

and the same conception might be adopted with respect to the art of milling, preparing grain, and making bread.

It is sometimes affirmed that there is no science of political economy. Such an exhibition as I have sketched in this somewhat visionary way would show in a concrete form the very object-lessons with which the political economy must deal; and I think one would soon predicate on the record of the past four centuries the possibilities of the next, yet it has only been within the last century that covers the existence of this nation that the chief part of this progress has been made. This has been the century in which an abundance of metals, which lie at the foundation of all arts, have been placed at the disposal of the science of metallurgy. It has been the century in which heat has been converted into power by methods which are even yet crude and imperfect; it has been the century in which time and distance have ceased in a great measure to obstruct the mutual services on which human welfare depends. We stand at the beginning of the century in which known agencies or new directions of energy—new inventions of which we can only dimly perceive and forecast in the future—will alter, change, and ameliorate the conditions of men in even greater measure than the inventions of the past, the only conditions precedent and necessary to such progress in welfare being that there shall be commensurate progress in the general intelligence of the people, especially of those who are chosen to legislate for them, equal in its measure to the progress in the arts.

Therefore the final objective point of this proposed exhibition of 1892 might well be to make it an object-lesson illustrating the interdependence of men and of nations, and their power to serve each other, in all the arts of peace which make for plenty. . . . It goes without saying that if any such comprehensive plan should be undertaken, a specific call would be made upon each State to make an exhibit of its power of serving others, by bringing together its minerals, its timbers, and the products of its soil and its forests, in a thoroughly systematic way,—after the manner of the exhibits of Kansas and Colorado in the Centennial, and after the manner of the exhibits of the Southern minerals and timber at Atlanta.

ELECTRICAL NEWS.

ATMOSPHERIC ELECTRICITY. — A study of the electric phenomena produced by solar radiations was presented at a meeting of the French Academy on Aug. 5 by M. Albert Nodon. Numerous observations made at the laboratories of the Sorbonne and the Collège de France show that on meeting an insulated metallic or carbon conductor the solar rays communicate to it a positive electric charge; that the amplitude of this charge increases with the intensity of the rays and decreases with the hygrometric state of the air, the phenomenon attaining its maximum value in Paris about 1 P.M. in summer, when the atmosphere is pure and dry; lastly, that the effects cease during the transit of clouds across the face of the sun. If these results can be extended to non-metallic bodies, then solar radiation may be regarded as one of the causes of the electrization of the clouds.

A NEW LAMP. — M. Henri Pieper, of Liège, has just invented a new incandescent lamp of very simple construction. It consists of two horizontal rods of copper placed about four millimetres apart. A thin pointed rod of carbon, placed vertically, rests on the copper rods and forms a bridge between them. The current passes between the copper rods through the carbon, which it renders incandescent. The copper rods are mounted on springs, which cause them to rise slightly when the carbon is totally consumed, and bring them against two contact pieces, thus preventing the rupture of the circuit.

HEALTH MATTERS.

THE KOLA-NUT. — The value of the kola-nut (seeds of *Sterculia acuminata*) as a dietetic and therapeutic agent has been recently tested by surgeon R. H. Firth, according to the *Lancet*. These nuts are allied in composition to cocoa, coffee, and tea, but contain a relatively large amount of caffeine. The properties ordinarily assigned to kola are those of a strong tonic and stimulant to the nervous system, counteracting and removing the sense of

exhaustion after fasting and fatigue; it has also been credited with having an antagonistic action to alcohol, and it has been said to purify water. From his observations surgeon Firth concludes that kola is in no sense a food; that it increases the total urinary water with a slight reduction of its total solids, and a marked reduction of the extractive; that it has a peculiar stimulant action on the nervous system; temporarily strengthens the heart-beat, and increases the arterial tension. In times of exertion and fasting it wards off the sense of mental and physical depression and exhaustion. As a therapeutic agent in convalescence, and as an antagonist to alcoholic sequelæ, kola has not yielded any positive results in surgeon Firth's hands. For the purification of water it does not appear to be superior to other mucilaginous seeds, its action being purely mechanical. In this report due prominence is given to the importance of separating seeds which contain no caffeine, such as *Garcinia kola* and *Sterculia cordifolia*, as these would speedily discredit the employment of kola by the troops under conditions when it might possibly be of service. It appears that an infusion, from its astringent action, might be used for those suffering from diarrhœa.

NEAR-SIGHTEDNESS. — Dr. Duclaux has communicated to the Academy of Sciences, in the name of Dr. Boucheron, says the Paris correspondent of *The Medical Record*, a note relative to hereditary myopia and its treatment in adolescence. The children of myopes are not born myopes; they become so, but at an age more and more young, according as generations succeed. Thus, a grandfather who became myopic at twenty years, having a son myopic at fifteen years, they would both have a slight myopia, and would be able to read without spectacles in their old age; but their grandchildren will become myopic at twelve years, and will already have been so to a great degree. The great-grandson will be a myope at eight years, will arrive at six dioptries of myopia at fifteen years, at eight dioptries at thirty years, will lose an eye at thirty-five years, and will have great difficulty in preserving his second eye to the end of his days. It is therefore necessary that this state of things should be more rigorously attended to. Dr. Boucheron remarked that in children somewhat the same thing happens with the muscles of the eye as what occurs in writer's cramp. The child strains in writing, contracts himself, and there is produced cramp of the accommodation of the eye, and this abnormal accommodation tends to become permanent in myopic pupils. Dr. Boucheron examined one hundred lycéens, and took the measure of their myopia. He instilled atropine into their eyes, and their myopia was modified. Hence, beyond the principles of hygiene, so easy to institute, he recommends the employment, in feeble doses, of atropine, duboisine, or simply cocaine.

EAU DE COLOGNE TIPPLING. — It is said that the practice of drinking cologne is becoming very common both in Europe and in this country, and, as an indication of this, that the sale of the perfume has increased greatly of late years. Women are more addicted to the habit than men, and a writer in the *Quarterly Journal of Inebriety* says that the presence of obscure and complex nervous disorders in a woman who uses cologne externally should always suggest the possibility of its internal use.

HYGIENE CONGRESS. — The Hygiene Congress at Paris brought its labors to a close on Aug. 10. Among the subjects discussed during the week was that of the pollution of rivers. The congress decided, says *Nature*, that the pollution of underground water-courses and of rivers by the residue of factories should in principle be forbidden, and that water from factories should not flow into a stream till it had been proved to be absolutely free from all injurious substances. The congress was strongly of opinion that the most perfect method of purification was by irrigation. This, of course, must, in certain cases, be preceded by such mechanical and chemical processes as would render the water fit for agricultural purposes. It was related that many manufacturers had benefited by the application of the law, as in their efforts to prevent the pollution of watercourses they had made discoveries enabling them to utilize waste products. The difficulty was with the smaller manufacturers, who were not rich enough to take the necessary measures. The congress decided that where persistent resistance was displayed