Weekly THE Chronicle.

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Weekly Almanack.

March.			R. Sun.	S. Moon.	H. W.
4	Saturday,	- -	6 31	5 53	5 41 10 5
5	Sunday,	-	6 29	5 54	6 13 10 55
6	Monday,	- -	6 27	5 55	Sets 11 38
7	Tuesday,	-	6 26	5 57	7 57 morn
8	Wednesday,	- -	6 24	5 58	8 28 0 17
9	Thursday,	-	6 23	5 59	9 35 1 9
10	Friday,	- -	6 21	6 0	10 43 1 34

New Moon, 6th, 3h. 33m.

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Miscellany.

THE IRISH CLERGYMAN'S DAUGHTER.

EDITED BY MRS. TERESA TATTLE.

[CONTINUED.]

Lord Invermay was soon a domesticated guest at the villa. It happened that one morning Miss Delme was slightly indisposed, and absented herself from the breakfast table, where there was always arranged a number of beautiful bouquets. Florence on descending, found the room only occupied by Lord Invermay, and, after a brief interchange of the compliments of the morning, was about to leave it until joined by Mrs. Delme, when he stopped her with some inquiry respecting Laura's health, and did not appear to hear Miss Butler's unsatisfactory *bulletin* with much feeling. Selecting the most beautiful from among the clustered flowers—

"These white moss roses," he said, with his irresistible smile, "are, I think, poor Laura's favorites; but as she is not here to enjoy their exquisite fragrance, permit me, in the absence of the queen of diamonds, to make an offering of them to the queen of hearts."

"By no means," said Florence, indignantly. "That would be my very reason for leaving them for her, should she chance to come down; never would I deprive her of the smallest object that can give her pleasure."

"And yet you *have* deprived her of more than that," resumed Invermay, with a penetrating look: "because you see me here the victim of cursed necessity. Can you believe me so dull, so blind, so forgetful, as to have banished from my memory all traces of former days—all that I fondly felt—all that you made me hope, when——"

"This is language I must not hear," said Florence moving to the door. "What were my former feelings it matters not, you have set the example of forgetfulness, and in the cares and occupations of my future life——"

"That is what maddens me," said Lord Invermay impatiently. "Why, Florence, why yourself erect an insurmountable barrier between us? Why, with your graces, your beauty, and attractions, condemn yourself to a life of ceaseless disgust and endless toil, when you might command——"

Florence had hitherto listened to him in a constrained silence; but this harsh and unjust picture, drawn by the hand she loved, was too much for her feelings, and exclaiming—"This comes too late!" She burst into an agony of tears.

Lord Invermay was moved by her weeping—more affected than he would have acknowledged to himself possible a few hours before. Ever the creature of impulse, the world and all its vanities receded for a moment from his sight, and he thought he could be happy with Florence and a cottage. He raised to her those eyes that in former times had always spoken so directly to her heart—those eyes "so darkly, deeply, beautifully blue."

"Will you refuse to hear me?" he exclaimed. "Renounce, renounce that horrid sacrifice, and I will break with Miss Delme, brave the anger of my family, and bear you where I shall find all happiness centred in calling you mine."

Florence leant against the window for support. She trembled violently, but her resolution was unshaken. What prove a serpent to her friend, and the ruin of Lord Invermay! "Never," she exclaimed, "address this language to me again—happy with me alone! Miss Lord Invermay, you know not yourself. You may grieve, but you cannot move me. But if, indeed, you retain some regard for poor Florence Butler—some remembrance of the esteem with which you once inspired her—be kind to Laura, and never let her suspect that her generous affection was paid with indifference."

Lord Invermay was silent. Never between him and Florence was this subject resumed, and haply, had she listened to him, it had been her lot to mark how soon that light mind repented an offer made from a transient glow of honor and generosity. On the contrary, his attentions to Laura grew more assiduous, as if to dispel from her mind the remotest suspicion that she was not the sole "ladye of his thoughts," and an humbler than the young heiress might, by his manners, have been deceived into the belief that it was so.

The marriage day was fixed. Laura was talking over with Florence her future plans. "Poor Invermay," she said, "is terribly embarrassed in his affairs. I fear he is too generous ever to be rich. How I wish it had been possible for us to join in reconciling it with those prying, poking lawyers and guardians, who never see things rightly. For love I was enough for both! But who can talk, who can think, of the advantages of fortune, when about to be united to Invermay? I only regret my paternal pretensions are not greater; but Invermay says he never could endure professed beauties. Then I never could make any thing of painting or music; but Invermay says he does not like to see a lady distinguish herself in the arts like a professor."

A slight and scarcely perceptable smile on the cheek of Florence showed how superfluous she considered most young ladies' apprehensions of being mistaken for professors. But Laura continued—

"As for literature, we are pretty much on a par. I am aware I am no blue stocking or bel esprit, but Invermay says he detests clever women. How glad I should be to have you a witness of our happiness, (A fine scheme of happiness, thought Florence, from which all that elevates and adorns human life is to be excluded.). How I have wished you would have allowed me from my ample means to settle on you such a fortune as should prevent the necessity——"

"You know," replied Florence, interrupting her, "that sincerely grateful for the kindness of your intentions, I never could brook the idea of so great an obligation. Besides, what right have I to revel in idleness and luxury, while so many of my nearest and dearest kindred must seek a precarious existence; the boys in toilsome or hazardous pursuits, the girls——"

"Why true," said Laura thoughtfully, "'tis a pity there are ten of you;" and a vague vision of Lord Invermay's noble, *Fergus Mac Ivor-like* features, and prepossessing countenance, assuming a somewhat less benign expression at the inroad of ten hungry cousins, all anxious to be provided for, darkened her imagination, and made her for a moment look grave.

"At least," she hastily resumed, "you could live with us, be my companion, in the best—in *that* only sense of the word—my chosen and truest friend."

"Impossible!" cried Florence with emotion.

"Nonsense! what is your objection? Perhaps you think you would not be welcome to Lord Invermay—that best and noblest of creatures, you will never know him, as he ought to be known—it is he that put me on that plan——"

More Laura might have added. For, engrossed in the darling theme, glowing with eloquence, where alone she could be awakened to it, she perceived not that she had no longer an auditor—Florence had fainted.

* * * * * * * *

"And can he be, indeed, so vile!" thought Florence, as with clasped hands and streaming eyes she implored strength to endure this last drop in the cup of misery. A conviction of the utter unworthiness of the heart's once consecrated idol—for a deep and intimate interest sometimes gives to innocence the penetration of age—" Then it is time indeed my resolution were taken."

A fatality sometimes seems to overrule our best concerted plans. Thus it was with Florence Butler. After having weighed over and over the advantages and disadvantages of various brilliant offers of establishment, and rejecting them all, she now suddenly closed with the most ineligible that had presented itself.

Mrs. Honeymoon was a widow lady, with a small family, with means just sufficient to supply her every year with a new gown and a new governess, for none had been yet found with patience to continue the "delightful task" of "rearing the tender thoughts" of her young shoots for a longer period. Reader, if you happen to sympathise in fate and fortune with Florence, never engage your talents to a widow lady in moderate circumstances. A dull home, a thankless task, a scanty board, and a tyrant brood of spoiled and overbearing children will await you with none of those remunerating advantages or cheering compensations to be found in the abodes of the prosperous and affluent. A governess was to Mrs. Honeymoon a luxury that taxed too highly her small expenditure to enable her to make any further outlay in order to render that governess comfortable. The eldest daughter, Monimia, it was her wish to make a perfect musician, and she certainly would have succeeded had the poor thing possessed either voice or ear; for she had as her mother declared, a wonderful taste for music. Her figure, too, would have looked graceful at the harp, but for a slight spinal defect, and the accident of having one foot shorter than the other. The second, who was so short sighted that she did not know a person in the same room was to be made a paintress; and the third who had narrowly escaped being an idiot, *a bel esprit*.

"I had almost forgotten to mention, Miss Butler," said Mrs. Honeymoon, with a complacent smile at the agreeable surprise she was announcing, "that there is a fourth aspirant after your instructions, a dear little boy. Come forward, Dionysius, my dear, and let Miss Butler examine you in your catechisms. (Ah! little thought our wise and reverend ancestors when they compiled the first interrogatory of that name, that catechisms of botany, mythology, conchology, geology, would be as familiar to their successors.) Come, hold up your head, 'my love, and don't be afraid of her, she won't puzzle you."

"Puzzle *me*!" repeated Dionysius, (who by the way was a very ugly boy of between seven and eight,) "that's droll! a man to be puzzled by a woman! Come, Miss Butler, first do you answer me, and answer without stop or hesitation, mark me! When was the inquisition established in Spain? What is the date of the first Punic war? Who discovered America? What is your opinion of the Salique law? Who was the inventor of the Greek fire? What is the distance from this to Coventry? and what are the relative proportions of carbon, hydrogen, azote, and oxygen that go to the composition of caoutchouc?"

Seeing that Florence was silent, he politely burst into a horse-laugh, made a low bow, and vanished.

"How quick he is!" said Mrs. Honeymoon, with glistening eyes. "Miss Butler, I shall not think the worse of you for acknowledging yourself posed. How those catechisms bring young people on! I assure you this is but a small sample of the various knowledge Dionysius has already *arranged* in that little head of his!"

Who but must rejoice in the sight of childhood as it ought to be,—beautiful, gay, unaffected, a thing of light and glory, diffusing life and joyousness to the hearts of all around: but in proportion as the charms of ingenuousness and sprightliness are heightened by the innocence of infancy, so is the assumption of wisdom and the affectation of manhood ridiculous and revolting.

Florence soon found that master Dionysius, or Denys, as he was familiarly styled, was rightly named, for he ruled in the family like a perfect despot thereby verifying the observation of a French abbe long conversant with youth, that "a young lady with only a papa, or a young gentleman with only a mamma, was sure to turn out *un enfant gate*." Neither quickness of intellect nor warmth of affection rewarded poor Florence for the time she now lavished on her untoward pupils: and indeed Mrs. Honeymoon, who was herself a dunce of the first magnitude, used with great simplicity to observe that her's were the oddest girls—they never cared either for their governesses or their learning! Yet to Florence these untoward pupils and this uncongenial abode possessed one invaluable recommendation—it took wholly out of the circle of Laura and Lord Invermay.

The marriage had followed close upon her departure. It was celebrated with a pomp, a lavish waste of wealth, that was more than magnificence; it was profusion without bounds. Gold, silver, and jewels sparkled on all sides, until wealth became absolutely the supplanter, not the handmaiden, of taste. The bride's *trousseau* surpassed every thing that luxury had yet imagined. Crowds flocked to examine the ominous splendour of that ill-assorted marriage. The extent of Lord Invermay's embarrassments exceeded even the calculation of the confiding Laura. Gambling debts, and other arrangements of even a less honourable description, required an immediate settlement. A large portion of her wealth was the sacrifice, but she witnessed its alienation without a murmur, fondly repeating,

"and then the grateful youth shall own,
I loved him for himself alone."

Fatal mistake! Say, could she purchase love? No—the woman who fails to awaken passion but rarely inspires gratitude. Some minds spring up with a reactive scorn from the oppressive weight of obligation, and the native pride of man revolts at receiving pecuniary favours from any hand but that of her he loves.

Faintly, as in the wandering of a dream, or as echo conveys to the listening ear the murmurings of the distant ocean, Florence occasionally heard the tidings of a world she was never to enter; heard descriptions of Lady Invermay's gaieties; then, hinted reports of secret misery and domestic unkindness; lastly, a rumour of discord, violence, and threatened dissipation of her once princely wealth.

Her own lot admitted of no change, no amelioration. She herself had chosed it; and as the sun arose upon each succeeding weary day, she only looked upon the one that was past as filing off one link from the chain of misery by which she was bound.

At length a visiter appeared capable of awakening in her the long dormant feelings of complacency and sympathy.

A distant relation of Mrs. Honeymoon's late husband,—the Marchioness of Tiverton, on paying her annual visit, was struck with the beauty and grace of Miss Butler, whom she had formerly occasionally met in the world, but had not had such opportunity of estimating her pretensions in the hurry of society. There is no denying that Florence, on her part, was equally charmed with her ladyship, and spared no pains to heighten her favourable prepossession. A long abstinence from all that was elegant and engaging, had produced its usual effect of increasing the power of a fascinating exterior; and there was a something in Lady Tiverton's countenance and features that acted with mysterious sympathy on the heat of Florence, and yet she guessed not the cause: yet in Lady Tiverton there was to be seen only the splendid remains of a once strikingly beautiful woman, and her sharpened though elegant features, and slight emaciated form told truly that the mind within was a restless flame, and that, contrary to most of her sex, it had been, even in the first bloom of her beauty, more her ambition to be distinguished for the graces of the mind than the person. Wordly observers could also detect in her manner a feverish restlessness, an anxious desire to shine, that sometimes, although rarely, took from that dignified tranquility which is its perfection.

But in the "Honeymoon" sphere such defects were invisible, and Florence was charmed with the graceful urbanity that could diffuse pleasure through every member of the little circle,—satisfy even the exorbitant parental vanity of Mrs. Honeymoon; but then, (if the truth, the whole truth, and nothing but the truth, must be acknowledged,) console itself with a palinode, the moment an opportunity presented. This was offered in a second visit, of which Florence had not the false modesty to deny that she was the cause and motive. "My dear Miss Butler," said the marchioness, "why have you hidden yourself from us? you must be dying with *ennui* with good Mrs. Honeymoon. The girls are '*de bonnes gates de filles*,' but will never do honour to your talents as an instructress; yet even their quiet dullness I prefer to the spoiled boy, attacking one with all his little knowledge about him, freshly acquired half-an-hour before, and pestering visiters with 'why and 'Because.' Why did you not confide your intentions to me: I should have had a pleasure in giving you the preference over Miss Aspendale, whom I established in Lady Frances Delaval's family. *That* would be a situation, indeed, somewhat worthy of you, and almost independent: apartments to yourself,—separate establishment,—servants to wait on you only,—two lovely intelligent pupils,—and frequent use of Lady Frances's play, opera, and concert tickets."

It needed not Lady Tiverton's talents to demonstrate to Florence that her lot was a most disagreeable one; and by the time her ladyship took leave, notwithstanding all in her own manner was bland, kind, and condescending, Florence found the result of her visit, an added depression of spirits, and she could not restrain a few tears from falling in (What Madame de Staël denominates) self-pity.

"That is so exactly like Lady Tiverton;" said Mrs. Honeymoon, who took her ladyship's call in her absence as a heinous offence. "You look pale and agitated after her visit, Miss Butler; I could 'guess, now, as they say across the water, her ladyship has been pitying you, and that you think yourself, at this moment, a very unfortunate heroine: it is only the marchioness's way. She left you impressed with the idea that she was deeply interested in you, and that if you had consulted her, she would have done wonders for you." Florence blushed: Mrs. Honeymoon had so exactly portrayed the effect of Lady Tiverton's conversation. "No," resumed her hostess, "Lady Tiverton does not care a straw whether you or any other creature on earth may be happy or miserable, and merely set before you the imaginary disagreeables of your situation for the pleasure of displaying her own eloquence, and the additional gratification of making you most uncomfortable." Florence was rather astonished at this *sortie* from the usually yea-and-nay Honeymoon; but, as I have before taken occasion to observe, a strong feeling of any sort often warms the dullest into eloquence, and Mrs. Honeymoon very dogmatically continued: "Should Lady Tiverton call again, with her condolences and her eternal eye-glass, and her snappish lap-dogs, my advice to you, Miss Butler, is, that you should not make your appearance: your engagements are surely a sufficient excuse of a morning, and the marchioness cannot require the company of my children's governess."

I have often wondered, considering the liberality with which advice, and no other commodity of equal value, is often bestowed, at the negligence, perverseness,—not to say ingratitude, with which it is usually received. I have had occasion to make this remark in my own person more than once, but never was it more signally exemplified than in the case of Mrs. Honeymoon: for, exactly a week after she had pronounced a homily intended, to prove that her homely establishment was superior to Tiverton House, Florence was leaning in a swiftly gliding and easy long equipage, the companion of the travelled, accomplished, and intellectual Marchioness of Tiverton.

EFFECTS OF LIGHT IN NATURAL PHENOMENA.

It is well known that light is essential to the perfect and healthful vegetation of *plants*, and that they almost entirely lose their colour when kept from the access of it. But the true reason for this seems to have been very little examined into, and still less understood. For my own part, I have little doubt that light owes its power of assisting in vegetation (and particularly of communicating those various delightful tints and colours which are conspicuous in the vegetable kingdom), to its oxidizing or chemical power. It is well known that some of the metals enter into the composition of plants; and I conceive that their various colours are derived from various proportions and modifications of these metallic oxides, undergoing various changes, which changes are occasioned simply by their contact with light on the surface of the plant. It is there only that vegetables meet with that agent, which communicates to them all the beautiful hues which are, in many instances, the sole value which they are known to possess, or were probably intended to possess.

I may here state, that it is during the day-time alone, and during the presence of light, that plants absorb the combustible portion of their matter; it is therefore fair to conclude, that light plays an important part in the formation of this combustible portion, since it cannot be formed in the absence of it. During the night plants give out nitrogen; but they do not absorb or take in carbon, which is a component part of their necessary food, probably because they they cannot receive it unless it be modified by the agency of light, which seems to be one of their "necessaries of life. There can be little doubt that, during the night-time, plants do nothing more than convert, or as it were digest, that portion of food which they have taken in during the day, giving out that portion which is not nutritious to them; namely, the nitrogen.

The blood in animals contains iron and other metallic oxides, which not only occasion its particular colour, but determine its fitness for regulating the functions, and renovating the powers of the system. We observe invariably, that persons who are confined and excluded from light, become first pale and sallow, and finally sickly and diseased.

Perhaps this may arise chiefly from the imperfect oxidation of the blood, occasioned by the absence of light, added to the consequent call on some other agency to supply the deficiency; which call necessarily deprives some other portion of the system of its needful action or support. Certain organs, not expressly adapted for that purpose, are called upon to assist in furnishing this necessary change, and are therefore compelled, in the meantime, to forego some of their own peculiar duties, and the healthful balances of the system is thus disturbed. These peculiar effects in the animal system, such as loss of colour, &c. are in many cases produced entirely from want of light, and not from confinement which may be supposed to occasion them, as facts testify which every day occur.

Light influences colour more strikingly in the *plumage of birds*, than perhaps in the external appearance of any other class of animals. Those birds which are natives of the torrid zone are generally of the richest and most beautiful plumage, while those in the frigid zone are principally white. It is worth while to remark here, the manner in which this peculiar law of nature is made subservient to the welfare of the animal. Coloured bodies are all better conductors of heat than white, therefore animals clothed in white under the frigid zone are better enabled to bear the severe cold to which they are liable in those regions, from the natural heat of the body being less easily conducted away. Partridges, hares, &c. are perfectly white in Lapland. The colour of *fish*, also, proves the influence of light: for we invariably find that the backs, or upper parts, which are exposed to the direct rays of light, are dark when compared with the under parts, which are in a great measure excluded from it.

The Indian finds his way through the uncultivated forests of America, with no other guide than that of the colour produced by the light of the sun on the sides of those *trees*, &c. which are more directly exposed to its action.

Lastly, with regard to light, I would mention the singularly useful, and hitherto unobserved *effect of moonlight*, in assisting the completion of certain important natural phenomena. The crystallization of water, under the form of those light frosts which so much prevail during the early spring, and which are of such important service in assisting the operations of agriculture, by rendering the surface of the earth mellow, and better susceptible of the manure that is necessary to it, are greatly assisted, and in many cases entirely brought about, by the intervention of moonlight. It is well known that, under certain circumstances, water will sink to the temperature of 22° before it freezes, or takes the form of crystals. Indeed it will invariably do so in the absence of mechanical agitation, and in the absence of light. It is an unquestionable fact, but one which has not hitherto been observed generally, or attended to, that during that period of the year to which I have alluded, and indeed at other periods, before the moon rises on a still clear night, when the atmosphere is at a lower temperature than 32°, the water remains in a liquid state; but immediately on the moon rising, and diffusing its light around, the water freezes, and performs the salutary offices required of it, without subjecting us to the severity of a low temperature.

Daylight, then, may well be called the "light of heaven," since it not only enables us to see all things that come within the range of our optical organs, but actually communicates a great portion of that beauty which it shows to us; since it not only sheds upon the flowers those hues which make the face of our earth a vision of delight, but it assists in giving health to the human frame, and paints the cheek of beauty with those colours which no art can imitate, and no eye can help admiring.—*Gurney.*

From Rev. Howard Malcom's Journal.

BEAUTIFUL EXTRACT.

Amid the numerous discomforts of a long sea voyage, one is thrown in upon his own resources, both for improvement and pleasures. But the mind accustomed to view with intelligent and devout contemplation the works of God, can seldom be without materials for lofty and purifying thought. And surely the wide ocean and the wider sky, present a rich field for the expatiation of our noblest thoughts. Pacing the deck, or leaning against the bulwarks, towards setting sun, it would seem as though the most gross and thoughtless mind must rise, and expand, and feel delight. Far and near, rolls "old ocean."

"Unconquerable; unreposed, untired,
And rolled the wild, profound, eternal bass
In nature's anthem."

Now, every ocean is added to the dominion of man. He captures its rulers, he makes its surges his highway, and so decorously adjusts his spreading canvass as to proceed in the very face of its winds, to his desired haven. But O! how many have found in these same billows a grave! How many a gallant ship "has sunk like lead in the mighty waters," where beauty and vigor, wealth and venerableness, learning and piety, find undistinguished graves. To these lone deserts of pure waters man purposes his brother with murderous intent, the silence is broken by thundering cannon, the billows bear away the stain of gore, and all that storms ever swallowed up have been outnumbered by the victims of a single fight. O war! when will thy horrid banners be for ever furled?

Reflection, following the chasing waves, passes on to the shores they leave, and there looks over nations, and beholds men in their manners, follies and crimes, their loves and hates, their joys and sorrows, their enthusiastic pursuit of wealth, and amazing disregard of Heaven. How interminable and salutary are the thoughts thou inspirest, Ocean! whether we regard thy age, thy beauties, thy wrath thy silence, thy treasures, thy services to man, thy praise to God, or the scenes which have been acted on thy surface!

But while we thus muse and speculate, the glories of sunset fade into sober gray, the billows take deeper tinge, stars multiply, and behold we stand beneath a firmament glowing with ten thousand fires. Here are vaster, sublimer fields of thought.

"Hail, Source of Being! Universal Soul
Of heaven and earth. Essential Presence hail!
To Thee I bend the knee, to Thee my thoughts
Continual climb; who with a master hand,
Has the great whole into perfection touched."

How ennobling and purifying in the study of astronomy! How delicious the Christian's hope of soon roaming among these worlds of infinite wisdom and power, ever learning, adoring, rejoicing, improving; ever becoming more full of God, and of glory, and of joy.

RIVERS OF BLOOD.—According to the estimates of Dr. Robertson, the blood is sent out of the heart with a force and degree of swiftness, that would carry it 70 feet in a minute, or 3,200 feet in an hour. The stream that runs from the heart through the great artery called the aorta, if it were to continue its onward course, would at this rate, in seventy years, flow to a distance of 358,354 miles, or more than fourteen times the circumference of our globe.

Such a stream, even thus small, did it actually flow before our eyes, would excite no little surprise. But suppose the mighty mass of blood which runs from the heart of the whale—enough almost to carry the largest mill—were to run through the earth at the same rate. Who would not turn pale at the sight of such a river? But is it less wonderful that rivers of blood actually do flow by hundreds of millions daily, because their course eludes our observation?

Yes, these crimson floods actually flow, though it be in narrow circuits. From 700,000,000 to 800,000,000 rivers of human blood are at this moment pursuing their course through their accustomed channels! How many millions of millions of rivers of blood are at the same time coursing their way through the veins and arteries of land and sea animals, no human mind can calculate! These mighty streams we say again flow on and on, with just as much certainty as if they did not elude our observation.

LINES.

BY THE HONOURABLE MRS. NORTON.

I loved thee,—in the days of youth
When hope sat out with eagle wing
To seek some warm heart's changeless truth
To share my life's sweet wandering.
I loved—and deemed that *then* would'st be
A resting place of hope to me!

I loved thee, in the noon of life,
When all *thy* heart was given to fame,
And smiled, when victor in the strife,
They shouted loud thy welcome name.
I smiled—and loved—for then I thought
My patient love thy love had bought!

Ah! triumph not, if even now
In the dim evening of my days,
My sunken cheek and faded brow
Flush at the mem'ry of thy gaze:
And like a scorched up flower in rain
My withered hopes bloom out again!

The waters which some careless hand
Hath spilled, may never gathered be;
But from the barren spot of land
They moistened, springs the verdant tree:—
So in that lone love's wasted truth
Lives all the freshness of my youth!

From Reid's Elements of Chemistry.

COMMUNICATION OF HEAT.

Caloric is communicated by conduction and radiation.

When calorie passes slowly from one portion of matter to another in contact with it, it is said to be conducted, and the process is termed the conduction of caloric. Metals are the best conductors, then liquids, and lastly gases. Gold silver, and copper are the best conductors among solids; glass, bricks, and many stony substances are very bad conductors; and porous, spongy solids, as charcoal, hair, and fur are the best.

Put one end of an iron rod in the fire, the heat soon passes to it, and along its particles to some distance from the fire. Put a glass tube, or piece of wood of the same size as the iron, into the same part of the fire, the heat extends a very little way beyond the part touching the fire, both these substances being bad conductors.

Clothing is generally made of bad conductors that the heat of the body may not be conducted quickly to the surrounding air. Fences, where great heat is required, are built with porous bricks, which are very effectual in preventing the escape of heat: but when a stove is placed in the middle of any apartment, the fuel is surrounded with iron, that the heat may be quickly conducted to the air. The ice in an ice house is surrounded with blankets or straw to prevent the warm air coming too easily in contact with it.

When heat is applied to the upper portion of any liquid, expansion generally ensues, and it becomes lighter than the rest; it remains, therefore, resting upon the colder and heavier part. This may be easily shown by boiling the upper portion of water in a long glass tube, applying heat by a spirit lamp. The heat be applied near the bottom of the tube the colder portion from above soon sinks below the hot expended fluid, and pushes it up, so that currents are continually produced, till the whole fluid is heated to the same point.

Similar movements take place in the air. See the section upon Carbon, where illustrations will be given of the currents produced in a common fire.

Caloric is said to be radiated when it passes with great velocity from the sun, or from any warm body at the surface of the earth, moving through space or through the air. It is believed, in this case, to move with the same velocity as light, viz., 192,000 miles in a second. Caloric is also radiated from warm bodies that are not luminous, as from the hand or hot water.

Radient caloric is absorbed when it falls upon bodies having painted or rough surfaces, such as are presented bricks and other porous solids, by many kinds of stony matter, and numerous animal and vegetable substances, and elevates their temperature as it is taken up. But brilliant and polished metallic surfaces absorb little heat, they reflect or turn it back again.

Take a piece of common tinplate, and place it before the fire: it reflects most of the radient heat, and becomes warmer with extreme slowness. Make the surface rough with a file or sandpaper, cover it with lampblack, or black paint: it now absorbs heat quickly when exposed to the fire, and soon becomes warm.

Those bodies which are most powerful in receiving radient heat when it falls upon them, are equally so in emitting it: when they are warmer than surrounding objects. Thus a vessel, having a rough porous, or painted surface, cools much more quickly than when the surface is brilliantly metallic.

All bodies at the surface of the earth lose heat by radiation in a clear evening: they radiate more or less heat, according to the nature of the surface: those that radiate more become colder than the others, and on these more dew or hoar frost is deposited, the air coming in contact with them being cold to the greatest degree, and unable, therefore, to retain the moisture previously associated with it. The green leaves of vegetables are powerful in radiating heat, and are accordingly covered with the dew during the night, which is so necessary for plants when there is no rain.

In a cloudy night, as heat does not escape by radiation from the surface of the earth, the temperature never falls so much as in a cloudless sky.

Abstract of the Proceedings of the "Church Society of the Archdeaconry of New-Brunswick."

Meeting of the Clergy held at Fredericton, Sept. 8, 1836, by invitation from the Archdeacon.

Present,

The Ven. the Archdeacon,

REVEREND,	REVEREND,
James Somerville, L. L. D.	Frederick Coster,
Jerome Alley, D. D.	H. Nelson Arnold,
Edwin Jacob, D. D,	Alex. C. Somerville,
S. Thompson, L. L. D.	S. D. Lee Street,
Samuel R. Clarke,	William W. Walker,
Christopher Milner,	John Black,
Raper Milner,	Charles O. Wiggins,
Abraham Wood,	Henry J. Jarvis,
Hugh Fraser, a Clergyman of the Protestant Episcopal Church in the United States.	

After prayers the Archdeacon addressed the meeting.

MY REVEREND BRETHREN,

So important, and so various, is the business which calls for our attention on this occasion, that I am desirous not to waste a moment in needless discourse, before proceeding to it. The exigencies of the present time are great indeed, but the nature and the extent of them are, I presume, as well known to you, as to myself. How they may be met and provided for, is the matter for our deliberation; and whatever difference of opinion may be found among us, at the outset, upon that point, will vanish I trust, upon a serious and deliberate consideration and discussion. With regard to the matters which will be brought before you, I have nothing to ask of any of my brethren, but that they will state fully and freely what they think, and pay proper attention to the sentiments of others.

You are aware, that the chief subject for our consideration, is a plan proposed by our respected Diocesan, for the formation of a Church Society of the Archdeaconries, to embrace all the objects of the Societies in England, for the "Propagation of the Gospel," and for "Promoting Christian Knowledge." His Lordship wishes for the assistance of the Clergy in perfecting his plan, and has authorized the calling of this meeting, that you may all have an opportunity of rendering such assistance.

His Lordship feels, as does no doubt every one of us, the necessity of some strong measures being adopted, to arouse the lay members of the Church, to a due sense of their duties and obligations as Churchmen. And the measure now proposed, seems to me well calculated to answer that end. I shall lay before you an extract from a letter, in which his Lordship's views are stated, and some Resolutions, in which these views are embodied, in order to facilitate your deliberations on the subject. Of these Resolutions you will dispose as you see fit: but the important subject of them, I am confident, you will approach, with all the respect due to the proposition of the Bishop, and a sincere desire to promote the well being of the great Community, whose interests are involved in it.

It may be thought by some, that his Lordship's plan embraces a greater number of objects, than any Society we are likely to form in the present state of the Province, will be found sufficient to carry forward. His Lordship's view of the case is, that by providing a variety of objects, the various tastes of all may be consulted, and that so, upon the whole, larger contributions may be obtained. I think myself, that this result may reasonably be expected. All the objects proposed are of great importance, but some may meet with more favor from particular persons than others, and thus each individual contributer will be enabled to promote that, or those, among them, which he most approves of.

That the plan will find favor with you, I cannot doubt. The opinion of the Clergy of this Archdeaconry has been, on more than one occasion, very decidedly expressed in favour of that which I take to be the principle of the measure—viz. an active union among the members of the Church, both lay and clerical, for the promotion of such objects, as the Church, wherever it exists, must find essential to its welfare and utility.

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In confining myself, as I have done in this address, to the *temporal* things of the Church, I hope I need not say, that I do so under the impression, that there are more important things to which we are all bound more expressly to attend: and that it is only in proportion, as we do attend to these more important things, that we can reasonably expect a blessing upon our endeavours to secure the less important. However every one must see, that if the temporalities fail and go to ruin, there can be little, or no hope of the spirituals. Our altar cannot be served, if those who are to minister at it, have not their subsistance provided for. Our Churches must in time be closed, if successors cannot be found for those, who have now the charge of them. I have indeed a firm trust and confidence, that God, in his mercy, will avert such a calamity from us; and do certainly not apprehend that it will befall. Still I have long expected, and still continue to expect, that a time of severe pressure and perplexity will surely come, to our immediate successors, if not to ourselves. I cannot suppose that you need any exhortation from me, to do anything in your power to alleviate the difficulties, which there is so much reason to apprehend, however improbable you may think it, that you will be exposed to them yourselves. If indeed would it become us to forgo any opportunity that may be afforded us, for rendering those who may succeed us, somewhat less dependent upon the precarious liberality of the people; or for securing (if possible) a supply of fit and able men, to carry on the work when we have ceased our labours. Voluntarily to leave them to take their chance, under the pretence of trusting God, would be a suspicious course, which we shall none of us think of pursuing. My trust in God, I hope, will not fail. I shall always depend upon a blessing from above, upon the lawful and honest means we use, to provide for the support and extension and continuance of our Church: but I cannot profess or indulge in indolent and fanatical confidence, in an extraordinary interposition in behalf of those who do not use the ordinary means of helping themselves with what

* Some passages are here omitted, as having no immediate connexion with the "Church Society."