsheh (14 miles from Kardash) is soon reached. The Steamer stops here four hours, and passengers visit the ruins, which are of some size and beauty, and consist of the remains of two temples; one, the largest temple in Nubia, must have been, when perfect, a magnificent pile. In some chambers, to which access can be gained, are paintings of the highest finish, in colours as vivid as on the day on which they were executed. The smaller temple, called "Bayt-el-Welly," or "House of the Saint," lies against a rocky hill to the right, and is partly cut out of the rock. Although difficult of access, it is worth while to attempt the ascent, as the temple contains excellent paintings, and the sculptures, recording the battles of Rameses, are perfect.

#### THIRD DAY.

We pass and visit successively Dendoor, 12 miles from Kalabsheh, and Kirscheh, 10 miles further, which have cavern temples of some magnitude.



The same day brings us to Dakkeh (10 miles), where there is a temple supposed to have been built by the Ethiopian King Ergamun; a part of it is in a very good state of preservation. The sculptures and hieroglyphics are extremely good, and in admirable condition.

The Steamer proceeds for some time yet and possibly reaches Maharraka, 7 miles from Dakkeh; here is a small temple, of which but two rows of columns remain entire.

#### FOURTH DAY.

(16 miles.) Arrive at Saboa or Wady-Sabóah, "The Valley of the Lions." It has little to indicate its former splendour. The temple of Rameses II. is nearly buried in the sand. Two statues, however, remain in sight, which may induce a short visit.

Arrive at Korosko, 16 miles further, and about 100 miles from Philæ. It is from here that the great high road stretches across the Desert to Shendy and Sennaar. Most of the caravans for Khartoom start from Korosko. Behind the village is a peak called "Awes-el-Guarany," the top of which is held sacred by the natives, and is a point of pilgrimage, as being the tomb of the saint from whom the mountain derives its name. The Steamer remains at Korosko five hours, to enable the passengers to accomplish the ascent of this peak—a rather difficult task of about half an hour, over a steep path full of volcanic remains. The journey will repay the fatigue, the view from that spot being very fine, commanding on one side the Nile Valley, and on the other the desert road winding its course amid rocky hills, and close to the village and the road itself numberless caravans lying at rest. Passengers who wish can post letters at Korosko.

#### FIFTH DAY.

Stop at A'mada, about 8 miles from Korosko, and there visit a very interesting little temple.

We then come to Derr, only 5 miles further, a large town, the capital of Lower Nubia. It is famous for its dates. Here the Steamer remains three hours, thus affording ample opportunity



for a walk through the straggling streets of the town, which, like all other towns and villages in Nubia, consists of mud huts thatched with reed and palm leaves. It contains also a temple, which may be visited, although it is not in a good state of preservation.

The next place at which the Steamer stops is Ibrim, or Ibream, 15 miles from Derr. In addition to two little temples or tombs, cut out in the rock, there is a castle built by the Romans, whence a fine view is to be had of the Nile and the surrounding hills.

#### SIXTH DAY.

Arrive at Ipsamboul, or Aboo-Simbel (32 miles). This monument is the greatest attraction Nubia has to offer to the antiquarian student. It is hewn in the solid rock, and is rendered specially imposing by four gigantic figures of Rameses II., each 66 feet high. The temple is partly choked with sand, and somewhat difficult of access, but the interior well repays the exertion. It is divided into four compartments, and is 185 feet deep. The paintings and sculptures exceed in beauty and grandeur any which the tourist has hitherto seen on the Nile. The smaller temple, 84 feet in depth, is dedicated to Athor; the façade is ornamented with six colossal statues of Rameses, his wife, and children. A whole day is devoted to the examination of these temples. The remainder of the day is devoted to the examination of these temples.

#### SEVENTH DAY.

Arrive at Wadi-Halfa (40 miles from Aboo-Simbel and about 210 miles from Philæ), the terminal point of the voyage. The Second Cataract is 7 or 8 miles further south, and consists of rapids, which, extending for about 5 miles, thoroughly impede the navigation of the river; indeed, for nearly 100 miles the bed of the river is a succession of rocks. A good view of the Second Cataract and the surrounding country is obtained by ascending the cliff called Aboo-Seer, and to afford the opportunity of doing so the Steamer remains at Wadi-Halfa a whole day before returning.



## EIGHTH DAY.

The excursion to Aboo-Seer is better made very early in the morning, as it is quite two hours' ride on the opposite bank of the river, where donkeys have already been passed by ferry-boat in readiness for the passengers.

## NINTH, TENTH, AND ELEVENTH DAYS.

Begin the return journey, which is continued without stoppages of importance.

Arrive at Philæ on the evening of the 11th day, or on the morning of the 12th.

## TWELFTH DAY.

Visit to the Cataract in a boat, and the remaining two days to be spent at leisure, until we effect our change to the down river steamer at Assouan, and continue to Cairo as per First Cataract itinerary.

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RETURN VOYAGE.

When, on the down voyage, the boat stops at any place which is not marked in the itinerary as a regular stopping-place, or touches twice at the same station, passengers who want donkeys to visit these places a second time must pay for the donkeys themselves; the same applies to night excursions, visiting Karnak, or any other place, by moonlight, or going to Fantasias.

This three weeks' excursion on the Nile, and life on board a steamer, is generally quite long enough for any one, and it is with great delight that the view of the citadel and minarets of Cairo is hailed. A gentleman passenger once expressed his feelings very properly in saying that to do all the work and sight-seeing up the Nile, and then to float idly down in a steamer was just like reading a highly interesting book, and, when finished, turning its leaves once more leisurely over and lingering with delight on the most beautiful passages, have a last glimpse at them, and be very glad to have done with it.



Should any passenger desire to return to Cairo a day or two sooner, he can be put down at any of the railway-stations between Assiout and Ghizeh ; but as there is only one train a day, he must be careful not to miss it, or he might go without bed and food.

The best course is not to interfere nor propose any change whatever in this itinerary based on experience. Some people will do so, and thus cause disorder and sometimes displeasure.

A copy of the general bill of regulations will be found on pages 40 and 41.

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#### FARES.

The Fares to the First and Second Cataracts are as follows, which include Guides and Donkeys (with saddles) to visit all the Monuments, and *backsheesh* to servants and crew :—

From Cairo to the First Cataract and back, 20 days - £50

From Cairo to the Second Cataract and back, 35 days - £80



## EXTRA STEAMERS TO THE FIRST CATARACT.

ALLOWING MORE TIME THAN THE REGULAR STEAMERS.

MANY visitors to Egypt who have availed themselves of the Khédivié Steamers to go up the Nile have expressed the opinion that it would be advisable for us to organise special Steamers to the First Cataract for such passengers to whom time is no object, giving them more time at places of interest, allowing any who might feel so inclined to pay more than one visit to monuments which may have more particularly attracted their attention.

In compliance with this suggestion, and as an experiment, we sent an extra Steamer during the season 1879-1880. The success of this Steamer having surpassed all our anticipations, we decided to send two such Steamers during the following season. These two trips having met with the same favour as the first year, we will continue the arrangement during the coming season for any special party of not less than 12, but for the reason explained in the introduction to this pamphlet, we do not think it advisable to advertise any fixed dates of departure during this season. These Steamers will occupy four weeks instead of three. They will nevertheless run in connection with the Second Cataract Steamer. The whole supplementary week being spent on the way up, the intending travellers to the Second Cataract will lose nothing by changing steamer. The return voyage of the Special Steamers will be effected in about the same number of days as occupied by the regular Steamers.

### ITINERARY.

We intend merely to indicate as briefly as possible in this Itinerary the time of arrival of the Steamer at the several places, and the time when excursions are to be made to the monuments and points of interest.



*Tuesday.*—Steamer leaves “Kasr-el-Nil,” the Iron Bridge, at 10·0 a.m. Reach Badrachin at about noon. After luncheon, start at once on donkeys for Sakkárah and the Serapeum. Visit the Serapeum, the Pyramids, &c.; return towards evening to the Steamer, passing the site of Memphis.

*Wednesday.*—Steamer starts early. No stoppage until Beni-Souef, which is reached at night.

*Thursday.*—Minieh is reached towards evening. Visit the town and the sugar factory, which is better seen at night in full work.

*Friday.*—Arrive at Beni-Hassan (two hours from Minieh) at about 7·30 a.m. Visits to the Tombs. Steamer leaves at 2·0 p.m., arriving same evening at Hadji-Kandeel, a small village.

*Saturday.*—Start on donkeys at 8·0 a.m. for Tel-El-Amara, visit the grottoes, and return to the Steamer at 1·0 p.m. for luncheon. Steamer starts again, and arrives towards evening at Manfaloot, passing during the afternoon the mountain called “Gebel-aboo-feydah.”

*Sunday.*—Arrive at Assiout at about 9·0 a.m. Steamer leaves at 3·0 p.m. and stops for the night at “Gow-El-Kébir,” a small village.

*Monday.*—Steamers leave early, and arrives at “Soohag” towards noon. The afternoon is devoted to an excursion to the two Coptic Convents, “Dayr-el-Abiad” and “Dayr-el-Ahmar.”

*Tuesday.*—Steamer does not stop during the day, and Keneh is reached towards evening.

*Wednesday.*—Whole day devoted to Keneh and Denderah. After breakfast visit Keneh and its potteries, and then cross the river and ride to the Temple of Denderah. Luncheon taken in the temple. Return to the Steamer about 5·0 p.m.

*Thursday.*—Steamer leaves early and arrives at Luxor at noon. The afternoon is devoted to Luxor and its Temple.

*Friday.*—At Luxor. Start at 8·0 a.m., cross the stream, and then on donkeys to the Temple of Koorneh; continue through Valley of Bab-el-Molook to the Kings’ Tombs. Luncheon taken at the entrance to Tomb No. 6. On the return, visit the



Memnonium, the ruins of the Temple of Amunoph III., and the Sitting Colossi.

*Saturday.*—At Luxor. Once more across the river, visit Temple Palace of Medinet-Aboo; lunch in the Temple. After luncheon visit the Tombs of Dayr-el-Medinet and the Priests' Tombs. Halt at the Memnonium and return to the Steamer towards evening.

*Sunday.*—At Luxor.

*Monday.*—At Luxor. This day is entirely devoted to visiting the Temples of Medamoud and Karnak on the Luxor side of the river, luncheon being taken in the Temple of Karnak.

*Tuesday.*—At Luxor until noon. Steamer leaves at noon, reaches Esneh same afternoon. Visit the temple, a short distance from the river.

*Wednesday.*—Steamer starts in the morning, reaches "El-Kab" towards 9·0 a.m. Excursion to the grottoes. Steamer leaves again at 2·0 p.m., reaches Edfou same evening.

*Thursday.*—After breakfast start on donkeys for a visit to the temple. Steamer leaves at 3·0 p.m. Stops at Bouyab for the night.

*Friday.*—Steamer leaves early; stops two hours on the way to visit the quarries of "Gebel-el-Silsileh," and the small Temple of "Kom Ombo," both on the river; and Assouan is reached towards evening.

*Saturday.*—At Assouan. Early breakfast and start on donkeys to Philæ and the Cataract, visiting on the way the Obelisk quarries. Luncheon taken in the small temple at Philæ, and return to the Steamer for dinner.

*Sunday.*—At Assouan.

*Monday.*—At Assouan. Second excursion to Philæ, or excursion to Island Elephantine and the Nilometer. Passengers intending to make a second excursion to Philæ are requested to give notice to the manager on board the day previous. Return to Steamer by 3·0 p.m. Steamer starts immediately, and reaches Kom Ombo in the evening. When at Philæ passengers for Wadi-Halfa leave the excursion to go on board the Second Cataract Steamer, which lies on the opposite side of the river in front of the temple.



*Tuesday.*—Arrive at Luxor at 4·0 p.m.

*Wednesday.*—Arrive at Farshoot ; stay for the night.

*Thursday.*—Steamer leaves early, so as to arrive at Bellianah at about 8·0 a.m. On donkeys to Abydos ; luncheon taken along ; and return to the Steamer by 5·0 p.m. Steamer continues until Girgheh (eight miles further), and remain there for the night.

*Friday.*—Arrive at Assiout in the afternoon.

*Saturday.*—Leave Assiout 10·0 a.m. ; reach Rhoda towards evening.

*Sunday.*—Arrive at Ayat.

*Monday.*—Arrive at Cairo (Kasr-el-Nil) at about 8·0 a.m.

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**FARE FOR THE ABOVE TOUR ... .. £64.**

The Fare includes guides and donkeys, with saddles, to visit all the monuments, and *backsheesh*.

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**GENERAL OBSERVATIONS.**

The fares before mentioned cover everything—living on the Steamers, guides, donkeys, also saddles (English saddles for ladies), and boats to cross the river when necessary, as well as the boat for Philæ and back ; also candles to light the caves, gratuities to servants and crew, and the regular fees to donkey boys. But who could satisfy and silence the never-ending craving for *backsheesh*? Every passenger, therefore, ought to have some coppers to give away occasionally.



## Proposed Movements of COOK'S

### FROM CAIRO TO ASSOUAN

No. of Voyage.	Leave BOULAC.	Arr. AYAT.	Arr. FESHNEH.	Arr. MINIEH.	Arr. MANFALOOT.	Arr. ASSIOOT.	Arr. BELLIANAH.
	Tuesday 10 a.m.	Tuesday evening.	Wednesday evening.	Thursday evening.	Friday evening.	Saturday.	Sunday evening.
	1883.						
1	Dec. 18	Dec. 18	Dec. 19	Dec. 20	Dec. 21	Dec. 22	Dec. 23
	1884.						
2	Jan. 1	Jan. 1	Jan. 2	Jan. 3	Jan. 4	Jan. 5	Jan. 6
3	Jan. 15	Jan. 15	Jan. 16	Jan. 17	Jan. 18	Jan. 19	Jan. 20
4	Jan. 29	Jan. 29	Jan. 30	Jan. 31	Feb. 1	Feb. 2	Feb. 3
5	Feb. 12	Feb. 12	Feb. 13	Feb. 14	Feb. 15	Feb. 16	Feb. 17
6	Feb. 26	Feb. 26	Feb. 27	Feb. 28	Feb. 29	Mar. 1	Mar. 2

### FROM CAIRO TO WADI-HALFA

	1884.
	I.
Leave Cairo ... ..	Jan. 1
Leave Philæ ... ..	Jan. 17
Arrive Wadi-Halfa ... ..	Jan. 23
Arrive Cairo ... ..	Feb. 4

The above are the dates intended for the sailing of the Steamers during the Khedive Administration nor their Agents (Thos. Cook & Son) hold themselves



## NILE STEAMERS. (1st Class only.)

### (FIRST CATARACT) AND BACK.

Arr. KENEH.	Arr. LUXOR.	Arr. ESNEH.	Arr. EDFOU.	Arr. ASSOUAN.	Arr. LUXOR.	Arr. BELLIANAH.	Arr. BOULAC.
Monday.	Tuesday.	Friday.	Saturday.	Sunday.	Wednesday noon.	Thursday.	Monday.
					1884.		
Dec. 24	Dec. 25	Dec. 28	Dec. 29	Dec. 30	Jan. 2	Jan. 3	Jan. 7
Jan. 7	Jan. 8	Jan. 11	Jan. 12	Jan. 13	Jan. 16	Jan. 17	Jan. 21
Jan. 21	Jan. 22	Jan. 25	Jan. 26	Jan. 27	Jan. 30	Jan. 31	Feb. 4
Feb. 4	Feb. 5	Feb. 8	Feb. 9	Feb. 10	Feb. 13	Feb. 14	Feb. 18
Feb. 18	Feb. 19	Feb. 22	Feb. 23	Feb. 24	Feb. 27	Feb. 28	Mar. 3
Mar. 3	Mar. 4	Mar. 7	Mar. 8	Mar. 9	Mar. 12	Mar. 13	Mar. 17

### (SECOND CATARACT) AND BACK.

1884. II.	1884. III.	1884. IV.
Jan. 15	Jan. 29	Feb. 12
Jan. 31	Feb. 14	Feb. 28
Feb. 6	Feb. 20	Mar. 5
Feb. 18	Mar. 3	Mar. 17

season 1883-84, which will be adhered to as closely as possible, but neither the responsible for any alterations that may be found necessary.



## COOK'S NILE STEAMERS.

## REGULATIONS.—NOTICE TO PASSENGERS.

**ART. 1. Tickets.**—Passage Tickets may be obtained at Cook's Agencies. The name and nationality of the passenger must be inserted (the number of the berth to be allotted in Cairo).

The Tickets are personal, and passengers holding the same are entitled to be provided with food and one berth and all excursions as per daily itinerary on pages 22 to 33.

Children from three to ten years of age pay half fares for the voyage to the First Cataract; those under three years will go free, provided they do not exceed their parents in number, in which case one-fourth of the passage rate will be charged for each child.

If any passenger should not be able to leave Cairo by the Steamer for which he has been booked, his Ticket will be available for the two following Steamers; but, in such case, he will lose all right to priority for allotment of berths. Travellers not embarking on the first or second Steamer following the one they were booked for, forfeit all claim to subsequent departure, and will have no claim against Thos. Cook & Son or the Egyptian Government for the passage money previously paid.

N.B.—Any person found on board the Steamers without a Ticket, after departure, will have to pay double fare, if there is an empty Cabin; otherwise, will be put on shore on reaching the first Station, and will have to pay three times the rate of passage between the two Stations.

**ART. 2. Luggage.**—Each passenger is allowed to ship 200 lb. of luggage, not exceeding 2 cubic metres in measurement, free of charge; but luggage exceeding the quantity allowed will be charged for thus:—For the first Cantar (100 lb.), one Egyptian pound; for the second Cantar, three do.; and so on. Luggage must be packed in boxes or trunks well secured with locks, and bearing the name of the owner in large letters; luggage not so conditioned can be refused.



**ART. 3. Departure from Stations.**—Before leaving any Station the Manager in charge of the Service of the Steamer shall give notice of the departure, either by bell or whistle ; such notice will be given three times, at intervals of one quarter of an hour, up to the time of leaving.

On returning on board at any of the Stations the Manager in charge shall call all the passengers by name ; and in case of any being missing at the time of departure the fact of such absence will be duly registered.

**ART. 4. Interruption of Voyage.**—Any passenger wishing to leave the Steamer at any of the Intermediate Stations may do so ; but, notwithstanding his having paid the full fare to any other Station beyond, he will not be entitled to a passage by any other Steamer, and will forfeit the difference paid in favour of the Administration, except if Luxor is the stopping place.

**ART. 5. Arrival at Cairo.**—On reaching Cairo after the expiration of the voyage, passengers will have to withdraw their luggage immediately ; twenty-four hours afterwards the luggage will be landed at their expense, and deposited in docks of the Administration, where the passengers may claim it on payment of Ten Piastres Tariff per day for each trunk or package.

**ART. 6. Valuables and Specie.**—The Administration is responsible for specie or valuables taken on board by passengers only when they have declared the same before departure, paid the freight, and consigned them to the Manager in charge.

**ART. 7. Medical Assistance.**—Sick passengers may claim the attendance of the Doctor who always accompanies a Passenger Steamer, and are entitled to be supplied with medicines from the ship's pharmacy during the voyage, without any extra charge.

**ART. 8.** In case of any delay or accidents to the Steamers, it must be distinctly understood that the loss of time and extra expense (if any) will have to be borne by the passenger, as although every exertion will be used to keep to time, neither the Administration nor the Agents will be responsible for delays ; and no claim can be made for any such loss of time or extra expense.



NEW SERVICE  
OF  
EGYPTIAN POSTAL DEPARTMENT  
MAIL STEAMERS

BETWEEN ASSIOT AND ASSOUAN,

IN CONNECTION WITH THE

UPPER EGYPTIAN RAILWAY SERVICE BETWEEN CAIRO & ASSIOT.

**M**ESSRS. THOS. COOK & SON have pleasure in calling the attention of intending visitors to Egypt to the Time Table on pages 44 and 45 of this Pamphlet-programme, giving full particulars of a new cheap Steamboat Service by which passengers can be booked from any part of America or Europe to all principal points of interest in Upper Egypt.

By this new service travellers limited for time can accomplish the journey from Cairo to Assouan (the First Cataract) and back in 14 or 15 days for £22, including four days' stay at Luxor Hotel. Also the journey from Cairo to Luxor only with four days' stay at Luxor for £16. Any wishing to stay at other important places on the Nile and resume their voyage by following steamers can do so by arrangement before leaving Cairo.

Invalids and others wishing to go direct to Luxor can leave Cairo any Monday or Friday and arrive at Luxor the following Thursday and Monday.

For full particulars and to secure berths, apply to Messrs. THOS. COOK & SON, Sole Agents for the Egyptian Postal Department Mail Steamers.

CHIEF OFFICE—Ludgate Circus, London.



## THROUGH FARES

BY

## EGYPTIAN POSTAL STEAMERS.

## TRIP OF 14 DAYS.

From Cairo to Assouan and back to Cairo (including railway from Cairo to Assiout and back, passage and food on steamer, and four days' hotel accommodation at Luxor).

1st Class throughout, £22.

## TRIP OF 11 DAYS.

From Cairo to Luxor and back to Cairo (including railway from Cairo to Assiout and back, steamer passage and food on board, and four days' hotel accommodation at Luxor).

1st Class throughout, £16.

Additional hotel accommodation cards may be had at our offices for a lengthened stay at Luxor Hotel on the following terms :—

For one to four weeks at the rate of	. 15s. per day.
For one month	„ . 14s. „
For two months or more	„ . 13s. „

Married couples or two friends occupying one room will be charged 1s. per day less.

These prices include all meals as generally supplied in hotels in Egypt, bedroom, lights, and attendance.



## EGYPTIAN POSTAL

SERVICE BETWEEN ASSIOOT AND ASSOUAN, LEAVING

ITINERARY.—ASSIOOT TO ASSOUAN.

(A) Excess of Baggage. £ s. d.	STATIONS.	TIME OF		Days.
		Arrival.	Departure.	
...	ASSIOOT ... ..	...	12 5 a.m.	Tuesday and Saturday.
...	Abootig ... ..	3 15 a.m.	3 25 "	
...	Sedfe ... ..	4 45 "	4 50 "	
...	Teme ... ..	5 50 "	5 55 "	
...	Tahta ... ..	8 25 "	8 35 "	
...	Maraga ... ..	10 50 "	10 55 "	
0 0 9	SOHAG ... ..	2 15 p.m.	2 30 p.m.	
...	Akhmim ... ..	3 15 "	3 25 "	
...	Mansheeah ... ..	5 5 "	5 10 "	
0 1 0	GIRGHEH ... .. {	7 0 "	...	
...	...	...	4 0 a.m.	Wednesday and Sunday.
0 1 1	BELLIANAH ... ..	6 20 a.m.	6 30 "	
...	Abooshoosheh ... ..	7 30 "	7 35 "	
...	Farshoot ... ..	11 5 "	11 15 "	
...	Deshneh ... ..	3 0 p.m.	3 10 p.m.	
0 1 8	KENEH ... .. {	6 20 "	...	
...	...	...	4 0 a.m.	Thursday and Monday.
0 2 0	LUXOR ... ..	12 0 noon	12 10 p.m.	
...	Armant... ..	2 10 p.m.	2 20 "	
...	Matahne ... ..	5 50 "	6 0 "	Friday and Tuesday.
0 2 5	ESNEH ... .. {	7 40 "	...	
...	...	...	4 0 a.m.	
0 2 9	EDFOU ... ..	10 0 a.m.	12 0 noon	Saturday and Wednesday
...	Gebel Silsileh ... .. {	5 0 p.m.	...	
...	...	...	4 0 a.m.	
...	Kom Ombo ... ..	7 0 a.m.	7 10 "	Saturday and Wednesday
0 3 5	ASSOUAN ... ..	12 0 noon	...	

FARE: CAIRO TO ASSOUAN AND BACK, £22.

" CAIRO TO LUXOR AND BACK, £16.

N.B.—When departures take place at day-break, passengers will be allowed to go on board the previous evening.

Trains in connection with these steamers leave Cairo Mondays and Fridays at 8:30 a.m.



## ADMINISTRATION STEAMERS.

ASSIOOT EVERY TUESDAY AND SATURDAY.

## ITINERARY.—ASSOUAN TO ASSIOOT.

(A) Excess of Baggage.	STATIONS.	TIME OF		Days.
		Arrival.	Departure.	
£ s. d.	ASSOUAN ... ..	...	3 0 p.m.	} Sunday & Thursday.
...	Kom Ombo ... ..	{ 5 40 p.m.	...	
...	Gebel Silsileh ... ..	...	6 0 a.m.	} Monday and Friday.
0 0 8	EDFOU ... ..	7 45 a.m.	7 50 ,,	
0 1 1	ESNEH ... ..	10 40 ,,	10 50 ,,	
...	Matahne ... ..	1 50 p.m.	2 5 p.m.	
...	Armant... ..	2 50 ,,	3 0 ,,	
0 1 5	LUXOR ... ..	{ 6 0 ,,	...	} Tuesday and Saturday.
...	Goos ... ..	...	5 0 a.m.	
0 1 10	KENEH ... ..	7 0 a.m.	7 10 ,,	
...	Deshneh ... ..	9 10 ,,	noon.	
...	Farshoot ... ..	1 40 p.m.	1 50 p.m.	
...	Abooshoosheh ... ..	3 50 ,,	4 0 ,,	} Saturday.
0 2 4	BELLIANAH... ..	5 50 ,,	5 55 ,,	
...	...	6 35 ,,	6 45 ,,	
0 2 8	GIRGHEH ... ..	{ 8 0 ,,	...	} Wednesday and Sunday.
...	Mansheeah ... ..	...	5 0 a.m.	
...	Akhmim ... ..	6 10 a.m.	6 15 ,,	
0 2 9	SOHAG ... ..	7 10 ,,	7 20 ,,	
...	Maraga ... ..	7 50 ,,	8 20 ,,	
...	Tahta ... ..	10 5 ,,	10 10 ,,	} Sunday.
...	Teme ... ..	11 10 ,,	11 20 ,,	
...	Teme ... ..	12 40 p.m.	12 45 p.m.	
...	Sedfe ... ..	1 15 ,,	1 20 ,,	
...	Abootig ... ..	2 5 ,,	2 15 ,,	}
0 3 5	ASSIOOT ... ..	4 0 ,,	...	

(A) Every passenger is allowed 100 lb. of baggage free. Excess is charged on every 20 lb. or fraction of 20 lb., as per tariff.

*The times of the above service, in each direction, are subject to alteration.*

On return journey trains leave Assioot Thursday and Monday at 8.0 a.m.



# STEAMBOAT TRIPS ON THE NILE

TO THE

## FIRST & SECOND CATARACTS & BACK,

ARRANGED,

By Authority of the Khedivie Administration,

BY

### THOMAS COOK AND SON,

Tourist Offices, Ludgate Circus, LONDON; and  
Tourist Pavilion, Shepheard's Hotel, Cairo;

ALSO AT THEIR CHIEF AMERICAN OFFICE,

261, BROADWAY, NEW YORK.

#### TOURS TO LOWER EGYPT AND THE NILE.

Through Fares are shown by several Routes, from London, Paris, Geneva, and Italy. From any other places on the Continent the Fares can be estimated on the principle of addition or subtraction, according to locality.

#### FIRST NILE TOUR,

From London to Paris *via* Dover and Calais (or other routes at proportionate fares); Paris to Genoa, by Mont Cenis and Turin; Genoa to Alexandria, by Rubattino Steamer; Alexandria to Cairo, by Egyptian Railway; Cairo to First or Second Cataract and back. (This arrangement terminates at Cairo, leaving travellers to select their own route in return, or extend the Tour to Palestine, by arrangement at Cairo.)

The provision includes 15 days' European Hotel Coupons, and 10 days' Coupons for Egyptian Hotels; landing expenses at Alexandria; all expenses for donkeys and guide on the banks of the Nile; *backsheesh* to steamboat officers and crew on the Nile Steamers, and all provisions on the Steamers, except wine and other drinks.

	To First Cataract.		To Second Cataract.	
	1st Class.	2nd Class.	1st Class.	2nd Class.
	£ s.	£ s.	£ s.	£ s.
From London - - - -	86 10	81 10	116 10	111 10
From Paris - - - -	83 10	79 5	113 10	109 5
From Geneva - - - -	81 0	77 5	111 0	107 5
From Genoa - - - -	78 13	75 13	108 13	105 13
From Rome - - - -	77 10	74 15	107 10	104 15
From Naples - - - -	76 2	73 16	106 2	103 16



## FIRST NILE TOUR,

### GOING BY PENINSULAR AND ORIENTAL STEAMER FROM ITALIAN PORTS:—

	To First Cataract.		To Second Cataract.	
	1st Class.	2nd Class.	1st Class.	2nd Class.
	£	s.	£	s.
From London, viâ Mont Cenis and Venice	88	0	118	0
* From London, viâ Naples and Brindisi	93	0	123	0
* From London, viâ Ancona and Brindisi	91	2	121	2

\* Fares by AUSTRIAN LLOYD'S from Brindisi, viâ Corfu, will be quoted upon application.

### GOING BY MESSAGERIES MARITIMES, viâ MARSEILLES:—

	To First Cataract.		To Second Cataract.	
	1st Class.	2nd Class.	1st Class.	2nd Class.
	£	s.	£	s.
From London	89	10	119	10

Fares from Paris, Geneva, Rome, &c., will be quoted upon application.

## SECOND NILE TOUR,

### PROVIDING FOR RETURNING TO THE STARTING-POINT.

ROUTE.—From London to Paris, viâ Dover and Calais, Turin, Genoa, Alexandria, Cairo, the Nile, to First or Second Cataract and back; Alexandria, Naples, Rome, Florence, Turin, Paris, Calais, Dover, London. (Or the reversal of this route through Italy, taking Steamer at Naples, and returning by Steamer to Genoa.) Provisions of 15 days' European, and 10 days' Eastern Hotel Coupons, landing and re-embarking at Alexandria, and provisions on the Nile, same as in the First Tour.

### BY THE RUBATTINO LINE.

	To First Cataract.		To Second Cataract.	
	1st Class.	2nd Class.	1st Class.	2nd Class.
	£	s.	£	s.
From London and back	105	10	135	10
From Paris and back	99	10	129	10
From Geneva and back	94	15	124	15
From Genoa or Naples and back to Genoa and Turin	90	10	120	10
From Rome and back to Rome	88	0	118	0

### BY THE PENINSULAR AND ORIENTAL LINE.

	To First Cataract.		To Second Cataract.	
	1st Class.	2nd Class.	1st Class.	2nd Class.
	£	s.	£	s.
* From London, going by Venice and returning by Brindisi, Naples, Rome, Florence, Turin, &c.	116	5	146	5
From London, going by Brindisi (direct line by Ancona), and returning by Brindisi, Naples, Rome, Florence, Turin, &c.	119	5	149	5

\* These Routes may be reversed in Italy, going first by Brindisi and returning by Venice.

FARES FROM PARIS AND GENEVA will be quoted upon application.



**Cook's Personally Conducted**

**AND INDEPENDENT**

**PALESTINE TOURS,**

**BY ALL ROUTES,**

WITH EXTENSIONS TO

**EGYPT AND THE NILE,**

SINAI, PETRA, MOAB, THE HAURAN,

**TURKEY, GREECE, AND ITALY,**

SHORT TOURS THROUGH

ITALY TO LOWER EGYPT,

THE PYRAMIDS OF GHIZEH, SUEZ CANAL,

**JERUSALEM, & BETHLEHEM,**

WITH EXTENSIONS TO

Mar-Saba, The Dead Sea, The Jordan, Jericho,

BETHANY, &c., &c.

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SPECIAL PROGRAMMES may be had on application to

**THOS. COOK & SON,**

Chief Office—Ludgate Circus, London.

West-End Office—35, Piccadilly (opposite St. James's Church).

Strand Office—445, West Strand.

Euston Road Office—In front of St. Pancras Station.

Crystal Palace—Tourist Court.



# OFFICES AND AGENCIES OF THOMAS COOK AND SON.

**CHIEF OFFICE:**—Ludgate Circus, Fleet Street, London.

**BRANCH OFFICES:**

**LONDON** { West-end Office—35, Piccadilly, opposite St. James's Church.  
Strand Office—445, West Strand.  
\*Army and Navy Co-operative Society—Victoria Street, S.W.  
Euston Road Office—In Front of St. Pancras Station.  
\*Crystal Palace—Tourist Court.

**MANCHESTER**—61, Market Street.  
**LIVERPOOL**—11, Ranelagh Street.  
**BIRMINGHAM**—Stephenson Place.  
**WALSALL**—Post Office Buildings, The Bridge.  
**WOLVERHAMPTON**—27, Queen St.  
**LEEDS**—1, Royal Exchange.

**BRADFORD**—8, Exchange, Market St.  
**SHEFFIELD**—Change Alley Corner.  
**NOTTINGHAM**—16, Clumber Street.  
**LEICESTER**—53, Gallowtree Gate.  
**DUBLIN**—45, Dame Street.  
**EDINBURGH**—9, Princes Street.  
**GLASGOW**—165, Buchanan Street.

**CONTINENTAL OFFICES:**

**PARIS**— { 9, Rue Scribe.  
Grand Hotel (Courtyard).  
**NICE**—15, Quai Massena.  
**BRUSSELS**—22, Galerie du Roi,  
Galeries St. Hubert.  
**AMSTERDAM**—Exhibition Building.

**COLOGNE**—40, Domhof.  
**GENEVA**—90, Rue du Rhône.  
**ROME**—1b, Piazza di Spagna.  
**NAPLES**—Sommer's Fine Art Gallery.  
**MALTA**—280, Strada Reale.

**ORIENTAL OFFICES:**

**BOMBAY**—17, Hornby Row.  
**CALCUTTA**—Northbrook House.  
**CAIRO**—Cook's Pavilion, Sheppard's Hotel.  
**ALEXANDRIA**—

**JAFFA**—Cook's Office, Hardegg's Hotel.  
**JERUSALEM**—Cook's Office, outside Jaffa Gate.  
**BEYROUT**—Cook's Office, Belle Vue Hotel.

**AMERICAN OFFICES:**

*New York*—261, Broadway.  
*Boston*—197, Washington Street.  
\**Washington*—1351, Pennsylvania Avenue.  
\**Philadelphia*—337, Walnut Street.  
\**Chicago*—161, Lasalle Street.  
\**New Haven*—87, Orange Street.  
\**Cleveland*—212, Bank Street.

\**St. Louis*—N.W. Corner Sixth and Pine Streets.  
\**Denver*—426, Larimer Street.  
\**Toronto*—35, Yonge Street.  
\**New Orleans*—35, Carondelet Street.  
\**Niagara Falls*—Clifton House.

**CHIEF AUSTRALASIAN OFFICE**—THE EXCHANGE, MELBOURNE.

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*Dr. Schuch on American Routes  
German Geog. Soc. Zurich Oct 1877*

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*Prof. Schuch*  
52



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## The Gazette.

MONTREAL, THURSDAY, OCT. 26.

### A GREAT TEACHER'S LAST LESSON.

In indicating, for the instruction of many readers, "Some Salient Points in the Science of the Earth," Sir William Dawson has drawn attention to some interesting features in his own career as a man of science, not the least noteworthy of which are his relations with the other great scientific thinkers and workers of his time. The plan of the book gives it a peculiar interest, apart from the themes of which it treats—themes little touched in his previous books. For every chapter is dedicated to some teacher, guide, or fellow-laborer in the broad field of scientific research, and the subject dealt with in each instance is that to which the friend thus honored had given most earnest and fruitful thought. Besides being a lofty standing ground from which to survey a wide range of conquered knowledge, each chapter is a link in a chain or a stage in a progress. In defining his starting point the author explains that the earth's oldest and the earth's newest rocks and the history of life as therein revealed have mainly engaged his geological enquiries, and with these lines of

reached; that groups of allied species have obeyed the same law; that genera and orders begin mostly with intermediate types; that the history of life presents a progress from lower to higher, new types taking the place of older, which decline; that the correlation and adjustment of organic changes have preserved life and enabled it to assume more complex forms, so that there has been the whole been a steady elevation up to man, in whom appeared the new element of reason and invention; that many supposed species in successive formations are only varieties; that specific types are permanent, and that the drift of evidence from paleontology is to show that species have come in *per saltum*, and that the origin and history of life involve the consideration of power referable to the unseen and spiritual world.

Having finished his discussion of "The Succession of Animal Forms," which he dedicates to Louis Agassiz and Sir R. Owen, Sir William Dawson takes up the subject of "The Genesis and Migrations of Plants," and then treats of "The Growth of Coal" and "The Oldest Air-Breathers." These related themes he is, it is almost needless to say, peculiarly qualified to elucidate, and we hope to have an opportunity of outlining his conclusions. Drs. Oswald

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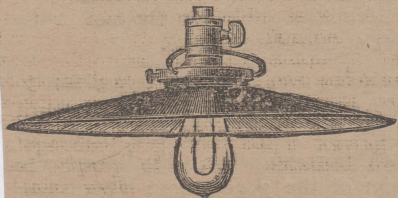
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growing upon the sea bottom and know not whence I am"; this is part of the brief autobiography that Sir William Dawson attributes to this patriarch of animated nature. Thereon he bases a plea for modesty in speculation. There was, he says, a time when naturalists were content to take nature as they found it. But geology has made such restfulness impossible, and now biologists formulate hypotheses to which the world gives more or less heed. Sir William not accepting the theory of evolution, discards the term as confusing through its being employed in conflicting senses, and, in speaking of creation of species, he likewise rejects the arbitrary meaning that some writers have forced on the new creation. It is a "continuous, nay, an eternal influence, not an intervention of disconnected acts." Thus bringing theology and science together as allies, Sir William Dawson formulates a *symbolum* of eleven articles as a basis for the agreement of all paleontologists. These articles affirm that life may possibly date from Laurentian or pre-Laurentian ages; that the introduction of species has been continuous as to the action of the cause, but not in the sense of derivation of one species from another, periods of rapid alternating with periods of slow production or disappearance; that the vital energy of species is greater in their early stages, and that the limit of varietal forms is quickly

himself esteemed wherever merit is honored.

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Canada, which did so magnificently at the World's fair cheese competition, came out, it appears, with very minor honors in the butter contest. Nine dairy and seven creamery awards came to Quebec and seven creamery and two dairy awards to Ontario. There are no good reasons why there should have been such a marked difference between the two products of the same industry. Possibly the attention given to cheese making, and which has been fully justified by the honors won as well as by the profits of the trade, has led to butter being neglected somewhat. There is, however, to be noted, a steady increase in the attention given to the production of fine butter in Canada, with financial results not less satisfactory, the assurance is given, than in the case of cheese. Before long, therefore, it may be possible to record as gratifying a state of affairs in regard to Canadian butter as is now the case in the matter of Canadian cheese.

The going over from the Opposition to the Government of Sir Robert Thorburn has been the surprise of the Newfoundland election campaign. Sir Robert was premier of the government which four years ago was defeated by Sir William Whiteway, and had for his personal opponent the man whom he has now con-



energetic traveler, age 27, who covered the territory between Windsor, Ont., and Halifax, N.S., for over five years. Is able to furnish A. I. references, and is proficient in both English and French. Address, X. Y. Z., GAZETTE Office.

**PERSONAL**—Wanted the address of Samuel Simmons; last heard of as living in Sorel, about 1860. Any information will be thankfully received by S. S., GAZETTE office.

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**NOTICE** from Alphonse Beauchamp, that, on the 10th day of November, 1893, he will petition the Provincial Treasurer to authorize Patrick Grace to transfer his shop license to the said petitioner.

Montreal, 25th October, 1893. 256

**AT LAST WE HAVE IT**—KEEN bright and brainy men and women wanted everywhere to take orders for "SHEPP'S WORLD'S FAIR PHOTOGRAPHY." Only book of copyrighted photographs of buildings, scenes and exhibits of the World's Columbian exhibition; authorized by the Columbian management; official certificate accompanies each volume. Bonanza for workers; drop everything and handle it; you will make money fast; books ready; credit given; big commissions; illustrated circulars; terms FREE. Address Globe Bldg. Pub. Co., 333 Dearborn street, Chicago, Ill., or Philadelphia, Pa.

**NOTICE IS HEREBY GIVEN**, that "La Corporation des Sœurs Maristes de Sainte Croix," will apply to the Legislature of the Province of Quebec, at its next session, for an act to amend its charter, concerning the name of the corporation.

**ST. MARY OF ST. BASIL**, Sup. Gt. Saint Laurent, 9th October, 1893.

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investigation the papers now collected are chiefly concerned. In the winter of 1840-41 Sir William Dawson studied geology at Edinburgh under the direction of Prof. Robert Jameson, and to him he inscribes the opening chapter of these respects. Having, in his "Starting Point," avowed his conviction that it is the revelation to us of the power and divinity of the supreme intelligence which gives attraction and dignity to natural science, the author dedicates to Adam Sedgwick and Sir R. I. Murchison his second chapter—"World Making." After in vision piercing the *John vobis* (the formless and void) and winning a glimpse of worlds of various magnitudes and brilliancy and in different stages of development, the author awakes to the reality of the as yet lifeless earth. With a passing glance at the theories of some mathematicians and physicists, gazing through the dark backward and abysm of time, he sees in ancient rocks and perished forms of life "not merely a scaffolding set up to be thrown down, but the foundation stones of a great and symmetrical structure." And refusing to cover before the sphinx or to listen to the temptings of despair, he gives utterance to the hope that the "earth may still be young and infinite ages of a better history may lie before it."

In the chapter on the "Imperfection of the Geological Record," Sir William Dawson expresses the hope that the most perplexing gaps may yet be filled by patient and painstaking effort, and he illustrates and sustains this hope by an interesting experience of his own. This was the discovery (in company with Dr. Harrington) of *Protopongia*, *Lasiothrix*, and other species of Cambro-Silurian sponges in a bed of shale of the Quebec group at Little Metis. The story told by these tenants of paleozoic sea bottoms is of the deepest significance both for the breaks that it closes and the lesson that it teaches. Thus the record becomes from year to year less faulty, and one day no link may be missing. From this topic, which suggests in the *Gazette*. Considering the frame-work of ocean and continent as exemplifying progressive design no less clearly than the successive appearance of various living beings, the author takes up the earliest manifestation of life on the globe. Having dedicated his Atlantic paper to Prof. Phillips, he most fittingly invokes the name of Sir William Logan in connection with *Horizon Canadense*. The two papers devoted to this subject are intensely interesting. Sir William Dawson begins by explaining how these rocks, so ancient and naturally so profound, came to be on the earth's surface, and then he shows the extent of the exposure. It had long been suspected that only organic matter could account for certain strata of the Laurentian system. About 1856 Dr. Wilson, of Perth, sent Sir William Logan some specimens of the mineral afterwards associated with the dawn of life. It was not, however, until 1863 that Sir William Dawson found in some specimens collected by Mr. Lowe at Grenville, on the Ottawa, a "beautiful group of *trilobite* penetrating one of the calcite layers, thus proving not only that the latter represented the skeleton of the fossil but also that the fossil itself was allied with the *Foraminifera*." "I found myself

and Goepfert (whose essay was one of the author's first guides to the study of coal), Dr. Schimper and Sir Charles Lyell are remembered in connection with the three foregoing papers. Very interesting is the paper on "Markings, Footprints and Fucoids"—the impressions of which it treats, helping materially to fill gaps in the geologic record. It is dedicated to a pioneer in Canadian geology, Dr. Bigsby, F.R.S., while that which follows, on "Pre-determination in Nature," is inscribed to an able fellow worker whom some Montrealers have not forgotten, Mr. Elkannah Billings. The next two papers, treating of "The Great Ice Age" and "The Causes of Climatal Change," are of kindred theme and of real importance. The papers on the "Distribution of Animals and Plants as Related to Geographical and Arctic Plants in connection with Geological History" are, in part, in continuation of the subject dealt with in the papers on climate. There are many passages that we would like to quote, not only as evidence of Sir William Dawson's views, but as examples of his sentiment and style; but, as the book is published by Messrs. W. Drysdale & Co. our readers have ready access to it. Sir William Dawson urges the necessity of forbearance towards each other among men of science. The true naturalist must, he says, work out the problems presented to him with the data afforded by the actual observation of nature.

The last chapter, but one, is devoted to "Early Man" and dedicated to the memory of Sir Daniel Wilson, "a dear and valued friend, and one of the most eminent and judicious students of pre-historic man, both in Europe and America." Sir William tries to reach safe ground as to man's relation to the later geological ages, as well as to the present order of nature, by putting in evidence what geological data may be adduced on the subject. The glacial age had passed away and the climate was improved. So was the soil, and the new land was covered with various kinds of animals, the elephants, the rhinoceros, hippopotamus, the deer, etc., when, somewhere in the temperate zone, appeared a new thing on the earth, a man and a woman walking erect in the forest glades, watching with curious eyes the groups of living creatures around them. They were vegetarians. The earliest men certainly known to have existed inhabited the continent in the second continental age of the Kainozoic period. A final chapter deals with "Man in Nature," in which Sir William Dawson suggests that, in the truest sense, Christianity may be not so much a revelation of the supernatural as the highest bonds of the great unity of nature, the mission of the Divine Man being to restore the harmonies of God and humanity. Every page of the volume is rich in instruction and some portions are exceptionally fascinating, whether or not one agrees with all the author's judgments. For Montrealers this book has a peculiar and, in a sense, a pathetic interest. The ex-Principal of McGill came to this city in the tallness of his physical and intellectual strength, and in the prime of a scientific fame which is our pride. He has spent himself in the service of our university and of the city and some of our citizens owe to him largely what they are able, worthiest and most successful citizens of to-day. In this book may be discerned the faculties, the qualities, the rules of life and intercourse which have made Sir William Dawson's work and

repe view o provid should more a ion. 7 ist in deep principle to its others time that phant The with health with kindred theme and of real importance. The papers on the "Distribution of Animals and Plants as Related to Geographical and Arctic Plants in connection with Geological History" are, in part, in continuation of the subject dealt with in the papers on climate. There are many passages that we would like to quote, not only as evidence of Sir William Dawson's views, but as examples of his sentiment and style; but, as the book is published by Messrs. W. Drysdale & Co. our readers have ready access to it. Sir William Dawson urges the necessity of forbearance towards each other among men of science. The true naturalist must, he says, work out the problems presented to him with the data afforded by the actual observation of nature.



## The Case against Evolution.

BY SIR J. W. DAWSON.

spirally up a big tree, amid the lichens and ferns. I stopped to make a note of this, according to habit; and while I was putting away my book and pencil a large bird flew along close to me and lit on a branch not twenty yards distant, but amid the leaves and moss, so that I could not see it. From the merest glimpse as it went by I supposed it to be some species of hawk. To ascertain I drove an arrow to the spot, guessing at the proper place. It clipped keenly through the tangle with a whack upon a tree-bolt beyond, and out rushed the bird, which proved to be a golden-winged woodpecker.

My arrow's stroke seemed to shock the whole wood suddenly into life. I saw a dozen birds in the next ten seconds; blue-jays, woodpeckers, a mocking-bird, and several small species that I could not identify. Upon all of these I used my field-glass, not my bow. It was not the season of song, but many voices chirped and whistled cheerily as I passed slowly and noiselessly along. What I most wished to come upon was one of the small deer said to abound in the place; but this was not to be; nor did I find any game larger than a woodcock during the day. The event which made my tramp worth special record (wherefore this paper) began after I had walked entirely through the wood and emerged upon a marsh prairie, covered with low grass in the main, but dotted irregularly with tufts or tussocks of high weeds and rush-like plants; a plashy area half covered with water.

I had stretched myself on a big log to rest, my back to the wood, my face to the marsh and the sea beyond, and had lain thus for half an hour when a small object moving slyly at the edge of a tussock caught my eye. A peculiar satiny gleam betrayed it, and then I saw the form of a heron. Out came my field-glass, and in a moment a beautiful egret was stalking apparently almost under my nose. It was the Louisiana egret, a rare bird now, so many have been killed for their beautiful plumes. Of course it was not in full feather; but it was lovely even without its fine purple trail, and every movement displayed a tint of color exquisitely delicate. I saw that it was feeding upon what it got by stabbing the mud with its bill, probably some kind of grub or marsh insect. Its eyes flashed with a reddish light and had a singularly cruel expression. The purple of its neck feathers and crest shimmered softly in the sunlight.

While I was looking the bird suddenly quit eating, crouched in a frightened way, then skulked into the tall growth of the tussock. After a half-hour had elapsed, and while I was writing in my note-book, it reappeared and stood with its neck stretched almost perpendicularly to its full length. I watched it for a long time before it moved in the slightest, then it resumed its feeding. It was uneasy, however; and I noticed that it frequently gazed upward as if half expecting some calamity from on high. I looked to the sky for a sign of danger, for I thought that a hawk might be circling overhead; but all was clear.

A few minutes later the heron suddenly flattened itself upon the mud, its wings slightly spread, its neck drawn close to its body, and at the same time a peculiar noise, a low, whizzing roar, fell from above. I glanced up, and at first saw nothing; but the sound rapidly increased, and then I caught sight of a large hawk rushing almost vertically down. It was still very high; its wings were almost close shut, and its velocity was doubling momentarily. As it neared the ground I could scarcely follow its movement with my eyes; but I saw that it was not swooping upon the heron. What it did strike was a meadow-lark, a hundred yards further away from me, which it bore off to the woods.

As for the heron, it lay quite motionless for a long time, evidently in a very trance of terror. I observed it closely with my glass, and do not think a single feather on it stirred. Indeed, the bird lay there as if dead, save that its cruel red eyes burned like live coals. After a while I tried a shot at it. The arrow fell about a foot short, but flung mud all over the sheeny plumage of the heron's back and neck. That was too much; the trance was broken, and away flew the beautiful thing far across the marsh.

BAY ST. LOUIS, MISS.

It certainly is a matter of congratulation that just as the stock of quinine-producing trees in South America was giving out, the thoughtful Briton planted them in India, and now their culture is so scientifically conducted that the ague-shaken thousands need have no more fears. The prisoners in the jails are employed in making the quinine itself into five-grain packets, and in one of them more than three millions and a half of these packets were made last year.

WHEN your readers were asked a month ago to consider "The Case for Evolution," the demands of this new philosophy were presented to them in a manner so much less arrogant than its usual bold assertions of its own all-sufficiency, that its case should receive at least patient and candid consideration. We must not forget, however, that the case as presented is not that of a supposed culprit accused of stealing away our faith in higher things, but that of a claimant asking us to place in its hands the interpretation of all the treasures that science, philosophy and theology have been accumulating since man began to think upon nature, and which, as it seems to maintain even in the opening sentences of the "Case," have been quite misunderstood until "this gospel of progress" dawned upon the world some thirty years ago, and made plain the "how" and "why" of living beings, while equally able to show how, out of formless matter, the whole of the planetary and starry heavens can have spontaneously produced themselves in all their grandeur and beauty.

To ordinary mortals, to whom life is yet an inexplicable mystery, and who cannot understand the ultimate nature of matter or of the forces of gravitation and cohesion, such a doctrine must appear as a divine revelation; for spontaneous or mechanical evolution can be nothing less than the ultimate power we have been accustomed to call God. It must be so if it can really account for all of that practically infinite chain of causes and effects which for millions of years has been shaping the well-ordered development of the universe, extending through vast ages in the past and indefinitely into the future eternity.

The stupendous character of the claim, however, warns us that we may be in danger of mistaking for the prime mover what is merely an incident in the vast machine, and of satisfying ourselves with a word instead of a grand dominant idea. We may realize this possibility if we imagine a fly resting for a few moments on the driving-wheel of a locomotive engine, which has stopped with its train at a way station. The insect observes that when the driving-wheel ceases to revolve the train stops, and when it again begins to rotate the train goes on. Knowing little of the construction of the engine, and nothing of its principles, or of the manner in which from its first rude beginnings it has been developed by human invention, and ignorant of the terminal points or connections of the railway, the fly-philosopher may naturally conclude that the secret of the whole is embodied in one process of revolution. Given the rotation of the driving-wheels, and the "how" and "why" of railway locomotion is explained by the one magical word "Revolution"; and all the flies may buzz in concert in praise of the magnificent and all-embracing generalization. It may well be that the philosophy of evolution has done no more for us with reference to the vast system of the universe, which is so much greater in time, space and complexity, than all the railway systems of the world, with all their machinery and appliances. We may be merely deceiving ourselves with a word to mask our ignorance.

We are the more inclined to suspect this when we consider that evolution is not a power but merely a supposed mode of operation of power, that it is incapable of originating anything, since it presupposes an antecedent involution, or at least something rolled up and which may be unrolled, and that the evolution of what has been rolled up supposes appropriate causes and conditions. The first example referred to by Dr. Wilson well illustrates this. The flower, we are told, begins as a mere bud, in which in its earlier stages our imperfect vision does not enable us to detect any of the beautiful and useful parts afterward developed from it. Still, we know that the rudiments of these parts are there. We know also that they were produced from the nutritive system of the plant to which the flower belongs, and that the seeds, fertilized and matured by means of the flower, have in each of them, potentially the parts of the very same species of plant, "every seed its own body," and that of no other kind of plant. We further note that with the aid of the microscope we can see in a very early stage of the bud that the parts of the future flower are all there, and so rolled up by the wondrous involution of bud-formation that they are ready to be evolved with the least possible amount of mechanical difficulty so soon as the necessary conditions are supplied. But these conditions or secondary causes

must be present, otherwise the evolution cannot take place. The bud, separated from the parent plant, or placed in a dark cellar or an ice-house, will not expand. Thus the bud is merely a parcel into which everything we can get out of it must have been previously put; and it surely goes without saying that the involution of the parts of a rose or a lily in a tiny bud is a far more wonderful thing than the evolution of the flower, more especially so as it is a prophetic process, referring to prospective needs, and correlated with things as remote from the flower as the soil, the rain and the sunshine. Thus we need something more than mere evolution to explain even the production of a flower from a bud.

In point of fact, the word evolution, as used by its advocates, is a term of complex significance, covering three different things: first, the methods of development which are employed in carrying on the changes constantly occurring in both organic and inorganic bodies; secondly, the proximate causes by which these effects are produced; and thirdly, the determination of these causes and effects toward certain ends essential to the unity, stability and orderly progress of the universe, and by virtue of which we find ourselves in presence of a mighty plan extending over all space and time, and of which only an infinitesimally minute portion comes under our imperfect and short-lived study. Before accepting evolution as a rational hypothesis to explain all this, we must analyze it into these constituent portions, instead of vaguely employing the word, as is commonly done, to denote either one of them or all of them in combination.

So much for evolution itself, considered as the claimant in the case. Let us next consider the evidence adduced on its behalf. The first proof referred to by Dr. Wilson is that which has been termed recapitulation, or the similarity of the changes through which any individual of the higher animals passes in the course of its growth, to those which the species may be supposed to have undergone in the process of its evolution from a remote ancestor of simple structure in the course of geological time. The analogy is an interesting one, tho by no means so complete as it is sometimes represented to be; but it is merely an analogy, and that of the incomplete kind which proves nothing as to similarity of causation. A germ produced by a certain kind of animal develops, when the proper conditions are present, into an adult, and in doing so passes through different stages of growth more or less resembling the final condition of creatures lower in the scale of being. But what real resemblance has this to an imaginary development supposed to have started millions of years ago, with an animal already perfect after its kind, and which is supposed, not as an individual but in a succession of thousands of generations produced in the ordinary way, to have passed through a corresponding development to that observed in the short life of the modern individual animal? The essential factors in the two cases are all different, except that of ordinary generation, and this, as observed at present, affords no evidence of the supposed "phylogeny," as it is called, and of which the growth of the modern individual is imagined to be a recapitulation. If we ask why "the higher animal should in its development pass through successive stages each of which corresponds (in a general way) to the perfect state of some lower form," it is scarcely correct to say that the "only rational answer" is that its development recapitulates its ancestral history. On the contrary, we cannot understand how, if the animal is to be developed from an embryo, it can fail to pass through stages analogous to lower forms in the group to which it belongs; and if we study the embryology of any common animal we shall find that these stages are necessary, independently altogether of the previous history of the species. Either of the examples of recapitulation given in the present "case" will suffice to show this. We may select that of the butterfly.

In regard to this it may first be remarked that the caterpillar is not, properly speaking, a worm. Its six thoracic feet and its internal structure show that it is really an insect, tho an immature one. The imagined recapitulation is also imperfect; for if we suppose the remote ancestor of the butterfly, millions of years ago, to have been a worm, there is nothing in the hypothetical history of such a worm to represent that considerable part of the life of the insect in which it exists as a helpless, torpid pupa or chrysalis. But besides all this, there is a good practical reason for the worm-like stage of the butterfly without supposing it to be a mere imitative recapitulation mainly devised by kind nature to teach us the "gospel of



biological progress." The caterpillar is an eater and digester, and during this stage the insect assimilates the organized material necessary to enable it to appear in the glory of the gorgeous *imago*. Were it possible for the egg of a butterfly to be hatched into a miniature likeness of the parent insect, it would be unable to feed in such a manner as to grow to maturity and to propagate the species. Thus the supposed representative of a remote worm ancestor is an absolutely necessary stage of the development of the modern butterfly, and the only rational inference can be that there is an analogy between the procedure of the Creator in his great cosmical works and in those of a minor and individual character, tho the means, causes and conditions in the two cases are necessarily different.

The evidence afforded by the existence of "rudimentary" organs is of equally doubtful character. In many cases these are merely structures of which we have not yet discovered the uses, or parts intended to be useful in certain contingencies, and kept in store, as it were, for such future uses. In embryonic animals some of these structures are no doubt useful in certain stages of the development of the embryo, irrespective altogether of recapitulation. It is surely somewhat rash to affirm that the splint bones in the legs of the horse do not contribute to their strength and elasticity; or that the part of the brain which is supposed to represent that connected in some animals with a middle eye, is no longer of any use; or that the appendage to the human intestine which in our artificial modes of life sometimes proves a cause of disease, is not in man an originally useful organ, and under certain contingencies likely to be useful again. The occurrence of bones resembling those of the hand in the swimming paddle of the whale might, on the same principle, be criticised as useless; but they add to the flexibility and efficiency of the limb as a swimming organ, and in certain cases they enable the creature better to provide for the safety of its young. Trees and shrubs produce countless undeveloped buds, which in ordinary circumstances are overgrown with the bark and perish; but if the tree has been stripped of its leaves in spring by a late frost or by a swarm of caterpillars, the latent buds come to the rescue and may enable it to produce its foliage. We may be assured of this, that neither creative design nor natural development tends to produce anything not useful in the present or in the future; and the real absurdity here lies in supposing that a blind fortuitous evolution can prepare for unusual or future contingencies, which, in some cases, at least those of rudimentary organs, we must suppose it to do. In point of fact these rudimentary structures, when we are able by careful observation to discern their purpose, tell altogether in favor of creative design rather than of purposelessness.

The splint bones readily introduce the horse; and the horse, belonging to a group of animals largely represented in early Tertiary times and possessing comparatively few and very specialized species at present, has naturally furnished a favorable example of supposed spontaneous evolution. It is not difficult to pick out from the numerous extinct animals related to the horse, especially if we confine ourselves to the feet and teeth, and are not very particular as to times and places, a series connecting the one-toed horse with allied extinct species having three or even five toes. There is, indeed, if we accept this kind of argument, material enough to represent two or more distinct ancestries for the horse, tho even here there are missing links, as those who have endeavored to supply series of specimens for collections know full well. The liability to deception in this kind of reasoning was well illustrated, tho I presume unintentionally, by the late Professor Huxley, in his popular lectures delivered some years ago in New York. With the aid of Professor Marsh, he was able to make up a pretty satisfactory series illustrating by disconnected links the derivation of the horse from an American Eocene ancestor (*Eohippus*). But neither he nor any of his audience who thought of the matter, believed for a moment that any horse now walking the streets of New York could boast of such an ancestry. There are no modern horses indigenous to America. Its present horses are all of European origin, and the European horse has been traced in an equally satisfactory manner to a quite different ancestry. It is as if John Smith or Patrick Murphy of New York, should trace his descent to some native Indian hero of primitive times who resembled him in name or features, when it could be proved that his

grandfather was an emigrant from England or Ireland. Thus this celebrated example only serves to illustrate the liability to error in such genealogies of animals.

Finally, the "case" is summed up with an extract from Darwin, which so fully expresses the insufficiency of the Darwinian evolution to account for the origin of life and organization that it may be considered as nothing less than an appeal to the compassion or prejudices of the jury, rather than an argument in the case. He says:

"There is a grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, while this planet has gone cycling on according to the fixed law of gravity, from so simple a beginning, endless forms, most beautiful and most wonderful, have been and are being evolved."

It would thus appear that prior to organic evolution, we must have the introduction, by something of the nature of a creative act, of at least one, perhaps of several species of living beings. Some later Darwinians think this a weak concession; but it is inevitable, unless we involve ourselves in the absurdity of a development of nonentity, or of a suspended chain whose highest link has nothing to support it. Such primary creature or creatures must have potentially included all that has been evolved from them. But the admission goes further than this. If one or a few created species had to begin the process, there is nothing to forbid this kind of production of species from recurring at later periods, should this be needed either to initiate new types, or to supply the places of forms becoming extinct through age and failure of innate vitality. Again, the reference to the persistence of the law of gravity under which the first consolidation and movements of our planet took place, raises the question whether the Creator who thus provided for the continuance and uniformity of merely physical movements of dead matter, can be supposed to have left his more precious creatures endowed with life to be at the mercy of a mere struggle for existence and of fortuitous variation. The expression used by Darwin, "life breathed into," is borrowed from a much earlier author, the writer of the first chapter of Genesis, who uses it, however, in a different connection, namely, with reference to the rational and moral nature of man, whereas in respect to the first animals he contents himself with saying that God "commanded the waters to bring them forth," thus informing us of the completion of the physical conditions necessary to life before its introduction, and giving us an idea of creation under law or "mediate creation," and avoiding the solecism of "breathing life" into creatures which have no breath properly so called, and which do not possess that "inspiration (in breathing) of the Almighty" which gives man understanding.

The reference of Darwin to this old authority reminds us, however, that there is another claimant, namely "Creative Development," whose "case" is not referred to in the article to which this notice relates, and meriting a separate treatment, which cannot be entered into here.

McGILL UNIVERSITY, MONTREAL.

### Great Books.—The Church Fathers.

BY THE VERY REV. F. W. FARRAR, D.D.,  
DEAN OF CANTERBURY.

ALTHO great books should occupy the main attention of every student, yet I would by no means exclude the reading of other books which may be useful and even necessary, tho we may be unable to call them "great." Many a book which is not great may still tend to diminish human sorrow and enhance human blessedness. It may only be "a book of the hour," and yet may help us toward the understanding of the books which are "for all time." It may live even tho it dies, for it may have tended "to add sunlight to daylight by making the happy happier." It may have passed into the thoughts of many men, and so may live in the best of all ways, by adding its infinitesimal quota to the nobler life of the world. Such books have, of course, been multiplied to an amazing extent since the discovery of printing; but they must not be regarded as one of the unfortunate results of that discovery. The evil of the over-multiplication of books is more than counterbalanced by the blessing conferred by the dissemination of pure thought and wholesome knowledge. Only the fewest books—a mere infinitesimal proportion of the numbers which daily appear—survive even for a year; but the world is enriched forever by

"Books written when the soul is at springtide,  
When it is laden like a groaning sky  
Before a thunder-storm. They are power, and gladness,  
And majesty, and beauty. They seize the reader  
As tempests seize a ship, and bear him on  
With a wild joy. Some books are drenched sands  
On which a great soul's wealth lies all in heaps  
Like a wrecked Argosy's. What power in books!  
They mingle gloom and splendor as I've oft  
In thunderous sunsets seen the thunder-piles  
Seamed with dull fire, and fiercest glory-rents.  
They awe me to my knees, as if I stood  
In presence of a king. They give me tears."

Even when we recall the thirty thousand novels which have been written in the last eighty years, many of them—perhaps most—tho doomed to oblivion from their birth, have at least afforded some passing and harmless amusement to a few. It is said that now novels are being published at the rate of five a day! In that fact young readers should see the need for careful discrimination. Why read an utterly poor and meaningless book when a lifetime is far too short to read even those which are really good? I would say the same of "religious" books. There are many which are full of high and pure thought. Why, then, waste time over those which are empty of all good, over books of mere "goody-goody" morality, or shoals of manuals of sickly, exotic, and namby-pamby devotions? Hood was right when he said:

"A man may cry 'Church, church,' at every word,  
With no more piety than other people;  
A daw is not considered a religious bird  
Because it keeps caw-cawing from the steeple."

We can go to sleep without aid from the narcotic of ecclesiastical nullities; and even if we had nothing but the Bible in our hands we could well do without the books of the priests and pharisees who teach for doctrine the commandments of men.

Great books are the outcome of every age in which men have risen above the life of the savage. Even faithful students must be conscious, with deep sadness, of the time they have wasted on what was worthless and tenth-rate, when they might have been holding intercourse with the immortals. It would be impossible for me even to touch on the whole splendid world of pagan literature; and yet how much does it enshrine of priceless worth! "God," as St. Peter so emphatically taught us, in language which was an echo of the teaching of the Savior of mankind, "is no respecter of persons, but in every nation he that feareth him, and doeth righteousness, is accepted of him." This was why St. Paul does not shrink from quoting Menander to the Corinthians; and a hexameter line of Epimenides to Titus; and a poem of his fellow-countryman Aratus to the Athenians, when he was trying to impress upon them the truth that "God hath made of one every nation of men . . . that they should seek God, if haply they might feel after him, and find him, tho he is not far from each one of us; for in him we live, and move, and have our being." Even those who do not know Greek might with advantage read Homer in the translation of Chapman, Pope or Cowper; and Plumptre's Sophocles, and Jowett's Plato, and versions of the holy thoughts of Epictetus and Marcus Aurelius, those bright consummate flowers of heathen morality; and, with no knowledge of Latin, a youth may yet gain great delight from Dryden's or Sotheby's Virgil, or Murphy's Tacitus.

But I must pass on to the great realms of *Christian* literature.

By Christian literature we mean that vast, and indeed immeasurable, multitude of books which owes its direct origin and inspiration to the advent of Christ. It belongs to many different ages and many varying epochs of human thought; but to come under the head of distinctively Christian literature it must have emanated from those who believe in the Lord Jesus Christ, and who own allegiance to "Him first, Him last, Him midst, and without end."

The first great epoch of Christian literature for six centuries is that of "the Fathers." Now I do not, of course, recommend the study of the Fathers, as a whole, to ordinary readers; yet almost any one might procure translations of a few writings which would throw light on a most memorable epoch, and be without their influence on daily life. Even the earliest and least gifted of them teach us the memorable lesson of the supremacy of godliness. So far as genius and learning are concerned there is no comparison between such humble and ungifted men as the earliest Christian Fathers—such men, for instance, as Clement of Rome, Ignatius, or Polycarp—and the great classic writers of Greece and Rome. The early Christians could boast of no historian who distantly



## TO THE EDITOR.

Sir,—The reports of the lamentable condition of the Nile are the prelude to a famine in certain districts of Egypt. The river is not only lower than it has been for many years, but it is sinking rapidly before time has been allowed for the due irrigation of lands which depend entirely upon the annual inundation for their produce. Without the river at a normal level the earth must remain sterile.

We are now reaping the results of the abandonment of the Soudan—at Suakin by the attacks of an unremitting enemy; in Egypt by some unexplained interference with the river, upon which the existence of the population has depended since the creation of the Delta.

When the Soudan belonged to Egypt the country, howsoever vast, was intersected by telegraphs, even to Darfur and Kordofan. At Khartoum there was a Nilometer, and the state of the river level was telegraphed to Cairo daily throughout the year. In case of an impetuous flood, the approaching enemy occupied about three weeks before it reached the Delta, and due time had been allowed for preparation against disaster, the authorities being forewarned by telegram.

The entire river system was under the immediate surveillance of the Soudan Governor, Khartoum being at the junction of the Blue and White Niles, while the Atbara river joined the Nile only 20 miles south of Berber.

During the discussion at the period of the Hicks disaster, when England insisted upon the abandonment of the Soudan, you kindly opened your columns to a long series of letters from myself upon the immense importance of the Soudan to Egypt. I endeavoured upon several occasions to impress upon the public and upon the Government the necessity of keeping a firm hold upon the basin of the Nile, as an enemy in possession of the Blue Nile and the Atbara river could by throwing a dam across the empty bed during the dry season effectually deflect the stream when risen by the Abyssinian rains, and thus prevent the necessary flow towards Egypt.

This might be effected in the Atbara river with the greatest ease, as the bed is perfectly dry during four or five months of the year, and all the necessary material is furnished for the dam by the fringe of forest upon the banks. Huge sacks made from the fibrous bark of the mimosa are manufactured in large quantities by the nomadic Arabs for the transport of gum arabic; these are exactly suited as sandbags for the formation of a dam, while the Dôme palms and mimosas are present for piles and fascines. I have seen a spot about 230 miles from the mouth of the Atbara where the river might be deflected without difficulty, and be forced to an eastern course towards the Red Sea.

This would be an engineering work well within the native capability. The Atbara flowing east would never reach the Red Sea, but it would inundate a vast area of desert lands and render them fruitful through a deposit of mud which now passes down to Lower Egypt. The Atbara river is the stream that has actually formed the Delta by the rich deposit of soil brought down from the fertile plains on the borders of Abyssinia. Without the Atbara river Egypt would obtain only a scant supply of water, and would be entirely deprived of the fertilizing element of the annual inundation.

I have always believed, since I carefully examined the river system of the Nile tributaries, that the seven years of famine in Lower Egypt during the time of Joseph were occasioned by a stoppage of the Atbara river; also of the Rahat and Dinder affluents of the Blue Nile.

The Ethiopians were continually at war with the Egyptians, and they possessed the control of the Nile by damming and deflecting the waters of those affluents. I do not presume to say that this was known to Joseph, who accordingly made the necessary arrangements for a great storage of provisions, but I can positively state that the plan is feasible, and that should any European be in command at the rebellious centre of the Soudan, his first strategic operation would be to deprive Egypt of the water that is necessary for her existence, and by the same means extend the fertile area of the rebel tribes.

It was the ambition of that most sagacious ruler of Egypt, Mehemet Ali, that the control of the Nile should be in Egypt's grasp. He therefore annexed the Soudan. It was the opinion of his energetic and most intelligent grandson, His Highness Ismail, Khedive of Egypt, that the entire Nile basin should be included in his territory. This was accomplished,

It was the opinion of the British Government that all this should be abandoned; therefore the Soudan was given up, and the command of the Nile waters, upon which Egypt depends for her existence, has been delivered to the enemy.

I do not assert that the actual cause of the present low Nile is the deflection of the rivers through hostile operations, but I think it highly probable and distinctly possible, and if I were myself an enemy of Egypt I know the place where I should commence the fatal work upon the river Atbara. This, like many other questions in those distant lands, is beyond the ken of a British Government. Then, why did we abandon the Soudan in its entirety?

Your obedient servant,

SAML. W. BAKER.

**SHIPBUILDING IN THE UNITED KINGDOM.**—It appears from the returns compiled by Lloyd's Register of Shipping for the quarter ending September 30 last that there were 400 steam and sailing vessels of 638,995 tons gross under construction in the United Kingdom at the close of the quarter, as compared with 249,673,340 gross tonnage, at the close of the corresponding quarter of the previous year. A comparison of the present returns with those for the quarter ended June 30, 1888, shows a considerable improvement in the shipbuilding industry of the United Kingdom. There is an increase of no less than 90,877 tons in the tonnage under construction, and there are now 167 vessels of 351,281 tons for the construction of which preparations are being made, as against 82 vessels of 179,581 tons preparing at the close of the previous quarter. Of the vessels under construction in the United Kingdom at the end of September 336 vessels of 614,174 tons, or approaching 90 per cent., were being built under the supervision of the surveyors of Lloyd's Register with a view to classification by that society.



GENERAL FOREIGN INTELLIGENCE

(FROM OUR CORRESPONDENTS.)

EGYPT.

ALEXANDRIA, Oct. 7.

The Nile has fallen 30 inches during the week, and is now lower not only than any level recorded, but than any mentioned by tradition during the last 100 years. It is difficult to exaggerate the seriousness of the consequences, which even people ordinarily sanguine represent as of the utmost gravity, implying not only a great financial strain on the Government, but famine to a large portion of the population of Upper Egypt, which again will increase the difficulties experienced in the defence of the frontier.

Oct. 8.

The Nile has fallen three inches lower at Wady Halfa.

Of the 300,000 acres which according to the highest estimate would not be cultivable, the measures taken by the Public Works Department have given water to 62,000 acres.

CAIRO, Oct. 10.

It is understood that the addition of a brigade to the Egyptian army has been decided upon; but no indication having been furnished of the source whence the requisite funds are to be drawn, this decision must be regarded for the present as purely theoretic. Unfortunately, the absolute necessity of an addition to the Egyptian army, and the absolute impossibility of finding funds for the purpose, are alike admitted.

THE GERMAN EMPEROR.

VIENNA, Oct. 9.

Count Herbert Bismarck was telegraphed for by the German Emperor to-day, and left for Neuberg, after paying a farewell visit to Count Kalnoky. It is understood that the Count was not summoned in consequence of any unexpected event, but simply to transact current affairs.

Oct. 10.

The German Emperor ended his visit to the Emperor of Austria to-day, leaving Neuberg at half-past 11, and reaching Mirzusschlag at half-past 12. There the two Emperors and the King of Saxony lunched, after which there was a cordial parting, and the German Emperor took the train for Italy, while the Emperor of Austria, the King of Saxony, Prince Leopold of Bavaria, and the Grand Duke of Tuscany returned to Schönbrunn. The Imperial party was to have gone out shooting this morning, but the bad weather prevented the attempt. Yesterday the downpour of rain completely spoiled sport, and the German Emperor did not get a single shot.

ROME, Oct. 10.

The German Emperor on his arrival here will be received by the King, and will proceed at once to his quarters at the Quirinal, where he intends, it is believed, to rest during the evening. He will lunch with his Ambassador to the Pope on Friday, and afterwards leave the Embassy in his own carriage, accompanied by his suite, and at half-past 1 pay a visit to the Pope, the meeting being strictly private. The Emperor's suite will subsequently be presented to His Holiness. As His Majesty will thus leave an extra-territorialized locality for the Vatican, and as he will devote his first official visit to the Pontiff, the Vatican seems satisfied, and reasonable Italians will probably be equally content with this arrangement, which, all things considered, is honourable both for Italy and for the Pope. There will be a grand Court dinner in the afternoon. After the review to be held next day the Emperor wishes to visit the monuments in and about Rome quietly. He will then leave for Naples.

GERMANY.

BERLIN, Oct. 8.

This afternoon the Prussian Cabinet had a lengthy sitting, discussing, among other things, it is rumoured, some questions connected with the case of Dr. Geffcken. Meanwhile, that gentleman is still lying fast in the gaol at Ham-burg. Counsel for him has been secured, it being understood that Herr Holtzendorf, who acted as one of the counsel for the defence in the Harry Armin trial, declined a brief for this second offender of the German Chancellor. Other-wise no important facts in connexion with this *casus célèbre* have to be registered.

It is stated that a branch of the German Emin Pasha Committee has been established at Vienna. Perhaps the real truth is that Dr. Junker, who is now in Vienna, has gone there for the purpose of trying to establish a branch committee.

For the rest, these daily budgets of disastrous news from the Zanzibar coast, for which the German public is exclusively indebted to telegrams in *The Times*, have at length brought people here to see that Germany has reached a very serious crisis in the era of her colonial enterprise, and there is much uneasy and excited reasoning on the subject. It is now perceived, even by the most sanguine, that the carrying out of a colonial policy is by no means the rapid and irresponsible process which many Chauvinists supposed it to be, and those who fancied that they had found an El Dorado in the territory of the German East African Company are now forced to confess that an infinity of troubles and difficulties will have to be surmounted before the coffers of the hopeful company are crammed with gold. But disappointment, though it has clearly produced despondency here, is not yet vented

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SCIENCE AND RELIGION

Sir William Dawson's Address at Chicago.

Sir William Dawson sent the following paper to the World's Fair religious congress:-

Prevented by age and infirm health from being present at the Parliament of Religion, I accede to the request of the chairman, the Rev. Dr. Barrows, to prepare a short summary of my matured conclusions on the relation of natural science to religion. I feel that little that is new can be said, and that in the space at my disposal, I can merely state general principles suitable perhaps to constitute a basis for discussion.

For such a purpose the term natural science may be held to include our arranged and systematized knowledge of the earth and its living inhabitants. It will thus comprise not only geology and biological sciences but anthropology and psychology. On the other hand, one may take religion in its widest sense, as covering the beliefs common to all the more important faiths, and more especially those general ideas which belong to all races of men, and are usually included under the term natural religion, though this, as we shall see, graduates imperceptibly into that which is revealed.

Natural religion, if thereby we understand the beliefs fairly deducible from the facts of nature, is in truth closely allied to natural science, and, if reduced to a system, may even be considered as a part of it. Our principal inquiry,



SIR WM. DAWSON.

therefore, should not be so much 'How do scientific results agree with religious beliefs, or any special form of them?' but rather, 'How much and what particular portion of that which is held as religious belief is inseparable from or fairly deducible from the results of natural science?'

All scientific men are probably prepared to admit that there must be a first cause for the phenomena of the universe.

THE FIRST CAUSE.

We cannot, without violating all scientific probability, suppose these to be causeless, self-caused or eternal. Some may, however, hold that the first cause, being an ultimate fact, must on that account be unknowable. Though this may be true of the first cause as to origin and essence, it cannot be true altogether as to qualities. The first cause must be antecedent to all phenomena. The first cause must be potent to produce all-resulting effects, and must include potentially the whole fabric of the universe. The first cause must be immaterial, independent and in some sense self-contained or individual. These properties, which reason requires us to assign to the first cause, are not very remote from the theological idea of a self-executed, all-powerful, and personal creator.

Even if one fail to apprehend these properties of the first cause, we are necessarily shut up to absolute agnosticism, or science is familiar with the idea that causes may be entirely unknown to us in themselves, yet well-known to us in their laws and their effects. Since then, the whole universe must in some sense be an illustration and development of its first cause, it must all reflect light on this primitive power, which must thus be known to us at least in the same manner in which such agencies as gravitation and the etherial medium occupying space are known.

That mutual attraction of bodies at a distance, which we call gravitation, is unknown to us in its origin and nature, and indeed unthinkable as to its manner of operation; but we know well its all-prevailing laws and effects. The ether, which seems to occupy all space, and which transmits to us by its undulations the light of the heavenly bodies, is at present in its nature and constitution not only unknown but inconceivable; yet science would not justify us in assuming the position of agnostics either with reference to gravitation or ether.

NO PLACE FOR AGNOSTICISM.

Nor can we interpret these analogies in a pantheistic sense. The all is itself a product of the first cause which must have existed previously, and of which we can not affirm any extension in a material sense. The extension is rather like that of the human will, which, though individual and personal, may control and animate a vast number of persons and agencies—may, for example, pervade and regulate every portion of a great army or of a great empire. There

again we are brought near to theological doctrine, and perceive that the first cause may be the will of an almighty being, or at least some thing which, relating to an eternal and infinite existence, may be compared with what will is in the lesser sphere of human consciousness. In this way we can at least form a conception of a former all-prevailing, yet personal; free, yet determined by its own innate constitution.

Thus science seems to have no place for agnosticism, except in that sense in which the essence of all energies and even of matter is unknown; and it has no place for pantheism, except in that sense in which energies, like gravitation, eternally localized in a central body, are extended in their effects throughout the universe. In this way science merges into rational theism and its first cause become the will of a divine being, inscrutable, in essence, yet universal in influence and manifested in his works. In this way science tends to be not only theistic, but monotheistic, and connects those ideas of the unity which it derives from the uniformity and universality of natural laws with the will of one law maker. Nor does law exclude volition. It becomes the expression of the unchanging will of infinite wisdom and foresight. Otherwise we should have to believe that the laws of nature are either necessary or fortuitous, and we know that either of these alternatives is possible.

BELIEF IN FUTURE LIFE.

All animals are actuated by instincts adapted to their needs and place in nature, and we have a right to consider such instincts as in accordance with the will of their creator. Should we not regard the institution of man in the same light, and also what may be called his religious and moral instincts? Of these, perhaps one of the most universal next to the belief in a god or gods is that in a future life. It seems to have been implanted in those antediluvian men whose remains are found in caverns and alluvial deposits, and it has continued to actuate their descendants ever since. This instinct of immortality should surely be recognized by science as constituting one of the inherent and essential characters of humanity.

So far in the direction of religion the science of nature may logically carry us without revelation, and we may agree with the Apostle Paul that even the heathen may learn God's power, and power and divinity prove the things that he has made. In point of fact, without the aid of either formal science or revelation, and in so far as we are without any direct revelation, the belief in God and immortality has actually been the common property of all men, in some form more or less crude and imperfect. There are numerous special points in revealed religion respecting which the study of nature may give some testimony.

When natural science leaves merely material things and animal instincts, and acquaints itself with the rational and ethical nature of man it raises new questions with reference to the first cause. This must include potentially all that is developed from it. Hence the rational and moral powers of man must be emanations from those inherent in the first cause, which thus becomes a divinity, having a rational and moral nature comparable with that of man but infinitely higher.

ATHEISTIC EXAGGERATIONS.

On this point a strange confusion, produced apparently by the philosophy of evolution, seems to have affected some scientific thinkers, who seek to read back moral ideas into the history of the world at a time when no mundane moral agent is known to have been in existence. They forget that it is no more immoral for a wolf to eat a lamb than for the lamb to eat grass, and regarding man as if he were derived by the 'Cosmic process' of struggle for existence from savage wild beasts rather than, as Darwin has it, from harmless apes, represent him as engaged in an almost hopeless and endless struggle against an inherited 'Cosmic nature,' evil and immoral. This absurd and atheistic exaggeration of the theological idea of original sin, and the pessimism which springs from it, have absolutely no foundation in natural science. Even on the principle of evolution, no moral distinctions could be set up until men acquired a moral sense, and if, as Darwin held, they originated in apes, the descent from the simple habits and inoffensive ways of these animals to war and violence and injustice would be as much a 'fall of man' as that recorded in the Bible, and could have no connection with a previous inheritance of evil. But such notions are merely the outcome of distorted philosophical ideas and have no affinity with science properly so called.

Natural science does moreover perceive a discord between man, and especially his artificial contrivances, and nature, and the cruel tyranny of man over lower beings and interference with natural harmony and symmetry. In other words, the independent will, free agency, and inventive powers of man have set themselves to subvert the nice and delicate adjustments of natural things in a way to cause much evil and suffering to lower creatures, and ultimately to man himself. How this has occurred science has not the means of knowing, except conjecturally, and it can do little by way of remedy. Indeed, the practical results of scientific knowledge seem in the first instance usually to aggravate the evil, though in some directions at least they diminish the woes of humanity. Science sees moreover a great moral need which it cannot supply, and for which it can appeal only to the religious idea of a divine redemption.

INSPIRATION OF THE ALMIGHTY.

On this account, if no other, science should welcome the belief in a divine revelation to humanity. On other grounds also it can see no objection to

this idea of divine inspiration. The first cause manifests of himself hourly before our eyes, in the instinct of the lower animals, which are regulated by his laws. It is the inspiration of the Almighty which gives man his rational nature. Is it probable then that the mind of man is the only part of nature shut out from the agency and communication of the all-prevailing mind? This is evidently infinitely improbable. If so have we not the right to believe that divine inspiration is present in genius and inventive power, and that in a higher degree it may animate the prophet and the seer, or that God himself may have been directly manifested as a divine teacher? Science cannot assure us of this, but it makes no objection to it.

This, however, raises the question of miracle and the supernatural but in opposition to these science cannot consistently place itself. It has by its own discoveries made us familiar with the fact that every new acquisition of knowledge of nature confers powers which, if exercised previously, would have been miraculous; that is, would have been evidence of, for the time, superhuman powers. We know no limit to this as the agency of intelligences higher than man, or as to God himself. Nor does miracle in this aspect counteract natural law. The scope for it within the limits of natural law, and the properties of natural objects, is practically infinite. All the metaphysical arguments of the last generation against the possibility of miracles have in fact been destroyed by the progress of science, and no limit can be set to divine agency in this respect, provided the end is worthy of the means. On the other hand science has rendered human imitations of divine miracles impossible, too transparent to be credited by intelligent persons.

ATTITUDE TOWARD REVELATION.

In like manner the attitude of science to divine revelation is not one of antagonism, except in so far as any professed revelation is contrary to natural facts and laws. This is a question on which I do not propose to enter, but may state my conviction, which I have elsewhere endeavored to indicate, that the Old and New Testaments of the Christian faith, while true to nature in their reference to it, infinitely transcend its teaching in their sublime revelations respecting God and his purposes toward man.

Finally, we have thus seen that natural science is hostile to the old materialistic worship of natural objects as well as to the worship of assertions and heroes, of humanity generally, and of the state, or indeed of anything short of the great first cause of all. It is also hostile to that agnosticism which professes to be unable to recognize a first cause, and to Pantheism, which confounds the primary cause with the Cosmos resulting from his action? On the contrary, it has nothing to say against the belief in a divine first cause, against divine miracle or inspiration, against the idea of a future life, or against any moral or spiritual means for restoring man to harmony with God and nature. As a consequence it will be found that a large proportion of the most distinguished scientific men are devoutly religious in their opinions.

OCEAN PASSENGERS.

The Royal mail steamship 'Sardinian', Captain Wm. Richardson, sailed this morning for Liverpool, with passengers and a general cargo. The passengers were:

Mr. J. C. Andrews, the Rev. Father Arsenius, Mr. Albert Beaucheme, Mrs. Barnes, Miss Gwladis Barnes, Master Hugh W. Barnes, Mr. Robert Close, Mr. H. Chamberlain, Mr. Clarke, Miss Clarke, Mr. J. Caldwell, Mrs. Caldwell, Mr. Cockson, Mrs. Cockson, Rev. A.W.F. Cooper, Miss Cooper, Miss Dow, Miss Jessie Dow, Mr. H. A. Drury, Mrs. Drury, Master Archibald Drury, Mr. E. Dowie, Miss Flint, Mr. Gall, Mrs. Gall, Miss Grant, Capt. M. N. Garland, Mr. Hooper, Mr. A. L. Hay-Willan, Mr. Irving and wife, Mr. C. Johnston, Miss Johnston, Mrs. Jopp, and child, Mr. Edward Jex, Dr. Robert Kirkwood, Mr. W. H. F. Landon, Mr. Ronald A. Lavelle, Dr. Elsdale Molson, Mrs. G. Elsdale Molson, Mrs. R. G. Moffatt, Mr. Fred. Mackean, Miss McLaren, Mr. James McLaren, Master Willie McLaren, Mr. J. McKenzie, Mr. Wm. Napier, Mrs. Nutt, Dr. J. Orlando Orr, Mrs. Orr, the Rev. A. O. Papillon, Mr. Wm. J. G. Pennington, Mrs. Pennington, Mr. Power, Mr. Rosamond, Miss Russell, Miss A. A. Stewart, Mr. Edward Sandreuter, Mr. W. R. Samuel, Miss Strange, Mr. John T. Small, Mr. Tom T. Turnor, Mrs. Turnor, and infant, the Rev. J. Watson, Lieutenant Wroughton, Miss Williamson.

THE 'LABRADOR'S' PASSENGERS.

Rimouski Wharf, Que., Sept. 22.—List of saloon passengers per Dominion Line R.M.S. 'Labrador,' Captain McAuley:—Dr. H. B. Anderson, Mrs. Bell, Mrs. Bonnin, Miss Breton, Mrs. Haig Brown, Miss Brown, Dr. Binmore, Mr. Chalmers, Mr. J. H. Collet, Mrs. Cox, Miss Crosby, Mr. Curtis, Mr. Durand, Mr. H. Duverger, Mr. Duverger, Mr. Hall, Mr. H. Findlay, Mr. Foster, Mr. Bertram Foster, Major Foster, Mrs. Foster, Mrs. Fuller, Mrs. J. R. Fullerton, Master Fullerton, Miss Fullerton, Rev. J. L. Gilmour, Mrs. Gray, Captain Gray, Mrs. Gray, Captain Guy, Miss Gyde, Miss J. Gyde, Mr. Hault, Mr. Hegarty, Mr. Keith, Mr. W. C. King, Mrs. King, Mrs. S. H. King, Major P. Lake, Mrs. Lake, Mr. E. A. Lenton, Mrs. A. Leonowens, Mr. G. Leonowens, Mrs. Anne Leonowens and nurse, Mrs. Macdonald, Mrs. MacFarlane, Mr. W. Maguire, Mr. W. E. May, Mrs. May, Master Harold May, Master Ernest May, Miss Dorothy May, Mr. McCarthy, Miss McCarthy, Mrs. Morgan, Mr. H. Morgan, Mrs. Morgan, Mr. E. Musgrove, Mrs. Musgrove, Mr. McTear, Mr. Norman, Mr. Nicolls, Mrs. Palmer, Mr. Palmer, Mr. C. H. Potts, Mrs. Potts, Capt. M. Pope, Mr. F. Pope, Mr. J. H. Randall, Mr. Reeves, Mr. F. P. Riddell, Mrs. J. J. Roy, Miss Roy, Rev. A. Samson, Mrs. Samson, Mrs. Sclater and infant, Master J. Sclater, Miss M. Sclater, Mr. Seybold, Mrs. Seybold, Mr. Shield, Mrs. Skinner, Mrs. Skinner, Mr. T. Skinner, Mr. Gregory Smith, Mrs. Skeman and two children, Mr. J. Wallace, Mrs. Milner Watson, Miss K. E. White, Mr. A. Whitehead, Mrs. Whitehead, Dr. Wiles, Mr. Wilson, Mr. E. Withers, Judge J. P. Woods, Mr. Watson. Total, 106 cabin, 120 intermediate and 240 steerage.

THE WORLD'S FAIR.

A FLYING VISIT AND A GLANCE AT GLORIES IN ART AND SCIENCE.

THE CANADIAN BUILDING AND QUEBEC EDUCATIONAL EXHIBITS TOUCHED UPON.

At 8.30 Monday morning a seat in the Grand Trunk's through cars to Chicago and a start on time; on Tuesday morning a glimpse from the same car window at 7.30 of the White City of the World's Fair—these were incidents within twenty-four hours from the turmoil of newspaper life. There lay a long interval between—840 miles of splendid Canadian railway. The Sarnia tunnel, the United States Customs officials and heated Americans vowing opposition to the Government that made travelling so uncomfortable with the tariff regulations were accidentals in the harmony. There was an exclamation at early morning 'There it is,' and we saw as our train dashed along the

GREAT FERRIS WHEEL,

towering above everything else. With expectation towering even higher, in the minds of passengers, even long intervals are nothing. No matter what might happen on such a journey overnight, everything is sure to fade in presence of the wonders of the Fair. Nothing short of tragedy could occupy a place in memory while eager eyes scanned the pinnacles ever so scantily and fitfully seen from the car windows. The chief desire was to get there as quickly as possible. But in the city of distances trains move with deliberation. Nine or ten miles of travel is necessary to reach Polk street, where the Grand Trunk and Chicago and the Grand Trunk passengers leave the cars. To save two hours, some passengers left the cars at Forty-first street, walked a quarter of a mile or more toward the lake and boarded a Cottage Grove car. This brought us to the Fifty-seventh street entrance of the Fair. There are in this vicinity hotels and private houses which lease rooms. Securing one at \$1.50 per day in a dwelling house for adult and child, the 'grip' and overcoats were disposed of and we were soon on our way to the entrance of the wonderful Fair grounds. Vendors of lunches, sandwiches at five cents each, choicest grapes at ten cents per pound, bananas 10 cents per dozen, lunches put up in parcels at 25 cents were sold by men and women who did a thriving business around the streets at stands outside the gates. It is quite the thing for those who desire to practice economy to purchase lunch and carry it with them until they desire to dispose of it. Once the entrance fee is paid there is no exit check to permit a return to hotel or boarding house.

THE ORDER EXCELLENT.

Men stand about the entrances, keeping order. In the shouts of vendors, the rumble of street elevated and steam suburban railroads, there is a peculiar rushing sound which the lesser hum of conversation mingles. It all is in harmony, nevertheless, with the restless, ceaseless rush of crowds and the eager expectancy upon every countenance except the automatic-looking keepers, who turn the entrance styles, but are full of information which they fire at you as you pass in. They do it like machinery and quite as cheerfully and effectively. No need to ask a reasonable question twice. The entrance passed, there is a pause to survey the scene. It is curious. The lagoon which runs through the grounds, takes a sweep past the entrance, and out from a fence shutting off the Esquimaux Village pops an Esquimaux voyager, double paddle in hand, as he sits in his kayak, his black hair and swarthy face conjuring up the stories of the lost Sir John Franklin, the daring of McClintock, the explorer Kane, Capt. Pim and polar heroes generally. The sight is a real curiosity. He is joined by another, similarly attired, in a second kayak. They splash some water upon each other, sitting as if each were a machine in motion. Then they laughingly disappear. There comes softly rumbling along as this is in progress

THE INTRAMURAL RAILWAY.

which goes with an apparently muffled noise, and is elevated some twenty or twenty-five feet, running all over and through the White City. In the best seat on the outside, and for ten cents we get a splendid over-head trip and bird's eye view of the grand buildings, the statuary, the minarets, domes, pinnacles and battlements, all shining in the now strong sun of early forenoon. The effect is overpowering. The Ferris wheel is moving, the Midway Plaisance is already teeming with visitors. The lagoon asserts its life by the shrill whistles of electric launches that glide lifelike about more easily than the silent gondolier who propels the Venetian barges along with easy skill and graceful sweep of the long pole-like oar. Past the Fine Arts Building, the red-roofed fisheries exhibit, the inner life of the Esquimaux Village underneath, the Women's Building, Transportation Building, Machinery Hall and the fluttering village of windmills, which present a curiously pretty sight, we reach the archaeological section, and mammoth cave of Kentucky. On further and we go around the live stock, farm and dairy product, and reach the front view of the Fair. It is

A BIT OF SATISFYING SPLENDOR

which seems to group in real sight faded splendors of bygone glory. There is no time to note its beauties. The intramural cars do not wait. They have been gently but swiftly rumbling along with hardly any friction, and we are set down on the return trip near where the Meteor flag of Great Britain throws its badge of union broadly out to all comers. It is flying over a compact, conservative-looking building on the lake front, which is not much visited, has no admittance except on business' air about it, and nothing is there exhibited save the proverbial official hauteur of the British Empire on parade. There stands the lion. The cubs are not far distant. Canada's sensible-looking house is near by, in yellowish-white stone, with the Dominion flag flying. Not far away is Ceylon's palmy plains represented in a building and grounds. But to look into

Canada's bull Can we do it other way, no come for you actor or a poli body, the effort you from cyph just at home. of the broad sph kota, Kansas, C even Washingt and daughters. made to make the taxpayers. terials, ladies' t where individual see the home pa, building there w

SCANTY COURTE and fewer chair casion when the than usual ladie ing to the appe stood. Some dre vity was in pr rooms were ma gistering books and your busines depart. The Ho Quebec, was plea to entertain the in contact with everything and much 'private' other respect The Canadian great many de were specially tario education ly and comm Quebec's educ largely Roman the exhibits sh in convent an is true, viewe her science were admirab pictures. Quebec Pro the work o Montreal sioners. T ly excellen ed first-cla exhibited.

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LITERARY REVIEW.

MRS. OLIPHANT ON CHALMERS.

Mrs. Oliphant is a wonder even in this age of wonders. The gaping rustics of Goldsmith's well-known poem wondered how one could contain all the knowledge they believed was stored up in their schoolmaster's head; the gaping critics of English literature in the present generation marvel how one brain could have planned and one hand could have written the novels, biographies and essays on all kinds of topics which bear the name of Mrs. Oliphant. She is certainly one of the most prolific and versatile authors of our day. It is recorded that she once offered to write a whole number of 'Blackwood's Magazine' from cover to cover, contributing fiction, poetry, criticism and politics, and whether the offer was accepted or not there can be no doubt of her ability to fulfil the task. Great as our admiration for Mrs. Oliphant is, we regret exceedingly that to her was committed the writing of a new biography of Thomas Chalmers, the hero of the Scottish Disruption, and one of the most remarkable men in a generation of remarkable men. She was unfitted for such an undertaking by her lack of sympathy with things distinctively Scottish, and her lack of appreciation of the evangelical movement in which Chalmers played so prominent a part. She ought to have sympathy with things distinctively Scotch, for Scotland is the land of her birth, but it is not the land of her love. For her London moods and ways are infinitely superior to Scottish moods and ways, and that is not the spirit that can interpret to our day the character and activity of Thomas Chalmers, who from first to last, and in everything was a Scot of the Scots. Still more serious is Mrs. Oliphant's thinly-veiled aversion to evangelical religion, an aversion which finds expression in such ways as marvelling that a man of intellectual grasp and matured spiritual experience had no fresher counsel to give, a seeker after religious help than 'Believe on the Lord Jesus Christ, and thou shalt be saved,' and in sneering at 'the pages of abstract piety' to be found in Chalmers' letters and journals.

The biography is vivid and picturesque. It is evident that Mrs. Oliphant has great admiration for the hero of the Disruption, although she considers that superb testimony to religious freedom a mistake. She paints with glowing colors. The man moves before us. We catch some aspects of his great

told with a charm that occasionally comes fascinating, and is rich in facilities of style. But the study of character is, in our judgment, a dismal failure. Mrs. Oliphant writes herself down as incapable of appreciating the fundamental principles which guided and moulded Chalmers' career. It is absurd to trace the energy and enthusiasm he displayed in the struggles leading to the Disruption to the vehemence which in early life was a fine infirmity of his temper. It is little short of a travesty of history to say that in 1843 the Government was preparing some healing measures which would have settled all grievances, and that the impetuous haste of Chalmers precipitated his followers into action which a little later would have been needless. This version of an old story may be accepted in some quarters as trustworthy, but these quarters must be where the ostrich policy is followed by shutting the eyes in presence of unpalatable facts, and dreaming of things as one would like to see them instead of seeing them as they really are. But after all, we do not feel disposed to leave on the mind of the reader the impression that the only value of Mrs. Oliphant's biography is her artistic presentation of the events of Chalmers' life. Her tribute to his excellence will revive the memory of his worth in minds where it was growing dim, and force into remembrance of the man and his work many people who otherwise would have remained in ignorance of both. Whatever Mrs. Oliphant writes is sure to be read by thousands of her admirers. The facts speak for themselves. He must be slow of heart and dull of brain who can know them without being stirred up to cordial appreciation of the big-brained orator and the big-hearted philanthropist.

From beginning to end of his career Chalmers carried with him the distinction of peculiar talents little short of genius. 'He is a lad of pregnant parts,' said the old Fife minister, and so said all who knew him in the years of his early life. When love of scientific investigation was swallowed up in love to Christ and souls, his great powers blossomed into full fruition, and he became the Jupiter of the Scottish pulpit, winning even from a critic like John Gibson Lockhart the frankest acknowledgment of unique supremacy as a preacher. And yet his great popularity never spoiled him. When the halls of the rich were open to him, he preferred to comfort those who mourned in the slums. The passion for helping the world burned strong in his breast. The dream of his life was to nurse the British Empire into the Christianity of Jesus Christ, and the glory of his life was that ere he died he was enabled to do

something towards the realization of his dream, for he breathed into his contemporaries principles and passions which the Scotland of to-day regards as a most precious part of the inheritance bequeathed by those who have gone before.

WHAT IS AN ARCHBISHOP? (To the Editor of the 'Witness'.)

Sir,—We are hearing much now of archbishops and of the order of precedence or the prominence to which they are entitled, but the names of archbishop and cardinal were unknown in apostolic times. We read in the New Testament of Bishops (in Greek 'overseers') and also of 'pastors' or 'shepherds' in the household of God; but there is no mention of any 'arch' or 'chief' bishop. The Lord, however, is mentioned as the 'arch' or 'chief' Shepherd. (1 Peter 5-4). We find, moreover, that the Lord forbade strictly the exercise of any authority by one of his servants over another. (Mark 10-43, and in verse 44 our Lord declares whoever desires to become a chief, shall be a bond servant of all. That is the distinction reserved for those who want to domineer over their fellow servants here. This teaching does not leave room for any archbishop in the Church of God. Christ, therefore, is the only 'arch' or 'chief' Shepherd and Bishop, and whoever assumes this position and title displaces and dishonors Christ. L. H. P.

PRIMATE OF CANADA. (Montreal 'Gazette'.)

The mention by Bishop Lewis of the fact that the Archbishop of Ottawa takes precedence of him opens up a sore question. As the rules of precedence are interpreted in England, it is difficult to see how, unless the Roman Catholic Church were ignored altogether, a bishop could take precedence of an archbishop. Archbishops rank as peers, with dukes, whose very terms of deference are employed in addressing or speaking of them, whereas bishops rank with barons only. It must be borne in mind, however, that archbishops in England are few. There are, indeed, only two now who have acknowledged secular rank, those of Ireland, since the disestablishment of the Church, having no right to any title, indicating nobility. The Archbishop of Canterbury takes rank immediately after the Royal family, then comes the Lord Chancellor and then the Archbishop of York. Formerly the Archbishop of Armagh followed and then, after the Lord Chancellor of Ireland, the Archbishop of Dublin. Now, it is almost needless to remind the readers of the 'Gazette' that there are Roman Catholic archbishops of both Armagh and Dublin and that, whereas now they are just on a par as to legal rank with their separated brethren of the same names before disestablishment, they were simply effaced as records of their rank by the good churchmen in the tradition without regard to the state. The Primate of the United States set the example of giving the Provincial Synod the same title that he gave to those of Canada, their right to it being just the same, that of courtesy, instead of making an invidious distinction.

But whatever Roman Catholics or Anglicans may hold to be their duty in this respect, it is surely a grave mistake, whoever may be responsible for it, to attempt to apply to Canada rules of precedence which must offend the great bulk of the Protestant population. For, surely, however an Anglican may choose to address his chief pastor, the latter has no just claim to precedence over worthy ministers of other communions that do not hold episcopacy essential to salvation. When the Prince of Wales visited Canada the late Rev. D. Mathieson brought up this very question, refused to yield precedence to any bishop and was allowed a private audience. He, indeed, took this high ground as representing an established church, on a par, in its relations to the Crown, with the Church of England. As yet Canadian bishops of the Anglican Church were appointed by the Crown, the new start being made with Bishop Lewis, who is all the more inconsistent in talking about precedence. But His Lordship is not altogether to blame. He is a victim of the system of which he is the representative. If, out of respect, a Protestant community desires the bishop to be its spokesman or representative, well and good. But that, in a country like Canada, one Christian pastor, Catholic or Protestant, should have a formal precedence of hundreds of others, as learned, as wise, as good as himself, is surely an anomaly. In England the prelates have a recognized connection with the state; in Scotland they have none; in Ireland they have no longer any. In Canada they have none, having lost even that which they seemed to have. Perhaps the advent of a Presbyterian Governor-General may offer a fair opportunity for redressing the grievance.

OLAN MACLENNAN.

The first of the Clan MacLennan's popular monthly socials was held in their hall, Glenora Buildings, Notre Dame street, last night. Clansman D. Stewart presiding. Among those who contributed to the evening's entertainment were Misses Powell and Lynett and Messrs. Nicholson, King, Benyon, Stevenson and Moore, all of whom performed their parts to the delight of the audience. During the intermission an abundant supply of refreshments was served by the clansmen.

These socials will be given monthly during the winter season, and the officers and members of Clan MacLennan extend a cordial invitation to all friends of the order.

BOARD OF TRADE BANQUET.

A special meeting of the Council of the Board of Trade was held yesterday to receive reports from the various committees in charge of the reception to Lord Aberdeen. The tickets for the banquet are selling rapidly and applications are coming in from members of the Board of Trade of several American and Canadian cities. The event promises to be the greatest of the kind ever held in Montreal.

THE LATE SIR A. T. GALT.

Numerous have been the expressions of sympathy addressed to Lady Galt and family in their recent bereavement. Telegrams have been received from the Hon. T. M. Daly, Minister of the Interior; Sir Leonard Tilley, Lieutenant-Governor of New Brunswick; the Hon. J. A. Chapleau, Lieutenant-Governor of Quebec; Sir Henry Tyler, President of the Grand Trunk Railway; Sir Donald A. Smith, Sir Hector Langevin, Sir David Macpherson, Sir Charles Tupper and many others.

Resolutions of condolence were sent by the employees of the Alberta Railway and Coal Company, the directors of the Bank of Montreal, the directors of the Standard Life Insurance Company, and the London, Liverpool and Globe Insurance Company's Canadian representatives.

SPORTS AND GAMES.

THE 'AMATEUR' AND THE PROFESSIONAL.

TO-DAY'S SPORTING EVENTS.

LACROSSE.

Shamrocks vs. Capitals, on Shamrock grounds.

Orients vs. Crescents, on Crescent grounds.

Arlingtons vs. Pansys, on Rebel grounds.

Victoria, B.C., team vs. Quebec, at Quebec.

FOOTBALL.

Scots vs. Druids, on Beaver lacrosse grounds.

Jerseys vs. Heathers, on Jersey grounds.

Rovers vs. Young Maples, on Royer grounds.

Grace Church vs. Victoria, at Point St. Charles.

Mohawks vs. Astons, on Fletcher's Field.

YACHTING.

Race for Sir Donald Smith's Cup, St. Lawrence Yacht Club.

HUNTING.

Montreal Hunt meet at the Kennels.

LACROSSE.

The seating accommodation on the Shamrock lacrosse grounds has been greatly increased for to-day's match; what with the new platforms, enclosures, etc., one would hardly know the grounds. Doubtless the crowd will be one of the largest ever seen in a lacrosse field. The Capitals stayed over at Lachute last night, en route for Montreal. Excitement over the outcome of the match is running high. At a meeting of the senior league, held yesterday, it was decided to appoint Mr. W. D. Aird referee, and the umpires will be Messrs. E. Sheppard and P. Larmonth.

HIGH JUMPING COMPETITION.

There was an enthusiastic gathering of the sports fraternity last night at the Victoria Club to witness the horse jumping competition, held under the management of Dr. Robb. There was a very fine display of horses, and the jumping was fairly good, though it was evident that many of the animals would have done far better had they been well handled. The grey 'Bismarck' could easily have been stamped a winner before the competition was half over. The cob 'Grey Jack' was much admired for the plucky way he took the jumps; had he carried a lighter weight he would no doubt have done still better. The following are the results of the evening's competition:—J. S. Evans, Bismarck, 1; Canniff Bros., Oddfellow, and Montreal Horse Exchange, Gray Jack, tie; T. D. Buzzell, Flying Dutchman, 4; Hay & Kidd, Listowell, 5.

CYCLING.

CANADIAN RECORD BROKEN.

Toronto, Sept. 22.—Several hundred spectators at Rosedale to-night saw W. A. Rhodes break the Canadian record. He rode five miles, and when he had finished had done the fastest riding ever seen in Canada at every mile of the distance. His time was:—One mile, 2.22 1-5 min.; two miles, 4.50; three miles, 7.27; four miles, 10.07 1-5; five miles, 12.33. The five mile time is 22 4-5 seconds faster than champion Hyslop's record.

BASEBALL.

HOW THE CLUBS STAND TO DATE.

Table with columns: Club, Won, Lost, Percent. Rows include Boston, Pittsburgh, Philadelphia, Cleveland, New York, Brooklyn, Cincinnati, Baltimore, Chicago, St. Louis, Louisville, Washington.

LAWN TENNIS.

The closing entertainment of the Tennis Club, connected with the Grand Trunk Boating Club, will be held in the boat house on Friday evening next.

COMMERCE.

WITNESS OFFICE, Saturday, WHOLESALE PRICES.

Grain.—Quietness continues the least of the local grain market. The bulk of business is confined within a small movement of peas. We quote: No. 2 oats, in store, 85c; afloat 89c; No. 2 peas, in store, 72 1/2c to 73 1/2c; afloat, 73 1/2c to 74 1/2c. No. 2 Rye, 57c to 58c. Barley, for feeding, 43c to 44c; malting, 52c to 54c. Buckwheat, No. 2, 57c to 60c.

Flour.—The market continues firm and price are inclined to be a little stronger. The following are to-day's quotations:—

Table with columns: Flour type, Price. Rows include Patent Spring, Patent Winter, Straight Roller, Extra, Superfine, Strong Bakers' (Man.).

Meal.—There is no material change in the meal market, which is quiet. Prices are firm. We quote:—

Table with columns: Meal type, Price. Rows include Granulated, in brls., Granulated, in bags, Standard, in brls., Standard, in bags.

Feed.—The demand still exceeds the supply of feed and prices keep very firm in consequence. We quote:—

Table with columns: Feed type, Price. Rows include Bran, Shorts, Moultrie.

RECEIPTS IN MONTREAL—Sept. 23.

Table with columns: Commodity, G.T.R., C.P.R., Canal, Total. Rows include Wheat, Corn, Peas, Barley, Rye, Flour, Meal, Ashes, Butter, Cheese, Pork, Lard, Eggs, Beef, Ham & Bacon, Meats, Dressed Hogs, Leather, Raw Hides, Petroleum, Phosphates, Tallow.

THE FINANCIAL SITUATION.

Bradstreet's says: The improvement in the financial situation at New York, evidenced by the rapid retirement of clearing house certificates and the return of money to the banks has no direct effect on stock values. Speculation is held in check by the non-action of the Senate on silver repeal and the fear of further complications from that cause. Prices are slightly lower though steady, but there is little activity. A renewed enquiry is shown for investment bonds and municipal securities. Foreign exchange is strong and advancing. Demand sterling being 4.86 due to different supplies of commercial bills and increased enquiry for remittances from importers on the easier money market.

WESTERN GRAIN STANDARDS.

A despatch from Winnipeg, yesterday, says:—The Western Grain Standard Board met here to-day. The Board decided on the standard of No. 1 hard. It is a splendid sample of Manitoba's best wheat. The Act demands that 'No. 1 Manitoba hard wheat shall be sound and well cleaned, weighing no less than sixty pounds to the bushel, and shall be composed of at least two-thirds of hard and fifty wheat grown in Manitoba or the North-West Territories of Canada.' No. 2 hard has to weigh fifty-eight pounds to the bushel. Extra Manitoba hard wheat must go sixty-two pounds to the bushel. Some of it this year will go as much as sixty-four pounds. The sample indicates that the whole crop will be covered by four grades: extra, No. 1, 2 and 3. Further examination may possibly necessitate the selection of another grade. There is little or no northern wheat. Just before adjourning the board decided on 'extra hard.' The sample weighs 62 1/2 pounds to the bushel.

TRADE IN CANADA.

Bradstreet's of to-day says: Toronto advises report trade less active but fair with leading staples in fair demand. At Montreal dry goods, hardware and sugar are exceptionally active. Nova Scotia reports are favorable and Halifax advises are that trade is about normal. Bank clearings at Toronto, Montreal and Halifax aggregate \$18,069,000 this week, one percent less than in the week a year ago. There are forty-seven business failures reported from the Canadian Dominion this week, against thirty-six last week, twenty-seven in the week a year ago and thirty-four two years ago.

GRAIN STANDARD BOARD.

According to a despatch from Toronto some changes have been made in the personnel of the boards to select grain standards owing to the inability of some of the members to act. On the eastern board Mr. Thomas Flynn and Mr. John Carriek, of Toronto, have been appointed in place of Mr. G. A. Chapman and Mr. M. McLaughlin. Mr. Gaspard Lemoine has been added to the eastern board. On the western board Mr. T. A. Crane, of Montreal, will take the place of Mr. W. W. Ogilvie, President of the Board of Trade. Mr. C. D. Watts will also be added to the western board.

THE GRAIN FLOW.

Exports of wheat (flour included as wheat), continue very slow, 4,727,000 bushels for the week ending with September 21, against an average of 5,000,000 bushels weekly since July 1 last, 3,700,000 bushels in the third week of September, 1892, 4,711,000 bushels in 1891, and a much smaller quantity in like weeks in preceding year.—Bradstreet's.

SHIPPING.

Brisbane, Australia, Sept. 22.—The Australian and Canadian steamship Mowera sailed for Vancouver on Tuesday afternoon, Sept. 19.

New York, Sept. 23.—Arrived steamers Paris from Southampton, Campania from Liverpool.

Advertisement for 'LADIES!' corsets. Text: 'You wear corsets to give you comfort, grace and elegance of figure. The only way to obtain all these and many other advantages, is to wear The Improved All-Featherbone Corset. For sale by leading Dry Goods Houses throughout Canada.'



causelessness, must also be spiritual, and His modes of action, though inconceivably greater than must have some analogy to those of the will of which we are conscious in ourselves. Hence arise two different but not contradictory modes of expressing ourselves respecting material nature. The first is that which relates to secondary causes and natural laws; the second that which relates to the first causes present in all phenomena. In ordinary elementary science we are occupied with the first aspect of the matter. In more philosophical science and in religious beliefs we rise to the consideration of the latter. So far as we can understand, not only the whole material universe, but even the spiritual world, must be under the domain of Divine law; but in any case we may be sure that God is over all and in all, and this last is the appropriate view of Holy Scripture, which speaks of all things as originating in God, and does not, except on rare occasions, concern itself with secondary causes.

Let us not, then, present to our scientific friends the partial and inaccurate distinction of the natural and the supernatural, but the real and scriptural one of the natural and the spiritual. We shall thus find a true meeting-place for science and religion, excluding atheism and agnosticism, and leading easily and naturally to the Almighty Creator and Living Father and Saviour presented to us by Divine revelation.

Nor should we forget here that revelation sanctions this union of the natural and the spiritual, by claiming for God the creation and constant care of all things in heaven and in earth, and by its appeals to nature as evidence of His being, power, wisdom, and love. Christ Himself, though the great revealer, and asserting that only through Him can we know the Father, does not disdain to call on the sparrows, the ravens, and the flowers of the field to bear witness with Him. Paul assures the heathen people of Lystra that God has not left Himself without a witness in that He "did good, and sent them rain from heaven, and fruitful seasons, filling their hearts with food and gladness." In the noble introduction to his Epistle to the Romans he defines more clearly than any other writer, what we can know of God from His works, when he says:—

"The invisible things of Him since the creation of the world are clearly seen, being perceived through the things that are made, even His eternal power and divinity."

These two things all men may perceive in nature—power beyond our conception, and contrivance beyond our comprehension; and the whole eternal, and so far above us that they must be held to be Divine. Paul goes even further than this, and proceeds to argue that those who fail to glorify this Almighty Architect of man and nature, and to give thanks to Him for His goodness, are "without excuse." But he has the authority of the Gospel to add to this the proclamation that even for those who have neglected and despised the manifestation of God in nature, and have turned it into the basest uses, a loving Father offers mercy and salvation through Jesus Christ.

Another point on which there seems to be much misunderstanding between writers of popular science and Christians, is that which relates to the nature of faith as distinguished from credulity and superstition, and its place as one of the springs of human action. It has even been said on no mean authority that the progress of science has made faith "a cardinal sin;" while, on the opposite side, we often hear the demands of science for material evidence denounced as hostile to faith. Physical science, no doubt, has to insist on proof of its facts and laws either by observation, experiment, or mathematical demonstration; yet it cannot dispense with faith in its own perceptions and intuitions, and in the testimony of others with reference to facts and processes. Still more are we dependent on faith in the domain of the spiritual. In a question of how much weight a beam will sustain, we may apply a mechanical test, and after this a mathematical calculation; but who can test or calculate the trust of a child in a parent, or of one friend in another? Yet this may be quite as sure and reasonable as the other, though, perhaps, not reasoned out at all, but based on affection or on experience. In this domain a glance, a gesture, or a word may be as trustworthy as a demonstration in matters physical, and without this assured faith the world could not go on for a day. All this applies still more clearly to our relations to God. He is willing to give us physical proofs in material matters; but in regard to our higher spiritual interests He declines to give us a physical "sign from heaven," but He presents to us the testimony of a Divine Saviour, full of goodness, love, and truth, and self-sacrifice, and invites us to trust in Him, as willing and able to save to the uttermost. Our faith in such a personal Saviour as the Christ of the Gospels is our own willing trust; yet it is also the gift of God, who has given us the evidence of it, and the capacity to entertain it and to live by it. Between such reasonable faith and anything deserving the name of science there can be no conflict, however it may have to contend with the world, the flesh, and the devil; but we must beware not to limit the grace of God by any narrowness of our own.

It is often said that students of Nature are, as a whole, inimical to religion. Unfortunately, those who are so have often put themselves very much in evidence in their writings, and so have given occasion to the enemy. In so far, however, as my experience extends, I have reason to believe that as large a proportion of the votaries of science are pious men as of any other class. It is not to be denied, however, that they have been so under some disadvantages, both on account of the constant efforts of infidels and popular agitators to wrest science to their own uses, and of the

intolerance, errors in matters of fact, and unwise concessions of Christian teachers. Such things exercise a very repellant influence, while a more pure Gospel teaching would attract rather than repel.

Much use has also been made of the alleged retreat of religion before the advance of science, and of the persecutions said to have been suffered by scientific innovators. This depends partly on the error, already referred to, of supposing that the reference of effects to natural causes withdraws them from the domain of the Creator. It also results from misapprehension of historical facts. Even quite recently the old story of the persecution of Galileo and of the alleged adherence of theologians—and even of the Bible—to the Ptolemaic system of astronomy have been paraded as examples of the supposed defeats of religion. Now, without insisting on the facts that it was Antichrist rather than Christianity that persecuted Galileo, and that Copernicus seems to have been as much a Christian as some of his assailants, we may explicitly deny that Christianity as represented in the Bible has ever maintained any special astronomical theory either ancient or modern. The Hebrew word represented by firmament in the first chapter of Genesis is well known to have the meaning of expanse, and we have quite as good reason to regard it as an atmospheric or ethereal expanse as one of a solid nature. The Greek and Latin translators, in rendering it *stereoma* and *firmamentum*, no doubt supposed that they were conforming the statements to science as held in their time, and did not stop to reflect that the Ptolemaic system originated centuries after the time of Moses. This interpretation could scarcely have occurred to the original writer, though our revisers were so much under the control of old interpretations that they have merely ventured to place the true meaning in the margin. From present knowledge, an atmospheric and ethereal expanse expresses the general fact without committing itself to any of the somewhat conflicting statements which physicists have been obliged to make on the subject, especially in regard to the outer expanse of interstellar space.

Such misapprehensions, based often on the mistranslation of single words, have done great mischief, and they warn us against the danger of committing the cause of religion either to the support of decayed philosophical or scientific systems, or to that of new views certain to be modified in the progress of discovery. The Bible itself, while so explicit as to the Divine creation of, and immanence in, Nature, is perfectly non-committal as to secondary causes and theoretical explanations; and this rightly, because it is revelation and not science. It is of the nature of science to be ever advancing. Its goal to-day is its starting point to-morrow. Revelation, on the other hand, like the great natural laws which regulate the universe, is unchanging from age to age, yet capable of endless new applications to the wants and conditions of man in every age. Its old truths can never pass away. Its new applications will ever appear till all is fulfilled.

We might retort on those who inveigh against science in its attitude to religion that many of the worst foes of Christianity have been men trained in merely dialectic and philosophical methods, and destitute of the love and knowledge of Nature, while those chosen of the Spirit of God to reveal to man the plan of redemption have been full of sympathy with God's mighty works, and have been guided to use them as illustrations of spiritual truths. The study of nature has not indeed yielded a tithe of what it is capable of doing for the study of the Bible. Just as the archaeologist disinters from mounds and ruins proofs of Bible history, so the old Book itself needs much digging yet to disinter its wealth of analogy between things in heaven and things on earth.

Here also appears a special function of the Evangelical Alliance. Nothing in the outward aspect of Christianity is so repulsive to thinking men viewing it from without, as its divisions and strifes within and its conformity in human devices outwardly. Those only who represent the Church of Christ in its Divine unity, and as consisting of those united with Christ by faith and living under the guidance of the Divine Spirit, can present it in its true aspect to our scientific workers. If the Church is the body of Christ then it must be an organism not constituted by man, but by God. No power or skill of man can make or mend the humblest living organism, how much less that which stands at the head of the Divine system of the world. It may be maimed or wounded, but cannot be improved by us; and it is only when denuded of the mean and tawdry rags with which men invest it, and respecting which they contend and quarrel, that it can appear in all its heavenly beauty.

Finally, do we ever expect to be altogether free from the natural and material even in the spiritual bodies promised at the resurrection? In that celebrated passage in the first Epistle to the Corinthians, which is said to have had more than thirty different interpretations put on it by commentators, and in which Paul tries to explain that in baptizing outwardly the human body, we are not applying a Christian rite to a thing doomed to decay and dissolution, but capable of an unending life, as well as in the beautiful comparison with a grain that dies to spring up into a new life, we read that there is a sense in which the human organism is immortal. In that passage also in the eighth chapter of Romans, in which he holds that the whole creation is to partake in the final manifestation of the sons of God, we further learn that redeemed and glorified man is to be associated with a redeemed and glorified nature. Thus even the very little that we have learned here of the works of God may remain in that new world as a new and glorified

science. Were it not for this hope, I should have had much less pleasure and interest in inquiring into the wonderful ways in which it has pleased God to build up this beautiful world—beautiful even in that state of suffering and loss to which for a time it has been subjected because of man's transgression.

## Home Circle.

TWO.

BY LAURA SPENCER PORTER.

I DREAMED I saw two angels hand in hand,  
And very like they were and very fair.  
One wore about his head a golden band;  
A thorn-wreath crowned the other's matted hair.

The one was fair and tall, and white of brow;  
A radiant spirit-smile of wondrous grace  
Shed, like an inner altar-lamp, a glow  
Upon his beautiful uplifted face.

The other's face, like marble-carved Grief,  
Had placid brows laid whitely o'er with pain,  
With lips that never knew a smile's relief,  
And eyes like violets long drenched in rain.

Then spake the fair sweet one and gently said:  
"Between us—Life and Death—choose  
thou thy lot.

By him thou lovest best thou shalt be led.  
Choose thou between us, soul, and fear  
thou not."

I pondered long. "O Life," at last I cried,  
"Perchance 'twere wiser Death to choose;  
and yet  
My soul with thee were better satisfied!"

The angel's radiant face smiled sweet  
regret.

Within his brother's hand he placed my hand.  
"Thou didst mistake," he said, in under-  
breath,  
"And choosing Life, didst fail to under-  
stand,  
He with the thorns is Life, and I am  
Death."

—Harper's Magazine.

## Sunday in a Tramps' Hotel.

If ever a family group is seen in one corner of the kitchen, the children bending over their lessons, the father in the midst of them superintending their work, it may be taken for granted that that is a man who has fallen, not a vagrant born in his present surroundings; but so pleasing a sight is unfortunately very rare. Generally, the little ones of the lodging-houses are instructed only in the arts of tramping. Most of the women, however, set to work at once. Some suck away at their little black pipes, and at the same time make articles for sale on the morrow, while others begin washing clothes, either for themselves or a working man. Occasionally a "travelling tradesman," as professional vagrants call an artisan who tramps in search of employment, does not care to wash his own shirt. In that case he gets one of the women to do the job for him. A very well-paid job she makes it, for though she does not provide the necessary soap she yet charges fourpence for her services. Other women, again, busy themselves in preparing for dinner. The men, if they do anything at all beyond washing shirts or mending clothes, also hasten to get their meal on the fire, which, large as it is, falls so far short of requirements that those who come late with their saucepans are not infrequently shut out. But male vagrants, take them in the lump, simply rest and amuse themselves. Some occasionally play a silly game, such as "cod 'em," or "shove-penny." "Cod 'em," which is well known in the north of England, is the same in principle as the schoolboy's "Which hand is it in?" though usually a number play at it, and the stake is not a marble, but beer. "Shove-penny" needs no description. It is seldom seen in the north, but at least one table is marked for it in most southern lodging-houses. The other men sprawl about the kitchen, discussing tricks which may profitably be played on the public in particular districts and relating begging exploits and road adventures. It is of no consequence that everybody disbelieves the yarns; they cause a laugh, and that satisfies the narrators. Rarely indeed is any time spent in reading; in fact, you might easily go in a score of wayside lodging-houses, taking them haphazard, without finding a single book or newspaper. I shall never forget how amazed I was to discover a tramp of eighteen propped up in bed and spelling with knitted brows through a first-standard school reading-book—acquiring knowledge by the light of candle-ends which he had collected in the many sleeping-rooms. It was like stumbling upon a pearl in the filth of the gutter! Here was a boy, vagrant-born and vagrant-bred, "sick," as he expressed himself, of tramp life, and laboriously learning to read, that he might leave it! If the discovery was pleasing, it was none the less staggering.—From *The Quiver* for July.

DELICIOUS MAZAWATTEE TEA,  
DELICIOUS MAZAWATTEE TEA,  
Sold in Sealed Packets and Tins only.

## Children's Column.

### Dorothy's Party.

BY JULIA M. COLTON.

LITTLE Dorothy D. gave a party one day;  
Would you like to know who were invited?  
When I tell you their names, I am sure you  
will say  
They are friends who should never be  
slighted.

The first guest to arrive was Miss Ought-to-Obey;  
She had walked hand in hand with Miss  
Cheerful.

Bright Miss Happy came skipping along  
the same way,  
Passing by in the street poor Miss Tear-  
ful.

Miss Polite and Miss Kind came in one  
large coupé;  
Dear Miss Gentle was waiting to meet  
them;

And Miss Thankful—who sometimes forgets  
what to say—  
With the sweetest of smiles went to  
greet them.

Close at Dorothy's side two dear friends  
ever stay—  
Calm Miss Truthful, whom nothing con-  
fuses,

And that sweet little peacemaker Love, who  
each day  
Takes the pain out of somebody's bruises.

Oh, so merry they were! Dotty oftentimes  
declared,  
Even though she should live to be forty,  
If with these lovely friends every day could  
be shared,  
She felt sure she would never be naughty.

### Keep Wax Away from the Sun.

"I lost my temper again to-day," said  
Madge, dolefully.

"How did it come about?" asked the  
mother. "Every time that happens it is  
easier again."

"Oh, I just went home with Sara and  
Belle, and they teased me, as they always  
do. They mimicked my voice and made fun  
of the way I held my hands in giving my  
recitation. They know I can't bear to be  
mimicked. I get furious in a minute."

"It seems to me," said Aunt Rebecca,  
looking up from her work, "that the safest  
thing for you would be to keep away from  
those girls. They always stir you up, and  
you know it. There's an old saying that  
'He that hath a head of wax may not walk  
in the sun.'"

Madge laughed at the quaint words, but  
her mother said seriously: "Daughter, your  
temper grows hot at a teasing word as quickly  
as wax melts in the sun; and, since you know  
your weakness, one way to help it is to keep  
away from temptation. 'Tis the only safe  
and sensible way, and you will do well to  
follow it."

## Hints and Helps.

### An Old-Fashioned Lesson.

By HENRIETTA R. ELIOT.

WHY do the honey-bees suck from the clover  
Sweets upon sweets through the long  
summer day?

They work to have honey, a plenty and over,  
When all the bright summer has vanished  
away.

Some day, little ones, you'll be children no  
longer,  
But what you are now will ever be part  
Of what you shall be—and stronger and  
stronger

The seed of the future still grows in each  
heart.

They fill your young lives full of sunshine  
and beauty;

Think purely, speak kindly, act nobly  
each day.

With glad willing hearts do each little duty,  
That when childhood is gone its sweetness  
may stay.

### A Large-Hearted Baboon.

THERE was once a baboon that found  
time to look after not only her own young-  
sters, but also we monkeys. Nay more,  
when extra monkeyings were scarce she was  
in the habit of stealing kittens and puppy  
dogs, which she carried about with her  
wherever she went. The curious thing,  
however, was that in spite of all this show  
of kindness, she refused to share her food  
with any of her foster-children. A kitten  
which she had adopted went so far as to  
give her a good scratching for denying it  
food. Although the baboon was greatly  
surprised at this treatment, she did not lose  
her presence of mind, but at once inspected  
the kitten's foot and nibbled off the claws.  
—From *Little Folks* for June.

WE are as yet only the roots of a future  
beautiful plant. The best man or woman  
is only a shoot a little way out of the  
ground. We are God's plants, God's  
flowers. Be sure that He will help us to  
unfold into something serenely fair, nobly  
perfect, if not in this life, then in another.  
If He teaches us not to be satisfied till we  
have finished our work, He will not be  
satisfied till He has finished His.—JAMES  
FREEMAN CLARKE.



AN INTERVIEW WITH  
**SIR J. WILLIAM DAWSON,**  
LL.D., F.R.S., F.G.S., C.M.G., &c.

**S**IR WILLIAM DAWSON is known all over the world as one who has made the questions supposed to be at issue between science and Christianity his special study. His intimate acquaintance with these questions and qualifications for pronouncing upon them place him in a unique position among living men. He not only stands in the front rank of modern scientists: he is at the same time an accomplished Biblical scholar. Born at Nova Scotia in 1820, he was educated at Edinburgh University, and, returning to Canada, from the first devoted himself to the study of natural history and geology. In 1842 and 1852 he accompanied Sir Charles Lyell in his geological explorations in Nova Scotia, and materially aided him in his investigations. Among the important discoveries Sir William has made is that of the oldest known foraminifer—*Eozoon Canadense*. In 1855 he became Principal of McGill University, Montreal, and in 1886 was President of the British Association. During the thirty-eight years of Sir William's principalship the University steadily developed, until it can boast more than a thousand students and between forty and fifty professors. Three years ago, after a severe attack of pneumonia, Sir William resigned the principalship, and is now engaged in putting into order the results of his scientific investigations and, to use his own words, "doing any little good in higher things that I can." Sir William is now visiting England with a threefold object—to be present at the marriage of one of his sons, to discuss with experts in this country some Canadian fossils he has brought over, and to attend the meetings of the Evangelical Alliance. Whilst here he will revise some of his books of which new editions are demanded, and prepare for publication a little work he has in hand on "The Beginnings of Life."

In comparing the findings of science with the Biblical record, Sir William, being a good Hebrew and Greek scholar, has an immense advantage over the majority of scientists. In the course of a conversation I was privileged to have with him a few days ago he urged that any one who aims to interpret the first chapter of Genesis should know something of what is there described, and the exact meaning in the original of the words used. "If," he said, "men of science were also Bible students, and theologians had more knowledge of science, there would be less discussion and more agreement. I believe the time is coming when men will know more of nature and have more of grace. It is a remarkable fact that the men God chose to write the Scriptures evidently knew a great deal more about nature, loved nature more, and looked upon it more as the work of God than most modern religious writers do."

**Science and Genesis.**

"Is there any real discrepancy between science and Genesis?"

"In my judgment, none. I maintain that so far as an inspired record can be compared with what is at best a record we work out for ourselves, the correspondence between the two is marvellous. I have held that view since 1856, when I published my book 'Archæia' (since replaced by another, 'The Origin of the World') and I think the proofs of its soundness are multiplying daily. To my mind the first chapter of Genesis, in the way which it has anticipated discovery and still holds the ground as something that cannot fairly be cavilled at, is itself a remarkable proof of the inspiration of the Bible. Those who attack Genesis either do not understand it or wilfully misrepresent it."

"Then you think the first chapter of Genesis represents solid fact?"

"Decidedly. It represents the order of creation, but from a special point of view, that of a writer who wishes to show that the things that were objects of idolatry to the ancient world are really the works of one Creator. The aim of the writer and of the Spirit of God in guiding him is distinctively religious. In early days men did not distinguish between the creature and the Creator, and the object of the first chapter of Genesis is to show that the Creator is the absolute and eternal spiritual Being and that everything in the world and the universe is His work."

"What do you understand by 'day' in Genesis?"

"A geological day; a day of God, not of man. Man had not appeared, and so it is God's working day that is meant."

**How Old is Man?**

"Do you agree with the extreme view of the antiquity of man?"

"That depends," smiling, "upon what you mean by 'extreme.'"

"Well, how far back would you place the advent of man?"

"I cannot go beyond history. I do not think we have any facts that take us farther back than the Bible record. If you suppose

that man originated by spontaneous evolution out of lower animals you have to go infinitely far back: but that supposition is purely hypothetical. The argument for the antiquity of man is entirely analogical and inferential—starting from the idea of man being spontaneously evolved. The theory of the great age of man is not supported by facts so far as at present known. Some things that might seem to point in this direction are immensely exaggerated by men who discredit the Bible record.

"Do not certain fossils support the theory of man's great antiquity?"

"The fossils in the crust of the earth indicate a succession of periods of immense duration, but before man appeared. He is a late comer."

"There is, of course, no doubt as to the antiquity of the animal creation?"

"No, no. The animal creation dates back to what Moses in Genesis calls the fifth creative day, and that carries us to a remote age. The questions of the geological antiquity of the earth, back to the time when it was probably a vaporous or incandescent body, and of the date of man's appearance are of course distinct, and must not be confused. One of the doctrines of the first chapter of Genesis is that man was the very last thing made."

**The Origin of Man.**

"What is your belief as to the origin of man?"

"I know nothing about the origin of man except what I am told in the Scripture—that God created him. I do not know anything more than that, and I do not know anybody who does. I would say with Lord Kelvin that there is nothing in science that reaches the origin of anything at all. That man is a product, a Divine creation, is all that I can say. So with the first animal, it must have been a product of absolute creation. With man something new is introduced into the world—a rational and moral nature, of which there is no trace in the animal kingdom. That is why in the first chapter of Genesis man is said to have been 'created,' an inferior term, 'made,' being usually used in the case of the animals."

**Three Kinds of Evolution.**

When I asked Sir William if he would kindly define his attitude to the theory of evolution he replied that so many things pass under that name that an answer was difficult.

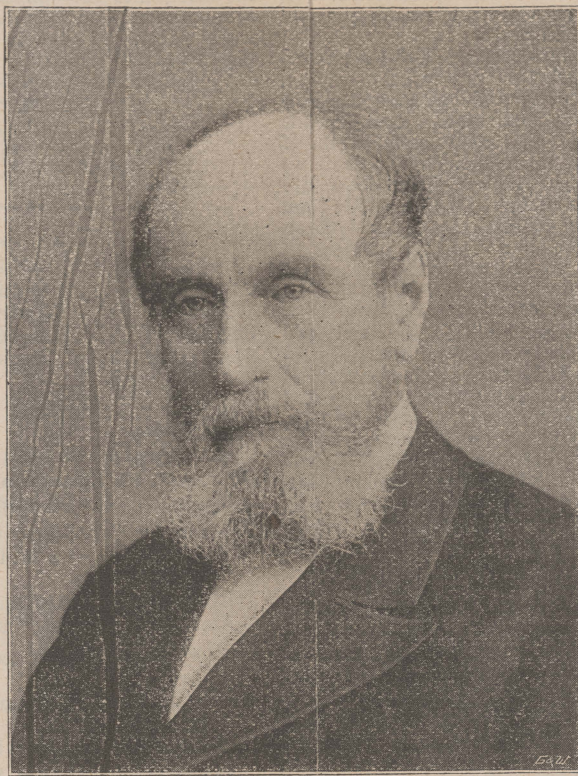
"You might," he said, "as well ask me whether I believe or disbelieve in theology. There is a rational evolution, a purely hypothetical evolution, and an irrational evolution, and they are all fighting among themselves. I believe in the evolution of a leaf from a bud, of a chicken from an egg, but I do not believe in the evolution of anything from nothing, or of anything from something in which it was not potentially before. What has been evolved and what has been created science cannot at present determine. It is a purely hypothetical question."

"What is your view of Professor Drummond's two famous books?"

"They are clever books, but they do not express my views in regard to evolution. I do not think he has quite got to the centre of truth. But I am not going to be personal. Drummond is a very good man, and I was deeply sorry to hear of his illness."

**Was the Deluge Universal?**

"You come from Canada—did the deluge cover America? Was it indeed universal?"



SIR J. WILLIAM DAWSON. [Paris, Montreal.]

"I do not think any unquestionably antediluvian remains of man have been found in America. But if the Deluge is to be identified with the latest geological subsidence—what the late Sir Joseph Prestwich called the rubble drift period—which occurred after the advent of man, there was undoubtedly a submergence in America as well as in the old world. In France, Belgium, and this country we have remains of undoubted antediluvian man, but though there has been a great deal of talk, I do not think his existence in America has yet been proved."

Sir William and most Canadian geologists hold much less extreme views about the action of the Continents than are held by some American and British geologists, and he thinks more moderate views are gaining ground. He does not believe that there is any certain evidence of the existence of man before the glacial period.

I ventured to ask Sir William whether his scientific investigations had affected his religious faith, either strengthening or weakening it. "I should not say," he replied, "that they have either strengthened or weakened it. But they have certainly illustrated it. There is no need of anything to strengthen a man's belief in Christ. My study of nature has certainly widened and enlightened my religious faith."

**The Question of Miracle.**

"What do you hold in regard to miracle?"

"My view is that the possibility of miracle is enormous, because God's knowledge and power are infinite, and ours very small and limited. Anything God thinks proper to carry out that goes beyond what we know becomes to us a miracle, and He may make it a sign for the advancement of our moral interests. A miracle is really God carrying out His higher designs in ways perfectly within His own power but beyond our power of comprehension of causes. The proximate causes of miracles are, however, sometimes revealed to us in Scripture."

"As a scientific man have you any difficulty in accepting the miracles of both the Old and New Testaments?"

"None whatever. The two must stand or fall together. I do not think a man can logically reject the Old Testament without also rejecting the New. The evidence of inspiration in the Old Testament, considered as the preparatory dispensation for Christ's coming, is just as good, in my judgment, as in that of the New. It is something like our geological periods, we do not think it necessary to reject the silurian period because we believe in the carboniferous that came after it. On the contrary, we know that the one was preparatory to the other."

**Looking Backward—and Forward.**

A retrospect of his long life makes Sir William hopeful for the future. "I do not take a pessimistic view of things," he confessed at the close of our conversation. "In my time I have seen so many abuses rectified, so many great evils overthrown, and so much done for the material and spiritual welfare of humanity that I look forward to better things to come. I think many things now antagonistic to Christianity will share the fate of similar things in the past. At the same time, there are dangers ahead that may lead to great catastrophes for the time being. Yet somehow good seems to come out of great

wars and other evils. The dangers that just now appear to threaten the world from political and military causes do not alarm me, because I have seen so many things come on like storms, pass away, and leave good behind. I am certainly prepared to testify that, all the time I have been in it, the world has really been advancing both in the removal of great evils and in the propagation of truth and light. The future is in the hand of God, and we may trust in Him; more especially on His work through our Divine Saviour and the Holy Spirit."

For a man of seventy-six, Sir William enjoys remarkably good health. Not many men of his years would have undertaken the journey from Canada, whither he proposes to return in August. His eye is clear and steady, and he speaks with the utmost clearness, readiness, and decision. His voice is unusually pleasant, so soft and musical is it, and by his gentle, kindly manner, he at once makes friends of strangers. Lady Dawson, who was present during the interview, evidently follows all her husband's work with close and sympathetic interest.

**SCIENCE AS THE HANDMAID OF RELIGION.**

By Sir J. Wm. DAWSON, LL.D., F.R.S.

**T**HE following thoughts are intended to be suggestive rather than exhaustive, and to furnish subjects of reflection to Christian workers who may be concerned by the present attitude of the scientific progress and the popular science of the day towards Christianity, or who may be disturbed by the bold and unwarranted statements often made as to an alleged conflict between science and Christianity. It is further to be understood that they are from the point of view not of a theologian but of a scientific student.

The sciences that relate to the natural history of animals, plants, and minerals, and to the structure and changes of the earth itself, are, in their simplest or most elementary form, concerned with facts relating to material things or phenomena, with their proximate or secondary causes, and with the grouping of such facts and causes under general expressions, which we term natural laws. In all this, while they may have much to do with mental culture and with our material interests and prosperity, they have no direct connection with our religious beliefs or hopes. There is, however, a tendency in connection with the present division of every science into specialities, and with the efforts to teach the rudiments of certain sciences to young people, to descend to a low materialistic level, which, while making science itself less attractive, may make it at least a deterrent from faith in higher things, in the same way that an exclusive devotion to any other worldly pursuit tends in this direction.

Yet those who enter with enthusiasm on the study of Nature cannot always be content to remain at this low level. They find rising before them ultimate questions which they cannot solve—questions relating to the nature of causation itself, and of the natural laws to which it is subject—questions as to the origin and import of the structures of natural objects, and to the correlations and combinations of these in the great cosmos or orderly system of Nature with all its adjustments and uses. The attempt to answer these questions from a merely physical point of view will certainly lead far away from the true solution, and may leave the inquirer destitute of faith in the unseen and spiritual.

So soon, however, as the student of Nature arrives at this point, he may be led to see that, in addition to the world of the seen or phenomenal with which he is occupied, there must be another world of the unseen or spiritual inviting his consideration. It, then, becomes an object of the highest importance that his entrance into this new field of thought and feeling should be facilitated rather than hindered. I fear, however, that there is much in the current modes of thought and expression in the religious world which tends to bar his entrance. Of these, one of the most important has been the use or abuse of the term "supernatural," as distinguished from the natural.

The word does not occur in the Bible, nor is the idea which it represents one that is sanctioned by the Spirit of God. In the Bible God is at once over and in all His works, and the distinction between those that we can refer in some degree to secondary or proximate causes, or to natural laws, and those that we cannot so understand, is one purely subjective or human, and in no way expressive of the Divine action. It is, in short, an idea dependent on our imperfect knowledge; and hence, if we make such a distinction, we shall find that as knowledge increases the domain of the so-called supernatural appears to diminish as if about to vanish away. The true distinction which the Bible adheres to throughout is that between the natural as embodied in matter and energy, and the spiritual as denoting the domain of intelligence and will.

When in this lower world we seek for ultimate causes, we find one only, the human will, which cannot be referred to material power nor brought under the dominion of the laws of matter and force. Yet we do not regard reason and will as supernatural, though, like the Creator Himself, they belong to the unseen and spiritual. The First Cause, or Creator, whose existence we must, even independently of revelation, assume, in order to avoid the absurdity of mere chance and