

the Scandinavian chieftain, Ruric, was made king. The nation today is composite, comprising beside the dominant race, Lithuanians and Poles, Finns, Laps, Tartars, etc.

The government is an absolute monarchy; the wish of the czar is the supreme law. Such a condition favors despotism on the part of every officer. An unbridled power of the sort may be kept under control; or, as in the case of Paul I and Ivan the Terrible, may result in absurdities, cruelties, and atrocities beyond description.

There is no general popular education in Russia; though many of the institutions of learning are deservedly famous. Freedom of press and speech is suppressed by the official censor, who has power of control in all publication and public utterance.

The passport regulations were described and the difficulty of traveling without proper papers of identification was amusingly portrayed. The peculiarities of eating received attention. Particularly interesting was the description of the zakuska or preliminary meal, intended to whet the appetite for the chief meal. Some of the dishes peculiar to the people—iced soup, fish soup, etc., were discussed. In their amusements and as shown in their folk-lore the Russians are immature; it is, however, a gross mistake to call them barbarous. They have many admirable traits, and when they have learned to value individual liberty they will become powerful. At the present time Russia is pushing her railway through Siberia to the Pacific; the country is on friendly terms with her Mongolian neighbors. Russia is jealous of German interference and growth; she is in alliance with France. The very best of feelings are professed toward Americans.

In further illustration of the topic, between fifty and sixty excellent photographs were projected on the screen. Among these were scenes showing the methods of travel in Russia, Moscow from a distance, and nearer views, the Kremlin with its churches, palaces, treasure houses, towers, huge bells and mammoth cannon, the cathedrals of Moscow, the streets and shops. Then followed pictures and scenes in and about St. Petersburg, accompanied with an interesting description of the building of the city in the midst of morasses. The Neva river with its quays and bridges; the huge barges floating down with their freight of firewood from the forests of the interior; the cathedrals of St. Isaac and Kazan; the monuments to the glory of departed czars; the palaces of the city including the Marble palace, Michaeloff palace and the Winter palace; the Hermitage with its sumptuous decorations and treasures of art, and street scenes were shown with startling effect. Excellent views of some of the suburbs were given, including apartments in the palaces of Gatchina, Tsarskoe and Peterhof. The last named is the present given, including apartments in the palace and many rooms and private apartments were shown. Then in startling contrast the huts of the Russian peasantry; the Moujiks were illustrated by actual photographs, and a number of portraits of Russians were given. The views were all of superior quality, and with the aid of the powerful limelight were projected with the finest effect. Never have better stereopticon illustrations been exhibited in this city. A glance at them, when accompanied by the doctor's interesting explanations, is as nearly equivalent to a trip to the land of the czar as anything aside from the real undertaking can well be.

MALAD STAKE CONFERENCE.

The quarterly conference of the Malad Stake convened at Fielding on Saturday and Sunday, Dec. 11 and 12,

1897, in the new district school house, President O. C. Hoskins presiding. Elders Geo. Reynolds and Jonathan G. Kimball of Salt Lake were in attendance.

Saturday being a very stormy day, the attendance was light, but on Sunday the commodious building was nearly filled. The remarks made during the five meetings that were held were timely and spirited, and seemed to be much enjoyed. The report of the Stake presidency in regard to the condition of the Stake generally indicated that it was in a fair condition spiritually and financially; a spirit of union existed among the leading Priesthood of the Stake. The general and Stake officers were sustained by unanimous vote of the congregation, as were the home missionaries.

The subjects dwelt upon by the speakers were of a varied character, covering a wide range. Elder Kimball dwelt very pointedly on personal purity, pointing out the necessity of being loyal to the work of God, to our brethren and to our family ties, and of keeping the temple that had been given our spirits to dwell in, pure and holy. Elder Reynolds spoke of his intimate acquaintance with Presidents B. Young, John Taylor and Wilford Woodruff, and said he knew that they were men of God. He also spoke upon the morality of the Latter-day Saints, showing that it was absolutely necessary for them to be a virtuous people in order to be acceptable to God. No people or nation could stand long that were immoral.

L. D. JONES,
Clark Pro Tem.

SCIENTIFIC MISCELLANY.

The canning of sweet corn is an industry of remarkable growth, the first corn having been packed about 1853, while 72,000 tons were put up in the United States in 1895. Recent large losses from souring have led to an investigation at the Massachusetts institute of technology. The souring is found to be due to fermentation set up by bacteria, which exist on the corn in the field, and are not destroyed by the temperature of 180 degrees to 190 degrees at which the corn is cooked in the cans. To effect sterilization the packer places the cans in retorts heated by steam under pressure. Experiment has shown that a temperature above the boiling point of water must be reached throughout the corn to kill all bacteria, and that exposure of the cans for sixty minutes to 250 degrees F. ensures complete sterilization, but the minimum time and temperature of safety are still to be determined. Considerable time is essential on account of the slow conduction of heat through the corn. A demand for corn of light color seems to have led the packer to reduce too much the time or temperature of the sterilizing process, and the soured corn of late years has resulted.

From records of an immense number of observations, Dr. Gerhardt Schott draws the conclusions that the so-called "Gulf stream" does not exist as a warm current east of 40 degrees W., and has no rapid movement east of 60 degrees W.; that the Labrador current does not anywhere touch the seaboard of the United States, and has nothing to do with the "cold wall," and that on the Great Banks there is practically no current. The warm and cold streams are irregular movements, not liable to definite changes with seasons.

A recent calculation shows that electric heating for cars costs over five times as much in fuel as heating by stoves, an expenditure equivalent to

six horse-power being required to raise the temperature of an ordinary car for twenty-four people from 0 degree to 60 degrees F. It is estimated that double windows would reduce the fuel expense one-half.

Glass is usually colored by fusing with a metallic oxide, the entire mass being changed. In the new process of M. Leon Lemal, patterns are beautifully stained upon the surface by penetration, a yellow color being given when a silver salt is placed in contact with the glass and the whole heated to 50 degrees to 950 degrees F. The depth of penetration depends upon the time of heating, the shade upon the quantity of the salt applied. In five minutes, the color had reached a depth of 1-150 of an inch, in an hour, this depth was doubled, and in 18 hours, a plate 1-16 of an inch thick was colored throughout. The yellow has a fine greenish or bluish fluorescence. Photograph collodion negatives can be applied directly to the glass, and lace patterns can be transferred by simply dipping the lace into a weak solution of nitrate of silver and then into potassium sulphide. Other salts—such as those of gold, copper and iron—can be used, silver with a little copper giving a red color.

Psychologists have yet to record many curious workings of the mind. Dr. Glinostov has reported to a Bordeaux society the case of a young man who, since he was ten years old, has had an irresistible impulse to count the letters in words and phrases. This he does continually while awake, without interfering in any way with his daily work, his reading, or his conversation. When not talking, he invents phrases and counts the letters, 32 being a number that gives him satisfaction, while 13 displeases him. At night he sleeps without dreaming. The editor of Scientific Miscellany may add a similar experience, having been frequently aroused to the consciousness that, while absorbed in some work, he had been automatically grouping words on a printed page in pyramids, each word chosen having one letter more than its predecessor.

Carbolic acid has been effectively used for tempering steel tools by M. Levat, a French engineer. Two cast-steel gravers of fine quality were heated to a cherry red, and one was dipped into water and the other into a solution of commercial carbolic acid. They were then tried on chiselled iron and on extra hard white cast iron. The water-tempered graver was notched in several places, while the other resisted perfectly.

Rain gushes in thunderstorms have been variously explained, but Prof. Cleveland Abbe finds it still an open question whether these gushes bring about the formation of lightning or vice versa.

Some curious experiments and speculations, which seem to have been taken with more or less seriousness, have been brought before the Paris Society of Psychic Science by Dr. Baraduc. The instrument used, called the biometer, is claimed to show that the vital forces of man do not depend on the laws of either heat or electricity. It consists of a pointer, like the hand of a watch, suspended over a dial inside a glass vessel insulated by three compact layers of mica, albumen, linen cloth and collodion; the motion of the pointer, so it is asserted, indicating the vital forces of the person touching the instrument, and varying with the state of mind. If the person is happy the hand is attracted, in grief it is repelled. Dr. Baraduc further claims to have photographed the vital forces, a picture being taken by force of will in complete darkness, and even the