rabbits—usually within three days, though sometimes not for several weeks. Smaller doses produce corresponding effects. The degree of toxicity varies with the edvironment of the subject and the mode of preparing the extract, the perspiration attending arduous muscular labor being 25 to 30 per cent more poisonous than that produced under ordinary conditions. Artificial sweating yields the least poisonous perspiration, unless the patient is suffering from a cold, when the perspiration is decidedly poisonous.

Monthly Current Charts of the Atlantic Ocean for six months of the year have been prepared by the British Meteorological Office from about 18 300 mariners' logs extending back to 1830. Among the interesting facts brought to light is that the velocity of the Gulf Stream varies with the season, being about 100 miles a day in June, not more than 70 miles in October and November, and at times not over 20 miles. The Guinea and equatorial currents also undergo considerable variations with the time of the year.

The observations of Professor Goluboff, of Moscow, have convinced him, that appendicitis is not only a contagious disease but that it sometimes occurs in epidemics. It was unusually prevalent in Moscow last year. To illustrate, Professor Goluboff mentions that in a small boarding school, where in several years there had not been a single case of appendicitis, he treated seven cases within two months.

After many trials, metallic titanium has been obtained in the electric furnace by M. Moissan. Hitherto the experiments have given only a reddish brown nitride, but a stronger current, yielding a higher temperature, has now reduced titanium oxide in a mixture with carbon to a bead of the metal, which contains, however, two to six per of carbon

Dijon, France, has a record tracing one of its trees back to 722 A. D. It is a poplar, and is 122 feet high and 45 feet in circumference at the base.

An interesting modern industry lately established at Uxbridge, near London, is the manufacture of steel barrels. The difficulty of giving the steel sheet the regulation barrel shape is overcome by easing the curved rolls at the ends so that they bear only in the middle, thus stretching the metal at the center, and forming the barrel body complete with the exception of shearing the ends straight in a special machine and welding the seam. The welding is done by electrically melting pieces of steel over the opening and hammering them down. The heads are cut in a circular shearing machine, corrugated and dished in a 400 ton hydraulic press, and secured in place by a ring of metal, which is welded to both the ends of the barrel and to the head. The bung bosses are also welded on. The welding by the Bernados process requires no skilled labor, and but moderate power is needed to supply current. The present capacity of the works is about 40 barrels a day.

From the physiological point of view, Dr Leon Meunier finds, man may be omnivorous, vegetarian, or carnivorous, according to climate and the necessities of the case. An exclusively animal diet, however, is injurious. Man's organization would adapt itself more readily to an exclusively vegetable diet, but there must be some meat, also for the most useful work. Exclusive vegetarianism is the regimen of invalids, very effective in certain diseases or morbid conditions. Well persons can get along with it, but without great advantage.

Railway tracts are found to be not absolutely stationary, but to be moved slightly, especially on steep descents, through the influence of the traffic over them. Austrian and French engineers report that the left hand rail, seen in the direction of running, moves forward more than the right hand one, while Egyptian engineers have an opposite experience. One explanation is that the cranks on the right side lead on European locomotives, and those on the left on the locomotives of Egypt.

Liquefied carbonic acid is now produced so cheaply that its use for motive power for such purposes as driving light carriages is often considered. A difficulty encountered is the great absorption of heat, and consequent loss of efficiency through the refrigeration of the engine, as the liquid expands and returns to the gaseous state. A French inventor, M. E. Rassinier, seeks to avoid this difficulty by passing the carbonic acid through capillary tubes in a chamber heated to 120° C. (248° F) by petroleum or coal-briquetts, the heated gas being then admitted to the engine cylinder, where it acts upon the piston, and is then led into a chamber or jacket surrounding the liquefied gas The gaseous acid giving up the necessary heat to change the liquid acid to the gaseous form of 30° C., a pressure of 75 atmosphere is developed. The final exhaust of the gas takes place from this jacket or chamber. The capillary heater ensures the first expansion of the gas, while the addition of pressure through the heating of the reservoir by the exhaust gas takes place only when the enging is working. A suitable safety valve is provided for the supply pipe leading to the capillary tubes.

An investigation of the question of over-exertion in bicycle races has been reported to the Berlin Medical Society by Dr. Albu. Observations on twelve professional riders gave such evidence of the strain upon the heart as difficult breathing and strong pulsation of the heart and arteries, the most remarkable effect being an acute dilatation of the heart, especially of the left ventricle, which disappears with rest and reappeard at the next race. The dilation may become permanent if the over-exertion is frequent, resulting in irreparable injury to a weak heart. These effects, with kidney disturbance, are dangers encountered in racing and excessive bicycling, moderate riding being found, as others have affirmed, very beneficial exercise.

At the brilliant private entertainment not long ago, given by M. Radiquet, a French lover of the magic of science, the guests entered a room furnished with nothing more mysterious than a cloth-covered apparatus seemingly like a magic lantern The room contained a chandelier of glass, and flowers in glass and porcelain vases The lights were extinguished as in an ordinary spiritual seance, when a crackling sound was heard, a luminous hand moved slowly up and down above the audience, luminous violins danced about, a phosphorescent globe swung in the air like a pendulum, and a luminous bell rang. A mirror suddenly blazed up, the vases and the chanelier glowed, and the whole room shone with a phosphorescent light. As all became dark again, a phosphorescent decanter appeared suspended in the center of the room, a pale blue tray came below it, a shining glass placed itself on the tray, a spoon and sugar basin followed, phosphorescent pieces of sugar moved singly from the basin and dropped into the glass, the decanter poured water into the glass, and the spoon stirred the sugar. This apparition in turn disappeared. Next a pale, greenish human form came out before a velvet curtain, then vanished in fragments, the bust disappearing first. Finally a luminous boquet blossomed into view in the center of the room, labeled with the explanation—"X Rays." The phenomena all depended upon the properties of the Roentgen rays, which cause certain substances—like glass, and especially objects covered with barium platinocyanide—to become luminous, while other objects—like the hand moving the decanter—remain invisible.

A new method of preserving meats, from which much is expected, consists in immersion in a 30 per cent solution of salt through which a continuous current of electricity is being passed. The curing is completed in from 10 to 20 hours, when the meat is taken out and dried.

Gold leaves so thin that 250,000 measure only an inch in thickness are produced in the Swan process by placing thin sheets of polished copper in an electrolytic gold plating solution only until a continuous gold film has formed, then dissolving away the copper in a solution of ferric chloride.

A new nickel-iron alloy, reported by Dr. Charles Guillaume, of Neufchatel, to the International Committee of Weights and Measures, shows less expansion and contraction under the influence of tempetature than any other metallic substance known. It consists of thirty-six per cent. of nickel and sixty-four of iron, and the expansion is but one-tenth of that of platinum. It is expected to prove of considerable value for measuring apparatus exposed to sudden changes of temperature.

Experiments to determine how much a person may hear through his skin have been made by Professor McKendrick. With the fingers dipped in solutions so that the body formed part of the circuit, musical notes were transmitted through a telephone and were felt by the fingers as in rils corresponding to the intensity and rhythm of the note. It is conceived that a perfectly deaf person could be trained to discriminate by the skin, between all the sounds of a phonograph as magnified by the microscope.

The Alaska Development company was organized here at Seattle, Wash., on Friday, to develop the coal and oil fields recently discovered in southeastern Alaska by R. C. Johnston of Los Gatos, Cal.