

Putting a Tape Line on the Stars

The measuring of the great star Betelgeuse is justly rated as one of the most remarkable achievements of astronomical science up to date. For hitherto, although many stars have been weighed, no method has been known whereby their size could be ascertained.

Thus, for instance, the size of Sirius, the dog star—so interesting to us by reason of its extraordinary brilliance, and also on account of historical records concerning it, which date back to the days when the pyramids were built in Egypt—has never been definitely ascertained, though it is believed to be at least forty times as big as our sun and more than 100 times as bright.

Sirius, Phocyon and Betelgeuse, as viewed from the earth, form a triangle in the night sky. But the dog star is very near to us, as stellar distances go—so near that a ray of light, traveling 186,000 miles a second, would require only twenty years to reach us as it comes. Betelgeuse is about eighteen times as far away.

Betelgeuse is a giant sun. If our own solar orb were equally big, the whole of the track which the earth pursues in its journey around that heavenly body would be included within the central flaming mass. The earth has an average distance of 93,000,000 miles from the sun. Thus one may form a notion of the immensity of the great star which has been newly measured.

It must not be supposed, however, that Betelgeuse is a relatively small mass like our sun. The giant star is as enormous a ball of flaming gas, very light in proportion to its bulk. Once upon a time our sun, perhaps, was as big or bigger. But our sun is exceedingly old, and as it has grown older, it has steadily shrunk, until now it is a dwarf in size and, one might say, decrepit.

One understands, of course, that all the stars are suns. Probably three-fourths of those we see with the naked eye are gaseous bodies. The gaseous stars are the powerful light-givers. Such giants as Canopus, Aldebaran, Arcturus and Antares are conspicuous examples. Every star, it is believed, is in its youth a mass of burning gas. As it grows older it shrinks and grows steadily hotter, up to a certain point, when it begins to cool.

Astronomers are accustomed to classify the stars in a rough way as "giants" and "dwarfs." But this has reference to volume, and not to mass. In proportion to their bulk, the giants are light in weight and the dwarfs heavy because more dense. The known approximate weights of many stars appear to indicate that, while one of them may have ten times the mass of another, the biggest of them does not exceed the smallest in this respect by more than that much.

When we look out beyond the confines of our universe, which we call the Milky way, and with the aid of a powerful telescope, behold the "star clusters"—island universes they have been called—we realize that all of the many thousands of stars which appear as if massed together in these clusters must be giants.

No fewer than eighty-six of these clusters, globular in form, with a dense massing of stars toward their centres, have been observed and studied. One of them, known as "Messier 13," has a diameter of 350 light-years—meaning that a ray of light would require three and a half centuries to cross it—and many of its suns are undoubtedly hundreds of thousands of times as big as our own orb of to-day. It takes 355 centuries for a light ray to come to us from Messier 13.

How the New Cook Used Baking Powder.

The old-time English deep-sea fisherman was not an epicure; still, as was his dyspeptic, but held his digestion as lightly as a man may and survive. Yet, we gather from Mr. Walter Wood's *North Sea Fishers and Fishermen* that there were heights, or rather depths, of gastronomy before which even his reckless spirit quailed.

A certain cook on one of the sturdy sailing smacks of the past happened to be a boy who had run away from home. His maiden culinary effort turned out "a pudding."

The crew ate it, but requested the cook to make the next one with baking powder. The boy promised to do so. He did not know much about using baking powder, and there was no one on board competent to teach him; so he depended on his own resources and inventiveness. He boiled the pudding and, just before serving it, scattered a handful of the powder on top.

The criticisms of the diners were repeated, but concluded Mr. Wood, but they cannot be recorded here.

Happy the man, in these days of shortage, who owns a house that is neither ugly nor uncomfortable! And happier still is the prospective builder who will conform honestly to good standards for the new structure! We may sigh for the good old days of cheap materials and abundant labor, but the responsibility for a pleasant new house is no less personal now than formerly. Of course utility should always be considered, but that is no reason why a house should not also have simplicity of line and good taste in ornament.

Used Autos

REPAIRS, OILS, TIRE, USED Cars of all types, all cars sold subject to delivery up to 100 miles, or test run of same distance if you wish, in as good order as purchased, or purchase price refunded.

BRING MECHANICS OF YOUR OWN CHARGE to look them over, or ask us to take any car to city representative for inspection. Very large stock always on hand.

Breakley's Used Car Market
402 Yonge Street, Toronto

The Bad Boy Proposition.

There are no bad boys. We make this statement confidently, knowing that it will be endorsed by educators and all who have spent their lives in working on the boy problem. We will defend it in spite of all the broken windows, stolen apples and canned dogs in Christendom.

There are weak boys, boys who lack resourcefulness, boys whose ideas of right and wrong are distorted, but there never was a boy who did not naturally—consciously or unconsciously—do things that he believed to be right.

The trouble comes when parents, teachers and others who are responsible for the youngster's development fail to fill his time with useful activity. The forces of nature must operate. We cannot stop them while we take our afternoon nap. The wind must blow, the water must flow, and the boy's brain and muscles must work.

We put a wind-mill in the path of the wind and it draws water as joyously as it upsets the chairs on the veranda and whisks the family wash from the line. We put a water-wheel in the stream and it grinds the grain with the energy which it could otherwise dissipate in washing out its banks and rooting out the trees.

These things we know; yet we too often permit youthful energy, our most valuable asset, to run riot. We even attempt to dam it and then complain because it flows over and does damage.

The Boy Scout programme is the mill in the stream of boyhood. It provides something useful for every boy to do every minute. Knot tying, first aid and bandaging, signalling, trailing and tracking, fire-building and extinguishing, camp cooking, swimming, earning and saving money, hiking, map making and map reading, practical study of flowers, plants and trees, earth and sky, are included in the Scout's programme for the year. After these a much broader field is opened, including foundation work in all the principal trades and professions.

A boy's first idle moment is the starting point of whatever trouble he makes in the world. It is also the big opportunity of the man who is wise.

Surnames and Their Origin

SLOANE

Racial Origin—Irish.
Source—A given name.

Sloan is one of the most ancient family names in the world, dating, as it does, to a period shortly after the time of St. Patrick in Ireland, some six or seven centuries before there was any real tendency toward the formation of family names in England, and, indeed, some four or five centuries before many of the Irish clan names came into existence.

It was, like virtually all Irish clan or family names, derived from a given name by the addition of a word designating "descendants of" or "followers of." Such names were commonly formed at any time when a chieftain achieved a sufficient following and respect to give him the proper power in that peculiar social organization of the ancient Celts in which blood-ties were the chief bonds.

It was in this manner that the name of Sloane originated, "on the rise to prominence of one 'Sliolan' son of 'Eochan Cooch.' The given name of 'Sliolan' means 'the skinny one' or 'the thin one,' and it was probably given as a result of characteristics displayed in the newborn infant. The clan name was formed by the combination of this name, infected in the possessive case, with the word 'ua' or 'ui,' signifying descendants or followers. This word later came to be designated simply by 'O.' Thus, the Irish form of the clan or family name is 'O'Sliolan.'

Sloane, of course, is but the Anglicized version of it, which in the course of transition from one tongue to the other, has lost one of the syllables and

enough and patriotic enough to turn natural energy into constructive channels. Already over 250 Scoutmasters are directing the activities of some 9,000 boys in the province of Ontario, and the movement is only a little more than ten years old. Men interested in devoting part of their leisure time to this "nation building" work should write to Boy Scout Headquarters, Bloor and Sherbourne Sts., Toronto, for further information.

A WOMAN'S RIGHT TO GOOD HEALTH

Most Troubles Afflicting Women Are Due to Poor Blood.

To every woman belongs the right to enjoy a healthy, active life; yet nine out of ten suffer from some form of bloodlessness. That is why one sees on every side pale, thin cheeks, dull eyes and drooping figures—sure signs of headaches, weak backs, aching limbs and uncertain health. All weak women should win the right to be well by refreshing their weary bodies with the new, rich, red blood that promptly transforms them into healthy, attractive women. This new, red blood is supplied by Dr. Williams' Pink Pills, which reaches every organ and every nerve in the body. Through the use of these pills thousands of women have found benefit when suffering from anaemia, indigestion, general weakness and those ailments from which women alone suffer. Among the many women who tell of the good Dr. Williams' Pink Pills have done them is Mrs. E. Hicks, Round Hill, N.S., who says: "I became very much run down in health; my blood seemed weak and watery, my strength failed, and I was so easily tired that my work was a burden. I had often read about Dr. Williams' Pink Pills and decided to try them, and I can truly say that after using three boxes I found myself gaining, and under a further use of the pills all my old-time energy and vitality was restored. Out of my own experience I can strongly recommend this medicine."

You can get Dr. Williams' Pink Pills through any dealer in medicine or by mail at 50 cents a box or six boxes for \$2.50 from The Dr. Williams' Medicine Co., Brockville, Ont.

The teak, which supplies one of the strongest timbers known, grows slowly, attaining a height of only 150 feet in over a century.

Japan has 20 women journalists.

Minard's Liniment Relieves Distemper

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A Winter Night.

As I strode down the long slopes of the snow, the moonlight like dark statues showed.

The little woodland stream that by me flowed, And sang in springtime as in sheer delight,

Was silent now, as is an eremite Who broods on God in his austere abode.

I was alone, yet I was not alone, For some mysterious spirit called to me

Out of the night in an exalted tone That was as rapture bled with melody,

"Wait for a time when to thee shall be shown

What seemeth sorrow meaneth ecstasy!"

Wisps of Wisdom.

The greatest of faults is to be conscious of none.

The thunder of business often sours the milk of human kindness.

Yesterday has gone to-morrow may never come; do it to-day.

Prefer diligence before idleness, unless you esteem rust before brightness.

Education is life's apprenticeship; its chief aim is to teach us how to think.

Success is a thing that some are content to envy in others—and some achieve for themselves.

When a man hasn't a good reason for doing a thing, he has one good reason for letting it alone.

If you lack confidence in your own judgment, you can't blame other people if they share the feeling.

The man who wins is the man who holds on until he can hold on no longer—and then doesn't give up.

Let the man who has to make his fortune in life remember this maxim: Dare, and the world always yields. If it beats you sometimes, dare it again and it will succumb.

Garden Seeds Needed.

To plant a 100-foot row of vegetables in the garden, buy seeds as follows: Beans, one pint; beets, two ounces; cabbage, one packet; carrots, one ounce; cauliflower, one packet; celery, one-fourth ounce; Swiss chard, two ounces; sweet corn, one pint; cucumbers, one ounce; egg-plant, one-half ounce; kohlrabi, one packet; lettuce or mustard, one-half ounce; muskmelons, okra or onion seeds, one ounce; onion sets, one quart; parsley, one packet; parsnip, one ounce; peas, one to two pints; peppers, one packet; potatoes, six to seven pounds; pumpkins, radishes, salsify, spinach or squash, one ounce; tomatoes, two packets; turnips, one-half ounce; watermelons, one ounce.

STORMY WEATHER HARD ON BABY

The stormy, blustery weather which we have during February and March is extremely hard on children. Conditions make it necessary for the mother to keep them in the house. They are often confined to overheated, badly ventilated rooms and catch colds which rack their whole system. To guard against this a box of Baby's Own Tablets should be kept in the house, and an occasional dose given the baby to keep his stomach and bowels working regularly. This will not fail to break up colds and keep the health of the baby in good condition till the brighter days come along. The Tablets are sold by medicine dealers or by mail at 25 cents a box from The Dr. Williams' Medicine Co., Brockville, Ont.

After the Storm.
One of the soldiers of the Rainbow Division, United States, had been boasting to a British Tommy about its glories.

"Lumme!" said the Tommy. "I know why yer calls it hat. Rainbows is things that comes out after the storm's over, ain't they?"

MONEY ORDERS.
Send a Dominion Express Money Order. Five Dollars costs three cents.

Whale of a Fish Story.
At a convivial gathering in connection with an angling club a sailor listened attentively while the members told of the big fish they might have landed had not their lines given way at the critical moment.

The manner in which they recounted their exploits would have brought tears to the eyes of the most hardened storyteller.

But a sailor never knows when he is beaten.

"Well, mates," he began. "I never did any fresh-water fishing, so I expect you are telling the truth. But I remember on one occasion, having nothing better to do, we cast a line at sea and awaited results. Soon we got a bite, but for the life of us we could not bring in our catch. Then an idea struck us. We fastened the line to the windlass and proceeded to haul in, when the boat gave a lurch, the line broke, and the monster escaped."

One of the company, with biting sarcasm, suggested that it must have been a whale.

"A whale, be hanged!" replied the sailor; "we baited with a whale!"

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For most makes and models of cars. Your old, broken or worn-out parts replaced. Write or wire us describing what you want. We carry the largest and most complete stock in Canada of slightly used or new parts and automobile equipment. We ship C.O.D. anywhere in Canada. Satisfaction or refund in full our motto. Shaw's Auto Salvage Part Supply, 523-525 Dufferin St., Toronto, Ont.

Japs Are Fond of Metaphor.

Judging from some specimens quoted not long ago in the *Journal des Debats*, the Japanese employ a wealth of metaphor when advertising their war-s. A Tokio stationer announces that "the paper I sell is as solid as the hide of an elephant." A fishmonger promises to deliver all orders at customers' houses with the rapidity of a shot fired from a rifle. "My extra special vinegar," a grocer declares, "is as sour as the tongue of the most shrewish mother-in-law." A large multiple shop begs the public to "come into our stores. You will meet with an overwhelming welcome. Our assistants are as amiable as a father who is trying to marry off his daughters without giving them any dowry. You will always be greeted as cordially as a spell of sunshine coming toward the close of a pouring wet day."

Sandalwood.

Sandalwood is the production principally of the native state of Mysore, India, and the district of Coorg, in both of which places the industry is almost a monopoly of the government forest reserves. Due to the development of the sandalwood oil extracting industry, the exportation of the wood has steadily declined, while that of the oil has increased.

Sandalwood is the most famous of all scented woods. Its use for perfumery and incense dates back thousands of years. The later Greek considered it one of the greatest luxuries, and no festivities were complete without it. Sandalwood figures prominently in religious ceremonies and burial rites in China and other Oriental countries.

"Pape's Diapiesin" for Indigestion.

"Pape's Diapiesin" is the quickest, surest relief for indigestion, Gas, Flatulence, Heartburn, Sourness, Fermentation or Stomach Distress caused by acidity. A few tablets give almost immediate stomach relief and shortly the stomach is corrected so you can eat favorite foods without fear. Large case costs only 60 cents at drug store. Absolutely harmless and pleasant. Millions helped annually. Largest selling stomach corrector in world.—Adv.

I never saw so many fields yellow with mustard as I did last summer. One thing is sure, we can not buy seed at random and expect all timothy or clover. A careful analysis is the only thing that will settle the question of mustard and other foul seeds or good grass seed. We have only to put a big spoonful in an envelope, address it to the Dominion Experimental Farm, and back will come the correct analysis. Then it is our fault if we have fields of mustard after that.

The large farms in South Lincolnshire, England, are so perfect that they are more like factories than farms.

Those Having Sick Animals SHOULD USE

MINARD'S "KING OF PAIN" LINIMENT

Good for all throat and chest diseases, Distemper, Gargel, Sprains, Bruises, Colic, Mange, Spavins, Running Sores, etc. etc. Should always be in the stable. SOLD EVERYWHERE.

America's Pioneer Dog Remedies Book on DOG DISEASES and How to Feed Mailed Free to any Address by the Author, M. Clay Glover Co., Inc., 11 West 121st Street, New York, U.S.A.

DANDERINE

Stops Hair Coming Out; Thickens, Beautifies.

A few cents buys "Danderine." After a few applications you cannot find a fallen hair or any dandruff, besides every hair shows new life, vigor, brightness, more color and abundance.

BITS OF HUMOR FROM HERE & THERE

Oh, For One Fault.

"How do you like your new car?" asked Jack Driver.

"Great!" replied Mr. Rhode Hogg. "It runs so smoothly you can't feel it. Not a bit of noise; you can't hear it. Perfect ignition; you can't smell a thing. And speed—why, it whizzes! You can't see it!"

"Must be some car," ventured Jack Driver. "Can't feel it, can't smell it, can't hear it, can't see it! How do you know it is there?"

Had An Inkling.

"Agnes, dost thou love me?" asked a Quaker youth of one at whose shrine his heart's holiest feelings had been offered up.

"Why, Jack," she answered, with a downcast look of her eyes, we are commanded to love one another, are we not?"

"Ay, Agnes, but dost thee regard me with the feeling the world calls love?"

"I hardly know what to tell thee, Jack. I have greatly feared that my heart was an erring one. I have tried to bestow my love on all, but I have sometimes thought, perhaps, that thee