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What Next?—Flying.

After the successful laying of the Atlantic Cable, some are beginning to inquire "Well, what new and wonderful invention shall we have next?" There are others again, who appear to have come to the conclusion that we have arrived at about the end of new inventions. They express themselves somewhat as follows:—"We have steamships bridging the seas, locomotives meeting the wants of rapid travel on land, and telegraphs completing all that has been lacking for communicating between distant places; therefore we do not see what more can really be done."

These foggy individuals seem to conclude that we have reached a millennium of perfection in invention. The truth is, however, that past inventions but pave the way for new discoveries—each new invention is but the ignition of another torch to illumine the path of progress. It is, no doubt, difficult to point out the field which presents the most inviting prospect for future investigation, but we have received a letter from a correspondent who asserts that the next thing which must be accomplished is flying. "Since the whales and porpoises have been astonished with the Ocean Cable," he declares, "we are now bound to astound the gulls and eagles." We certainly wish him success, and hope he will be enabled to accomplish his elevated object; but the history of the past does not promise much for the future success of human flying, even with the aid of wings, balloons, and all the helps of modern science.

Our correspondent proposes to build a large conical balloon, and propel it with wings, using steam power for this purpose. With such an aerial apparatus he intends to navigate the blue ether above, as safely as the frigate *Niagara* plows through the blue fluid below. The aerial ship devised by our correspondent, however, happens not to be new; a similar one was illustrated in our first volume. To others, as well as to himself, who may be indulging in such lofty visions, we must tell them that safe, practical and economical aerial navigation never can be rendered successful by any application of known powers. This subject has engaged the attention of inventors for hundreds of years, and although many successful balloon experiments have been made, yet ballooning is not flying. The art of flying consists in moving with perfect freedom and command in the atmosphere. Will human beings ever be able to do this? Some enthusiastic inventors—as many letters received by us testify—believe it will yet be accomplished. If some new power a hundred times more compact than the steam engine were discovered, it might be so applied as to render flying probable. The reason why birds fly is not because of their feathers, as some suppose, as each feather is heavier than an equal bulk of air, but because birds have a very concentrated power in their muscles, by which they are enabled to sustain themselves in the atmosphere, by opposing a counter force to that of gravity.

It would indeed be a most pleasant consideration, were we able to snap our fingers at railroad conductors and steamboat captains in going upon a distant journey, just by taking wings, mounting and soaring away in a *bee line* for the place of our destination; but until some new and grand discovery is made of the character alluded to, it is vain to speculate. When it is taken into consideration that it requires about 2,240 cubic feet of gas used for a balloon to raise and sustain a man weighing 140 pounds, it is easy to conceive that with known means (steam power or any other), mankind are yet far below the possibility of flying, but unless men try they never will fly.

Our Cotton Crop.

Cotton is the most important natural product in the world having a bearing on manufacturing operations, and the magnitude and influence of an American cotton crop commands the attention of all civilized nations; a deficient or abundant crop causing a rise or fall in its price, and affects the interests of millions of capitalists and artisans in every quarter of the globe. To our cotton fields they look with anxious attention, as upon their prosperity they are dependent for business, and the means of subsistence. From a table just prepared with great care at the office of the *Shipping and Commercial List*, this city, we learn that our total cotton crop for the year ending last month (August) amounts to 3,247,000 bales, an increase over that of the previous year by more than 100,000 bales; but it does not come up to the crop of 1856. During the past year prices have been very fluctuating, owing to financial difficulties and the embarrassments of manufacturers; but the wheels of manufacturing industry are moving rapidly again, and a very good business is doing at fair prices. Cotton is our great national staple for export, and upon it foreign manufacturers are absolutely dependent. Of the total crop of last year, 2,590,455 bales were exported, Great Britain taking no less than 1,809,966 bales. The rise and progress of American cotton as an article of culture, merchandize, and manufacture, is marvelous. Only a few hundred bales were raised for home domestic manufactures when the United States became an independent nation; now American "cotton is King," and rules in the marts and cabinets of nations.

The Architecture of our Cities.

It amounts nearly to a crime in the estimation of a true artist, when a bogus architect or masonic workman cuts one of the beauteous stones which are everywhere to be found, in inelegant or ungraceful forms—the marbles, with their clear positive colors, and veins of other mineral variegating their surface in such bold and independent lines—the porphyries, polished, classic and enduring—the granites, speckled with their red or black feldspar, white quartz, and shining mica—and yet there are so few artists among us, or we are so eminently practical that one can enter few American cities without having his notions of beauty, harmony and poetry offended by the shanty arrangement which everywhere meets his view. In Europe, the architect is a man of genius, an artist, one who studies the forms of the antique, and tries to reproduce them in the beautifully useful, such as a railroad station, as the Great Western, in London, where iron and stone have been blended with harmonious result, or others where brick and stone have attained a like end. But unfortunately for these fine structures, they have so little room and they are so crowded up, that it is impossible to see them. The grandeur of a city should consist in the regularity of its design, giving it a solid and business-like appearance. This is totally disregarded by our builders, for walking down a street in New York, we observe first a really handsome cast-iron building full of grace and elegance and painted a light reddish-brown, the style is warm and pleasant and could be made an ornament to the city but for one single fact. The adjoining buildings erected nearly at the same time are, although individually noble, collectively a mess, for one is cold and classic marble, without decoration, and the other a glaring red sandstone with heavy lintels, cornices, curbs and parapets, and so these three handsome buildings are made to spoil a street because there is a want of uniformity in their architectural proportions. It is little matter what be the material of which the stores or houses are built, or what be the style of architecture, so long as the material and style are consistently carried out, and if they are, the result must always be harmony and beauty. In our own Broadway we have more elegant buildings than in any other one street in the

world, but as they are mixed up like tickets in a ballot box, Grecian, Doric, Norman, Saxon, Italian and Shanty, marble, granite, sandstone, limestone, iron and clapboards, no effect is produced, and all the beauty is lost, through the incongruity of their arrangement.

Would it not be as well for the authorities of our cities to have not only plans of our streets which are to be followed, but also suggestions to land owners for a prevailing material and architecture; such a measure could not be otherwise than beneficial and every one who had the interests of his city at heart, could not fail to coincide in such a design which would promote its beauty and attractiveness to the stranger.

The Novskoi Perspective in St. Petersburg, is perhaps the most elegant street in the world, from the simple fact that it is wide, and the lines of the buildings fall in with the vision, making it, as its name implies, a perfect lesson in perspective to the humblest *droschky* driver who drives along its pavement. We would have streets like this in America, for a handsome street is a great civilizer and humanizer, and realizes Keat's sentiment that "A thing of beauty is a joy for ever".

Origin of the Atlantic Telegraph.

We have received from Professor Jackman, of the Norwich University of Vermont, a copy of the *Vermont Chronicle*, containing a communication of his, originally published in the *Vermont Mercury*, in August 1846, in which a Transatlantic Telegraph between England and America is recommended. The plan, as detailed in this communication, although more definite than others claimed to have been suggested anterior to this date, is yet impracticable in character, and does not in any manner take from Gen. Hubbell the credit of first pointing out the existence of the plateau or table land between Newfoundland and Ireland, in connection with the cable now laid upon it, and in fact suggesting the only mode, means and location, as we asserted, of carrying the cable across the Atlantic Ocean. Before penning our article, we were aware of the fact that many persons had made statements on this subject as early as 1843, but as they were of an indefinite character, and simply conveyed a belief that a telegraph would in time unite the shores of Europe and America, we did not think it worth while to mention their authors, any more than we would if aerial navigation were consummated, mention the name of the thousand and one persons who are daily making predictions of its ultimate success.

The plan of Professor Jackman, was in substance to cover the wires with india rubber and encase them in lead tubes, as had been previously done across the East River, and pay them out from two vessels starting from a suitable point mid-ocean between Liverpool and Boston. The only practical, and original feature about this plan is, that of commencing to pay out the cable at a point mid-ocean between the places where the termini were to be landed. For this Professor Jackman is deserving all due praise, as we think that this system of laying a long submarine cable is preferable to the one adopted by the Atlantic Cable Superintendents, upon their first unsuccessful trial in 1857. Our theory however is, that without covering the wire with gutta percha as suggested by Mr. W. Reynolds, of this city, and laying it on the plateau or table land as originally pointed out by Gen. Hubbell, of Philadelphia, a transatlantic telegraph cable could never have been successfully laid and insulated, and made to answer the purpose of its design.

Scientific Lectures.

The winter evening lecture before our lyceums and literary associations has within the last few years, in all our larger towns and cities, become an established institution, and no more pleasant or profitable plan for diversifying the pursuits and occupations of our long indoor season could be well devised. To one feature of our present lecture system we have a serious objection. They are too exclu-

sively literary, and have too much for their object amusement and entertainment rather than instruction. Science, especially, fails to receive that attention which its importance and relations to every-day life demands. The reason for this in part is doubtless that there are but comparatively few good scientific lecturers in the field, and these are not always readily engaged. No town is, however, absolutely destitute of resources of this sort, inasmuch as every workshop and manufactory is capable of furnishing intelligent mechanics, thorough masters of their profession, who with a little encouragement, could profitably discourse for an hour to any audience, however select, and wherever assembled. In default of these, we would recommend the following gentlemen, all of whom are capable of handling a scientific subject ably and popularly, and of affording their hearers abundant materials for thought and reflection—Professor N. B. Rogers, Boston; Dr. J. V. C. Smith, do.; Professor B. Silliman, Jr., New Haven; David A. Wells, Troy, N. Y.; E. L. Youmans, Saratoga, and P. Boileau Jones, Brooklyn, N. Y. No course of lectures ought to be made up without devoting at least three evenings to the discussion of scientific subjects by some of the above-named gentlemen. All of them may not possibly be open to engagements. Some of them we know are. Mr. Youmans is always in the field. Dr. Jones will lecture in the vicinity of New York. Mr. Wells has heretofore declined invitations, but we believe can be secured for the coming winter, and no one is better capable of rendering a matter of science both intelligible and interesting. But a lecture from any of the above-named gentleman will be worth a dozen of mere literary disquisitions, or a *resumé* of historical subjects, with which all are more or less familiar.

The Atlantic Cable and the Evening Post.

In the last number of the *SCIENTIFIC AMERICAN* we criticized, in respectful language, some observations made in the *Post* upon the Atlantic Cable. It has suited the convenience of the editor to indulge in an unmannerly reflection upon us because we had the temerity to call in question a mere hypothesis set up in his journal as the probable difficulty in operating the cable. This hypothesis we regarded as no useful information, and treated it as such, without intending to ruffle the temper of the editor; and we are confident that any electrician of repute will endorse our position.

The editor of the *Post* charges that we have "flippantly" spoken of "articles." Now we beg to assure him that we have done no such thing; we simply spoke of a single article from which our extract was taken, as the basis of our remarks; and we further beg to assure him that the article he speaks of as likely to benefit us, is, in our humble judgment, of no practical value; and we have no idea of casting aside an acquaintance of fifteen years with this subject to enter into a school of visions and theories.

Death of George Combe.

The English journals announce the death of Mr. George Combe, the celebrated champion of philosophical phrenology. He was born in Edinburgh in 1788, and was educated for the profession of the law. At an early period the opinions of Gall and Spurzheim attracted his notice, and he studied them with great industry. In 1819 he published his essays on phrenology, and in 1828 he published his work entitled "The Constitution of Man considered in relation to External Objects," which led to a fierce controversy, Mr. Combe's views being obnoxious to the orthodox party. In 1838 he visited the United States, where he remained lecturing and preparing his journal until 1840. His works had an extensive circulation in the United States, as well as in the British islands, and translations of them have been made into French, German and Swedish. The later years of his life have been marked by very infirm health.