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"Not slothful in business: fervent in spirit."

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For the Christian Messenger.

AUTOBIOGRAPHICAL SKETCH.

By REV. CHARLES TUPPER, D. D.

CHAPTER III.

CONVERSION, AND ENTRANCE ON THE
MINISTRY.

(No. 15.)

Having united with the Baptist Church in Cornwallis, I usually attended conference and communion with that in Nictaux, which was nearer the place of my abode. The discourses of Rev. T. H. Chipman were edifying and strengthening to me. It was my custom to attend worship every Lord's day, and on week evenings when there was opportunity, at some place where there was either preaching or prayer meeting, and to take an active part in the exercises. Instances of awakening and hopeful conversion that occurred, encouraged and animated me to diligence in the use of means.

Feeling an ardent desire to bear some humble part in the advancement of the Kingdom of Christ, and the salvation of my perishing fellowmen, I sometimes entertained serious thoughts with reference to engaging in the gospel ministry. But it seemed to me too high and too holy a work for one like me to undertake. I shrank from the fearful responsibility attending it. There appeared, however, no reasonable ground of doubt, that it was my duty to improve the gifts bestowed upon me, by prayer and exhortation in public, as well as by personal admonitions in private.

In connexion with these thoughts, I was led to reflect on the necessity of the improvement of my mind, by the acquisition of useful knowledge. But strong fears assailed me, lest I should confide in human learning rather than in the Lord who only could make me a good and useful minister of the gospel. Some pious friends expressed similar fears: and constrained me against making efforts for the attainment of education. They suggested that such a course would be likely to render me lifeless and inefficient. I greatly deprecated the idea of engaging in anything that might tend to engross my mind, and diminish my earnestness in devotional exercises. It was, however, evident to me, that one whose duty it would be to expound the sacred Scriptures, was under indispensable obligation to employ all available means in order to make himself thoroughly acquainted with their exact meaning; and that to his end he ought to study diligently, as well as to pray earnestly for divine assistance. I therefore conscientiously conclude that it was my duty to resume the study of Latin, in the hope that I might subsequently acquire a knowledge of the languages in which the sacred Scriptures were originally written. Formerly this had been undertaken from the love of knowledge, without any ulterior design; but now it was my prevailing desire, though doubtless mixed with much imperfection, to be thereby rendered increasingly useful.

Feeling deeply interested in the spiritual welfare of the people, both parents and children, where I had first taught school, namely, in the western part of Cornwallis, on the Back Road, I had serious thoughts of attempting to hold a religious meeting in their school-house. This appeared to be, indeed, a great undertaking; especially as I might probably have to conduct the meeting alone. But as the people were remote from any place of worship, and were rarely visited by the gospel ministry, it seemed incumbent on me, as far as in me lay, to supply this deficiency of the public means of grace. On deliberate and prayerful consideration of the subject, I determined, in the hope of divine assistance, to make the attempt.

Accordingly, on Lord's day, June 11th, 1816, I held a meeting in the school-house in which I had formerly taught. This first effort to conduct public worship without the aid of brethren, was, as may be naturally supposed, attended with considerable trial. After singing, the reading of the Scriptures, and prayer, I delivered an address in the morning, and another in the afternoon.

Though no text was read as the foundation of either of these discourses, yet they both partook greatly of the nature of sermons, such as they were. In the forenoon the ruined state of man, whilst unrenewed, and Satan's efforts to keep him in that state, were noticed; and in the latter, man's deliverance from his lost condition, by a divine change, and justification through faith in Christ, was considered. I enjoyed a considerable degree of freedom in speaking, and felt persuaded that my course was approved in the sight of the Most High. Subsequently some trials of mind were endured, from the apprehension of running too fast; but on careful reconsideration, I did not feel at all convinced that I had done wrong.

Shortly after this I passed through a scene of a very different kind, namely, that of three days continuous exercise in learning the art of killing men. Assuredly I did not make much proficiency in it. With me it was a season of severe trial. There was a great amount of profane swearing, and not a little of drunkenness and fighting. On the first day a young man standing in the rank directly before me, swore fearfully. I thought the language of the prophet applicable, "The prudent shall keep silence in that time; for it is an evil time." When, however, the man began to utter blasphemy and obscenity combined, I was so greatly shocked that I clapped my hand upon his shoulder, and begged of him to desist. At first he seemed disposed to apologize, remarking, "I did not know that you were here," but presently he seemed to regain confidence in his iniquity, and added, "I suppose liberty of conscience is allowed." But what was the speedy result of the liberty claimed by him against conscience. The next morning at roll-call I found him, with his face frightfully bruised, excusing himself from drill on account of being badly hurt. This was the effect of fighting while in a state of drunkenness. Such cases clearly demonstrate the truthfulness of the inspired declarations, "The wicked are like the troubled sea, when it cannot rest, whose waters cast up mire and dirt;" and, "The way of transgressors is hard."

For the Christian Messenger.

LETTER FROM MATAMORAS, MEXICO.

We have been again favored with a letter from Capt. Cutten to his friends, which will be perused with interest by our readers.

Matamoras, March 11th, 1863.

DEAR BROTHER,—

I left New Orleans on the 28th of February and arrived here the 3rd instant, making the quickest passage of the season and bringing the latest dates.

I bought a lot of corn at New Orleans and sold it here at a high rate, making a good freight and quick despatch. The ship is now lying in the roadstead, and the cargo has to be sent on shore in lighters, but seldom a small boat can enter the river, as there are constant breakers, and only from three to six feet of water on the bar at the entrance of the Rio Grande, this river is narrow and shoal and only the lightest draft steamers can come this far, one or two steamers carry freight, but they are so uncertain, and so often get a-ground, that traders prefer sending their goods up on wagons. Matamoras is thirty-five miles from the entrance of the Rio Grande. It is an old town, chiefly of one story brick buildings, the streets are narrow, running at right angles, with sidewalks sadly out of repair. A heavy trade has been carried on here since the war in Texas. The Federals occupy Brownsville nearly opposite and now that port is being declared open, it will cause a falling off in the trade here.

Cotton has to cross a long way up the river and came over 700 miles on wagons,—43 cents per lb is paid in gold for the best quality.

The Mexicans are an indolent people, the height of their ambition appears to be, to wear a large hat, and lose money at the gaming table. Gambling with all its vicious associations, is indulged in here to a fearful extent. The water here has a salt taste and is

prejudicial to the health of strangers, and puts one's cold water principles severely to the test.

Politics are causing some interest so far as it relates to trade. The reactionary party is increasing daily and it is not expected the French will meet with much opposition here or in Monterey, although it is reported that they have been defeated in the interior. In Monterey the Governor refused to allow President James to enter the town, and it is said he will deliver the city up to the French. One can scarcely take much interest in the wars here, after being accustomed to hear of armies of 100,000 men and of money by the million; the loss at a battle here will scarcely equal a common railway accident or a steamboat diversion in the country I have just left. Here we meet Federals and Confederates on neutral ground, where it is not necessary for either to conceal their real sentiments. The Southern men here are the most sanguine and hopeful I have yet met. Can the South be conquered? is a question often asked and difficult to answer. Although their affairs look dark and gloomy, yet, when we see a people who have been accustomed to almost every luxury, now living on the plainest fare, wearing the cheapest clothing and willingly suffering everything even death itself out of pure patriotism, we cannot but think the struggle must be a long one, I have heard paroled prisoners, who fought in many a battle, say they would fight side by side with English or French, and become a colony to any stable government, rather than ever submit to Federal rule. If circumstances require they will free the Slaves, and, having already suffered so much, as they become more desperate, they will fight with more determination, and a more cruel war is to be waged than any told in history.

From what we have seen in the past, there is reason to suppose that the threats of the Confederates is not idle boast, but their hostility will be manifest as long as they have power to resist. It appears to me that the sympathies of the West are more with the South than the East. Those I met connected with the army always spoke with dissatisfaction of their position, as if not pleased with their company, perhaps this is owing to the pernicious doctrine of state rights which is so common out west. One source of complaint is the war taxes, which the Yankees say bear so heavily on the Atlantic states, but the West feel that the high tariff which protects the eastern manufactures, heavily taxes them, there evidently is not that cordial good feeling, which a common cause should make between the two sections of the country. The future of the war depends largely on the value of greenbacks, with a continued increase in circulation and no redemption, they must depreciate in value, and should the government learn some day that the butcher and baker, (great generals in their way), will not take them, they must bring the war to a close. There is no small change in New Orleans, you pay for your morning paper and city railway fare with government paper, if you complain of the high prices charged for goods, you are told the money is no good. As poor as this country is there is no currency but specie.

The corruption existing among the officials (with one or two noble exceptions) in the department of the Gulf headquarters at New Orleans, is a matter of constant conversation, and I do not suppose they place much value on greenbacks, judging from the number I had to pay to get clear. They understand palm oil here as well as up the Mediterranean but do not take it in so open and direct a manner.

I have just met a gentleman from up the country, he reports the French army within 150 miles of Monterey, and all quiet.

The heat to day is oppressive, and the dust is awful, worse than at Amherst in July.

Yours truly

R. F. CUTTEN.

For the Christian Messenger.

WHAT THE SUN IS MADE OF.

By CARL STEINHAMMER.

If you let a beam of light fall through a round aperture upon a white screen in a dark room, it will form a round white spot.

If, however, a glass prism be placed behind the opening, the light in passing through the prism will be more or less bent out of its course, and the spot on the screen will be elongated. It will not as before be of a uniform white, but it will be made up of transverse bands of different colors, of which a red, yellow, and blue. Such a colored image is called the solar spectrum.

Every one who has studied natural philosophy knows that white light, as that of the sun, for instance, is made up of a union of rays of light of the three different colors just mentioned. A ray of light in passing obliquely from one medium to another of different density, as, for example, from air to glass, is bent more or less out of its course, it is refracted, as it is called. If the red, yellow and blue rays, which enter into the composition of white light, were bent in an equal manner in passing through the prism, or, in other words, had they the same degree of refrangibility, the shape and color of the light spot made on the screen by the sunbeam would not be altered by the passage of the light through the prism; but the blue rays of the sunbeam are bent more than the yellow, and these last more than the red, so that each falls quite separately on the screen, forming three very distinct bands of color. They are however, not completely separate, the blue band overlaps, so to speak, the yellow band, and you know we have a green one. In the same way, an orange band is formed by the overlapping of the edges of the red and yellow bands. At the blue end of the spectrum there is a violet (purple) band formed by the union of some of the red and blue rays, the former having a higher degree of refrangibility than the majority of the rays of the same color. Such is the simplest form of the solar spectrum.

Studied by Prof. Fraunhofer with the aid of the microscope, it was found that the spectrum was crossed by innumerable dark lines, which at all times preserved the same relative position. The more prominent of these lines were mapped down by the professor, and lettered. They are still known as Fraunhofer's lines, A, B, C, &c. The presence of these lines in the spectrum was not accounted for.

In examining the spectra formed by the light given out by burning substances, it was found that they were crossed by innumerable bright lines, many of which were recognized as occupying exactly the position in their respective spectra, as certain dark lines observed in the solar spectrum. The light given out by flames with simple substances, as sodium, potassium, iron, &c., burning in them, was analyzed and it was found that the spectrum of each was characterized by certain lines appearing in different parts of the spectrum. Then, for instance, a flame, in which sodium was burning, gave always a very bright yellow line in the yellow band of the spectrum. Other substances give other lines, "when the ashes of a cigar, a little moistened with chlorhydric acid, are introduced into the flame which furnishes the spectrum we see appear the yellow line of sodium, the pale red line of potassium, the intensely red line of lithium, a very deep orange line and a green one both corresponding to calcium; thus in an instant we have verified the presence of four metals."—Soda, potash, lithia, and lime, are not simple substances, each is a compound of a metal with oxygen, a gas which enters largely into the composition of atmospheric air, and which gives to it its life-sustaining properties. The metal of which soda is formed is called sodium. The base of potash is potassium, and of lime, calcium.

The instrument used in the "spectral analysis," as it is termed, is called the spectroscopic. So delicate is the method of analysis, that the presence of the most minute, and to the ordinary method of chemical analysis, wholly inappreciable part of soda in a burning body may be readily detected. It has been calculated that, by means of the spectroscopic, the eye can detect the presence of one-twenty millionth part of a grain of that substance! Soda is almost everywhere, in almost everything, in the air even, so that its brilliant yellow line is rarely absent from the spectrum.

The question soon arose whether the dark lines of the solar spectrum were not due to the presence of certain substances in a state of ignition in the sun. Then, for instance,