NATIONAL INTELLIGENCER:

THE BATTLE OF KING'S MOUNTAIN.

We are glad to have an opportunity of bringing to the notice of our readers the following historical papers, throwing valuable light on the incidents of one of the most important events of our Revolutionary war, and which is supposed to have had an important influence upon its result.

Extract of a Letter from the Abingdon Literary Club to the Editors of the Abingdon Virginian.

To revive in the memory of our young countrymen the deeds of their forefathers, to keep alive the spirit of the revolution which achieved our independence and established our Union, to show what it cost and how highly it should be valued, the Literary Club of Abingdon send you the following document for publication. It is taken entirely from British writers, and has never appeared, as far as we have seen, in any American history or publication. It is the British account of Col. Ferguson, and their own account of the consequences of the battle of King's Mountain. The reader will particularly notice the account which Col. Ferguson gave to his brother, Dr. Adam Ferguson, of Scotland, of a scene that took place at the battle of Brandywine, or about that time, in 1777, in which Col. Ferguson states he had it fully in his power to have killed both Gen. Washington and Gen. Lafayette, and declined to do so. The order was given to three of his riflemen at one time and recalled. He himself had levelled his own rifle, and relented! Gen. Washington was about one hundred yards from him. Ferguson and his men were perfect marksmen. He had himself invented the rifle used by his corps, which was superior to any in our army. If Gen. Washington had fallen on that day, what would have been the fate of the American revolution? How slight the incidents in the course of events which seem to give direction to the affairs of this world! The fate of this great republic and rising empire of the West seemed to have hung on this occasion on the determination of Col. Ferguson, a most skilful and brave British officer, who was afterwards slain in battle by the volunteers of Virginia, of North and South Carolina, on the summit of King's Mountain, in October, 1780.

The time in which this battle was fought gave great importance to its consequences. The summer and fall of 1780 was, perhaps, the most gloomy period of the American Revolution. The tide of disaster had run against us for nearly a year. In the fall of 1779 our army was repulsed at Savannah, with an immense loss. Here fell the brave Pole, Gen. Pulaski. In the May following Charleston surrendered a large army, with three or four frigates, and a large quantity of military stores. A few weeks afterwards Col. Buford, with his regiment, was cut to pieces by Col. Tarleton, of the British army. In August following Gen. Gates's whole army was destroyed at Camden, and a few days afterwards Gen. Sumpter was surprised and entirely defeated. In September, 1780, Arnold's treason was detected. And at this period our finances were all exhausted, the credit of the country was at the lowest ebb, and the paper money worthless. We had no means to clothe and feed our army. Gen. Washington was himself almost on the verge of despair. His letters at this period show the greatest anxiety and distress of mind, and that he thought the cause almost hopeless.

In such a gloomy period of our country's distress, and almost of despair, there rose up in Southwestern Virginia and in East Tennessee a gallant army of brave young men, who, without pay and without any orders from their Government, volunteered their services to fight the battles of their country. They seized their own rifles and mounted their own horses, and marched two hundred miles through a wilderness, and over lofty mountains, and, in less than two weeks from the time they had left the place of rendezvous, they demolished entirely a British army of a most formidable character. They turned the tide of success in favor of our country. They broke up the British general's plan of campaign against North Carolina and Virginia, extinguished nearly forever all the aid he was receiving from the tories in the South, and compelled him to retreat back into South Carolina, to save the country he thought was entirely conquered and subdued. The documents that follow will prove these statements. They contain the acknowledgments of British writers, and of Lord Cornwallis himself.

Are not these reminiscences calculated to attach us to this Union? Can we ever think of laying our parricidal hands upon the work of our Fathers? Can we ever dare to attempt the destruction of that Government which their heroism contributed so greatly in establishing—which has attracted towards us the wonder and admiration of the world, and has given us a degree of prosperity and happiness which no other nation of which history has given any account ever enjoyed before?

British Account of Col. Ferguson, and the consequences of the Battle of King's Mountain.

Historical justice and fairness require that we should insert what the British writers have said of their own gallant officer with whom our mountaineers contended on their glorious field of fame. Justice to an enemy is an attribute of magnanimity, and he who cannot find in his heart any promptings of this noble and generous impulse is *unfit to write history*. He may, without this manly virtue, write eulogiums and invectives, and fill his pages with declamation; but they *will not be read by the candid and the wise as the sacred records of truth*. Let us do justice to Col. Patrick Ferguson, who commanded the British army at King's Mountain. He was the son of an eminent Scotch Judge, James Ferguson of Pitfour, Lord of Session and Justiciary, and nephew of a nobleman of great literary talents, viz. Patrick Murray, (Lord Elibank,) deemed by Robertson, Ferguson, Hume, and contemporary sages in genius and erudition, equal to the authors of the Scottish Augustan age. Patrick Ferguson, (says a British writer,) who commanded the British army at King's Mountain, "sought fame by a different direction, *but was of equally vigorous and brilliant powers*." In early youth he entered the army, and, while a subaltern of eighteen in the German war, was distinguished by a courage as cool as it was determined; his principal object being to become beneficial by professional skill and effort. Before the battle of King's Mountain he had already displayed that combination of intrepid heroism, inventive genius, and sound judgment which constitute the valiant soldier and able commander.

Before the American war he had employed the interval of peace in England by improving himself in military knowledge and science. When the disputes between Britain and her colonies were verging to a civil war, the boasted skill of the Americans in the use of the rifle was exhibited as an object of terror to the British troops. These rumors operated on the genius of Ferguson, and his invention produced a new species of the rifle, which he could load at the breech without using the rammer or turning the muzzle away from the enemy, and with such quickness of repetition as to fire *seven* times in a minute. The riflemen, meanwhile, might be prostrate on the ground, and protected from the shot of the enemy by the smallest eminence, either natural or artificial. Ferguson displayed his contrivance to the satisfaction of Lord Townsend, master of the ordnance, and other military men. When the war commenced, his regiment not being ordered for warlike service, he was extremely anxious to be actively employed for his King and country. He was accordingly introduced to the commander-in-chief, and appointed to command a corps drafted from regular regiments, and discipline them for the practice of this new invention. At the battle of Brandywine he presented the first specimen of the use of his riflemen, and obtained great praise for his skill and successful efforts.

The following is the account given by the writer of Ferguson's conduct and services in the battle of Brandywine:

"Gen. Washington, being informed that the British army was arrived in Pennsylvania, (it landed from the head of the Chesapeake, as is well known,) crossed the Delaware with his army on the 11th of September, 1777. The British troops advanced to Brandywine, a river which, running from the west, falls into the Delaware below Philadelphia. On the left bank, next to the city, the Americans posted themselves, and erected batteries at Chad's Ford, where they presumed the royal army would attempt to pass; under cover of their batteries, a body of them also occupied the right bank. Gen. Howe detached Lord Cornwallis, with two battalions of British grenadiers, as many of light troops, two battalions of Hessian grenadiers, two British brigades, and part of the 71st regiment, to cross the river further up, and thus gain the enemy's rear. At the same time Gen. Knyphausen, with another division, marched to Chad's Ford, against the provincials who were placed there. In this service the German experienced very important assistance from a corps of *riflemen*, commanded by Col. Patrick Ferguson. The dexterity of the provincials as marksmen had been frequently quoted and held out as an object of terror to the British troops. Ferguson, as a man of genius, which was exercised in professional attainments, invented a new species of rifle, that combined unprecedented quickness of repetition with certainty of effect and security to the soldiers.

"The invention being not only approved, but highly admired, its author was appointed to form and train a corps for the purpose of practice, but an opportunity did not offer of calling their skill into action until the period at which we are now arrived. Ferguson, with his corps, supported by Weimiss's American Rangers, was appointed to cover the front of Knyphausen's troops, *and scoured the ground so effectually* that there was not a shot fired by the Americans to annoy the column in its march. So secured, Knyphausen was enabled to advance without interruption, attacked the enemy, obliged them, though protected by their batteries, to cross the river, made good the passage of his own division, and opened the way to the rest of the army.

"The meritorious conduct of Col. Ferguson was acknowledged by the whole army, and publicly attested by order of the commander-in-chief. Ferguson, in a private letter, of which Dr. Adam Ferguson has transmitted me a copy, mentions a very curious incident, from which it appears that the life of the American General was in imminent danger. While Ferguson lay with a part of his riflemen on a skirt of wood in front of Gen. Knyphausen's division, the circumstance happened of which the letter in question gives the following account:

"We had not lain long (says Ferguson in this letter) 'when a rebel officer, remarkable by a hussar dress, passed 'towards our army, within a hundred yards of my right flank, 'not perceiving us. He was followed by another, dressed in 'dark green and blue, mounted on a good bay horse, with a 'remarkable high cocked hat. I ordered three good shots to 'steal near to them and fire at them; but the idea disgusted 'me. I recalled the order. The hussar, in returning, made 'a circuit, but the other passed within a hundred yards of 'us: upon which I advanced from the woods towards him. 'Upon my calling he stopped, but, after looking at me, pro'ceeded. I again drew his attention, and made sign to him 'to stop, levelling my piece at him; but he slowly continued 'his way. As I was within that distance at which, in the 'quickest firing, I could have lodged half a dozen balls *in or* '*about him* before he was out of my reach, I had only to 'determine; but it was not pleasant to fire at the back of an 'unoffending individual who was acquitting himself very 'coolly of his duty. So I let him alone. The day after, I 'had been telling this story to some wounded officers, who 'lay in the same room with me, when one of our surgeons, 'who had been dressing the wounded rebel officers, came in 'and told us that they had been informing him that Gen. 'Washington was all the morning with the light troops, 'and only attended by a French officer in a hussar dress, he 'himself dressed and mounted in every point as above de'scribed. *I am not sorry that I did not know at the time* '*who it was.*"

In the year 1779 Col. Ferguson was employed in several of the detached expeditions, which, unimportant as they proved in result, yet, as we have seen, called forth a great degree of British valor and ability, and particularly distinguished himself in the incursive war on the North river in 1779. Ferguson, being engaged in the expedition to Charleston, was of very signal importance to the British army, and is mentioned with great praises by Sir Henry Clinton, the commander-in-chief of the British army. After the reduction of Charleston in May, 1780, when Cornwallis was attempting by *justice* and *mildness*—justice and mildness, such perhaps as Tarleton practised about this time upon Col. Buford's regiment—

"When Lord Cornwallis" (continues this British writer) "was attempting by justice and mildness to restore harmony between the province and the mother country, he called for the assistance of Ferguson. To the valor, enterprise, and invention which were so important in war, Ferguson was known to add the benignant disposition and conciliating manners which generate good will and cement friendship in situations of peace. Among the propositions of Cornwallis for the security and tranquillity of the recovered colony, one scheme was to arm the well-affected for their own defence. Ferguson, now a lieutenant colonel in America, was entrusted with the charge of marshalling the militia throughout a wide extent of country. Under his direction and conduct, a militia, at once numerous and select, was *enrolled and disciplined*. One of the great tests of clearness and vigor of understanding is ready classification, either of things or men, according to the qualities which they possess and the purposes they are fitted or intended to answer. Ferguson exercised his genius in devising a summary of the ordinary tactics and manual exercises for the use of the militia. He had them divided in every district into two classes—one of the young men, the single and unmarried, who should be ready to join the King's troops to repel any enemy that infested the province; another of the aged and heads of families, who should be ready to unite in defending their own townships, habitations, and farms. In his progress among them he soon gained their confidence by the attention he paid to the interest of the well-affected, and even by his humanity to the families of those who were in arms against him. 'We come not,' said he, 'to make war upon women and children,' and gave them money to relieve their distresses. The movements of the Americans having compelled Lord Cornwallis to proceed with great caution in his northern expedition, the genius and rapid efforts of Ferguson were required for protecting and facilitating the march of the army, and a plan of collateral operations was devised for that purpose. In the execution of these schemes, he had advanced as far as Ninety-Six, about two hundred miles from Charleston; and with his usual vigor and success was acting against different bodies of the colonists that still disputed the possession, when intelligence arrived from the British officer, Col. Brown, commander of the King's forces in upper Georgia, that a corps of rebels, under Col. Clarke, had made an attempt upon Augusta, and, being repulsed, was retreating by the back settlements of Carolina. To this information Col. Brown added that he meant to hang on the rear of the enemy, and that if Ferguson would cut across his route he might be intercepted and his party dispersed. This service seemed to be perfectly consistent with the purposes of his expedition, and did not give time to wait for fresh orders from Lord Cornwallis. Ferguson yielded to his usual ardor, and pushed with his detachment, composed of a few regulars and militia, into Tryon county.

"In the mean time numerous bodies of back settlers west of the Alleghany mountains were in arms, some of them intending to seize upon the presents intended for the Creek and Cherokee Indians, which they understood were but slightly guarded at Augusta, Georgia. Others had assembled upon the alarm of enemies likely to visit them from South Carolina. These, meeting with Col. Clarke, secured his retreat, and made it expedient for Brown to desist from his pursuit and return to his station at Augusta; while Ferguson, having no intelligence of Brown's retreat, still continued the march which was undertaken at his request.

"As he was continuing his route a numerous, fierce, and unexpected enemy suddenly sprung up in the woods and wilds. The inhabitants of the Alleghany mountains assembled, without noise or warning, under the conduct of six or seven of their militia colonels, to the number of 1,600 daring, well mounted, and excellent horsemen. Discovering these enemies as he crossed King's Mountain, Ferguson took the best position for receiving them that the ground would permit. But his men, neither covered by horse nor artillery, and being likewise dismayed and astonished at finding themselves so unexpectedly surrounded and attacked on every side by the cavalry of the Mountains, were not capable of withstanding the impetuosity of their charge. Already 150 of his soldiers were killed upon the spot, and a greater number was wounded. Still, however, the unconquerable spirit of this gallant officer refused to surrender. He repulsed a succession of attacks from every quarter, until he received a mortal wound. By the fall of Col. Ferguson his men were entirely disheartened. Animated by his brave example, they had hitherto preserved their courage under all disadvantages. In the resources of his fertile genius they deservedly placed the utmost confidence, and with him perished every hope of success. Under such circumstances, the second in command, judging all further resistance to be vain, offered to surrender, and sued for quarter.

"From the ability and exertions of Col. Ferguson *very great advantages* had been expected, and, *had he not been surprised and cut off, there is no doubt that every expectation would have been fully gratified*. By his unfortunate fall, and the slaughter, captivity, or dispersion of his whole corps, the *plan of the expedition into North Carolina was entirely deranged*, [here is the acknowledgment of a British writer,] the western frontiers of South Carolina were now exposed to the incursions of the mountaineers, and *it became necessary for Lord Cornwallis to fall back for their protection, and wait for a reinforcement before he could proceed further upon his expedition*. On the 14th of October he began his march to South Carolina. His Lordship and his army met with very great difficulties and hardships. Their provisions were so nearly exhausted that the soldiers were limited as to quantity, with hardly any means of cooking. The country was overflowed with incessant rains. They had no tents, and could rarely find a dry spot to kindle a fire; the soldiers bore their hardships without repining, as they knew their officers and generals fared no better than themselves. His Lordship himself was taken ill, but nevertheless preserved his vigor of mind, and arrived on the 29th of October, 1780, at Winnsborough, to wait for fresh reinforcements from Sir Henry Clinton, the commander-in-chief, at New York."

Such is the British account of this daring and accomplished British officer, whose army was entirely destroyed on the summit of King's Mountain, on the 7th of October, 1780, by the mountaineers of Virginia and of North Carolina and South Carolina; and such were the consequences of his overthrow, as acknowledged by a learned British writer, the countryman of Ferguson himself. They led, in a connected chain of events, to the entire destruction of the British cause in America, and to the achievement of American independence.

In a letter from Mr. Jefferson, dated in 1822, now before the writer, in his own handwriting, the following remarks are made in relation to this victory: "I remember well," says he, "the deep and grateful impression made on the mind of every one by that ever-memorable victory. It was the joyful enunciation of that turn in the tide of success that terminated the Revolutionary war with the seal of our independence."

Senior Member

Of the Abingdon Literary Club.

THE SOURCES OF THE POTOMAC.—No. V.

Winston, Alleghany County, Md.,
May 17, 1851.

I am writing this letter from a capital tavern, known far and wide over this country as the "*Mountain Retreat*," kept by Mr. Edward Towers, and situated on a beautiful slope of cultivated land, near the summit of the Alleghany mountains. But, before proceeding to speak of this place and vicinity as I intend, I must briefly record the substance of my observations since I left Beverly. The ride thither is some sixty miles in length, and for the most part through a cheerless and uninteresting country, both as regards the scenery and the fertility of the soil. Farms are indeed scattered here and there along the road, but they have, as it were, been whittled out of the solid forest, and are what the people of the West term dead clearings. The common log-house is almost the only kind of habitation here met with, and the majority of these are poorly and carelessly built. They usually contain but two rooms, one comprising the whole of the first floor and a garret, to which you ascend by a common ladder. With regard to location, however, these cabins are almost invariably upon agreeable and appropriate spots: sometimes by a spring in a lonely ravine of the mountains, sometimes by a rivulet on an elevated hillside, and sometimes upon the extreme summit of a mountain, with a grassy lawn around, whence may be seen a world of rank and rolling luxuriance, receding to the sky. The people are ignorant, so far as book-learning is concerned, but they are well supplied with common sense, and are industrious enough to deserve better success than the most of them enjoy. In religion they are usually Methodists and Baptists, and quite as consistent in their manner of life as the better informed in other sections of the country; and I deem it a singular fact that an execution for murder is said never to have occurred in the county of Randolph. The exports of this region in any branch of husbandry I should imagine to be extremely limited; the inhabitants seem to make it a point to live upon their own resources as much as possible. To hoard up money is by no means a ruling passion with the majority; if they can secure enough of the solids and really good things of life, they are contented and happy. To the extent of their means they are hospitable; and I have really imagined, from what I have seen of Virginia, that for a true Virginian to be compelled to be otherwise than hospitable would render him truly wretched.

About midway between Beverly and this place, the winding road by which I came crosses the Cheat river, and at this point I spent a very agreeable night as the guest of Mr. William Ewins. The contrast which his comfortable frame house, well cultivated farm, good collection of books, and pretty children, sporting upon a velvety lawn, presented, to what I had recently witnessed among the mountains, was quite refreshing. I found him a man of superior intelligence, and devoting himself to the making of surveying instruments, in which department of mechanical labor he is so much of an adept as to receive, in spite of his out-of-the-way residence, a good deal of patronage from the Baltimore and Ohio Railroad Company. The Cheat river, opposite his residence, is rather a large stream, and might, as he informed me, with little expense be made navigable to this point for keel boats. On my way from Mr. Ewins's residence to this place I met with only one incident worth recording; my bridle path led me for a considerable distance up a little stream of pure water, in one of the pools of which, while seated upon my horse, I caught no less than twenty-six trout.

And now for a paragraph or so about the *Retreat*, where I am spending a little leisure time most pleasantly. It is, in the first place, situated on the Northwestern Turnpike, and commands a most interesting view of a wild mountain land, broken, so far as the eye can discern, by only two cultivated farms, which resemble garden flats far more than they do extensive fields, where cattle might graze by the thousand. The air is salubrious to an uncommon degree, and the sunrise as well as the sunset scenes which may frequently be witnessed are imposing and beautiful. Among the many attractions of the place, or accessible therefrom, in the way of natural scenery, are the *Back-bone Mountain*, the *North Potomac*, and the *Falls of the Black Water*. The first is the highest pinnacle of this portion of the Alleghanies, and commands a view not only of a great world of mountains, fading, ridge beyond ridge, to the western sky, but also of that extensive and unique glade country watered by the *Youghiogany*. This mountain, distant some two miles, is covered with a luxuriant growth of oak and other hard woods, and affords as fine red deer and in as great abundance as any other part of Maryland: in testimony of which assertion, I may mention that in passing down one of its ravines yesterday I saw a herd of some twenty of these lovely creatures, and it was not long thereafter before my ears were saluted by a strain of rich and deep music from a pack of hounds, the baying melody echoing into the deepest solitudes of the old hills. And to those who can appreciate the ten thousand charms of a wild and clear and cold and rapid stream, winding and singing among the mountains, here is the Potomac, only half a mile away. The splendid career of this stream, through one of the richest coal mines of the world, through the gorge of Harper's Ferry, past the metropolis of our land, and by the sacred soil of Mount Vernon, had led me to imagine its fountain head to be something particularly interesting, and I have not been disappointed. Lovely indeed are the pools that here invite the bather into their amber bosoms, and, as to the trout which they harbor, these are almost as abundant as the pebbles of the stream. With regard to the Falls of the Black Water, a tributary of Cheat river, I have to state that they are distant some fifteen miles, and at the end of a particularly rough tramp, but will well repay the visiter for any fatigue he may experience. The stream is quite large, and the falls has been ascertained to measure upwards of fifty feet, and are nearly perpendicular. The waters of the stream are of a very dark hue, but translucent, extremely cold, and superabound in the finest of trout. Another attraction of the *Mountain Retreat* to the scenery-loving tourist, or those who may visit it for the purposes of hunting and fishing, or to invigorate their health by its pure air, is the character of the landlord's table. This is indeed all that could be desired by the lover of variety or the most fastidious; the viands are not only first-rate, but are placed upon the table in a manner which I by no means expected in so isolated a spot; and, what is more, the best of wines is always obtainable.

But this place is also an attractive one to those who have a taste for business, especially that kind resulting from the driving of cattle from Ohio to the Eastern cities. The farm attached to the Retreat contains some sixteen hundred acres, and (though rich in the two minerals of iron and coal) affords every facility for the feeding of cattle, and is consequently a resting-place for the Western drovers. At this very moment, as I look out upon the surrounding fields, I can discern here a herd of two hundred fat cattle, there a flock of five hundred sheep, and yonder a drove of four hundred hogs, all from the Ohio river, and bound to the Washington and Baltimore markets. The drovers are a unique class of men, dressing in homespun clothes, riding the best of horses, and remarkably sagacious in making bargains. Some of them are the owners of fine grazing farms on the Ohio river, raise their own cattle, and drive them to market; while others are merely speculators in live stock, buying and selling as best they may, and therefore spending the most of their time upon the road. The distances which they accomplish in a day with fat cattle vary from ten to fifteen miles; and I am informed that it is quite common for the drovers upon this turnpike to take their living merchandise even as far as the cities of Philadelphia and New York. Indeed, taking all things into consideration, I deem my present stopping place one of the most desirable in the whole State of Virginia for those who would escape from the pent-up city during the summer months, with a view of enjoying the country and giving new life to their physical energies.

THE PYRAMIDS OF GIZEH CONSIDERED ASTRONOMICALLY.

FROM THE LIVERPOOL COURIER.

The perusal of a letter addressed to Lord Brougham by Mr. Wild has directed our thoughts back to times of great antiquity, and to a land peculiarly interesting. Our attention has been specially drawn to those gigantic monuments, which now seem beacons warning us lest in our pride of learning and civilization we should forget that our days are fleeting and our highest attainments transitory.

Few questions have been more difficult to answer than those which have been ever and anon proposed respecting the uses of the pyramids. It is a matter comparatively of less importance who built them than it is for what purposes they were erected. While Herodotus and other ancient writers tell of Cheops and his successors, even in the historical accounts transmitted to us, the mind turns with dissatisfaction from the inquiry, who raised the smallest of the three at Gizeh? If Corinth had a Lais, Egypt had a Rhodope. "Hæc sunt pyramidum miracula," says Pliny, "supremumque illud, ne quis regum opus, miretur minimam ex his, sed laudatissimam, a Rhodope meretricula factam."

The uses of the pyramids appear to have been threefold, although ancient writers speak of them only as sepulchres. Plato, however, mentions their having served as gnomons. That, besides the purpose of sepulture, they were used by the priesthood in their religious rites there can be little doubt; and as in those days the priests were the learned, not only in their special vocation, but in the sciences, there is as little reason to doubt that these monuments bore a certain relation to astronomy. Apart from *prima facie* evidence, the calculations which have been recently made appear to demonstrate this opinion, and, in presenting an abstract of these computations, we have to acknowledge the letter already referred to.*

The Pyramids of Gizeh, nearly opposite Cairo, are raised upon a sort of terrace of limestone, of which the Lybian mountains are composed. They are the chief of all the pyramids, and of those standing three claim pre-eminence. The largest, or the Great Pyramid, was the first erected, and the others are situated near it. In some respects they are all equally interesting, for each confirms the opinion that their design was made subservient to a great scientific purpose, and that their geographical position determined to this end their relative proportions.

The first astronomical truth which flows out of an examination of these works is the fact that the earth's axis has not changed since they were erected. To this day the four cardinal points are indicated by their sides. Let us now examine what other scientific laws appear to have guided in their formation.

Suppose we draw a vertical section of any one of them, the figure will be an isosceles triangle. Now, it is interesting to observe that the angle of inclination of the side to the base, or to a perpendicular, is exactly such as allows the northern side to be illuminated by the sun's direct beams between the spring and autumnal equinoxes; the first impact of the solar rays upon that aspect being the day from which the Egyptians computed the commencement of their year. The Pyramids of Gizeh, situated in north latitude 30°, required for this end that the angle should be 30°, or half the complement of a quadrant; and it is so.

In this somewhat elementary inquiry, we thus find two grand uses of the pyramids—the indication of the cardinal points, with the deduction of the stability of the earth's axis, and the index to the commencement of the solar year. But these are not all. It was necessary that the meridian should be accurately determined; and much in the same way as we watch the transit of a star across the wires of the telescope do the Egyptians appear to have made the observation. The star nearest to the pole was the one most likely to be chosen, and it is in the northern side of the pyramids that we find the entrance.

A mere entrance, however, was not sufficient. It was necessary that the passage should incline like the axis of an equatorial telescope, or the axis of the earth; and in the pyramids examined this is the arrangement followed—the inclination of the entrance passages of the largest being respectively 26° 41′, 25° 55′, and 26° 2.′ Although this discovery is not new, it is important that it should be brought forward in connexion with others.

This angle is interesting in its bearing upon a fact pointed out by Sir John Herschel. The star which to us is nearest to the true pole (α Ursæ Minories) was not the pole star to the Egyptians; and this arises from what is termed the precession of the equinoxes—an apparent motion in the stars, slow but sure. Granting that nearly 4,000 years have passed since these mighty structures were begun, the influence of this change would be a very decided alteration in the longitude of the polar star. The largest in the constellation Draco, though by no means a very bright one, (α, equal to third magnitude,) would then approach nearest to that spot round which the starry sphera seemed to turn; and even then its polar distance would equal 2° 51′ 15″. Deducting this angle from the latitude of Gizeh, viz., 29° 59′ 15″, we find that the star in question must have then reached its lower culmination at an angle of 27° 9′, an angle which would enable an observer within the pyramids to watch its transit of the entrance.

We come now to consider another astronomical fact which may be proved by direct experiment, extending, however, over a lengthened period. We refer to the change which is taking place in the obliquity of the ecliptic. That this angle has been diminishing is proved by the observations handed down from the earliest epochs; and, making all allowance for the imperfection of instruments in these days, a certain degree of credit must be attached to the results transmitted to us. Eratosthenes mentions that the obliquity of the ecliptic two centuries before the Christian era amounted to 23° 51′ 15,″ and a quarter of a century ago Dr. Pearson computed it at 23° 27′ 44″. Reducing this to an annual mean rate, Mädler estimates the retrogradation of the tropic at 0.4758″—an extremely small, yet an important quantity; and this angle reckoned on the meridian is equal to 47.964, or very nearly 48 English feet, i. e. 28 Egyptian cubits. The importance of this fact in its bearing upon the astronomical uses of the pyramids will be immediately perceived.

By a most happy circumstance an Egyptian cubit was discovered in the temple ruins of Memphis, and this has thrown much light upon the measurements of those ancient monuments. This cubit, which is divided into twenty-eight equal parts, measures exactly 1.713 English foot; and it is not a little interesting to observe that this length multiplied by 28 gives exactly the meridional yearly retrogradation referred to. This retrogression of the tropics, amounting to 28 cubits annually, is of course equal to 14 in the half year; and the entrance to the great pyramid is exactly 14 cubits to the eastward of the mesial line of the northern aspect, the excess of the longer division of the base over the shorter being consequently 28 cubits, and the entire length 448 cubits.

Descending the entrance passage, we come to another, leading to the chambers, the inclination of which amounts to 26° 18′. Mr. Wild has pointed out that this difference between the angles of these passages, viz. 23′, is equal to the diminution of the ecliptic during a period of 2,900 years. We cannot, however, understand why this number should have been chosen rather than 25,000, which would have been very nearly a submultiple of the grand epoch when the complete circle of the precession of the equinoxes shall have been completed. So far, then, the relation between the angles of these passages may not be an astronomical symbol.

The two lesser pyramids appear to have served an equally important purpose. They are monuments, demonstrating by their dimensions, as powerfully as if it were written upon them in characters, that the Egyptians understood the retrogradation of the ascendant node of the equator in the ecliptic.

The entrance to the second pyramid lies 25½ cubits to the eastward of the mesial line, and, allowing a day for a cubit, it will be found that, in twenty-five days and a half, this node has retrograded 206 cubits in the equator, or half the length of the base of the second pyramid, and the entire length of that of the third pyramid, for the second is twice the length of the third.

The position of the entrance of the third pyramid is some distance to the eastward, giving an excess of 51 cubits to the larger portions of the base; and, as in the former case, allowing a day for a cubit, the retrogradation, during fifty-one days, is equal to 412 cubits, or the exact length of the second pyramid. The former of these retrogressions is equal to 3.5″, on the equator, (206 cubits = (206 ÷ 28) × 0.4758 = 3.5″,) and the latter amounts to 7.″ Extending this to a year, it gives a quantity equal to 50.13″, the ascending node completing its circle in a period of somewhat more than 25,800 years.

We have pointed out the way by which the commencement of the year was indicated; we now find that the second and third pyramids preserve the length of the tropical year.

The elevation of the Great pyramid above High Nile in 1837 amounted to 138 feet 9 inches, according to Colonel Howard Vyse. The foundation of the second is 33 feet 2 inches above that, consequently its base is 171 feet 11 inches, or 100 cubits above the river. Add to this the distance between the base and entrance, and the latter will be 124 cubits above the Nile; the apex of the pyramid rising above the same level 367 cubits. Now, keeping in mind that the tropical year of the Egyptians was 365 31.128 days, we have here, allowing a day for a cubit, and supposing that the level of the Nile is not lower than it was, an excess of nearly two intercalary days. Again, in the elevation of the entrance above the water of that river, allowing, as before, a cubit for a day, we have 124 intercalary days—exactly the number found in as many years as there are cubits in the base and its elevation above the Nile, viz. 512, or two raised to the 9th power.

Pursuing this ingenious inquiry, it is found that, allowing a year for a cubit in the perpendicular height of the third pyramid, viz. 128, or two raised to the seventh power, there will be as many intercalary days in that period as correspond with the fourth part of the elevation of the entrance of the second pyramid, viz 31. Making the latter number the numerator of the fraction, and the former the denominator, *i. e.* 31-128ths, allowing 365, which represents the days in the civil year, to be the whole number, we have 365 31-128 days, the length as previously stated of the Egyptian year—a period which coincided with modern calculations.

While the second and third pyramids determine conjointly the mean length of the tropical year, they point out, individually, the extreme limits of the same time; and, to preserve the unity of structure, which has become subservient to a great science, the relation of the base of the great pyramid to that of the second, measures the duration of the extremes, or rather the difference between these extremes. The difference between the bases of these monuments is 36 cubits, and astronomers have determined the difference between the maximum and minimum length of the year at 36 seconds.

Mr. Wild points out some curious relations between the bases of the pyramids of Gizeh and the regular heptagon, and passes to the consideration of the pyramids of Lisht and Meydoom, which stand respectively in north latitude 29° 38′ 16″ and 29° 26′ 50″, upon the same meridian. The interesting deduction derived from the position of these pyramids, as compared with those at Gizeh, is that they perpetuate the duration of the synodic month—i. e. the period between two consecutive lunar conjunctions or oppositions.

"If we divide," says Mr. Wild, "the distance between the two pyramids of Lisht and Meydoom into sixteen parts, and if we add seven such parts of this distance to the geographical latitude of the pyramid of Meydoom, we obtain, expressed in meridian degrees, the amount of days of the synodical month." And those numbers sixteen and seven are no random quantities. The former, as has been shown, equals the period of sixteen years during which time the retrogradation of the tropics on the meridian equals the length of the base of the great pyramid of Gizeh; and the latter measures in meridian seconds the length of the base of the second of those monuments.

Combining these numbers, as directed, we find the singular result, viz. 29d. 12h. 44m. 3s., which is only one-tenth of a second longer than the present synodic month.

"These monuments are, as it were, the books on which the learned priesthood of the Egyptians have written the results of their studies of nature, continued from one generation to another.

"Instead of writing scientific works, the ancient Egyptians have transmitted their knowledge in masonry.

"The key to these secret treasures will be found in the impartial application of the great resources which modern science presents to the learned inquirer—in the exact knowledge of the astronomical and meterological phenomena observable along the Nile; of the geological formation of the country; of the mineral, vegetable, and animal kingdoms of Egypt; and, finally, in the exact knowledge of the site, proportions, and arrangements of all parts of the Egyptian monuments."

The object of the present publication is to rouse the scientific world to the treasures concealed in eastern lands, and, if possible, to obtain the equipment of an expedition under the direction of Mr. Wild.

D. P. T.

* Proposals for a Scientific Exploration of Egypt and Ethiopia. By J. J. Wild, Engineer of Zurich. London, 1850.

IMPROVEMENT OF THE OLD VIOLIN.

FROM THE PICKENS (ALA.) REPUBLICAN OF MAY 10.

For more than two hundred years the Violin has remained unchanged. Improvements have been made in almost every other musical instrument, but the violin of to-day is the same in form, size, and make with the cremonas of 1660. In the seventeenth century the three Amatis were the most celebrated makers of the violin. Straduarius and Guarnarious succeeded these, and, great as has been their success, they have singularly lost sight of one of the first principles of the correct violin.

Sir Richard Philips, the collator of "A Million of Facts," says: "The violin is the form of instrument which all men would adopt when seeking to produce vibrations." Perfect uniformity, and an absence of any substance tending to impede the vibrations, are essential requisites to the production of a full, clear, mellow, round tone.

Our townsman, Mr. William B. Tilton, in experimenting upon an old violin, was struck with the idea of improving the sound, both in tone and volume, by removing the cause which, in his opinion, impeded the vibration. He made the attempt, and succeeded. Determining to test his improvement by the severest scrutiny, he took several of his improved violins to New Orleans, placed them under the inspection of the most eminent musicians in the city, explained the nature of his improvement, and received the highest assurance of the value of his invention.

To satisfy our own mind we left with Mr. Tilton an excellent instrument, with full authority to use it as his own in testing the improvement. The violin is well known in this place, and all who have heard its sound declare that it has been benefited at least one hundred per cent.

Mr. Tilton can improve any violin. Of course a fine instrument is capable of greater improvement than an ordinary one. He has experimented on some dozen or more, and has been completely successful in every instance.

Mr. Tilton has patented his improvement, and has been strongly advised by his friends here and in New Orleans to remove to some one of the large cities. If he follows this advice his fortune will be made.—*West Alabamian.*

The above (says the Republican) is no exaggeration of the wonderful and ingenious discovery which our fellow-townsman has made as to the means of increasing and improving, in both volume and quality, the tones of the violin. The subjoined extract from a letter to us, written by a very scientific musician in New Orleans, to whom we gave Mr. Tilton an introductory note, is confirmatory of the above statement of the West Alabamian, if it needed confirmation:

"New Orleans, April 4, 1851.

"Dear Sir: I avail myself of the present opportunity to speak favorably of Mr. Tilton's improvement.

"I confess I had strong doubts of its practicability, but nevertheless left myself entirely free to be convinced. The experiments he made here so far satisfied me as to induce me to permit him to attach the improvement to B.'s fiddle. The result has greatly exceeded my expectations.

"It will afford me pleasure, therefore, to use all the influence I possess in recommending it to the public notice and favor.

"Mr. Tilton feels such confidence in his invention that he challenges the production of any fiddle that he cannot improve one hundred per cent. He also challenges the production of fiddles of any body's manufacture, old or new instruments, cremonas or imitations, whether those rare and genuine *heirlooms* now and then met with and so highly valued, or their best counterfeits, with their 1660, 1698, 1716, &c. dates, to compare in the quantity and quality of tone, upon a fair test with some of his improved violins. We have no hesitation in predicting that this discovery will introduce a new era in the history of this most copious and exquisite of all musical instruments. The requisite measures have been taken to *secure* the invention, but letters patent have not yet issued."

Curious Medical Trial.—The case of Abraham Creveling vs. Jared L. Moore, tried last week in New York, presents some curious features. The plaintiff is a physician—the defendant administrator of the patient, Frances Cory, who died rich. The physician presented a bill for several hundred visits, at from $2 to $5 a visit. The visits of course extended through a series of years. Payment was refused on the ground that the charges were excessive. The testimony showed that the amounts were not settled during the lifetime of the patient, for the reason that the physician was a particular friend, who was provided for in the will of his patient. But the patient changed her mind in this respect, and left her property to the defendant.

In relation to the charges, it was shown by the testimony of respectable practising physicians that the profession is in the habit of charging high for services rendered rich patients, to indemnify themselves for services which they are called on to render to the poor and destitute. To this feature of the case the court in charging the jury said:

"One point in the evidence struck the Court with some surprise. It was said to be a rule among doctors to charge rich people a high rate of fees because the medical profession were obliged to attend a great many poor for nothing. The Court does not think this in accordance with fair dealing, although it may account for some discrepancies in physicians' bills. The jury must disregard this, and look to the value of the services rendered."

The jury retired and found a verdict for the plaintiff—damages $1,963 48.

Sad Accident—Four Lives Lost.—On Friday evening, the 16th instant, the iron bridge across Benson, upon the Louisville and Frankfort Railroad, about five miles from Frankfort, broke down while the large car in which the hands boarded and slept was crossing it; by which accident two persons were killed outright and two have since died. The bridge was of cast iron, a single span of one hundred and five feet. The supper had been prepared in this boarding car, which was itself nearly as large as the bridge, and the hands were pushing it across the bridge by hand, intending to sit down to supper as soon as they got it over. Just as the hind part of the car passed the abutment the main bars of the bridge broke short off behind it, and that end of the car fell to the water, the other end remaining upon the bars or opposite abutment, and making an inclination of some forty five degrees. Of course every thing in the car slid with a crash to the lower end. One of the workmen was crushed to death almost instantly. Mr. Edmund Bacon, of Frankfort, a worthy mechanic, who was standing upon the bridge when it fell, was thrown into the water and drowned. Two women who were in the cars were horribly scalded with some fifteen gallons of hot coffee which had just been prepared for supper, and have since died. One other workman had his leg crushed so that amputation became necessary. The injuries to one or two others were severe, but not dangerous. Several small children in the car escaped unhurt.—*Commonwealth.*

A LETTER FROM NIAGARA FALLS.

Editorial Correspondence of the N. Y. Express.

Niagara Falls, May 19.—I have paid my fourth visit to Niagara Falls, and each new visit has but enhanced the glory of the scene. I have before seen the Falls in the calm beauty of midnight, when the starry host crowned the waters with their sparkling gems of gold. I have seen them, too, when the evening mist rose from the waters, as if to show to the beholder that strange and beautiful spectacle, the spanning of the arch of the heavens by the light of the full moon. I have bathed, too, in the feathery spray of the American and Canadian fall when the waters seemed to roar above me like the music of the spheres. Now, after a lapse of a few years, all these wonderful creations of nature reappear with more glowing remembrances of the past, and all refreshed by new pictures and the sense of new beauties. The eternity of all time seems to be personified in such a scene. There was the same roar of waters heard a thousand years ago, and they will be heard for ages to come. The billows still roll on and tumble down from cataract to cataract, as they did when they forced their way, by the warring of the elements, from lake to lake. Here and there, but not oftener than once in a lifetime, the rocks and trees have given way before the ceaseless wearing of the floods. Trees with the marks of ages upon them, and rocks that seemed to have been laid by the Great Architect of the earth for the deep foundations of the world, have fallen into the gulf below; but so few are the changes of a long life, and longer traditions, that it is impossible, with a good reason, to realize the prophecies of those who have seen in the wonders of the present any certain indications of future change. Some argue, like Volney, that Lake Erie is to be drained of its waters through this everflowing channel; others, that Lake Erie and Lake Ontario are to be brought to a common level, and their waters mingled into one; and others still, that the wide-spread level lands of the Canadian shore, after the palisades are scaled, will become the bed of some new lake or sea, and many now think that these lands were once covered with water. But all such speculations to the visiter abstract the charm from a place like this.

It is enough of speculation for me to behold Niagara, the Thunder of Waters, to lie down to rest to the lullaby of its melodious music, and to be refreshed and awakened by the same sweet strains. The music loses its monotony in the consciousness of the great organic power which gives it, as it were, the inspiration of song. Next to the rolling thunder, which almost makes the beatings of the pulse echo back the music of the heavens, is the sound of the waters of Niagara, while the influences of such strains are as gentle and soothing as the breathings of the wind upon a flower garden. So, next to the lightning piercing the black clouds which sometimes hang from the sky, as if they were the thick curtains of night, is the sight of Niagara. Behold those Falls again and again, and each new view shall impart new interest. Look from the American to the Canadian shore—up from some sheltered point where the waters have fallen, or down from the dizzy heights above, where almost all sense of danger is lost even in the very midst of it—and we can realize something of this terrible power. The whirlpool and rapids forever bubbling and boiling above their rocky foundations, and driven to and fro by warring currents, excite almost a like amazement. It is awe and majesty all, and nowhere else have I seen such a demonstration of the great power of the Creator of the Universe.

There is also here as much that is calm and tranquillizing as there is grand and imposing. Some of the prettiest country in the world, and some of the most highly cultivated, may be seen from the observatories which have risen upon the field where the terrible battle of Lundy's Lane was fought. The orchards loaded with blossoms, the fields of wheat tipped with the deepest green, the vast forests extending towards the lake, the church spires rising as so many monuments erected by a religious people for the worship of God, happy laborers ploughing the fields, busy workshops; visiters exhilarated or subdued, according to their varied temperaments, and coming from all lands to behold a common object of interest; villages, whose pretty dwellings give evidence of taste and prosperity, the border of rival countries and yet of friendly neighborhoods, these are the good impressions of this portion of the country.

I cannot fail to read a moral in such a place. I behold the waters rolling along the shores of two countries for thousands of miles. I remember that the people sprung from the same origin; that they speak the same language; that they enjoy many rights and privileges in common, wide as may be the contrast in the enjoyment of other privileges. I see the shores of these two oceans linked literally in the iron bands of magnetic attraction, and held together by bridges of iron, owned in common by the citizens of each country. The waters which flow between these rock-bound shores, whatever their origin, have a common pathway.

"Like kindred drops they mingle into one."

Above and below Niagara, on the bosom of the Upper and the Lower Lakes, are seen the stars and stripes of America side by side with the Cross of St. George of England. All nature is harmonious, peaceful, and typical of the common beginning and destiny of the whole family of man; and what always deepens such impressions with me is that God here has perpetually set his bow in the clouds, spanning the American and the British shores, as if in token of that perpetual covenant of peace which ought always to keep us in the bonds of mutual amity and respect. I see in this misty arch, so rich and gorgeous in its coloring, so graceful and perfect in its circuit, so unusual in its location, so sublime in its figuration, that the mission of our country, and of all countries, is, like that of the great Divine Teacher, one of "peace on earth and good will to men." There is, therefore, a sermon in these wonderful creations of power and beauty, and well here, and almost for the first time, do I realize all of the religious contemplation of Wordsworth, when he sung:

"My heart leaps up when I behold
A Rainbow in the sky,
So was it when my life began,
So is it now when I'm a man,
So let it be when I grow old,
So let me die."

E. B.

Alleghany County Court at Cumberland, (Md.)—The labors of this Court ended on Thursday, after a session of four weeks and four days. During the term the following sentences have been pronounced by the Court: Michael Milan, for an assault with intent to kill, during a riot on the line of the Baltimore and Ohio Railroad, sentenced for six years; William Conly, five years; Timothy Flarity, six years; John Cain, five years; John Kelly, jr., five years; John Kelly, (Humpback,) six years: all for same riot.

In addition to the above, the Civilian contains a full report of the trial and conviction of *R. W. Clarke* for the killing of his wife. It appears from the testimony that he aroused the neighbors on the morning of the 29th of April, saying that on waking up he had found his wife dead; that he had slept in the same bed with her; but, on examining the bed, it was the belief of the physicians that it had been made up since any body slept on it, and that the wife had not died on the bed. She was lying in a natural position, with her hair smooth and her cap on, whilst her throat was black with the marks of having been strangled. A subsequent examination also rendered it certain that she had come to her death from strangulation. The prisoner seemed thoroughly hardened, and received his sentence of imprisonment for eighteen years without being affected in the slightest manner. The jury at first rendered a mere verdict of guilty, but, on being sent back, changed it to guilty of murder in the second degree. Clarke is about 30 years old, and a shoemaker by trade.

Lusus Naturæ.—Whoever can account for the following phenomenon must have partaken of some "Tree of Knowledge," that it has not been our good fortune to meet with. A very curious pear tree is to be seen in the garden of a Mr. Green, Gowanus, within a block or two of the entrance to the Greenwood Cemetery. Half the tree is at present in full blossom, and the other half merely in leaf. Every alternate year each side blossoms and bears fruit. The bearing side this year will yield an abundant crop of sweet fruit. The side that does not blossom this year will blossom and yield a crop of sour fruit the next year, and so on every alternate year. This has been the case since the tree first yielded fruit.—*Brooklyn Star.*

Trial of a Mail Robber.—The trial of Henry B. Kimbrough, a young man from Columbus, Georgia, charged with robbing the post office of a package of money containing six thousand dollars in notes of the Bank of Cheraw, in South Carolina, took place at Savannah on the 17th instant. The commission of the crime was not disputed, as the prisoner, immediately on his arrest, confessed his guilt, and delivered to the post office agent the amount which he took, with the exception of a few hundred dollars, afterwards refunded by his friends. The defence of insanity was raised, and witnesses were produced to substantiate the ground that the prisoner's mind had been previously impaired. The jury, after being out twenty-four hours, were unable to agree, and were discharged. A new trial will come on in August.