

BRILLIANTS.

The liberal are secure alone; For what we frankly give forever is our own. —(Granville.)

HOW GLOBES ARE BUILT.

The Process of Making Library and School Globes.

Our library and school educational globes have perhaps been a puzzle to many an inquisitive mind—they being so light, so easily turned on their axis, and so smooth as to appear more like natural exact productions than mechanical constructions.

The material of a globe is a thick, pulpy paper like soft straw board, and this is formed into two hemispheres from disks. A flat disk is cut in gores, or radial pieces, from center to circumference, half of the gores being removed and the others brought together, forming a hemispherical cup. These disks are gored under a cutting press, the dies of which are so exact that the gores come together at their edges to make a perfect hemisphere. The formation is also done by a press with hemispherical mould and die, the edges of the gores being covered with glue. Two of these hemispheres are then united by glue and mounted on a wire, the ends of which are the two axes of the finished globe. All this work is done while the paper is in a moist state. After drying the rough paper globe is rasped down to a surface by coarse sand paper, followed by finer paper, and then receives a coating of paint or enamel that will take a clean smooth finish.

The instructive portion is a map of the world printed in twelve sections, each of lozenge shape, the points extending from pole to pole, exactly as though the peel of an orange was cut through from stem to bud in twelve equal divisions. These maps are obtained in Scotland generally, although there are two or three establishments elsewhere which produce them. The paper of these maps is very thin but tenacious, and is held to the globe by glue. The operator—generally a woman—begins at one pole, pasting with the left hand and laying the sheet with the right, working along one edge to the north or other pole, coaxing the edge of the paper over the curvature of the globe with an ivory spatula, and working down the entire paper to an absolutely smooth surface.

As there are no laps to these lozenge sections the edges must absolutely meet, else there would be a mixed up mess, especially among the islands of some of the great archipelagos and in the arbitrary political borders of the nations. This is probably the most exact work in globe making, and yet it appears to be easy because the operator is so expert in coaxing down fullnesses and in expanding saucy portions, all the time keeping absolute relation and perfect joining with the other sections and to their edges. The metallic work—the equators, meridians, and stands—are finished by machinery. A coat of transparent varnish over the paper surface completes the work, and thus a globe is built.

The Petroleum Finds in India.

(Calcutta Cor. London Standard.) The government of India has received the reports of the preliminary examination of the oil-bearing strata which exist in the neighborhood of Sibi. The professional reports are of a character so decidedly encouraging that the government has determined to procure from England the necessary machinery for boring operations. These will begin next winter, and will be conducted on an extensive scale. If the results justify the sanguine hopes entertained the discovery will be one of no trifling importance, whether in relation to Indian industrial development or the solution of the Central Asian question. It will be remembered that the extraordinary richness of the oil wells round Baku has immediately stimulated trade enterprise on the Caspian, and has justified—on purely commercial grounds—the construction of the line, the strategic importance of which can not be doubted.

It would be a remarkable coincidence if, just at the time when Russia makes her presence felt on the confines of Afghanistan, a similar store of mineral wealth were found along the line which the Indian government have decided to construct toward Candahar. The demand in India for illuminating oils is already considerable, and no doubt on the Quetta railway, as on the Caspian lines, the petroleum might be used as fuel. In any case, there will be an influx of labor from India to southern Afghanistan, and an impetus will be given to communication between the two countries, the political bearing of which it is superfluous to indicate.

Names of Race-Horses. The nomenclature of race-horses is quite a study, and very curious names are found. In glancing over the entries of one day's racing at Washington park, Chicago, one may find "Chance," "Trouble," "Jocose," "Disturbance," "Pepper-corn," "Modesty" (a good winner, by the way, singular to state), "Fac Simile," "Wedding Day," "Beauty," etc. There are any number more peculiar than these. "Ghost," and "Ghost II," are quite prominent, and will not "down" at "Banquo's" bidding, having beaten him several times. The general public are more familiar with the names of noted trotters and pacers, and Wisconsin here steps in with Jay-Eye-See, Johnston and others nearly as fast.

Professor Hughes explains the phenomena of magnetism by a simple rotation of the particles of iron.

One of the things which it is never safe to do is to purchase a property with a lawsuit attached.

AT SAN PEDRO.

(Flora Haines Apponyi in The Argonaut.)

He saw her the first time in a Mission street car, and his impressions were not prepossessing. There was something too imperious in the quick wave of her hair as she signaled the car, and her very step was positive and aggressive. The perfect health which blossomed in her cheek, sparkled in her eye, and revealed itself in the easy carriage of a firmly moulded figure, in his sight possessed an element of unalloyed audacity.

David Woodbury had been in San Francisco only a fortnight, but he had already made up his mind, with the swift decision which sometimes characterizes Massachusetts men, that he did not admire the women of California. They were an innovation upon the type of womanhood to which he had been accustomed. The woman of his family and of his acquaintance had all partaken, more or less, of a certain delicate, spiritual cast, not uncommon among old England families. He reflected now, with an invalid's fretful persistency, that he could not recall one who had even remotely approached the buoyant health and generous physique of this girl.

For he was an invalid. His stalwart form and iron muscles had proved of no avail to resist the pitiless onslaught of hereditary disease, and the deceptive flush upon his cheek was but the presage of decay. Yet he had, so far, attained only the interesting stage of a sick man's existence, when the tender sympathy and concern of friends create a subtle separation between him and the outside world, and the nerves are easily jarred by contact with the unaccustomed or unexpected.

Lost in reflection, he failed to observe that a gray-haired woman, meanly clad and carrying a heavy bundle, had entered the car, and stood leaning wearily against the door. The car was closely packed from front to rear. There seemed a singular lack of the customary gallantry which appears to be a second nature to most Californians. Several newspapers were lifted higher, to shut out the appealing glance from their readers' lines of vision; a few men gazed stolidly through the windows. Several well-dressed women, occupying seats, smiled in a superior way.

There was a swift movement opposite. David Woodbury raised his eyes to see the old woman gently urged into the seat the young lady had vacated, and to be himself included in a scornful glance which swept the car from end to end.

Other men obstinately retained their seats in a very laudable effort to maintain consistency, but this Massachusetts man, feeling an obligation to vindicate his own gentility, in defiance of his bodily infirmities, arose and tendered his seat to the comely young woman. The courtesy was freely repulsed. "You must take my seat," he said, chivalrously. "I would not deprive myself of the pleasure for the world," returned the girl. The voice was a surprise—musical and vibrating, with intonations that he had been accustomed to associate with ideas of refinement and culture. But he at once assented that he had blundered. This dauntless creature, with the self-consciousness characteristic of western girls, had promptly attributed his courtesy to the influence of her charms. He writhed beneath the consciousness all the more because of his utter inability to defend himself. The very triviality of the episode rendered him powerless.

The recollection of this vexatious incident still pursued him six months later, when he returned from the Sandwich Islands, his fair skin tanned and burned by a tropical sun, but with health restored, and ready for a season of relaxation before returning to New England. He was at an evening party one night in March, conversing idly with a lady acquaintance, when his attention was attracted by a couple who had entered the room and stood chatting with the hostess. He saw a dignified elderly gentleman in the uniform of a military officer, and on his arm a queenly girl who might have stepped from some old-time picture. A shimmering robe of rich texture was draped with classic elegance about the graceful form; not a scrap of lace or patch of velvet marred the beauty of the costume; but in the folds of filmy tulle which covered the bosom a cluster of eglantine roses was hidden. A single diamond, in a setting of antique silver, gleamed like a star amid the waves of her abundant brown hair, and in her hand she carried a curious Inland fan.

David Woodbury's sensation was one of positive delight. With returning strength had come a new appreciation of the royalty of health, and he reveled in this picture of perfect womanhood. He thought of his sister, who had a mild enthusiasm for art, and for its sake loved the beautiful in nature, and wished she stood by his side that moment, and could feast her eyes on the scene before him; the lofty room, with its rich appointments, not more costly than tasteful, the wealth of tropical plants and blossoms making the air heavy with perfume, and in the foreground a glittering constellation, with this superb figure for its central sun.

panion halted a moment irresolute; then, realizing that he was for the time completely forgotten, with a compassionate smile for the frocks of San Francisco women, he continued his progress down town.

The little land and sea-locked port of San Pedro is oddly situated. Where the water has in past ages hollowed a crescent from the cliffs and then receded, years ago a little village was founded. Two miles north, on the crest of the cliffs, the last battle between the Mexicans and United States soldiers took place, and in a ghastly grave-yard, far from any habitation, repose the bones of the slain of one army, while out in the bay, on a rocky eminence called Dead Man's island, the dead of the defeated warriors found their sepulchre. One by one these graves have been rifled of their contents by the encroachment of the restless waves, until only a couple now remain, with a snowy cross above to mark their burial place. Half a mile to the south is another long, low stretch of land, with shores of glittering white sand, studded with curious pebbles and strewn with shells, to which a little steamer daily plies, as well as the distant mountainous islands rising like pale blue clouds far out upon the ocean, where earth and sky appear to meet.

The little modern town of San Pedro nestles in the crescent-shaped hollow facing the sea, with precipitous cliffs rising like steep walls in its rear, and embracing it north and south almost to the water's edge. The entire village lies so low that a tidal-wave of modest dimensions could with one mighty surge obliterate it from the face of the earth. But its quiet inhabitants dwell on in peaceful security, and many restless city people find in the quaint spot, so shut off from the everyday world, the repose and isolation which they annually seek as salvation from the wear and tear of petty cares. And so it has come to pass that every summer finds the homely little cottages overflowing with city guests, and the low ground at the north angle of the crescent and fronting the sea is dotted with gay tents all the season.

Here it chanced that one day in August, when the waves were lapping the shore with a sleepy surge, Stella Langdon and David Woodbury encountered each other. She was sunning herself on the sand, while her little sister built a naive fortress by her side. A looky lay untouched in the girl's lap, for the look of nature spread out before her was infinitely more enchanting.

He reverted at once to the occasion when last they met, for, struggling against the growing admiration he felt for this girl, with all the perversity of an obstinate man, he had converted even that incident into an argument against her.

"Miss Langdon, pray enlighten me. Of what philanthropic society are you a director?" "Of none, sir." There was unmistakable surprise and inquiry in her voice. But he went on in a quizzical way: "Then you are one of the hard-working members who do not accept offices, but preside over committees, and inaugurate fairs and carnivals—all for the purpose of enticing from the pockets of an unwilling public money for the support of establishments which are mere hotbeds for criminals and paupers."

"I do not understand you, sir." Her lips tightened and her eyes sparkled with a dangerous light. "Be honest. In the interest of what reformatory institution did you pursue that wretched little beggar we encountered on Pacific street a month or two ago?" "Mr. Woodbury, did you notice the condition of that child? When I took hold of her emaciated arm it seemed as if it would melt away in my grasp. Did you see the cruel blows the older child was raining upon her? And do you think a woman could pass by such a sight? I wish you had seen that home as I did. Two miserable rooms for a father and mother and seven children. The woman was at the wash tub, and when I told her why I had picked up the little mite, she burst out crying, telling her troubles in such a discouraged way that it made one's heart ache. The oldest boy and girl were at school, and there are five little ones—the youngest an infant at the breast, the next that sickly baby, and the oldest the 7-year-old child in whose care she had placed it that morning."

"Where was the father?" "He is only a poor laborer—sober and hard-working, she assured me; but his work is not steady, and his small wages are insufficient for their support. So the poor little things had to be neglected and sent out on the street to get the sunshine, while the mother toiled away at home, or sometimes went out with her baby to do a day's cleaning. The tiny girl we saw had been suffering with a severe cough for six months, and they could do nothing for her but watch her fade away before their eyes."

"What did you advise?" "I persuaded them to take the little one to the Children's hospital, where I have a friend—a noble, good woman who is—who is a director. There the little thing was put straight to bed, as she needed to be, and nursed day and night, as she could never have been at home."

most-grown rocks that lifted their heads above the sea at the ebbing of the tide, and over which the more venturesous had sometimes clambered, but every vestige of which was now effaced by the sea. The few men about stood dazed at the sight. No boat could make a passage of those sharp and treacherous rocks, and strong swimmers dared not breast the pitiless walls of the side, maddened to fury by its rocky barriers.

One man set his teeth firmly together at the sight. Years ago, in his college days, he had been a daring swimmer. Once before he had braved just such a sea to reach a boat which had overturned with three men. As David Woodbury threw off his coat, he remembered the parting admonition of his Hawaiian physician: "You are all right now, my boy; but guard vigilantly against any sudden shock or violent exercise of any kind."

He mustered all the nerve within him to meet and bear without recoil the plunge into the boiling element. Once breasting the waves his strength came back, and he battled with a vigor he had never known before. Flung now against some rocks, which bruised his limbs or tore his hands; now sucked down by some eddying current, which all his strength only sufficed to conquer; now faint with the shock of some mighty incoming breaker, he reached, at last, the rock where a little girl clung in fright, and took her in his arms and soothed her till her wild sobbing ceased. He bethought himself then of what he had not recalled before—that between this rock and the breaker, which afforded a safe retreat to shore, lay a comparatively open stretch of sea. And so, plunging again into the water, carefully supporting the little one, but swimming with long, masterly strokes, he bore his precious burden safely, at last, to shore.

As he stepped upon the beach, Stella Langdon met him with outstretched arms. Silently he placed the child within them, and she received it without a word; but he was strangely stirred by the one full look that fell from her brown eyes like a benison upon him. A hero in dripping garments, he stood among the idlers upon the beach, all deeply moved, as even shallow natures will be, by the sight of a truly gallant deed.

He tried to meet their effusive praise with only indifference, to make light of the peril through which he had passed. But a choking sensation in his throat overpowered him; a weakness, which was more than the faintness of exhaustion, seized upon him; and it was not sea-water that gushed in a crimson flood from mouth and nostrils.

Stella Langdon, sitting within her tent, and softly crying over her little sister as she removed her wet garments, lifted her face with a sudden pallor as she heard the measured tramp of men carrying a heavy burden, and a voice saying, regretfully: "Poor fellow! He's done for this time."

The season at San Pedro was unusually prolonged that year. More than one party of campers lingered on, both to leave while the life of this brave young fellow hung in the balance. The Langdons lingered among the rest, and when, one day late in September, David Woodbury finally emerged from his tent, walking somewhat feebly at first, he did not disdain to stay himself a little by the noble strength of the young girl whose arm he had taken.

Slowly they strolled along the beach, and various gay groups nodded smiling approval as they passed. He drew her at length to a little nook in the cliffs sheltered from the wind. Below them great breakers beat their selves upon the rocks with a sullen roar. The sharp outlines of the mountainous islands in the distance were veiled in a bluish mist. Far on the horizon the white-winged sails of an incoming ship could be descried. Some rare bird, with golden plumage, wheeled down over the cliffs, and darted, swift and sure, to its nest in a lily-patch bush, clinging to a cleft in the rocks.

SHERMAN AT ATLANTA.

Scenes Along the Lines of Circumvallation in 1864. (Philadelphia Times.)

For many days the siege continued, and it seemed as if there would be no end. Men became very weary of it and endured the cannonade as best they could. At daybreak, ordinarily, the booming of cannon began and screeching shells sailed through the air with hideous noise. Not many soldiers were hit with these missiles, but they had the power of making men feel more nervous than anything that could be done to them. After the shells struck the ground, unless they burst at once, there was no great danger, as the soldiers got out of the way or threw themselves on the ground, and were measurably safe. The round shot did no particular damage and the artillerists reserved their grape and canister for closer quarters. Apparently the artillerists enjoyed this, as it was a tribute to their skill, and nobody else was specially elated and rather wished the affair was ended. I could not see how the Union troops were ever to get possession of this important place, so well situated in the very heart of the Confederate states, and there was a dull and dangerous drag, day after day, with very little to break the monotony or relieve it of its tedium, so wearing upon military men.

In order to ruin as much ammunition as possible for the Confederates, our commander gave orders that at a certain hour after dark the "charge" should be sounded, but the soldiers were to keep well back and under cover, not showing themselves to the enemy. They would think of course that our whole line was advancing directly upon them with fixed bayonets, and in consequence expend their ammunition in the most reckless manner upon us. Everything was duly prepared and all the necessary precautions taken against the effect of their shot and shell. The baggage wagons were kept well to the rear, and all horses, mules and draft animals so placed that the shot would not reach them. The cattle herd was driven to a secure place, as fresh beef was a luxury duly appreciated by us. The parapets were strengthened where most needed, and the rifle-pits for the men deepened so as to afford good shelter.

On the night of Aug. 7, I think it was, but am not positive, this scheme was carried into effect and proved as successful as could have been wished. A short time after dark the drums in every regiment were furiously beaten and the bugles and trumpets sounded the "charge." There was a deafening din and a few moments afterward the noise from the Confederate works exceeded anything that can be imagined. Great guns and little guns flashed and pealed from the Confederate earthworks, and the United States army never rested under a more tremendous hail of shot, shells and bullets of every description. It was, an old soldier near me expressed it, "as if hell had broken loose and was vomiting its contents upon us." The noise was deafening, the roar tremendous and the streams of fire through the air sublime beyond description. There was a rain of leaden balls that dropped freely in every direction, and we unto any luckless soldier who endeavored to stand up against it.

Of course the Yankees laughed at this effort on the part of the enemy, and felt well satisfied at seeing them throw away in this reckless manner the tons and tons of missiles which had taken them so long to manufacture and at such great cost. As much ammunition was used as would have been used in an ordinary battle, the firing having been kept up all full hour. Many of the Confederates themselves believed the Unionists had advanced in force against them, and were not unduly until the following morning. The greater portion of them, however, soon became convinced as to the way matters stood, and ceased firing of their own accord. Their curses were loud, deep, and long-continued against the Unionists for this new-fashioned scheme of deception that had been practiced upon them, and they did not soon forget it.

Our men took good care to keep out of the way for some time after the firing ceased, though they laughed heartily at the discomfiture of the enemy. The Confederate batteries had been plied as rapidly as possible, and the infantry regiments seem to have vied with each other in seeing which could expend the greatest amount of powder and lead. From Decatur clear round to Ezra church our people kept watch and ward, and all understood the wonderful demonstrations that took place on this historical arena on the night described. But few of our soldiers suffered from the firing, though, of course, there were some few whose curiosity got the better of their judgment, and were stricken by the leaden downfall. There was not a true Union man who did not rejoice at this fearful cannonade, the armies of the Cumberland, Tennessee and Ohio, forming the military division of the Mississippi, exulting at it and wishing the Confederates had thrown away even more shot than they did. From the strapping to the graybeard they all realized that the Confederates were getting rid of bullets, which, if kept on hand, might find a judgment in their own bodies or those of their friends. The Confederates felt rather cheap over the affair, though we had no chance to question them closely, as we were not at that time very intimate with them.

The Girl and the Bovin. (Hartford Post.) A young lady from New York, who is visiting friends in Wethersfield, saw a yoke of oxen going by the house, and said: "Oh, how I would like a good fresh drink of milk from those cows!" She is mortally afraid of cows, and coming on one suddenly one day she was too frightened to run; so poking her parol at the beast, she stuttered out, "Lie down, sir; lie down!"

Contemplate a Man. (Burlington Hawkeye.) Telemachus, don't let me hear you laughing at a woman again because she can't sharpen a pencil. When you want something in that line to laugh at, do you just contemplate a man cutting out a paper pattern with a pair of scissors, by the united efforts of his right hand, lower jaw and two-thirds of his tongue

The Indian Fourth of July.

(W. P. Hooper in St. Nicholas.)

The Fourth of July morning I shall never forget. We were awakened by the most blood-curdling yells that ever pierced the ears of three white boys. It was the Indian war-whoop. I found myself instinctively feeling for my back hair, and regretting the distance to the railroad. We lingered indoors in a rather terrified condition until we found out that this was simply the beginning of the day's celebration.

It was the "sham fight," but it looked real enough, when the Indians came tearing by, their ponies seeming to enter into the excitement as thoroughly as their riders. There were some five hundred in full frills and war paint, and all giving those terrible yells. Their costumes were simple, but gay in color—paint, feathers, and more paint, with an occasional shirt.

One little boy, whose name was Shake-to-pa (Four Nails), had five feathers—big ones, too—in his hair. His face was painted; he wore round earrings, and rows of beads and claws around his neck; bands of beads on his little bare brown arms; embroidered leggings and beautiful moccasins, and a long piece of red cloth hanging from his waist. In fact, he was as gayly dressed as a grown-up Indian man, and he had a cunning little war-club, all ornamented and painted. For weapons, they carried guns, rifles, and long spears. Bows and arrows seemed to be out of style. A few had round shields on their left arms.

Most of the tepees had been collected together and pitched so as to form a large circle, and their wagons were placed outside this circle so as to make a sort of protection for the defending party. The attacking party, brandishing their weapons in the air with increased yells, rushed their excited and panting ponies up the slope towards the tepees, where they were met by a rapid discharge of blank cartridges and all round. Some of the ponies became unmanageable, several riders were unhorsed, and general confusion prevailed. The entrenched party, in the meantime, rushed out from behind their defenses, climbing on top of their wagons, yelling and dancing around like demas. Added to this, the sight of several riderless ponies flying wildly from the tumult made this sham fight have a terribly realistic look.

A Crazy Time for Everybody. ("Betsy Hamilton" in Atlanta Constitution.) "That is a time in everybody's life when they are crazy; least ways they get beyond themselves," says Uncle Ezekiah, "and with some folks it ingenerates when they marries."

He was turrible put out about Malindy Jane Trotman a-marry'n' of Jake Loftis. As he sot and whittled his stick he lowed: "Yes, that comes a time in everybody's life when they are crazy, and Malindy Jane's time had come. I reckon."

Well, it hears like it's so, and craziness is ketchin' jist like the measles and yaller janders and sich as that, for let a new thing come along, and everybody goes crazy over it; a new fangled patent, that, that and tother—a chub or sump'n er that sort, and everybody thinks they've got to buy it. One buys it kase tother'n does, and here the churn goes tel every house has got it, whether they've got a cow or not. Sometimes the women folks all gits started on one thing; for n'instance a certain patron for a quilt. They have even went so far as to name a quilt "the crazy quilt." It's nothin' on the yeth but the old "hit or miss" patron with a new name, but if ever a quilt has the right name, hit's got it, kase the pieces is not only sot in crazy fashion, but folks is all a gwine crazy over it. You can't go nowhars now without seein' somebody a piece'n of a crazy quilt, and if they start on knit lace, or darn net work, or tatin' it's the same way. They all goes crazy tel they gits at it, and stays crazy tel the spell wears off'n 'em, and they take up sump'n else. If they aint crazy about one thing hits tother, and the women haint by themselves nuther, and the men folks haint got no room to laugh, for they are jist as bad. They are all crazy now about walkin' matches. Some of 'em are plum ravin' distracted over it, has done quit ther work and tuck to walkin' for wages and tothers to watch 'em. Pop used to tell me when I was gwine hard as I could stave: "Betsy, you walks pine blank like you was a walkin' for wages;" and I never knowed what it meant tel I hearn about all these here walkin' matches that's gwine on.

The Nations' Narcotics. (Globe-Democrat.) Every nation or race has its narcotic. The natives of Siberia have fungus answering their wants; Turkey, India and China cultivate and use opium; nearly all Mohammedan peoples, including the Indians, Turks, Persians, Arabians and Africans, have hashish or some substitute for it; the natives of Hindoostan and many other parts of Asia have the betel nut or betel pepper; the Polynesian have ava; the Peruvians smoke the New Granadians the thorn-apple; the Spaniards their lettuce; the whole world its tobacco.

Besides these already mentioned, there are quite a number of other narcotics used in various parts of the world, the Indians of Florida having an emetic holly, and Scotland having the nightshade. This plant is historic, for according to Morchouse, a Danish ardent of the time of Sweyn was made unconsciously drunk by the Scots furnishing them liquor that contained an infusion of this herb, and they thus fell an easy prey to the Highlanders. In short, so extensive is the variety and so wide the geographic distribution of narcotics is one form or another that it would seem as if they were intended for some good use, though the tendency there is far to abuse rather than to render them of any benefit as a medicine.

Precaution Against Fire. (Chicago Herald.) In the opera house in Munich and Vienna water curtains have been constructed. This curtain consists of a wide, thin stream continuously poured upon the top of the stage between the acts, completely inclosing the stage in transparent curtain, and it is owing to this precaution that a recent fire which broke out during the performance of "Tannhauser" was choked immediately.