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National War Finance Committee, Ottawa, Canada

### Galaxies Have Tendency To Form Into Clusters

An investigation which led to a new determination of the age of the cosmos was made recently by Dr. Eric Holmberg of the Lund observatory in Sweden, who is a guest research fellow at Mt. Wilson, Los Angeles. He studied the distribution in space of the outside galaxies, the individual universes like the Milky Way. They are not uniformly distributed but seem to form themselves into several streams. Dr. Holmberg undertook to learn how long it would take for the galaxies to get into these configurations, starting from a random distribution through space. Galaxies appear to have a tendency to form into clusters, just as individual stars seem to gather in an area to form a galaxy or cluster. As far as the small assemblages of clusters were concerned, their distribution was consistent with a theory that an assemblage was being formed or that previous assemblages were breaking up, but the larger streaming of universes on the outer bounds of space indicated that the formation process was the more likely one, and the calculations were based on this. It was necessary to know that the magnitude of the forces that were operating between galaxies, and this required a determination of the average number of stars—that is, stars—in each galaxy. The figure arrived at by Dr. Holmberg was 100,000,000,000.

### Silk-Worm Cultivation An Old Chinese Secret

The silkworm can live, and has lived in many parts of the world. Its first home was China, and there it toiled for centuries before it found a better place to live. The Chinese, knowing they had good thing, intended to keep it. The penalty for taking the unique worms or their eggs out of the country was death. One story is that the value of the silk cocoon was discovered by a Chinese princess who accidentally dropped a cocoon in her cup of hot tea. When she lifted it out, the gummy substance which binds the fibers had been softened, and the cocoon unraveled readily, yielding its lustrous thread. Whether that is the true story or not, Chinese legend has it that sericulture, the cultivation of silkworms, was undertaken on a large scale for the first time by a Chinese princess at the suggestion of her husband, something like 2,000 years before Christ. How well the secret was guarded is indicated by the fact that it was about 300 A. D. when the industry spread to Japan and India, and 300 years later before two monks, filling their hollow canes with eggs, smuggled silkworms to Italy. The silks of the Orient were traded as priceless treasures in the ancient world of the Mediterranean. In Rome, silk was sold for exactly its weight in gold. And silk culture spread. But China remained, until modern times, the land of silk. In 1906 China still was the world's leading producer of silk, with an output twice that of Japan.

### Dry Cleaning More Than Dumping Suit Into Vat

How often a man's suit should be cleaned depends on the type of suit, the sort of wear it gets and the occupation of the wearer, according to the Cleaners and Dyers Association of California. The solvent odor which sometimes remains in a suit after its return from a shop does not indicate a sign of cleanness, the association declares. On the contrary, the association claims, pure solvent does not leave an odor. It happens only when the cleaner allows his solvent to become dirty that the odor persists. In dry cleaning, the soil is transferred from the fabric to the solvent. If the solvent is not purified constantly, clothes which are cleaned near the end of the run may emerge from the cleaning tumblers dirtier than when they entered. There is more to dry cleaning than just dumping a suit into the cleaning vat. Removing the perspiration, especially from around the collars, shoulders and knees, is very important. Then the pressing requires particular attention. The lapel should never be pressed flat or left unpressed. It should be rolled on a special machine. Good cleaners vary their pressing procedure for different fabrics. Soft sport materials are finished with dry steam and without pressure which flattens the nap. Hard worsteds and gabardines, on the other hand, should be placed on a machine designed to avoid shininess.

### Smoking Cause of Heart Disease? Answer, Yes, No

Is smoking a cause of heart disease? This perennial question exercised a group of eminent doctors at the American Medical Association meeting. The Journal of the A.M.A. printed their arguments. The doctors puffed clouds of argumentative smoke. Dr. Frederick Arthur Willis of the Mayo Clinic presented a statistical study comparing the health of several thousand smokers and non-smokers who had visited the clinic. Conclusions: (1) In 569 smokers between the ages of 40 and 59, there was three times as much heart disease as in a similar number of non-smokers; (2) "beyond 60 years of age, no noteworthy differences were observed." Other doctors promptly pitched into these statements. Dr. Francis Daniel Murphy of Milwaukee: "White and Sharber in 1934 stated that the incidence of coronary heart disease is even higher in non-smokers than in smokers." Dr. George Rudolph Herrmann of Galveston, Texas: "We see only the few sick smokers and lose sight of the great number of smokers who have no symptoms to cause them to be obsessed . . . by our meager clinical experiences."

### Shortage of Silk Spurs Making of Substitutes

Americans, having failed in colonial times to master the care and feeding of silkworms, have developed in recent years new processes of imitating the feel and look of silk in fabrics made out of wood, cotton and wool. The freezing of raw silk stocks, it appears, will give further stimulus to the fast-expanding industries, which make silky dresses, upholstery, neckties and shirts from such products as rayon, nylon and other synthetics still in process of development. Washington observers are agreed that the emergency created by the stoppage of American imports of Japanese raw silk will spur textile engineers to redoubled efforts in their drive to produce the qualities of silk without the aid of the little silkworm. More than 90 per cent of the silk America uses now goes into the kind of stockings women were fighting for in the stores after the government's freezing order. The 2,986,146 dozen pairs of nylon full-fashioned hosiery sold in 1940, their first year of production, were 7 per cent of the total full-fashioned sales.

### Five-Year-Old Mother Normal in All Respects

The seven-year-old mother of a two-year-old boy in South America thinks of her child as a baby brother, Mrs. Paul Kosak, specialist in child education at Teachers college, Columbia university, said on her arrival in New York recently. Mrs. Kosak is the only child psychologist who has been permitted to make studies of Lina Medina, the Peruvian child who astounded scientists and medical men two years ago by giving birth to a perfectly normal baby. At the time it was considered so unbelievable that a five-year-old girl could give birth that it was hinted that she must be older than supposed. After giving a series of intelligence tests to Lina, however, Mrs. Kosak said she has no doubt the young mother's age was correctly given. "Lina," she said, "is above normal intelligence. The baby, a boy, is perfectly normal and is physically better developed than the average mestizo—Spanish Indian—child. Lina thinks of the child as a baby brother and so does the rest of the family. To them the child is just another baby." Mrs. Kosak passed a year in Peru studying native children. She said that she found them to be quick and intelligent. South America needs more schools with modern methods, she added.

### Derivation of Bible

Bible is the English form of the Greek biblia and means literally "little books." Now biblia itself derives from biblos, the word the Greeks had for the plant out of whose inner bark the Egyptians made what we call their writing paper—papyrus. It was on the papyrus that ancient books were first written and so it was that biblos came to mean not only papyrus but book—any book—as well. Not quite two centuries after Christ, Christianity had made such headway that the completion of the Old and New Testaments had come to be esteemed as the book or Biblia, the Greek word which the Latins took over bodily and used as a singular collective noun, and from which directly we have the English word Bible.

### Hugh Williams Lucky Name

Perhaps the most remarkable of all coincidences concerns a whole series of shipwrecked men named Hugh Williams, whose miraculous escapes are on record at Lloyd's in London. On December 5, 1684, the sailing ship Menia, crossing the Straits of Dover, capsized in a gale. Of the 81 passengers on board, one only was saved—Hugh Williams. On the very same day of the same month, in 1785, a pleasure craft called the Sea Sprite was wrecked near the Isle of Man. There were 60 persons aboard, among them one Hugh Williams and his family. Of the three-score passengers, none but the senior Hugh Williams survived. Now comes the most amazing part of this remarkable story: On July 10, 1940, an English trawler struck a German mine. Two of the crew, an uncle and a nephew, each named Hugh Williams, were the only ones rescued.

### He Knows Road Anyway

William C. Foster of Findlay, Ohio, traveled more than the distance around the globe to obtain his degree of bachelor of law.

### Dry, Moist Cooking

There are two distinct methods used in meat cookery known as the ways of best cooking the tender and less tender cuts (no butcher will let you classify any cut as TOUGH!). The tender cuts of meat are cooked by dry heat, which means by roasting, broiling or pan-broiling, and never think that a less tender cut may be tenderized by such processes. Tough cuts need moisture and usually long, slow cooking, such as braising, stewing or simmering. Perhaps some of you are wondering how to tell whether a cut is tender and can be cooked by dry heat, or whether it is less tender and should be cooked by moist heat. Those muscles used most by the animal are less tender. As a general rule, those cuts that lie along the backbone are the very tender ones. In beef, the rib roasts, the club, porterhouse or T-bone, and sirloin steaks are the ones best cooked by dry heat.

### Consumes Billion Pounds Onions

Anyone could earn the lasting gratitude of an Englishwoman today by giving her—of all things—a box of onions. She will appreciate our most humble vegetable more than candy. The onion shortage in England has been acute for months, and at a recent charity party in London, a basket containing a dozen large onions, tied with a bright ribbon, was auctioned off for \$20. Europeans are not the first to be wail their onionless plight. The Israelites, wandering in the wilderness, complained bitterly to Moses because they had none. Americans consume well over a billion pounds a year, worth \$17,000,000 to growers, not counting the onion's first cousins—garlic, leeks, shallots and chives.

### Locating Gold With Horsetail

Goldbugs have a new prospecting tool: the horsetail weed (Equisetum arvense), which grows abundantly across the U. S. and Canada. When it grows in soil with a gold content, it hungrily absorbs the metal. Hans Torkei Frederik Lundberg of Toronto told the American Institute of Mining and Metallurgical Engineers that for some time Canadian prospectors had been locating gold by burning a clump of horsetail, analyzing the ashes.

### Transfusions Through Bones

Blood transfusions can be given through the bones as well as through the veins, it was recently reported. In 17 trials of this method on 14 patients there was only one failure. Substances injected into the bone marrow enter the blood stream apparently unchanged and almost as rapidly as when injected into the veins, they report. Bones will not supplant veins as a route for introducing blood or other substances into the bodies of patients. In some conditions, however, it is difficult or impossible to inject into the veins: Widespread mutilations, burns, dropsy, shock, and poorly developed or obliterated veins are conditions in which the bone transfusion route might prove vitally useful. In little babies the veins are usually so poorly developed that injection into them are difficult or impossible.

### Birthstones

The birthstones of each month are January, garnet; February, amethyst; March, aquamarine or bloodstone; April, diamond; May, emerald; June, moonstone or pearl; July, ruby; August, sardonyx; September, sapphire; October, opal or tourmaline; November, topaz; December, turquoise.

### TRACTORS

Our quota is just four new Allis-Chalmers Tractors for February, and we only have two left. There will be only one Allis-Chalmers All-Drop tractor for each five hundred farmers who should have them. Hallatt's Tractor Harvester Company, 811 Main St., West, R.R. 1, Hamilton.

### Lieut.-Gen. McNaughton Inspects C.P.R. Tanks



THE stepped-up tempo of tank production at Angus Shops, Montreal, was evident everywhere when Lieut.-Gen. A. G. L. McNaughton made a detailed inspection of the big Canadian Pacific plant, whose machinery is turning out increasing numbers of medium weight "Valentine" tanks for the armed forces. Accompanied by ranking officials of the Canadian Army and senior officers of the Canadian Pacific Railway, Canada's No. 1 railway, the general and his staff received a first hand picture of tank construction from the smallest parts to the finished product. He displayed keen interest in the construction of the speedy war machines, a type that has been highly praised by the Russians on the field of battle. Highlight of General McNaughton's visit followed the shops inspection when six of the khaki-painted "Valentine" tanks, fresh from the Angus shops assembly line, raced out on the shops Midway, where they were checked, planned, and went through various other tactics to show their manoeuvrability. Above scene shows a group of Angus-built tanks awaiting shipment for "active service". Inset: Gen. McNaughton comments on some detail of tank construction. Others in the group include (left to right) H. B. Bowen, chief of motive power and rolling stock; Brig.-Gen. E. de B. Panet, Officer Commanding, M.D. 4; J. H. Berry, director general of automobile and tank production; Lt.-Gen. Kenneth Stuart, chief of the Canadian General Staff; D. C. Coleman, vice-president, Canadian Pacific Railway.

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