Twinkling Stars Puzzle Scientists

That such a simple and everynight matter as the twinkling of the stars is not properly understood by science or really explained by current scientific theories is argued by B. A. Synge in a recent communication to the London scientific periodical the Philosophical Magazine. Star twinkling usually is explained, Mr. Synge recalls, by what opticians call refraction; that is, by the bending of the light ray from the star by the upper layers of the earth's atmosphere so that the ray alternately enters the eye and falls outside it, making the star seem to twinkle. Another conventional theory, Mr. Synge explains, is that the light ray from the star interferes with itself in the same way that colors are produced in a butterfly's wing or in a film of oil on water. The interference of adjacent light rays which causes these colors may even result in what seem to be black spots on the oil film; that is, in complete extinction of the light. This is supposed to happen to the light ray from the star. These theories of twinkling seem all right on superficial view, Mr. Synge agrees, but calculation shows, he maintains, that they cannot explain the real twinkling. Both the bending and the interference of the star's light rays are too small. Instead, Mr. Synge suggests a third theory blaming the twinkling on another optical effect called diffraction, like the colors seen when light shines through a lot of fine lines ruled on a plate of glass.

Letter

A letter is a story
On a shred of rag,
From a cloud of glory,
In the postman's bag.
It is but a feather,
A wing-weight, no more;
I run in any weather,
For it, to the door.
When I hear the ringing
Of the postman's bell,
I run, singing,—
If it comes, all is well.
—Isabel Fiske Conant.

"I know of no more deplorable program than the current effort to 'humanize' the machine."—Louis Untermeyer.

Civilization is the art of living together in an ordered society.—D. Lloyd George.

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The Tonic He Needed

Jim Hatherton was right in the middle of his final examinations at Varsity when as he said himself something snapped and he was just a bundle of nerves. He went to a doctor and told his story. The medical man, not so long out of university himself asked a good many questions about Jim's examination and his home folks.

Finally he said "You sit right down here at my telephone and call up your mother and have a real good chat. I know you write every week and all that, but just have a good chat and don't hurry for it will not cost much anyway."

Jim did more than that; he called his home every evening from his rooms while the exams were on. The sound of his mother's voice seemed to be just the tonic he needed.

The Blackberrying Season

Somewhere along in May the exquisite white of the blackberry blossoms began to foam down the back lanes in Waverly. At the same time, and almost every day, there fell a little, slender, silver rain, stopping for a while and beginning again; this was called a blackberry rain. The country grew a very fair thing, mist-white, cloud-like; the smell of the blossoms, together with the drip of the rain, gave the whole weather an unexpected strange loveliness. You felt yourself a new-comer in a separate world. A month or so later, the fruit appear, first scarlet, then a round, glossy black. The blackberrying season was on.

By what favor of the gods my sister and I were included in the party which set out from the old house some June afternoon, intent on filling sundry kettles and baskets with the ripened fruit, none will ever know. It was always in the afternoon; it was always hot. We started off, each carrying a tin kettle, crossed the orchard and the Old York Road, climbed a fence, and let ourselves down in Macdonald's pasture. A breathless moment. A thick dry odor hung in the air. A fiery sun stood in the parched, clear sky. We started again, we small ones trudging unimportantly in the rear. Nor for all the kingdoms of the would would we, by sign or word, have attracted adult attention to our delighted pinafored selves. We were in a different and strange country, sky overhead, ground underneath, but of wide spaces, miles of leather-hued fences, a tree here and there, an elder bush with its broad fragile blossoms, or a patch of the first yarrow, bitter, crude, grey-white, straight as spears. It was as though we were walking to the ends of the world. Suddenly we came to a hollow, and a huddle of briers, showing patches shining black from top to bottom. Here were our berries. In a minute or two they were falling with a pleasant clop-clop into our kettles, the sound turning into a duller one as the latter began speedily to fill up.

All about was the scent of the berries, like something spicy boiling over on a stove, and of the wind in the fence, and the earth under our feet.—Lizette Woodworth Reese, in "A Victorian Village."

Sunlight Is Best Medicine On Market

As Much Bare Skin Should be Exposed as Modesty Permits

By JOHN BURKE INGRAM

"Free medicine folks, walk up and get your free medicine. Greatest cure-all in the world and it's free!"

This is not, as you might think, a patent-medicine seller's spell. It's just to remind you that the open season for sunlight has commenced and that sunlight is the greatest "unpatent" medicine in the world, even though it is only recently that we have begun to realize just how important it is.

Did you know that when sunlight falls upon your skin it makes a kind of food which your body needs very badly? This "food" is known as Vitamin D. You've probably heard about Vitamin D because a great deal has been written and talked about it during recent years. The reason why people take cod liver oil is that it is rich in Vitamin D but cod liver oil is only a substitute for sunlight. The vitamin is produced in the cod's liver by the action of sunlight and you get it second-hand. It is much better to get it first hand which in Canada one can do most easily in the summer time. Sunlight when it falls upon your skin produces a certain chemical reaction and this reaction preduces Vitamin D.

Now the moral of this article is a very simple one. Get out into the sunlight as much as you can this summer and get your full share of this greatest of all medicines. It is possibly even more important that children should do so than grown-ups because some authorities claim that in this northern climate almost all children have at least a touch as some time in their lives of the disease known as rickets. This disease is caused by lack of Vitamin D which the system needs in building good strong shapely bones.

There is one very important thing to remember however. If the sunlight is to effect your skin as it must do to produce this health giving result the rays must fall directly upon the bare skin. Even if they pass through glass or the lightest of clothing the invisible rays which produce Vitamin D are filtered and do not reach the skin. At the same time one must be careful in taking sun baths to go easy at first; otherwise that painful and well-known phenomenon sunburn, will result, but while taking this precaution see to it that you get out in the sun this summer as much as possible wearing as few clothes as modesty and the local police force will permit.

Britain Plans to Save Beauty Spots

London.—The appointment of an authority to formulate a national park policy for the preservation of famous British beauty spots is recommended by a committee which was appointed by Mr. Ramsay Macdonald in 1929, with Dr. Addison as chairman.

The committee's report, issued recently, states that the objects to be achieved would be to safeguard areas of exceptional natural interest against disorderly development and spoilation, to improve the means of access for pedestrians to areas of natural beauty, and to promote measures for the protection of flora and fauna.

Preservation in many cases could be ensured by a planning scheme.

The question of providing camp sites in natural reserves should be examined.

Provision of huts or hostels might be facilitated.

Areas examined and suggested by witnesses as suitable for national parks were: Snowdonia, Dartmoor, New Forest, Exmoor, Dovedale, Peak District, Lake District, South Downs, Bowland Forest, Forest of Dean, Cannock Chase, West Riding, Cairngorms, Trossachs, Black Mountains, and Brecon Mountains.

The Invar Tape

The invar tape used in land surveying by the surveyors of the Topographical Survey, Dept. of the Interior, is composed of an alloy of iron and nickel in the proportion of 64 per cent. of the former to 36 per cent. of the latter. As its name implies, it is invariable or nearly so; that is to say, it is not subject to as large changes in length due to temperature variation as is the ordinary steel tape.

Native Runners Vanishing As Mexico Builds Highway

A highway is being built by the Mexican government from Laredo to Mexico City, a distance of 750 miles, writes a correspondent of "The Christian Science Monitor." It is a vast engineering problem to bridge mountains and dales, for the route selected veers purposely from the easier flat and barren desert stretch that was used by the builders of the existing railway.

The route is through virgin territory in many districts unaffected by the trend of modren civilization. There is at present no telegraph and no postal service. The native has never heard of an automobile, and his method of communication dates back centuries to the Aztec period. Runners are used to carry word from one village to another.

But the runners are preparing, as the water carriers of Mexico City did a few years ago, to retire. No sons are being trained by runner fathers to succeed them. As when the pioneers made their way west in the early days of the United States, native scouts point to the camps of the surveyors as an inevitable sign that their offspring must be service station attendants, hotel clerks and what not, but certainly not follow in their fathers' footsteps.

"The world has never failed to return to religion after a period of scepticism and agnosticism."—G. K. Chesterton.

Winifred: "When I am married to Bob I am to have three servants." Freda: "Possibly, but not all at once'."

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Color Combinations

For a contrast of form and color use specimens of dwarf French marigold in maroon among masses of campanula loreyi.

The golden Santa Barbara poppy, Humnemannia, looks well in front of tall autumn lupines in blue.

For color mass in a "neglected" corner: blue cornflower, maroon anl yellow calliopsis, and red and white Shirley poppies. The white Shirleys, especially those with the fascinating green and black centers, combine well with blue, lavender, or purple flowers.

Gilia capitata has finely cut foliage and feathery flowers of lavender-blue. It will enhance groups of coarse plants, such as the zinnia.

Where there are huge, old specimens of hollyhock, start one or two annual vines at their roots. The vine-covered hollyhocks will prove very effective, whereas ordinarily they would have to be cut, leaving a great gap in the borders. The feathery cypress-vine is one of the most useful for this purpose.

Direct Action

A wild duck was seen taikng drastic measures to guard the crumbs thrown to her ducklings by kindly passers-by. These crumbs were attracting sparrows, and the ducklings hadn't a chance.

The mother duck felt this couldn't go on. She attacked the sparrows and sent a few of them scuttling away minus their tail feathers. Two of the worst offenders met a still more dreadful fate—she seized them with her beak, dragged them to the pond near by, and held them under water until they were drowned.

The farmyard duck has been known to take similar action in the same circumstances.

A man is bound to think of all just excuse for his offender.—Marcus Aurelius.

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