

"Out of Russia"--Our New Serial Story

IT will be off with the old and on with the new in next week's issue of our Literary Magazine. We will conclude that sterling story, "At the Call of Honor," by Marchmont, and start a new serial—the story of Russian adventure and intrigue, of which we told you something last week. "Out of Russia" is the title of this new serial. It will capture your interest at the very outset. In the opening chapter a mysterious emissary calls upon an American scientist, whispers a few cabalistic words in his ear and commands him to leave his work and his home and do the bidding of a Russian secret society of Revolutionists of which he was a member years ago in his Russian student days. He obeys—because there is no other thing to do—and his obedience leads him into deep plots against the Russian government. Through his love of the scientist's daughter, a wealthy young American is also entangled in the intrigues, which center about a Russian treasure ship which was sunken in the Baltic sea by Revolutionists, and which both Revolutionists and the government are seeking to recover. Beginning thus, the author weaves a modern romance that holds the reader firm and fast until its very conclusion. You will like the story because it is strong and virile.



CRITTENDEN Marriott, himself a man of many adventures, is the author of the story.

When we have told you something of his own career, you will agree that he is well qualified to write a tale of adventure. He has done about as many things in his forty years as any one well could. In 1867 he was taken by his uncle, Gen. Crittenden, to Fort Abercrombie, Dakota, where he spent three years, until the killing of his uncle's son with General Custer. Later he lived in Louisville, Virginia and Baltimore until he was appointed, by President Arthur, at the age of 16, to a cadetship at the naval academy at Annapolis. He stood very high in his studies there, but his eyes failed after two years and he had to resign. After a short experience as an insurance clerk, he studied architecture and went to San Francisco.

The call of the wild allured him, however, and he went gold hunting in the mountains of Mexico and lower California. When at last he got back to civilization he entered newspaper work, but in 1892 he started for South Africa to practice mining engineering and write for the press. Africa, however, was not all the glowing reports had painted it. There was little gold and there was none of the romance that attends mining in the United States; it was as dreary as day laboring for wages. So he determined to get back to God's country.

This, however, was easier said than done. He had eaten up everything he had except a rifle and a frying pan, and with these he started via Johannesburg for Charleston, the nearest railway station, nearly

1,000 miles away. He did it in three weeks, living on game that he shot most of the time. At Charleston he found funds awaiting him and took the railway down to Durban, whence he sailed for home on a Norwegian sailing ship.

He reached the United States early in 1893 and went to New York, where he joined the Tribune staff. He left in the fall, however, to go to Brazil on the Nietheroy, which had just been bought and fitted out as a dynamite cruiser by the Brazilian government to put down the rebellion in the Portuguese republic. Mr. Marriott accompanied her as Associated Press correspondent. Later he left her loafing along the coast and went on to Rio Janeiro, where daily fighting and yellow fever were in progress. He saw Admiral Benham finally smash the rebellion by escorting several American ships through the rebel blockade. When the Cuban rebellion broke out he went to Havana for the Chicago Record, taking with him C. E. Crosby, who was shot and killed only a week or so after he landed. Marriott had put him through the Spanish lines only two days before and he had gotten safely to Gomez' camp, only to meet his death in the first skirmish.

Left alone, Marriott succeeded in making a dicker with the insurgents whereby he could go once a week to Remedios, a town about 100 miles from Havana, where he would receive a bundle of rebel mail and all sorts of rebel news. This he would carry to Havana and send it by secret service to Key West. It was by this means that the Record had so much exclusive Cuban news. For instance, Marriott transmitted a personal appeal from Gomez to President McKinley.

Finally, after several narrow escapes, he was forced to leave the island, but went back the next year as Associated Press correspondent, commissioned to accompany Admiral Watson on the latter's projected trip to bombard the Spanish coast. Watson did not go, however, and Marriott joined General Miles in his expedition against Porto Rico. He was the first newspaper man to land there, and was in the first battle on Porto Rican soil. When the war was over he went back to Washington to newspaper work, but soon quit it to enter public service.

Mr. Marriott first began to write fiction about ten years ago. Almost his first attempt won one of the big prizes offered by the Chicago Record for 150,000 word mystery stories, whose solution the readers were to guess. It was this that later led to the Record choosing him to go to Cuba. Of late years he has published hundreds of short stories and more than a dozen newspaper serials. His first novel in covers is the "Isle of Dead Ships," which was printed last fall by the Lippincotts. Late in 1908 Harpers published a book of his, entitled "Uncle Sam's Business," which contains, in really amusing style, a vast fund of information about the workings of the government. This book is well worth reading by both young and old. Harpers have another book of his now in press, called "How Americans Are Governed, in Nation, State and City."

Man Made Gems As Good As Nature's

IF science keeps on duplicating the mysterious processes of nature, there will come a time when precious stones, even diamonds, will lose their preciousness because they will be nearly as common as glass. Chemists have little by little discovered how to make various gems, like rubies, sapphires and turquoises so much like those that have been taken from the earth that only the very keenest experts can tell the difference between the artificial and the natural. Chemists have actually made diamonds, tiny little diamonds, but they are so far practically valueless for the market. But it is not unlikely that some day will bring the announcement that even diamonds, as good as the natural, may be manufactured.

The most notable success of science in the manufacturing of gems is in the case of the ruby and other members of what is known as the corundum family. These stones are produced, and especially the ruby, perfectly and only a few men in the world can detect their artificiality. As a matter of fact they are rubies. Corundum is a crystallized form of alumina. Alumina is a constituent of ordinary clay. The best known form of corundum is emery, well known as an abrasive material. The purer forms of crystallized corundum include the sapphire (whose blue color is due to some unknown substance, possibly of organic origin). The ruby also consists of crystallized corundum, but owes its red color to the presence of a small amount of chromium.

The first true synthesis of the ruby was effected by the French chemists Fremy and Verneuil in the year 1891. Their process consisted in heating alumina in the presence of water and hydrofluoric acid. Small quantities of carbonate of potassium, calcium fluoride, and potassium bichromate were previously added to the alumina. The temperature of the furnace used was about 1,500 degrees C. For a successful result to be obtained it was found necessary that the materials used should be absolutely pure. At this temperature and under these condi-

tions, the alumina gradually assumed the crystalline form. Though too small to be ground, it was found possible to mount these rubies in groups in articles of jewelry, but the process never obtained commercial success, and soon ceased to be employed. These rubies were known as "rubis scientifiques."

Far more important commercially are rubies made by quite a different process, now known in trade as "rubis synthétique." The raw materials from which these rubies are made is alumina and chromium oxide. Both these substances must be absolutely pure. The raw materials are prepared by simple chemical processes from ammonia-alum and chrome-alum. Both of these, it may be noticed, are among the cheapest and commonest of chemicals. The alumina mixed with chrome oxide, made from the two alums, is dried and powdered.

The apparatus in which this powder is made into rubies consists essentially of an oxyhydrogen blowpipe whose flame is directed vertically downward. The powder is placed on a small sieve in a dilation on the oxygen tube of the blowpipe. By means of a small hammer, driven electrically, the sieve is lightly tapped at intervals. At each tap a minute amount of the powder is shaken out of the sieve, and, being carried downwards by the current of oxygen gas, is brought into the flame. Under the flame is placed a small cone of pure alumina. The particles of the powder are fused in the blowpipe flame, and gradually form an incrustation on the cone. Slowly a small rod of pure ruby material grows up on the top of the incrustation. Gradually the growth at the upper end of this rod expands laterally, so that the structure assumes the shape of a mushroom, or, rather, of a glass flask with the neck downwards. This structure consists of a pure and perfect ruby, which can be made in this way of large size.

It is an interesting question whether it is possible to distinguish between synthetic

and natural rubies. At first this could be done without difficulty. The earliest synthetic rubies showed under the microscope numerous minute air bubbles, but improvements in the process of manufacture have resulted in the suppression of the bubbles, and there can be no doubt that only a person possessed of very great experience can hope to make the distinction.

The introduction of these synthetic rubies has caused some commotion in the ruby trade, especially as the present price of synthetic rubies is about three shillings per carat. This is far below the price of natural rubies. With natural rubies a stone of a carat weight and of good appearance may be valued at £50.

BITS OF WISDOM By GEO. FITCH

Don't talk about your family. If you are a credit to a good family you don't have to talk about it.

It isn't the fact that you have lost which makes you feel so badly. It is the fact that the other man has won.

Blessed is the man who makes one word do where two were required before. The old mathematical examples about the product of the extremes and the means isn't half as interesting as the commercial problem of the product of the extremely means.

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