form of President Andrews' proposition; and it is time for a reaction on the lines of robust common sense.

Few American citizens of the present day object to giving to all the children in the State a common school education at the public expense. But the necessity of drawing a line somewhere is becoming more and more apparent each year; though whether a line will be drawn at all before extremes are reached that are not only ridiculous, but demoralizing to the rising generation, seems to be a matter of doubt.

There can be no valid objection to giving to children the sort of an education that will help them to earn their own "bread and dinner," but the proposal to furnish them with an "esthetic, high class luncheon" at the public expense is going too far until social conditions approach more nearly to what some of the early Christians attained when they had "all things in common."

SCIENTIFIC MISCELLANY.

Seeds of the kola tree (cola acuminata) are stated by the secretary of the Royal Botanic society to have been planted at Kew as long ago as 1880, and the plants propagated were distributed to numerous tropical stations, where the nuts are now produced. Until recently, however, there has been no great demand for the production, notwithstanding its very remarkable properties. The nuts, several of which are contained in a fleshy fruit four to six inches long, have been used in their native home in west Africa as far back as it is possible to trace, and they give to people eating them great endurance of prolonged labor and exertion without fatigue, the kola paste being estimated to be five times as sustaining as cocoa. The kola nuts contain over two per cent of caffeine. They are claimed to lack the tendency of coffee and cocoa to create biliousness, and that of tea to cause nervous excitability, while being far more nutritious than any of the three. In medicine they act as a powerful nerve stimulant.

From ten years statistics at 278 stations in Cape Colony, Dr. A. Buchan finds that the annual rainfall over south Africa, to the north of the latitude of Clanwilliam, steadily increases from west to east, the amount on the Atlantic coast failing short of five inches a year, whereas on the east coast, for some distance to the north and south of Durban, it exceeds forty inches. On the south and southeastern coast it exceeds twenty inches.

The effect of certain metals on photographic plates seems to be due to vapor of the metals. Evidence of this has been obtained by Professor J. J. Thomson, acting on a suggestion from Sir George Stokes, by passing a stream of air between zinc plates and the sensitive plates, the air causing a distortion of the photographs.

The smallest flowering plant yet discovered is the Wolffia brasiliensis, of the Duckweed family, which appears on stagnant pools as a green ball, a thirteenth of an inch in diameter.

It is very curious that the great obstacle encountered in tunneling under the snow-covered Alps is the excessively high temperature. In the construction of the Mont Cenis tunnel, according to statistics collected by M. Victor Brandicourt, the highest temperature recorded was 86 degrees F., which was reached at a point near the center of the tunnel about 5100 feet beneath the mountain summit, on which the mean temperature is 27 degrees. The St. Gothard was still hotter, a temperature of 95 degrees having been observed in the center for several days. Such a heat, in a moisture-laden and impure atmosphere, could be endured but five hours a day for two days in three, and so prostrating was the labor at Mont Cenis and St. Gothard that the physician who attended the workmen ten years reports the number of invalids to have been as great as 60 to the 100. Stranger still was the appearance of a tropical disease—due to intestinal parasites—that is known only in the hottest regions of the earth. Even greater rock temperatures are expected in the great tunnels projected in recent years—those of the Simplon, St. Bernard and Mont Blanc—experienced engineers predicting that under Mont Blanc a heat considerably greater than 100 degrees, possibly above 125 degrees, will be reached. Improved methods of ventilating, cooling and working will all contribute, however, towards overcoming the difficulties of working.

Altitudes are calculated from barometric records according to a formula worked out by Laplace. It is important to know how accurate this formula is, and to test it Cailletet has devised a photographic camera, to be carried on balloons, for recording at the same instant the height of the barometer and the actual height of the balloon as shown by the distance apart on the photographic plate of prominent objects on the earth's surface. The apparatus consists of a prismatic box, with lenses on the upper and lower faces, between which a band of sensitized celluloid is moved by clockwork and exposed at regular intervals. One lens gives a picture of the scenery below, the other of the needle of the barometer; and in a recent ascent to a mile and a half 26 photographs were obtained.

A system of a hundred electrically-operated clocks at Brussels, Belgium, has been in use, with some modifications, since April, 1857.

Ozone, on account of its powerful oxidizing action on organic matter, may play a considerable part in purifying the air. It may not be generally known, the London Lancet points out, that a very simple and effectual way of bringing ozone into the house consists in first suspending moist linen sheets in a keen, dry wind, and afterward hanging them up in the house. The air in the room will thus become considerably charged with ozone, and its presence will be easily detected by its peculiar smell, while a moistened starch iodide paper will instantly turn blue. Why ozone is accumulated in wet clothes in this way is not quite understood; but it may be due to the rapid passage of the oxygen in the air over a large wet surface. It is not improbable that this interesting phenomenon has much to do with the cleansing of our linen articles of clothing. The smell of ozone in big laundries on bringing not quite dry linen in from cold, dry air is almost more than is agreeable.

A singular discovery was lately made by a firm of Belfast contractors, who had undertaken to restore the leaning spire of an ancient church at Newmarket, County Cork. On attempting to take down the spire, it was found that the stones of which it was built were hermetically bound to one another with a combination of molten lead and sand, which rendered it absolutely impossible to separate one stone from another, the whole spire being, as it were, one solid block. The whole building, in fact, had been erected with no mortar except the mixture of lead and sand. As the spire could not be taken down, it was ingeniously moved entire, and brought back to its original perpendicular position.

The first English dry dock, late researches by Mr. Max Oppenheim show, was ordered by Henry VII in 1495 for Portsmouth and was finished in 1496 without foreign assistance, although dry docks appear to have been already in use on the continent. The dock, which was large enough for three-masted ships, was of wood, and cost £1931

A case of pulmonary tuberculosis in a goat upsets the belief in the immunity of this animal, and shows that the milk of goats should be used with the same care against infection as that of cows.

SUPERSTITIONS ATTACHED TO GEMS.

[Chicago Times-Herald.]

Old as the jewels themselves, or at least as the knowledge of them, are the superstitions that are associated each with its own particular stone. Would you know the meaning of your Christmas gift—you more serious-minded people, who have never thought of such nonsense and probably do not know what the gems you have chosen imply to the dear, foolish girl for whom the are intended? Well then, first of all, the most fashionable stone of the year, the emerald, is supposed to promote friendship and constancy of mind. It is an emblem of success and is dedicated to the month of May. In the zodiac (do you care about that?) it signifies Cancer, and in Christian art is dedicated to St. John.

The ruby, next in favor, is firmly believed by the Burmese to ripen like fruit. They insist that in its first crude state the ruby is utterly colorless; that as it gradually matures, it turns first yellow, changes slowly into green, then becomes blue and eventually assumes a brilliant, glowing red, its final color upon reaching its highest stage of perfection. As it belongs to the month of December, it is a happy Christmas token, being as well the recognized emblem of an unswerving, glorious success.

Diamonds are said to produce somnambulism and promote spiritual ecstacy. As ages have gone on the spiritual part of the supposition may have paled, but the ecstacy remains as ever. Diamonds were formerly the emblems of innocence and in Christian art denote invulnerable faith. They are dedicated to the sun and to the month of April.

Most meaning of all stones is the turquoise. If it is given with love it carries with it happiness and good luck. If the well-being of the giver is in peril the faithful turquoise pales, if on the other hand the giver proves faithless the stone turns dark. It is an emblem of prosperity and is also dedicated to December. A cluster composed of diamonds, loadstones and sapphires combined is guaranteed by the ancient faith to render the wearer almost invincible and altogether irresistible.

Beware of onyx; imprisoned within it is an insatiable devil who wakens at sunset, causing terror to the wearer and filling dreams with hideous despair. Streeter—the authority of the century on superstitions of precious stones—says: "Cupid with the sharp point of his arrows cut the nails of Venus during her sleep, and the parings falling into the Indus sank to the bottom and turned into onyx." Some cynical being without disputing the theory of the imprisoned devil adds that the onyx is the symbol of conjugal love.

Amethysts drive out the desire for drink and promote chastity. The Greeks