

## Wonderful Boys.

George Bidder and Zerah Colburn were two wonderful boys, each, at a very early age, displayed great facility in the mental handling of numbers. In fact the digits were their play things from the time they could talk. The ugly twisted figures which the boys and girls generally so despise, were things of beauty to them. They loved to picture them in their minds as other picture birds and flowers, and set them dancing in "merry numbers" through the maze of the most intricate combinations, to arrange themselves at last in beautiful order, and announce the unerring solution to some obtruse problem.

Zerah Colburn was an American boy, born about the year 1804; George Bidder, two years younger, belonged to England. They were both famous in their time, and their astonishing feats were the wonder and delight of the world. Bidder is said to have been the greater genius of the two, but this point is difficult to determine. Their minds, while pursuing the same bent, were differently moulded. That Bidder could deal more readily with very large numbers was admitted by Colburn himself; but Colburn far surpassed him in the ease and rapidity with which he could extract roots, find factors, detect primes and so forth.

When a mere boy, (exact age not given) Colburn extracted mentally the cube root of 268,336,125, before the number could be written down. He was asked to name two numbers, which, multiplied together, would give the number 247,483, and he immediately named 941 and 263, which are the only two numbers satisfying the condition. The same problem being set with respect to the number 171,395, he named the following pairs of numbers: 5 and 34,279—7 and 24,485—59 and 2,905—83 and 2065—35 and 4897—295 and 581—and lastly, 413 and 415. Still more wonderful was the next feat. He was asked to name a number which will divide 34083 without remainder, and he immediately replied that there is no such number; "in other words he recognized this number as what is called a prime, or a number only divisible by itself and unity, as readily and quickly as most people would recognize 17, 19 or 23 as such a number, and far more quickly than probably nine persons out of ten would recognize 53 or 59 as such."

Here is another, "Fermat had been led to the conclusion that the number 4,294,967,297, which exceeds by unity the number 2 multiplied 15 times into itself, has no division. But the celebrated mathematician Euler, after much labor, succeeded in showing that the number is divisible by 641. The number was submitted to Zerah Colburn, who was, of course, not told of the result of Euler's researches into the problem, and after the lapse of some weeks the boy discovered the one divisor which Euler had only found with much greater labor."

This last feat was perhaps the most wonderful of all, but the length of time required for its accomplishment was such that the evidence does not appear altogether so striking as that afforded by the other cases. But according to the English source from which I draw the substance of this article, even the marvelous feats of Colburn's were surpassed by those of George Bidder; yet it is safe to believe that national prejudice and pride have colored the comparison in favor of the latter.

We are told that at three years of age "Bidder answered wonderful questions about the nails in a horse four years old; but the earliest feat of which there is exact evidence belongs to his fifth year.

When only eight years old, and entirely ignorant of the theory of ciphering, he answered almost instantly and quite correctly, when asked how many

farthings there are in £868,424,121.

An English writer says: "In 1814 I was reading with a private tutor when a Mr. Bidder called upon him to exhibit the calculating power of his little boy, then about eight years old who could neither read nor write. On this occasion he displayed great facility in the mental handling of numbers. My tutor strongly recommended the father not to carry his son about the country, but to have him properly trained at school. This advice was not taken, for about two years after he was brought by his father to Cambridge, and his faculty of mental calculation tested by several able mathematical men. I was present at the examination, and began it with a sum in simple addition, two rows, with twelve figures in each row. The boy gave the correct answer immediately. Various questions then of considerable difficulty, involving large numbers, were proposed to him, all of which he answered promptly and correctly. This must have occupied more than an hour. Then, to test his memory, I said to him, 'Do you remember the sum in addition I gave you?' To my surprise he repeated the twenty-four figures with only one or two mistakes. He did not appear burdened by his mental calculations, and as soon as a question was answered he amused himself with whipping a top round the room, and when the examination was over, he said to us, 'You have been trying to puzzle me, I will now try to puzzle you. A man found thirteen cats in his garden. He got his gun, fired at them, and killed seven. How many were left?' 'Six,' was the answer. 'Wrong,' said he, 'none were left; the rest ran away.' I don't know whether Bidder was the inventor of this now time-honored joke or not; but it could hardly have been as well known in 1816 as now, else he would not have asked a roomful of persons, and them college fellows, a question which some one or other of them would have been almost certain to have heard before. If he really invented the puzzle, it was clever in so young a lad.

It is recorded that when Bidder was ten years old, he answered in two minutes the following question: "What is the interest of £4,444 for 4,444 days at 4½ per cent. per annum?" The answer is £2,434 16s. 5½d.

A few months later, when he was not yet eleven years old, he was asked, "How long would a cistern one mile cube be filling if receiving from a river 120 gallons per minute without intermission?" In two minutes he gave the correct answer; 14,300 years, 283 days, 12 hours, 46 minutes.

A year later, he divided correctly, in less than a minute, 468,592,413,563 by 9,076.

At 12 years of age, he answered in less than a minute the question, "If a distance of 9½ inches be passed over in a second of time, how many inches will be passed over in 365 days, 5 hours, 48 minutes, 55 seconds?"

No date is given in the following case: "The question was put by Sir William Herschel to Master Bidder and answered in one minute: Light travels from the sun to the earth in 8 minutes, and the sun being 98,000,000 miles off, (of course this is quite wrong, but at that time it was thought to be about the distance), if light would take six years and four months traveling at the same rate from the nearest fixed star to reach the earth, how far is that star from the earth, reckoning 365 days, 6 hours to each year, and 28 days to each month? The correct answer was quickly given: 40,663,740,000,000 miles."

"On one occasion we learn that the proposer was not satisfied with Bidder's answer to his question. The boy said his answer was right and requested the proposer to work his sum over again. During the operation

Bidder said he felt certain he was right, for he had worked the question in another way; and before the proposer found that he was wrong, and Bidder right, the boy told the company that he had calculated the question by a third method."

There were many other wonderful feats performed by these boys that I might give did space permit, and did I think it necessary to the main purpose of this article, which I do not I hope what I have already written may not have a tendency to discourage any boy or girl to whom arithmetic is naturally a distasteful study, from putting forth their best efforts to conquer their dislike and become adepts in the mental handling of numbers. But, if on the other hand, a comparison of these boys mental powers with their own, should prove an antidote for that more dangerous malady called *self-conceit*, with which, I am sorry to say, the greater number of boys and girls are now-a-days afflicted, the slight discouragements given the few would be greatly overbalanced by the good done to the many. Yet I hardly see why any girl or boy should become disheartened and imagine himself too dull for anything, simply because they cannot as yet do what these boys have done. Let them remember there are millions upon millions of people to-day in the world as dull as themselves, if dullness consists in being unable to perform the wonderful feats of Colburn and Bidder; but happily, the world does not call others dull, but these boys unusually bright, for being able to do the things they did. And even were it otherwise, there is too much room in the world for the exercise of talent, for the few precocious and brilliant minds that are occasionally born into it to ever succeed in monopolizing the whole, or even any considerable parts, of those callings dependant upon mental fitness for their execution.

It may also be some consolation to "dull" children to know that uncommonly smart boys and girls generally make very stupid men and women. Neither Colburn nor Bidder accomplished more than ordinary men. The reason for this is very easily found: They relied too much on their natural powers without making any great efforts to improve them. They thought they knew enough without trying to learn more. The possession of this gift even rendered Colburn a very impudent child and disagreeable companion. His self-conceit and imagined superiority over everybody else is shown in many of his rude remarks. On one occasion when asked how he obtained his results he blurted out the reply, "God put these things into my head; I cannot put them into yours." So if these wonderful gifts spoil one's temper, one is better off without them.

MISS NOMER.

## Pay the Minister.

"The laborer is worthy of his hire." The true minister of the Gospel is a laborer, just as much as the man who builds your houses and barns, makes your boots and shoes, or plows and tills your fields. And yet it seems to be very difficult for many to learn this. Our people who are in no way better than the rest, never question for a moment the propriety of compensating lawyers, doctors, school teachers and mechanics; but the minister, no matter about him, he will receive his reward hereafter. Very many seem to think he ought to manage to preach for nothing; others think he needs but little; whilst a few approve of the idea of compensating him well. My heart has been made to ache when men who professed to love the Lord would come to me and say: "You are here in our midst, and I do think you might afford to give us your time and labor gratis;" and yet should those very persons be called upon to haul me a load of wood, or render any service whatever, they would expect me to pay them well. Oh, what inconsistencies!"—*Rev. W. H. Pruett.*

## Plum-Thicket Sunday School.

BY M. J. TELFORD.

"Tell you about the times we had last summer?—Why, Peggy, we had all sorts of times! Everybody does, everywhere. There isn't much difference in 'times,' I imagine, come to take them in a lump. When you have a pleasant kind, there's commonly a little disagreeable mixed in, only when you take one class of pleasantness, you can't get the others at the same time."

"Cousin Sally, you think 'cause you're a grown-up woman, and I ain't, you've got to preach to me. I don't want preachments. I want stories." And Peggy put on a face that was such a mixture of scolding and pleading that Cousin Sally laughed:

"You shall have something, my chick, that really did happen."

"Last summer?" persisted Peggy.

"Once on a time" isn't good for anything. I don't believe there ever was any 'once on a time.'"

"Last summer, then, practical Peggy. You know, don't you?"

that in many places which we call the West, they hold Sunday schools in barns and kitchens, in unfinished log-houses and dug-outs."

"And what, Sally?"

"Dug-outs. Places like outdoor cellars, which people live in. Holes hollowed out in the earth—large enough for a room, with the floor and sides ceiled and carpeted with earth, and daylight let in through the open door at the end."

"Horrible!"

"I have known children, Peggy, who thought it delightful. But I'm going to tell you about still another kind of Sunday school room. You know Aunt Phebe and I spent last summer on an Iowa farm?"

"Yes."

"The great prairie rolled all about us, and there were few people living on it there. But along a fine stream, half a mile off, lived a good many settlers."

"A town, Sally?"

"No; they were on farms. There was no town within a dozen miles. A few children, old enough to have learned the Sermon on the Mount, had never been in a church; and they had never had Sunday school."

"The people where we boarded had good reading in their homes, but they thought it was not worth while to bother about those ignorant folks down on 'the run.' And so 'those ignorant folks' had hunted, gossiped, and lounged away their Sundays without one idea of what the beautiful blessed day was meant for."

"Aunt Phebe couldn't endure that. She found, though, that there was not one spare room, or even suitable room for a Sunday school, in all the settlement. But we had found many charming secluded spots in the timber along the creek; and aunt was not long in making up her mind what might be done. She had word left at every cabin within four miles that she should like to see any one who was willing to come, at the plum thicket, the next Sunday morning, at half past nine o'clock, for a Sunday school."

"What was the plum thicket?"

"A shady, retired spot surrounded by wild plum trees, near the place where the public road formed the pretty stream. It was known far and near as the 'plum thicket.'"

"Did any one come?"

"The first Sunday there were about a dozen. There were two Testaments and a McGuffey's Third Reader among them. Aunt explained that we would have only a Bible school and plenty of singing. Several of the children had uncommonly good voices, and I was set to teach them Sunday school songs and hymns."

"Whatever the attraction may have been, the next Sunday found thirty children and young folks at the

thicket, and two or three older people, looking a little sheepish. But Aunt Phebe made them welcome, and taught them all in one class. I believe, Peggy, it was the best Sunday school I ever saw. Nobody was crowded, for we had all outdoors. Nobody got stupid with bad air; and nobody came to show her new hat, or see what some other body's was like. There were sunbonnets and shakers and old hats and new hats and bare heads, and no 'one cared. But they listened to every word dear Aunt Phebe had to say to them, and we often heard of their repeating it at home.

"As to the music—O Peggy! I've heard many a Sunday school sing, but never one as that Iowa school of untaught children did, with the birds and the squirrels around them to come in on the chorus. They threw themselves right into it, (wasn't it all the good time they had?) and learned new pieces, till I was put to my wits' end to find enough. I fished all the old ones out of my memory, to add to the only Sunday school singing book we happened to have with us, and then they learned the favorite old hymns. These brought out their parents, who, some of them, remembered singing or hearing them in their childhood."

"It must have been splendid!" ejaculated Peggy, under her breath.

"The strangest of it is still to be told. The highway was one of the main routes of travel on to the wider west. This timbered stream was sure to be found by these emigrants, and was a favorite camp-ground. Though few of them regarded the Sabbath enough to stop travel on that day, many stopped over a few hours for rest or repairs.

"Our children needed only a hint from Aunt Phebe to go early every Sunday morning through the grove and invite the children of these campers to join us for that day; and many a young traveler, who had been used to Sunday and Bible schools in the East, came. To others it was entirely new. Some children of foreigners could not understand the invitation, but were sure to gather when the singing began.

"I remember two bright little fellows and their sister, on their way to Idaho, who entered with peculiar zest into the singing one morning. It was a very warm day; and after the children had scattered, Aunt and I stayed at the thicket to read.

"Presently a heavy wagon came lumbering down the hill. I parted the vines behind which I was sitting, and peeped out. A coarse-looking man in a red shirt was hallooing and swearing at his four yoke of cattle, while in the wagon, in the midst of the driving and rattling, those three little ones were singing, at the top of their voices, 'Oh, how I love Jesus!' As they came nearer, Aunt Phebe looked up from her book.

"'I'm glad,' she said,—and her lip trembled a little,—'I'm glad they're carrying the Gospel with them.'"—*S. S. Times.*

ABUNDANT HAIR.—Japanese women are very proud of their hair, which is black and luxuriant. They cultivate and arrange it with great care by brushing their tresses back from the forehead and gathering them in a plaited topknot, covered with flowers, spangles and hairpins of gold, silver, and tortoise-shell. Rich and poor are alike proud of their *Coiffure*, and the Kuli woman in rags devotes the same attention to her hair as any great lady. To preserve the elaborate structure from being disturbed, women during sleep rest their necks on a padded fork. There is no difference between single or married women in wearing their hair, as in China; and their respective social status is indicated by the position of the bow in which the waist-scarf is tied, girls wearing it at the back, matrons in front. The latter likewise shave their eyebrows and dye their teeth black; Girls use rouge freely, and sometimes gild their lips. They are all fond of smoking, and wear their embroidered tobacco pouches as belt ornaments.—*Et.*