

Synthetic Diamonds

The Difficulties of Making Big Ones Called Only Technical.

Out in McPherson, Kan., is Dr. J. W. Hershey, head of the local college department of chemistry. So far as the published records show, he was produced the largest artificial diamond. When it is breathed that the diamond is only about as large as a pin-head and that it cost far more to produce than it is worth (\$5 according to one enthusiastic estimate), those who think of real solitaires sparkling on the counters of five-and-ten stores will lose interest in Dr. Hershey at once.

Back in 1896 a French chemist, Moissan made microscopic diamonds. Until Hershey came along, these were the largest ever produced. Because they were so small, there was some doubt about them. They could not be chemically tested with the thoroughness demanded, because they were just a few specks of matter. Hershey's biggest diamond is four times as big as anything that Moissan made. But is it a diamond?

Here Dr. Sesta comes to the rescue in The Philosophical Magazine. After a thorough consideration of all that has been done, he decides that Moissan did obtain real diamonds.

THE METHOD EMPLOYED

Behold then, Dr. Hershey making diamonds by the Moissan method. He fills a little crucible with iron filings and sugar carbon, and puts it in an electric furnace. At a temperature of 3,000 degrees C. (5,000 F.) the mixture melts into a white-hot liquid. Dr. Hershey drops the crucible into a vat of cold water. A hiss. A cloud of steam. The crucible contracts as it suddenly chills—squeezes the mixture. The pressure exceeds ten tons to the square inch. Dr. Hershey calculates.

Inside of the cooled crucible is a black mass. Does it contain diamonds? Dr. Hershey must cut away the solid iron with something that will not affect the diamonds. So he steep the mass in aqua regia—a mixture of nitric and hydrochloric acids. After a week the iron disappears (as pure iron). Maybe a bright speck of pure grit is left after the liquid has been filtered. Are they diamonds? Relying on Sesta, Dr. Hershey is convinced that they are.

No one knows exactly how diamonds were made by nature. High temperature and high pressure seem to be necessary. Hence the 3,000 degrees C. and hence the plunging of the glowing crucible into cold to obtain the pressure by contraction. The sugar carbon is used because diamonds are crystallized carbon. And crystallization is brought about by heat and pressure—a forcible rearrangement of atoms.

Is this the beginning of something commercial? Let Dr. Hershey speak for himself.

"The artificial construction of the diamonds," he says, "is no longer an unattainable goal. The difficulties that prevent the preparation of large and beautiful diamonds are only technical."

Beaver's Habits

(Letter to Toronto Mail and Empire)

I can endorse Mr. Reid as to the size of "tee cut down by the beaver. I have seen dozens of trees of over 12 inches diameter so cut, mostly balsam and poplar. On one noted instance we came across on the N. Saskatchewan a poplar of fully 12 in., one of a clump of three that had been cut and had dropped off the stump but lodged and the beaver had cut the tree a second time; again it had lodged and been cut about one-fourth through still remaining lodged. I never saw a similar instance. Beavers seldom or never cut a dry dead tree or rampick, generally choosing green wood like balsam, poplar, etc., which for making their lodges they pile in a heap and literally and actually cut the inside out of, making the entrance beneath water and ice level. There are at this day simply hundreds or remains of beaver dams in our northwest, many of them without any exaggeration over 1,000 feet long, and in the smaller streams I have seen numberless instances of backwaters built of stones to enable them to float the wood nearer their lodges, this because the animals are slow on land while the deeper pools enable them to handle their timber better. This is Indian halfbreed and bushman lore, not from a professor.

OLD TIMER

Toronto, Jan. 10, 1936.

"Wanna Buy A Wife"

The Bosnian custom of selling wives and girls for marriage has made a girl in the village of Apatovi the bride of two bridegrooms in one day. Ibrahim Hadzibegovich loved Hajra, the daughter of his neighbour, but she was forced to marry Jusuf Jarich. On the wedding day, however, Jusuf let his wife go to Ibrahim for thirty shillings.

ORANGE PEKOE BLEND "SALADA" TEA

EVERY DAY LIVING

A WEEKLY TONIC
By Dr. M. M. Lappin

NOISE!

"I dislike noisy people, and all my life I have been troubled by them. Many times I have been compelled to change my address simply to get away from noisy people." These words stand out in a letter that I have now before me as I write. It came to me from a lady correspondent last week and as she relates her



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experiences to me, I can quite understand why she dislikes noisy people. She further states that she is at present troubled with the noise of neighbors. They go out and in at all hours of the night and day, without a thought for anyone apparently but themselves. Talking loudly, slamming doors, prancing heavily along the corridors, of keeping radios go full blast into the small hours of the morning.

"I get little sympathy," complains my correspondent. "I am always trying myself to be quiet and considerate of other people's comfort, and would never think of entering a house late at night, tramping through a hall and slamming doors. I consider it very bad manners and a mean and selfish thing to do."

In that last sentence I feel myself almost in agreement with her. If folks would only think about these seeming little things, they would be more considerate of others. But they don't think, and thoughtlessness is very often the parent of unconscious selfishness.

We live in a world of noise. Indeed, there is so much noise in the world that civic and other public bodies here and there feel that something ought to be done about it. In New York City, for example, a movement to eliminate noise was sponsored recently by the Mayor of that city. But there seems to be so little that can really be done to eliminate noise. We cannot expect or hope to eliminate it altogether. My own opinion is that, if we could only get men and women to take a little more thought for others, that would go a long way. There is so much noise that will always be necessary that we should try to eliminate all that is unnecessary.

After all, if we must be out late at night, we need not let the whole neighborhood know about it. And if we do want to listen to some late program on the radio, there is surely no need to keep the radio at full blast. We can tone it down, and radios are so well constructed today that it is an easy matter to tone down so that the programme may be heard quite clearly within the room without disturbing anyone without. If only we would try to be a little more considerate of the other fellow, how much more pleasant life would be for all of us.

On the other hand, I feel that perhaps my correspondent is somewhat sensitive. It may be that she is of a nervous temperament and easily disturbed. Or, perhaps she is among so much noise during the day that she longs for the quiet of the evening and night and, when she does not get that quiet, she feels that more disturbed. There are many who will know how to sympathize with her. I believe we can school ourselves to such a pitch that these things will not trouble us. For example, if one should happen to be

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Issue No. 7 — '36

Rainbow Gold

by E. C. BULEY

SYNOPSIS
Dan Prescott and Gordon Westery find gold in the arid bush of Australia. They stake their claim and start the long journey to the coast. Westery has a fiancée, Gladys Clements in England, but when they arrive in Sydney he marries a pretty blonde. Gordon forwards a photo of Dan to former fiancée, Gladys Clements, in London and when Dan arrives she believes he is Gordon. Eve Gilchrist, a typist, obtains work in Medlicott's office. The broker who is floating the mine, E. and Dan fall in love but when Eve is confronted by Gladys she believes in Dan's duplicity.

He had gone. Eve sat stock still, fighting hard against the temptation to run after him. Presently she was washing fervently that she had yielded, and as the day wore on abundant reasons were provided for wishing so apart from her own personal and private feelings.

Milton Medlicott asked for Dan as soon as he arrived; and at intervals repeated the demand. Cairns was also eager to get in touch with the absent man; and to him, as to her employer, Eve had to offer the explanation that Dan had gone away without giving any information about his movements.

Then the London Press developed a deep interest in Mr. Daniel Prescott; and to Eve, as Dan's secretary, each new reporter was referred for information. There was nothing to be said, except that Mr. Prescott could not be seen; and that bald statement, Eve felt, was calculated to heighten the bad impression which already existed.

Next came a telephone call from Australia, for Mr. Prescott and nobody else. The man speaking at the other end refused maddeningly to enter into the suggestion that he should state his business or give his name. He cut Eve off in the middle of an anxious question.

The interest taken by the whole office staff in discovering Dan was maddening. Nobody made a direct reference to Eve's responsibility for his absence; but she felt that Frankie seemed less cordial than usual, and Eve sensed her disapproval. The atmosphere of the office suggested that she alone, of the whole Medlicott organisation, had been mean enough and disloyal enough to turn upon a man just because he was down.

It was almost closing time when Medlicott referred directly to the cause of Dan's absence.

"I expect you know something about it, Eve?" he said. "No; I don't expect you to discuss it with me. But Mrs. Medlicott would like you to take dinner with us, if you will." Eve's face probably portrayed the thought which at once came to her mind, for Medlicott added quickly: "I know what you are thinking, but it isn't so. We have no idea where he is. But my wife has some-thing in her mind, and would like to see you again, anyway."

"I don't know why she should," Eve said miserably. "I may as well tell you that Mr. Prescott went away hurt, because I told him that he had ceased to exist for me, out side business hours."

MADGE TAKES A TIP...

THESE MUFFINS ARE SO LIGHT AND TENDER—WHAT'S YOUR RECIPE?

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The Book Shelf

BY MAIR M. MORGAN

"GO WEST YOUNG MAN"—by Bernard J. Farmer (Thomas Nelson and Sons, Ltd.) \$2.00 is the story of one Peter Cochrane, ambitious young Briton emigrating to Canada. There have been few good novels about Canadians who comprise seventy per cent. of the population in the farm and rural people and the mass of "Shirtsleeve" city workers. Admittedly a number of books have been written about farm life—although real farmers often have some difficulty in recognizing themselves. This new novel by Bernard J. Farmer should be greeted with a warm welcome as it shows accurately, yet poignantly in simple, unpretentious prose, the experiences of a young man, fresh from the Old Country, tossed into the whirlpool of "unskilled labour" before he is able to land on his feet. Ontario readers will find it enlightening—the manner in which the unskilled workman obtains a daily subsistence. The hero of "Go West, Young Man" labours on railway section crews, sells silk stockings from door to door in Winnipeg, works on construction gangs and mines in Ontario. He often starves, is often down but never out, and in the end achieves contentment in a modest job, with a happy, contented wife as his partner. Many of the incidents come from the personal experience of the author—and many Old Country folk will recognize some of the difficulties that they too encountered during the first years of taking root in a new country.

Forthcoming Books

FICTION
"MAIN LINE WEST"—Paul Horgan (Mussion)—March.
"THIRD ACT IN VENICE"— Sylvia Thompson (McClelland and Stewart)—March.
"DUST OVER THE MILLS"—Helen Ashton (Macmillan)—February.

"It was not Germany which lost the last war; it was Europe. Another war would destroy us."
—Benito Mussolini.

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R. L. Stevenson And His Beloved Nanny

Many a man has cherished the tender memories of his old nurse. In the instance of Robert Louis Stevenson, it remains a moot point whether his love for his old nurse "Cummy" (Alison Cunningham) did not pass that deep natural affection for his own mother.

The auction room may be held to give supporting evidence. Recently at Sotheby's (London) Stevenson's "Child's Garden of Verse," 1885 (dedicated to his old nanny), which he had inscribed to his mother, "M. I. Stevenson from her loving son, the author," was purchased by Mr. Ernest Maggs for 330 pounds. A very good price indeed, but let it be recalled that, in the Kern sale, New York, six years ago, the copy which Stevenson had given to his old nurse realized 1,700 pounds.

It must be borne in mind, however, that this well-thumbed copy was accompanied by a wonderful letter, in which Stevenson explained to his mother why he had dedicated the volume of his childhood's verses to his old nurse. The "family" had been a bit annoyed by this preference. Let Stevenson's letter speak for itself:

"I stick to what I said about Cummy, which was that she was the person entitled to the dedication. If I said she was the only person who would understand, it was a fashion of speaking; but to Cummy the dedication is due because she had the most trouble and the least thanks. As for Auntie, she is my aunt, and I am often decently civil to her; four advantages that could not be alleged for Cummy. That is why I chose Cummy; and that is why I think I chose right."

It was the great-niece (living in Alberta) of Mrs. Stevenson who sent the presentation copy to Sotheby's, along with 27 others given to Stevenson's mother, which totalled 2,221 pounds.

"Treasure Island," 1883, proved to be the highest. This was inscribed, "from her afft. son, The Author," and realized 580 pounds; "Travels with a Donkey in the Cevennes"

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—Sarah O'Connell.