A Mammoth Golden Carpet!

Eleven thousand three hundred million pounds is the total of the indemnity Germany is called upon to pay the Allies over a period of forty-two years, says a London magazine.

More than £188 for every man, woman, and ch'll living in Germany; a guinea for every shilling Great Britain owed in 1914.

So stupendous a sum that, if all the Mints in the British Empire started to-day to coin gold at their average rate of production in normal times, the last sovereign would not be struck until the year 2,296.

The unaided mind cannot grasp figures so colossal—figures which represent little short of the entire wealth of Germany to-day, if she were put up to auction and sold "lock, stock and barrel."

Let us in fancy reduce the thousands of millions of pounds of peace-gold to sovereigns, and pour our avalanche of coins on to one pan of a giant pair of scales. On the other pan let us place every man, woman, and child living in Northumberland, Cumberland, Westmorland, Durham, and Lincolnshire. We shall find that these three millions or so of human beings cannot raise the mountain of gold the smallest fraction of an inch from the ground.

To carry it away we should have to recruit an army of 1,700,000 brawny porters—as many as the combined populations of Liverpool, Manchester and Plymouth. Let us give to each man a burden of a hundredweight.

We shall then find that, if we arrange them four abreast, with an interval of a yard between successive ranks, our column would be so long that, before the rear rank had passed our offices, the leaders would be marching through Durham.

Let us now try the experiment of conveying our mountain of golden sovereigns in wagons, each holding two tons and drawn by a couple of horses. Before the last driver had lost sight of London, his fellow at the other end would be within sight of Sheffield.

Such methods of transporting so enormous a weight are too laborous. So we will try the railway. For this purpose we shall require 8,878 trucks, each holding ten tons of gold; and our train, drawn by thirty powerful locomotives, will be so long that the foremost engine will be steaming into Waterloo Station before the last truck has cleared Guildford.

Now let us take our thousands of millions of sovereigns and set to work to form them into one far-spreading carpet of gold. So enormous will be this carpet that with it we shall be able to cover every square inch of five of London's great open spaces—Hyde, St. James's, Regent's, Battersea, and Victoria Parks. We shall have a remnant so large that every man, woman and child in Cornwall could find standing-room on it.

If we should fashion our sovereigns into a roadway, we should have a glittering path thirty-six feet wide, along which twenty men could walk abreast from Ramsgate to Land's End. Or we could link London with Berlin by a golden railway so wide that eleven men could walk along it shoulder to shoulder.

By reducing the width of our path to a little under six inches we could fashion a golden belt long enough to girdle the earth at the Equator.

So many are these sovereigns that if a nimble-fingered cashier dowered with perpetual youth were to start to-day to count them at the rate of 100 a minute for ten hours a day, he would no reach the last coin until the year 2437.

To get one more impressive idea of what Germany's indemnity means, let us, in fancy, invest it at a safe five per cent. It would then yield a perpetual income of £565,000,000.

——and the worst is yet to come

An Ocean Liner's Food Supply

Six thousand pounds of meat are eaten in a single day, and every day, on a voyage on board the giant White Star liner Olympic in the busy season on the Atlantic ferry. The ship then carries 3,500 persons on each trip across the ocean, including her crew of 878, and long experience has shown her chief steward that a proper daily allowance of meat per person is about a pound and three-quarters. At that rate, the average total of meat taken from the refrigerators and cut up for cooking in various ways is 6,000 a day.

This does not take into account consumption of chickens, which average 500 a day; nor ducks, geese and turkeys, nor 1,000 game birds consumed on each voyage, nor of fish, the latter averaging 3,000 pounds a day.

In addition to these staples, the people on board manage to dispose of 4,000 eggs daily and 480 quarts of milk every twenty-four hours. Butter is consumed at the rate of 200 pounds a day, and 2,700 jars of jam and 1,900 jars of marmalade disappear on the voyage like dew before the morning sun.

Fresh vegetables are an important feature of every bill of fare, and their consumption also is on a Gargantuan scale. For each round trip twenty-five tons of potatoes are taken aboard. They are consumed at the rate of about two tons a day while the ship is at sea—of these 600 pounds are mashed—and in proportion while she is in port, for her crew are hearty eaters.

Three tons of carrots, three tons of turnips and 2,500 heads of cabbage, weighing about five tons, also are taken aboard for every voyage. A hundred crates of lettuce, a ton of Bermuda onions or a similar quantity of Brussels sprouts are ordinary items in the ship's victualing list. When apples are ordered 250 boxes are none too many for a voyage. Grapefruit comes aboard 100 boxes at a time, and oranges in 200-box lots.

Included in the meat item of provisions for the voyage are 8,000 pounds of bacon and 2,500 pounds of hams, which are the principal salt meats carried. Lamb and mutton figure largely in the fresh meat supply, about 200 carcasses being taken on board for each voyage.

But the great staple in meat is fresh beef. It may be said that the public, when crossing the ocean, travels on beef. It demands meat three times a day. Whether the voyager is in first cabin or second or third, he must have his meat; and whether it comes to the table as sirloin steak, rib roast or filet mignon in the first-class dining room, or plain roast beef in the second class or beef stew or baked meat in third, it is the best quality of beef that money can buy—the complete opposite of the "salt horse" served on old-time sea voyages. The roast beef alone for a single day on the Olympic totals 1,800 pounds.

Refrigerators that have capacity for 500 tons of food are freshly filled for each voyage, and they keep everything put into them in perfect condition. Milk and cream are kept sweet for a week's voyage without the use of preservatives. Lettuce is as crisp after travelling 3,000 miles as when received on board. Fruit keeps for long periods.

Ice to supply the refrigerators is made daily, the amount required being 3,000 pounds every twenty-four hours.

THE NEW MEDICINE, A FRESH DISCOVERY

NOT MUCH IN A YAWN OR STRETCH.

Medical Science Discovering That These Actions Have Important Bearing on Health.

Many of the secrets of health and disease are hidden in the simplest disguises—for example, a laugh, a yawn, a sigh.

Take a yawn and a stretch, for example—the ordinary man's beginning of his day. Why does one yawn on getting out of bed? Why does one stretch one's limbs and get comfort from doing it? Why does one rub one's eyes? These are the most ordinary acts in the world; and yet their meaning is only just becoming understood.

Let us glance at the sleeping man before we try to answer the questions. As he lies in bed his muscles are all relaxed and soft. His chest moves very little; he breathes with his body, and that slowly and regularly.

Now we know that inactive muscles and an inactive brain have a smaller amount of blood in them than active muscles and an active brain. We know, too, that when the chest is moving very little the lungs are not opening very widely. We can infer from that that less than the usual amount of blood is present in the lungs.

There are several parts of the body which can hold a great deal of blood—the muscles, the lungs, the brain, and finally the organs of digestion. The bulk of the blood of the sleeping man is not in his muscles, his brain, or his lungs. It must therefore be in his body proper.

Experiment has shown that that is where it is. Therefore when he awakes he is not fit for immediate exertion or activity. He must first bring his reserves of blood to his brain, muscles, and lungs. How is he going to do this?

Pressure and Suction.

There are two ways in which blood can be driven out of the body proper into the lungs. The first is by pressure on the body itself, and the second is by suction. Pressure in this case means the pressure or squeeze of the muscles of the front of the body. Suction means the opening up of the chest, and so the drawing into it of blood from the veins.

The waking man on getting out of bed draws a deep, long breath—what is called a yawn. At the same moment he throws his shoulders back, and so brings his shoulder-blades nearer to each other. The strong muscles of his back become taut, and, thanks to the position he has assumed, his chest is pulled open.

Thus the "stretch" and the deep breath, the "yawn," are part of the same process. It is the stretch which makes the yawn.

But the yawn achieves another purpose. In stretching himself up and throwing back his shoulders, our waking man also draws the muscles over the front of his body so that they press strongly on the bodily organs.

Whipping Up the Heart.

This pressure naturally tends to drive blood upwards out of the body [illegible] and lungs. The suction [illegible] about comes from the chest itself. When it is pulled open by the "stretch," air rushes in (yawn), and blood also rushes in to fill it up. We have an effect like a suction-pump.

At the same moment our waking man often begins to rub his eyes. He is now fully stretched, with his head thrown back and his body taut. His chest is widely expanded, and is filled with air and blood. So far, however, blood is not being sent quickly enough to his brain and muscles. It is necessary to whip up his heart to stronger efforts.

Now the heart can increase its working power in two ways. It can make bigger beats, and it can beat more quickly. In the first case, its output of blood per beat is increased; in the second is output of blood per minute. In order to give bigger beats it must open more widely, and so take in more blood.

This process is controlled by nerves which connect the heart with the brain, and so with the eyes and ears and skin. The reason is obvious the moment one thinks of how an animal or a man wards off an attack.

If a man sees someone coming to attack him he gets his muscles ready to fight. But the muscles need a great deal of extra blood for their work. So a message is telegraphed to the heart to take bigger beats.

It thus comes about that there is a nervous connection between the eyes, ears, and skin, and the heart—in short, between the senses and the heart. On this account if you rub your eyeballs you make your heart take bigger beats. If you press very strongly on them you go farther and slow your heart, and may even stop it, because you are causing your heart to open wide and fill with blood.

If it filled too full it might perhaps not be able to shut—i.e., "beat" again.

Doctors have shown this in experiments in which pressure on the eyeballs causes slowing of the pulse. It is not, however, an experiment to be tried by uninstructed persons, as it is, or may be, dangerous.

The waking man who rubs his eyes rubs them comparatively lightly, and so only causes his heart to beat a little more strongly. This stronger action of the heart drives the blood to the brain and muscles.

But even at this point we have not exhausted all the surprises of this wonderful mechanism. If we watch our man carefully we shall see that just as he rubs his eyes he seems to strain all his muscles. He holds his breath, the big muscles in the front of his body grow tighter still, and you can see that they are pressing very strongly. You may also notice the veins in his neck swell up.

He is holding his breath, and so air cannot escape from his lungs. Yet now his muscles are tending to squeeze his chest tightly. Something has to go out of the chest—blood. This is a method of helping the heart to drive a good supply of blood into the muscles and brain. When enough has been accomplished, the man lets his breath go, and is at last properly awake.

Valuable Knowledge.

In fact, he has moved his reserves of blood from his body into his lungs to be charged with oxygen. Then he has driven the reserves onwards into his muscles and brain for use in his day's work. To accomplish this he has had to open up his lungs and set his heart beating strongly. Yet he has performed the whole work by actions which seem so utterly commonplace that nobody has taken any interest in them.

This study is called "The New Medicine." Its importance is very great because we are learning that the first signs of some diseases are changes in these ordinary everyday actions. Moreover, we are getting fresh knowledge of the proper way to take physical exercise, and of the meaning of such exercise.

All this knowledge will help us in the battle we are carrying on against national unfitness.

A quiet, easy walk the first thing in the morning is the best thing we can possibly indulge in, for it helps the heart to distribute the blood all over our body in preparation for the day's work.

Vulnerable.

A minister spoke very strongly against betting. One of the wealthiest members of the congregation was a great gambler, and someone told the preacher about this.

After the service he went up to the gambler, and said, "I'm afraid I must have offended you to-day, but——"

"Oh, don't mention it," was the reply. "It's a mighty poor sermon that doesn't hit me somewhere."

Nova Scotia's first legislature met in 1758; Prince Edward Island in 1773; New Brunswick in 1786; Upper Canada (Ontario) and Lower Canada (Quebec) in 1792.

The sea otter, the animal of most beautiful fur once so plentiful in Alaskan waters, is almost extinct. Traded in by the hundreds of thousands a century ago, pelts offered in 1920 were: one in St. Louis, three in New York and fifteen in London. The fur is so fine, lustrous and durable that a good skin has always commanded from $500 to $1,000. Last year the pelts were not of first grade; several were taken from the bodies of dead otter found on the seashore; but the average price at London was $2,000 a pelt.

UP-TO-DATE JIMMIE

By Vernon Russel

Pete Sharpe tilted his hat rakishly over his left ear, and grinned at Lem Plunkett. Mr. Plunkett was in high good humor.

"Has Jimmie Kennett opened his toy store yet, Lem?" Pete inquired.

"No. The idea that a kid should be our bitterest enemy! Jimmie Kennett in the store business! Bosh!" and Mr. Plunkett laughed. Sharpe joined in the laughter. The building shook with roars, peals and explosions of laughter.

"The style of the firm is 'Mrs. Kennett & Son.' " Lem explained. "The child had to call on mother for help."

"He'll call louder for mother, when we get done with him!" Sharpe prophesied.

"He's entirely too ambitious, Pete."

"We'll take the ambition out of his system. We made this town what it is; we own it. No one has a right to live but us. And this little mugwump has the audacity to start a store right under our noses! Enough is sufficient."

"Don't lay hands on him, Pete," interrupted Plunkett, "this must be a struggle of wits. We must out-general him. Why, he is only a kid! He opens his store to-morrow with a sale of fruit jars and preserve cans. How romantic!"

"Good!" exclaimed Sharpe, "we will sell the same articles, at ten cents on the dollar."

Meanwhile, Jimmie Kennett and his mother were busily engaged opening boxes and getting the store shipshape. This was Mrs. Kennett's first venture into the commercial field, and she felt a little nervous. Jimmie had drawn part of his money from the bank, and friends had wisely disapproved of the venture.

Sharpe opened voiced his disapproval.

"You're burning daylight," he told Mrs. Kennett. Mrs. Kennett repeated this to Jimmie.

"Mr. Sharpe says we are burning daylight, Jimmie."

"Is that so? Well, then, he can watch our smoke!"

Mrs. Kennett smiled. She knew Jimmie to be a mighty old nine-year boy. When he talked, he said something worth hearing.

Jimmie opened his store on Saturday morning.

Sharpe-Plunkett & Co. smiled broadly.

"What does he offer his articles for, Pete?" Lem inquired. He knew; he only wanted to hear Pete rave.

"He has his mason fruit jars marked down to $2.43 a dozen. The tin cans are lebeled $1.43 a dozen. That is twenty per cent. above wholesale cost," Sharpe explained. "Now we must slash his prices to smithereens. Luckily we secured all the preserve jars in the county. Our hour has struck; the time has arrived. Bombard that kid; drown him! Sell those jars at forty-three cents per dozen!" he insisted angrily.

"But the loss!" screamed Lem.

"Loss, nothing!" thundered Sharpe. "We'll deal him a staggering, sledge-hammer blow."

"All right; what you say goes," Lem replied, "but a little bird tells me—no."

Jimmie had laid plans, and counter-plans. He had expected Sharpe to make this move.

Sharpe laid a neat trap—and caught himself.

Every old man and woman, every girl and boy in the county appeared to be anxious to buy preserve cans and jars. They entered the Sharpe-Plunkett store in solid formation. They came in waves. They came in flocks. Business was booming. Clerks hustled to and fro. Sharpe was raking in the coin, but he lost money on each sale.

Jimmie Kennett sold absolutely nothing. But this appeared to please him; he smiled at his mother.

"It's going fine," sharpe confided to Plunkett, "we'll flood the country with preserve jars."

"We're about sold out now," Lem reminded him, "the crowd has gone away loaded to the guards."

When the last customer, with the last dozen preserve jars, disappeared, Sharpe received a galvanic shock.

He hustled into the cashier's wicket to tell Plunkett.

"That kid," snarled Sharpe, "has wrecked our whole system. His shrewdness is amazing."

"W-h-a-at?" gasped Lem Plunkett.

"That kid Jimmie," whined Sharpe, "played both ends against the middle. We are the middle. He must think seventy-two hours a day. Gee whizz! What'll we do?"

How did Plunkett know?

"What is troubling you, Pete? What has Jimmie done?"

"Done!" Sharpe roared, "he's done us! With every dozen jars we sold, we placed two silver dollars in Jimmie's pocket!"

"We? How?" Plunkett gasped.

"Figure it out yourself, Lem. You buy for forty-three cents and sell for $2.43. That means a $2 profit. Jimmie made that."

"B-u-t—I don't see!" said Plunkett.

"Well, Sharpe growled, "our customers were hired by Jimmie. He bought every single one of our preserve jars."

"Ouch!" screamed Mr. Plunkett.

Peas were cultivated in Europe more than 1,000 years ago.

St. John, New Brunswick, is Canada's oldest incorporated city.

Physiology of the Brain

What is the mind?

Nobody knows. A physiologist would tell you that your mental processes represent the co-ordinated functioning of nerve cells in the brain.

The explanation, however, is inadequate and unsatisfactory.

One hears a great deal about the "gray matter" which forms a sort of envelope for the brain, and which contains a great many millions of the above-mentioned nerve cells. But how about the whitish mass which it surrounds?

The answer is that this mass is composed chiefly of fibres which emanate like rootlets from the nerve cells, and which are interlaced and tangled together with an amazing complexity. These fibres and their supporting structures (with small scattered masses of "gray mater") make up what may be called the body of the brain.

It is thought that the nerve cells in the brain of a human being number something like 200,000,000. Their ramifying rootlets connect them one with another, and send out branches which extend to the most remote portions of the physical anatomy.

It is through the medium of their interlaced fibres that the nerve cells of the brain are able to work together harmoniously. To them we owe associations of ideas and memories, the ability to put concepts together and form judgments—to exercise, in a word, all the faculties of consecutive thought and reason.

Although so much has been learned within recent years about the physiology of the brain, only a small beginning has been made in the exploration of that strange and wonderful realm. The very complexity of it seems almost to defy analysis. We know that the fore-brain (made up of two convoluted masses called the cerebral hemispheres) is the main seat of intelligence. Certain definite areas of the c'ortex" have been proved to exercise motor control over certain parts of the muscular system of the body. The physiologit will tell you that the centre of visual perception is at the back of the brain, and he can point out in like manner the areas governing hearing, smell, taste.

But he is unable to go very much further. Ask, for instance, what is the business of the little brain called the "cerebellum," behind the ears, which is a distinct structure. He will tell you that it seems to govern locomotion, but that is about all he can say. The fore-brain is connected with the cerebellum by the mid-brain; directly in front of the cerebellum is a smaller mass called the "pons," and beneath the latter is the "medulla oblongata," an elongated body which tapers downward into the spinal cord.

The whole affair, including the medulla oblongata, is in effect the brain, and the spinal cord, through which a core of "gray matter" extends, is practically a prolongation thereof.

Strung along the spinal cord are small masses, mainly composed of the same sort of "gray matter" that is found in the brain, which are called "ganglia," and which are in effect little brains. All through the body such ganglia are distributed, manifestly controlling local activities under direction from the brain proper. It is as if the brain proper were a power-house, employing the spinal cord as a main transmission line and the ganglia as subtations.

The analogy, indeed, may be considered very close, inasmuch as nerve energy, according to the theory now accepted, is really electricity, and the nervous system a highly complex and wonderfully efficient electrical installation.

Travels of a Bird Husband.

Do birds mate for life? Mr. W. H. Hudson, the naturalist, discussing the question in his book Birds of Town and Village, tells an interesting story of a pair of thrushes that were true to their first love.

A woman who lived in Winchester, England, he says, had among her bird pensioners in the garden of her house a female thrush that grew tame enough to feed at the dining-room table. The thrush paired and bred for several seasons in the same garden, and each brood of young ones, too, were tame and would follow their mother into the house to be fed. But the male was too shy ever to venture in.

The first year that he appeared the woman noticed that he had a wing feather that stuck out, owing probably to a malformation of the socket. Each year after the breeding season the male vanished, and the female remained alone during the winter months; but in the spring the male came back—the same bird with the same unmistakable projecting wing feather. It is certain that he had gone far away; otherwise he would have returned to the garden, where there was food in abundance during the spells of frosty weather. As he did not appear, it is possible that he migrated each year to a warmer climate beyond the sea.

The Air We Breathe.

If the entire population of the world be considered, the total quantity of air breatned in one year by human lungs is about two hundred and sixty trillion cubic feet. Atmospheric air is about four-fifths nitrogen and one-fifth oxygen. It is reckoned that the nitrogen represented in the above-mentioned quantity would fill a cubical tank eleven miles on an edge; and the oxygen would fill another tank seven miles on an edge.

A cubic foot of air weighs about one and three-tenths ounces. Thus it is reckoned that a single human individual breathes in a twelvemonth six and one-fifth tons of air. To keep him alive for three score and ten years will require 430 tons of air.

Charles Nevers Holmes, who puts these figures together for the Scientific American, says that the requirement for the entire population of the world is in the neighborhood of ten and a half billion tons.

In order to survive, the population of the world must inhale yearly at least two and one-fifth billion tons of oxygen. The world's annual consumption of this gas alone would fill a tank one mile square at the base and 370 miles high. Its total consumption of air in a year would fill a similar tank 1,765 miles in height.

Success in Prairie Tree Planting.

In raising trees, as well as other crops, it is always advisable to follow nature's methods as closely as possible. If we do this we may confidently expect a very fair measure of success to attend our labors. Prairie trees require a fairly loose, warm soil, and it is therefore necessary to bring the land which it is desired to plant up in trees into as nearly a similar condition as possible. It would be absolutely foolish to plant trees on the freshly broken sod of the prairie and expect them to live under ordinary circumstances.—Norman M. Ross, Forest Nursery Station, Indian Head, Sask.

"John Gilpin" Composed at Night.

Cowper composed and memorized the whole of his humorous masterpiece, "John Gilpin," during a sleepless night.