

Wastefulness the Great Sin Of the American People

For Four Hundred Years the White Man on This Continent Has Ravished Nature of Her Accumulated Stores

By WILLIAM WHITTAM

Americans have wasted enough to pay the cost of the present war in Europe many times over.

For four hundred years and more the white man on this hemisphere has ravished nature of her treasures and wantonly wasted wellnigh as much of them as he has turned into use.

The time has now come for an intelligent economy in the use of our resources, for while Nature is openhanded with her accumulated surpluses, she is niggardly in the reproduction of many of them.

When the war is over and the people of the belligerent nations take up the task of recouping their stupendous losses, they will approach it with a training in thrift generations long, intensified by forced new economies that will make them superfrugal for many a year to come. They will match this superfrugality against the new extravagance bred by war profit prosperity in this country.

American families, the Department of Agriculture has estimated, waste up to one-fifth of the edible portion of the food they purchase.

However, it is in the larger units of industrial, mining and agricultural activities that the element of waste in this country becomes more concretely apparent. Efforts to check wasteful processes have not been entirely lacking in recent years, but as yet the saving effected in most instances has been only partial.

Coal Goes Up the Chimney

For every ton of coal mined in the United States half a ton is wasted, or left underground in such shape that it will never be used. Government investigators have said that in 1911 for 500,000,000 tons of coal produced 250,000,000 tons were thus lost, and this amount is increased by the unmeasured millions of tons belched from house and factory chimneys in the form of black smoke, due in the main to inefficient stoking.

But we are checking some of our fuel extravagance. Mechanical stokers, damper regulators and apparatus known as "fuel economizers," have done much, and the coal operator has also helped, as is shown by the more than sixty million tons of coal recovered since the first "washer" was established in 1890 and the 200,000 tons annually reclaimed from the culm banks and river bottoms. Even some of the shale is now being usefully employed as an ingredient in a superior quality of building bricks, while coal dust is being put up in the form of fuel briquettes. Recent economy goes still further, for during 1915 48,000,000 gallons of tar was obtained at coal gas plants.

The recovery of what were formerly coal wastes, such as tar, ammonia, benzol, naphthalene and coke amounted in 1915 to \$80,800,000.

Coke Ovens Yield By-Products

It is but recently that a waste of between \$30,000,000 and \$40,000,000 a year could be charged against the neglect to recover the by-products which escaped from the beehive coke ovens of the country. The waste saving has now proceeded to such an extent that during last year (1915) 138,400,000 gallons of tar was obtained in connection with the manufacture of coke in this country alone. And our by-product coke plants also yielded 157,000 tons of ammonium sulphate during the same period. Coke and retort carbon produced was 15,796,461 tons, valued at approximately \$56,000,000.

In another branch of mining we are also inordinately prodigal, for it is estimated that our waste of metalliciferous ores amounts to about 15 per cent of the total output of the mines.

Natural Gas Leaks

Although in 1825 Fredonia, N. Y., was lighted with natural gas, it was only during 1872 that in Titusville, Penn., the first natural gas line was laid in this country and the first use made of it in a city for domestic purposes. To-day we are turning loose into the atmosphere a quantity of natural gas larger than the total output of artificial gas during the same period in all the towns and cities of the United States. Much of the appalling waste could be stopped by compulsory conservation and the use of methods and appliances for combustion.

"White Fuel" Unharnessed

In any examination of the natural resources of this country water power or "white coal," as the French term it, calls for attention when it is variously estimated that from thirty to fifty million horsepower is running to waste down undeveloped American watercourses.

mean in fuel conservation, if put to use, may be figured from the fact that to produce a continuous horsepower year from six to twenty tons of coal are required. Taking the higher estimate of fifty millions latent water horsepower and ten tons of coal per continuous horsepower year this would equal the total coal production of the United States during 1911.

Stripping of the Forests

Incredible wastefulness has characterized the exploitation of our forests. Careful computation shows that on an average 65 per cent of every tree felled does not reach the market, but is thrown away. A ride through many forest areas will show standing thousands of dead trees, stripped of their bark to be used in the manufacture of tanning extract. There is wasted in the United States each year 6,000,000 tons of slabs, edgings and sawdust, each ton of which is capable of yielding fifteen gallons of alcohol.

Mountains of waste wood, as big as colliery culm piles, are scattered all over the yellow pine regions of the Southern States and the chemical engineer is demonstrating that paper fibre can be extracted from them on a commercially profitable scale.

Indeed, a new industry, based on this wood waste as a raw material, has already started in the South. Two factories have been set up to manufacture from these immense accumulations of waste the pulp from which the strong, brown wrapping paper, known as "kraft," is made. At present we are importing some 60,000 tons annually of this special grade of pulp. And, too, our lumbermen complain of legislative restrictions which prevent cooperation, thus encouraging cut-throat competition which compels the marketing of only the cream of the stumpage and the throwing away of immense quantities of valuable material which ought to be utilized.

Extensive investigations by the Bureau of Chemistry have demonstrated that by utilizing the stumps, dead trees, sawdust and other waste material of the lumber industry not only all the turpentine used in this country can be profitably produced, but that all the tar pitch, rosin spirits, rosin oils, methyl alcohol, acetate of lime and acetone can be extracted from the same waste products. In addition there could be material left for making large quantities of ethyl alcohol, paper, oxalic acid and other chemicals.

Overloading the Cotton Bale

The government of the United States has said that there is a minimum loss of \$50,000,000 per annum in wastage in our present method of handling the cotton crop. And until somewhat checked by legislation, unbridled speculation in cotton cost the trade fabulous sums of money. The crop of 1908-'09 cost the spinner the enormous sum of \$500,000,000 more than the farmer got. That was enough to duplicate the entire cotton factories of Great Britain, which at that time operated nearly half the cotton spinning machinery of the world.

At the cotton gin we put on each 500-pound bale 23 pounds of bagging and ties. Yet a bale of East Indian grown cotton weighing 412 pounds travels twice the distance and arrives at the factory in better condition wrapped in canvas and bands weighing only eight pounds.

Proper packing would save in freights alone on American cotton 10 cents a hundred pounds, which would mean a saving of \$7,000,000 on a 14,000,000-bale crop.

These things make the big end of the cotton drain, though there are many lesser leaks.

A cotton planter hauling his crop to town will stuff 25 cents' worth of cotton under the collar of a mule, when by taking ten steps he could buy for 10 cents a pad which would last ten times as long.

Many an owner of a "gin outfit" will do hundreds of dollars of damage to the cotton he handles in a season rather than pay \$10 to a "gin tinker." Millions of bales are left out in the weather, lying flat on the wet ground, when putting a couple of pieces of cordwood under each bale would save the growers from deductions for "country damage" running into some millions of dollars each season.

Leave the cotton farm for a brief look into the cotton factory. It is a fact that Southern mill superintendents have been discharged for reducing the waste production. As one mill president protestingly put it: "We sell our waste for spot cash."

There is also lots of room for "waste" efficiency in the woolen

trade. Bradford, England, makes fine goods out of stuff many American mills grind into shoddy. An observant buyer of waste from textile factories would make the best sort of a credit man to pass on their rating. Indeed, from many a textile establishment much more money passes out in the waste bag than reaches the stockholders in dividend checks.

From the dye houses liquid color enough to stain a continent runs down the drain pipes every year. And while we import immense quantities of linen we burn up in the straw uncounted tons of flax fibre every year.

One important factor in farming economy as yet only in its initial stage is the utilization of by-products. Under the best cultural methods there is always a percentage of the crop that will not grade sufficiently high to justify shipment. In a recent year, according to estimates, 100,000 carloads of agricultural products went to waste in the United States.

There are good commercial values being neglected which can be profitably obtained by the recovery of oil yielding residues from raisin seed waste and a number of other neglected plants.

Farm Land Washed Into Sea

Another cause of immense permanent loss to the farmer is soil erosion, which is costing the United States many millions of dollars a year. The amount of good soil material passing yearly to the sea by just such process exceeds by more than two times the total amount of material removed in digging the Panama Canal.

One day American landowners will realize that the ruthless cutting of timber is a costly practice. It destroys the value of the land either as forest land or for reforestation, and contributes to results such as those pointed out by the Geological Survey, which reported that the amount of silt carried by the Hudson River was 240,000 tons a year and that the Roanoke, Susquehanna, Alabama, Savannah, Tennessee rivers and the Missouri above Ruedg carried to the sea annually no less than 194,279,000 tons of silt.

The Mississippi River drains over one-third of the area of the United States and delivers to the Gulf of Mexico from 370 to 680 million tons of suspended material yearly. Much of all this great loss is preventable, and this part of the loss at a very low estimate is reckoned at \$4,000,000 a year. The Piedmont region of North Carolina loses unnecessarily over \$2,000,000 a year from the same cause. Four million acres of American land are actually destroyed by erosion every twelve months.

Two methods are being employed to stop this waste. The first is accomplished by the incorporation of organic matter in the soil and breaking the soil to a considerable depth. The second is brought about by imposing terraces to decrease the velocity of the surface run off. It is mainly a question with the farmer in many areas whether he will retain for use part of his land or lose it all.

What Cities Throw Away

Then there are the by-products incidental to the everyday lives of 100,000,000 Americans. These may be lumped together as sewage, sweepings and garbage. For the greater part, these represent at present an absolute waste and their disposal a monetary loss.

For each inhabitant, it is estimated, there is a daily yield of 10.5 ounces of sewage sludge. At this rate the 200 or so cities of the United States, with a population of more than 30,000 each, would produce 3,600,000 tons of wet sludge a year.

A survey of selected American cities of more than 10,000 inhabitants shows a yield of 1,064,000 tons of street sweepings, only 175,000 tons of which were used as fertilizer, while 678,000 tons were used as filling. At this rate of collection the 200 cities of more than 30,000 inhabitants would yield 5,000,000 tons of street sweepings annually.

The dead animal tankage of these cities is about 25,000 tons a year, representing roughly 100,000 tons of carcasses.

The composition of garbage is almost indeterminate, because of the great variety of material entering it. It is disposed of by dumping and burying on land, feeding to swine, dumping at sea, incinerating and rendering. In the cities of over 30,000 population there is collected about 2,700,000 tons of garbage annually. This, if rendered, should yield 400,000 tons of dry tankage, worth \$2,500,000.

If the waste from the stream of

crops flowing from farm to city, and representing a tremendous and never ending drain on the fertility of the soil, could be turned back even to a small extent to the soil, an immense step forward in waste saving would be effected.

A few of the steps taken to correct the wastefulness of a notoriously extravagant people have been touched upon. One or two others deserve mention. An exhibit in last year's chemical exhibition caused a large number of cement concerns to investigate a system for saving potash as a by-product in cement manufacturing. Two plants for the purpose have already been established, and others are making plans looking to the erection of similar undertakings. This demonstration of practical waste recovery has led to investigations having for their object the possibilities of using the same system for the saving of potash in the making of pig iron.

Saving on Paper Possible

Other investigations have shown that it is practicable to reduce the weight of bulk paper used in this country from 10 to 25 per cent. It has been demonstrated that lighter and thinner papers can be made that are in every way superior to those generally used, and that the annual cost of paper can be reduced by from \$2,000,000 to \$3,000,000, and the equivalent in raw materials and labor conserved. Often the saving in mailing charges will save the cost of higher grade paper.

Perhaps some day we shall be forced to such minor economies as Europe has long practised. For instance, revitalizing moulding sand in foundries and the free supply of cleaning cloths to factories, their collection, washing and returning free, all to recover the grease they absorb when used for wiping the machinery. Across the Atlantic every housewife has her "rag bag," and the "rag and bone man" is as much an institution as the milkman.

We must soon face an international situation where the necessities of more than half the world will force our people to economies heretofore unthought of.

The European peoples have been thrifty for centuries. They must be penurious in the future. This will show in their prices for merchandise in the world's markets, and if we are to sell manufactures abroad in competition with them, avoidable waste of every kind must be brought down from the hundreds of millions of dollars' worth with which we now burden our competitive efficiency every year to the irreducible minimum.

Urging the Soil

How Nature Responds When Man Takes the Trouble to Sow Intelligence with the Seed.

By JOSEPH HIRSCH

[NOTE.—Joseph Hirsch is vice-president of the Corpus Christi National Bank, of Corpus Christi, Tex., and a member of the Agricultural Commission of the American Bankers' Association. What follows is an extract from a speech by him at the recent annual convention of the Association at Kansas City, calling attention to the work of the various state bankers' associations now cooperating in a country-wide campaign to promote efficient farming. He speaks particularly of what has been accomplished in the South.]

IN 1914 the principal experiments conducted with the great staple crops of cotton and corn show that on 9,892 farms, with a total of 129,475 acres, Southern demonstration farmers averaged 1,044.77 pounds of seed cotton per acre, against 623.7 pounds—the general average; while 13,565 demonstrations conducted on 110,408 acres planted to corn show an average of 34.83 bushels per acre, against an average yield of 20.7 bushels produced in the Southern States. In 1915 over 20,000 Southern farmers, employing demonstration methods, on 218,000 acres produced an average yield of 1,180 pounds of seed cotton per acre, and 56,000 farmers employing demonstration methods on 480,000 acres produced an average yield of 37.7 bushels of seed corn per acre. Figuring lint cotton at 10 cent the pound and corn at 75 cents the bushel, the cotton demonstrations show an increased value of approximately \$4,000,000, and the corn experiments an increased value of \$7,000,000, over the average productions of cotton and corn on equal acreages. Demonstrations in oats, wheat, rye, barley and other staple crops show equally amazing results.

The demand for jewelry in Christiania, so Consul General E. Haldebrandt reports, is large, on account of the prosperous conditions in Norway. The war has brought increased wealth to the country, and the sale of luxuries of all kinds, including jewelry, has increased enormously. The statistics do not show the amounts imported from each country, but merchants state that the largest part, especially the 14-karat gold jewelry, comes from Germany. Well established dealers handle only this class of goods. A large amount of 14-karat jewelry is also made in Norway. There is also a good market for medium and low priced jewelry.

corn, pig and other clubs over 53,000 boys, while there are over 87,000 girls enjoying the benefits of the home demonstration work. The increased yield of our great staple crops is a matter of vital importance to this nation. Our population has increased nearly 25,000,000 in the last fifteen years, while production of our great staples has been almost stationary, and there has been an alarming decrease in livestock production. France, Germany and Denmark produce twice as much wheat, rye and oats per acre and far excel us in the yields of other staple crops, and, in every phase of production, we make a lamentable comparison with the great nations of Europe.

The extension of the field demonstration work will add millions of dollars to the wealth of this country, and leading governmental and state agricultural authorities testify that the cooperation of bankers has been a potent factor in the development of the movement. The United States Department of Agriculture and the agricultural colleges furnish the scientific direction—the banker's local influence helps to establish the work. Local legislation is necessary for the appropriation of county funds—the banker's influence secures it.

Cotton Spinning Boom in Russia

Russia is in the midst of a boom in cotton spinning very nearly as intense as that in the war munition industry. The town of Oryekhova, about sixty miles from Moscow, with a population of about 70,000, is almost entirely given up to the manufacture of cotton textiles, and is one of the largest centres of the industry in the empire.

Notwithstanding repeated advances in wages, which, according to "The American Wool and Cotton Reporter," have amounted to 75 per cent since October, 1915, the mills are making enormous profits. Market values of cotton mill shares have been rapidly soaring and are now in some instances double what they were a year ago. The great gain in profits has been accomplished notwithstanding continuous advances in wages and very much higher costs for fuel, which is three times what it was a year ago, and for dyes, which are about sixteen times the ante-bellum prices.

Although the employees are obliged to contend with the constantly increasing cost of living, their position as regards difference between cost of living and wages is 25 per cent better than before the war, and their savings have increased about 800 per cent since the war started. The loss of men employed of military age has been met by increased employment of women and children. The law forbidding the employment of children under fifteen years of age has been relaxed.

The mills producing textile goods are obliged to sell 42 per cent of their production to the government. The increase in costs incident to the production of cotton goods include labor cost, which has risen from about \$0.52 per day before the war to \$0.90 at present. Leather belting for rollers has gone up from 35 to 100 rubles per pood (\$51.34 to \$228.17 per 100 pounds). The cost of peat used for fuel for power purposes, formerly 10 kopecks per pood (\$2.85 per short ton), has risen to 35 kopecks per pood (\$9.98 per ton). The most serious advance has been in the cost of dyes, which before the war cost about 10 rubles per pood (\$28.50 per ton), but which can now be obtained only with difficulty at 160.30 rubles per pood (\$457.80 per ton).

The cost of cotton itself has not gone up proportionately to the advance in the textile products, and this fact accounts in chief measure for the increasing profits of the mills, notwithstanding the other heavy costs incident to production. The Moscow Cotton Committee has limited the selling price of Russo-Asiatic cotton to 24 rubles per pood (\$171.10 per 500-pound bale). American cotton sells in Moscow for about 30 rubles per pood (\$213.90 per bale); its cost depends upon the American market, plus the increased cost of freight and the increased duties. On application of the Moscow Cotton Committee to the Credit Chancellery at Petrograd, pounds sterling can be obtained for financing cotton purchases at Liverpool at specially favorable rates of exchange (at present 120 rubles for £10, or about 2.50 rubles to \$1). Every mill has the right to purchase American cotton to fill its reasonable requirement at this rate of exchange, which is much lower than that which can be obtained from less favored commodities. The Russian mills appear to be making a fairly liberal use of American cotton, in spite of the transportation difficulties incident to its importation. Practically all the American cotton used in recent months has come via Vladivostok, frequently in a somewhat wet condition, so that it has to be used immediately to prevent deterioration.

War Prosperity in Norway

The demand for jewelry in Christiania, so Consul General E. Haldebrandt reports, is large, on account of the prosperous conditions in Norway. The war has brought increased wealth to the country, and the sale of luxuries of all kinds, including jewelry, has increased enormously. The statistics do not show the amounts imported from each country, but merchants state that the largest part, especially the 14-karat gold jewelry, comes from Germany. Well established dealers handle only this class of goods. A large amount of 14-karat jewelry is also made in Norway. There is also a good market for medium and low priced jewelry.

War Inflames Man's Genius

He Tortures the Elements for New Secrets and Thereby Enriches His Own Economic Future

Necessity increases man's power over elements. It teaches him to resolve solids into liquids, and to convert the air into solids. What grew on the backs of animals and flowed through the veins of trees he will produce for himself where there are neither animals nor trees, provided his need is great enough. England is matching the ingenuity of Germany in these matters. Invention and chemical research have been enormously stimulated, and the results as fast as they appear are commended for the common good.

Conscription of Genius

Recently, under the Defence of the Realm Act, the British government issued a regulation which is in effect to conscript the fruits of scientific exploration. Hereafter it shall be lawful for the Admiralty, or Army Council or Minister of Munitions, with a view to the more efficient production of war materials, to require any person to communicate to the government, for its free use, any invention, process or method whereby the production of war goods may be facilitated or improved. The government undertakes, after the war, to return the information, without prejudice to the rights of the individual then to enjoy it for his own profit, in the legal manner known before.

Fruits Already Obtained

Industrial research, especially in the field of chemistry, has already been very fruitful. It is reported on to the Bureau of Foreign and Domestic Commerce by Vice-Consul Claiborne, at Bradford, England. Besides the theoretically successful production of synthetic rubber, many substitutes have been offered for gasoline, leather and aniline dyes, and numerous patents have been recorded for processes by which the valuable constituents of waste materials may be recovered and utilized for further manufactures.

Among interesting developments of significance appear the possibilities of wood pulp, which, in addition to the use in paper making, is being employed for producing wholly or in part a variety of artificial silk fabrics, as substitutes for cotton, and for the manufacture of industrial alcohol.

Substitutes for Gasoline

Substitutes for gasoline have not achieved a notable success in England, because the prevailing types of motors are especially constructed for gasoline combustion rather than because the new kinds of fuel are defective; and in order to prevent a rapid accumulation of foreign matter in engines the basis of the new substitutes is generally gasoline, which is substantially diluted with other combustible materials. Experiments made with kerosene and benzol for use in internal-combustion engines have met with some success.

Abstracts of noteworthy English patents have appeared recently in abridged form in many British trade journals. Among these are: Recovery of rubber from rubber fabrics—The recovery of rubber from rubber fabrics, e. g., tires, may be accomplished by treatment with boiling tetra-chlorethane in a closed vessel. In order to obtain rubber free from uncombined sulphur this solvent treatment may be carried out in two stages, the sulphur being first dissolved out before the rubber enters into solution.

Leather and Silk

Substitute for leather—Rosin in dissolved in linseed-oil varnish in such quantities as to produce a viscous mass, which is then kneaded with milk curd into a stiff paste. A small amount of slacked lime is added to the mixture. This paste can be used for impregnating canvas, which, after drying, may be soaked and pressed and employed as a substitute for leather.

Artificial leather—Linen duck is coated with a varnish to which is added a small quantity of sicative and venetian red. Several layers of the dried linen are then joined together in sheets of varying thickness. The adhesive mixture used for this purpose consists of four parts of heated wood tar pitch, with the addition, during constant stirring, of two parts of india rubber dissolved in benzol; four parts of venetian red, mixed to a thick consistency with French turpentine oil; and two parts of cork powder. Sheets thus prepared are compressed between powerful rollers. The product, it is claimed, serves as an excellent substitute for leather, especially for the soles of footwear. It can be easily sewn, pegged, etc., and can replace leather in many of its uses.

Artificial silk—In the production of artificial silk from cellulose acetate it has been customary to force this material through fine tubes into water or aqueous solutions of bases or salts. It is now claimed that

lustrous threads are obtained by squirting the substance into caustic soda lye saturated with common salt. A solution containing 20 per cent of salt and 5 per cent of caustic soda gives good results.

The New Competition

When the war is over there will exist in Europe, largely in consequence of the necessities of this time, a very large body of technical and scientific information available then to be utilized with all the benefits of practical experience in the promotion of commerce and industry. That is to say, the nations at war are financing experimentation and research on a scale which would never have been dreamed of in peace, and which would ordinarily be beyond the resources of private enterprise. The neutral people who will have to meet the commercial competition of Europe after the war ought to be doing the same thing. But they are not. They are mostly too busy making for immediate profit the goods which the belligerents are presently in need of.

Japan's Red Letter Day in Finance

By ADACHI KINOSUKE

In the city of Tokyo, on the 11th of September, 1916, an event of considerable magnitude came to pass.

It was financial. The subscriptions to the new Russian loan of 70,000,000 yen (about \$55,000,000) were closed that night at 10 o'clock.

The American public did not read the detailed account of the thing over the breakfast coffee the following morning. Cable tolls are expensive; so is the newspaper space. They are cheap, of course, scandalously cheap, when a member of a rich American family marries a Japanese lady of no particular distinction either within or without, or when a few half-starved somnolent Chinese mercenaries out there on the Mongolian border shout a defenceless beggar of a Japanese trader in the back just to show the superiority of the Chinese braves over the over-vaunted Japanese fighting force. But, of course, that is quite another story.

No enterprising newspaper forgets itself to the extent of spending money on a really important piece of news like this affair of the Russian loan just floated. It was not the amount that made it notable; 70,000,000 yen is not such a tremendous lot of money any more, even in Japan. Neither was it the number of underwriting banks or their standing which put a special plume on this event.

A Notable Transaction

The one thing which marked it apart from all the myriad financial dealings ever transacted in the ancient Empire of Nippon was the manner in which it was subscribed; it was the character of the subscribers. This was the first foreign loan ever offered to the investing public of Nippon—I mean to every olive-skinned Tom, Dick and Harry—indeed, in the money history of the Far East. This was not the first foreign loan ever floated in the Japanese market. In fact, this is the second Russian loan floated there. But the first Russian loan for 50,000,000 yen was subscribed entirely by the underwriting banks. The public was not even invited to take part in it.

Historically, my contention is accurate; since Emperor Jimmu ascended the throne of Yamato and founded the oldest unbroken dynasty existent today, that Russian loan of the 11th of September was the first foreign loan that ever tempted the strong boxes of private capitalists. And the underwriting banks were by no means sanguine of its success as they bluffed about in newspaper interviews and financial editorials. They approached the loan in "a state of mind." They showed it in the list of participating banks. It is formidable—I mean the list—as imposing as can well be got together in Japan.

Of course, it was headed by the Yokohama Specie Bank and the Mitsui, Mitsubishi, Jugo, Daihaku, Dai-ichi, Yasuda, Dai-san, the Chosen, the Kogyo, the Taiwan followed—eleven in number, all of the Tokyo group, and out of the Osaka group there were seven of the strongest institutions situated in that Chicago of Japan, including the Sumitomo, the Konoko and the Naniwa banks. Perhaps all this array simply meant that Mr. Inouye, the head of the Yokohama Specie Bank (who spent some years in New York, by the bye, as the New York representative of the Bank of Japan and who has many friends here) is a very popular man, and, being wise, he was impartial in the distribution of the marks of his friendship. I may be all wrong about my guess, but that is not important, anyway.

Loan Oversubscribed

At the time when they closed the books on September 11 a large number of subscriptions from the Osaka district were not in. Yet the amount was more than twice oversubscribed! The New Yorkers who are learned in the financial politics might in their haste jump to the conclusion that the Japanese, coming on fast, as they are, have caught on to the trick of asking for several times the amount they

really mean to take. Nothing of the sort was the case. In the experience of the Japanese investors there was a certain unvoiced dread of seeing the Russian Treasury notes go begging, but never a thought that there was not enough of it to go round. Moreover, this was their first experience with a foreign loan. With many of the domestic loans with which they had had experiences the Japanese investors could not recall many occasions when they were left out in the cold or received just one-half the amount they asked for. No, every one who had asked for a certain amount of the Russian Treasury notes was expecting to get all they had asked for—not a cent less. And the imposing array of syndicate banks aforementioned were ready—aye, fully expecting—to take their pro rata share of the ample loan.

Not a single one of the subscriptions counted came from any of the syndicate banks—that had been prohibited in the agreement. There were quite a number of people asking for a lot of anywhere from 200,000 to 500,000 yen, but there were a very few who asked for a larger block. The highest amount was for 2,000,000 yen, and there was only one such.

The Impossible Comes to Pass

Three short years ago this sort of thing was an utter and absolute impossibility in the financial imagination of Japan. To be sure, this was not the only impossibility in thought that had come to pass. In 1915 the government floated a domestic loan for 38,000,000 yen (about \$19,000,000) to take up Japan's foreign loan. And that domestic loan was floated mainly to utilize the idle funds which were burdening the deposit vaults of our banks. It was an astounding sight; it was hailed as one of the most eloquent prophecies that cried in the gilded wilderness, saying that a brand new financial Japan was nigh at hand. It was the most significant thing that had come to pass up to that time. And we heard a good deal about it. Mr. Taketomi, who was then the Minister of Finance, made a modest speech over it before the Imperial Diet, emphasizing the fact that that was the first instance of the kind known to the history of Japanese finance—or any other country in the Far East. It was a striking, a significant thing, really. With all that, compared with what happened on September 11, it loses a measure of its lustre.

People of Nippon Thrifty

What brought all this radical change in the financial life of Nippon? To simply say the war in Europe in answer to it is to answer a grave question lightly. Of course, the great war had a good deal to do with it—it gave to the new financial Japan a sort of certain raiser. No one thing, however, can answer for it entirely. Of the many reasons which underlie a happier status of financial Japan, there is one thing which looms up big—the people of Nippon are saving money. On August 7, 1916, the postal savings deposits in Japan amounted to more than 255,770,000 yen (\$122,830,000). On the same day the savings deposits at various banks throughout Japan amounted to 2,911,850,000 yen. In all, therefore, there was piled up in the banks and postoffices people's savings amounting to \$1,588,550,000 in American money. A few months back the postal savings took a jump; to-day it is accumulating at the rate of about \$25,000,000 a month. Farmers, it would seem, are not the people who are saving the money most. Tokio prefecture leads the procession with \$2,000,000 a month; then follows Osaka, with \$1,000,000 a month. This seems to add color to the war prosperity theory for Tokio and Osaka are two centres of the so-called war industry.

Before the war, back in 1913, financial experts were wont to say that Japan's wealth was increasing at the rate of 70,000,000 a year. That sounds as archaic as Mother Goose rymes to the ears of the present day Nippon, full of the deafening hums of her various and varied industries.

EUROPE'S LARGEST DAM BUILT BY AMERICANS

It Is Situated Near the Old Town of Talarn, in Spain

The largest dam in Europe, situated near the old fortified town of Talarn, Spain, was recently completed by American engineers and experts. According to Consul General Hurst, at Barcelona, it is constructed of concrete, and is 350 feet high, 700 feet long and 250 feet at the base, gradually decreasing to 14 feet at the top. The Noguera Pallaresa River flows through the chasm across which the dam is built, and it abuts on almost perpendicular cliffs.

The valley above the dam was bought from the various landholders at a cost of nearly \$1,000,000, and now, filled with water, forms an artificial lake 15 1/2 miles long and 3 1/2 miles wide. The floodgates are so carefully balanced that they open automatically under the pressure of a rise of one inch of water. The natural formation of the rock near the dam has been utilized to provide a spillway with a capacity of 70,000 cubic feet of water a second.

The dam has a twofold object in the production of electric power and use in irrigation. The water that now passes through the power house yields an electric current of 20,000 horsepower. Later it will