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interest in Billiard Balls and/or
Pool and Billiards.**

How Billiard Balls Are Made

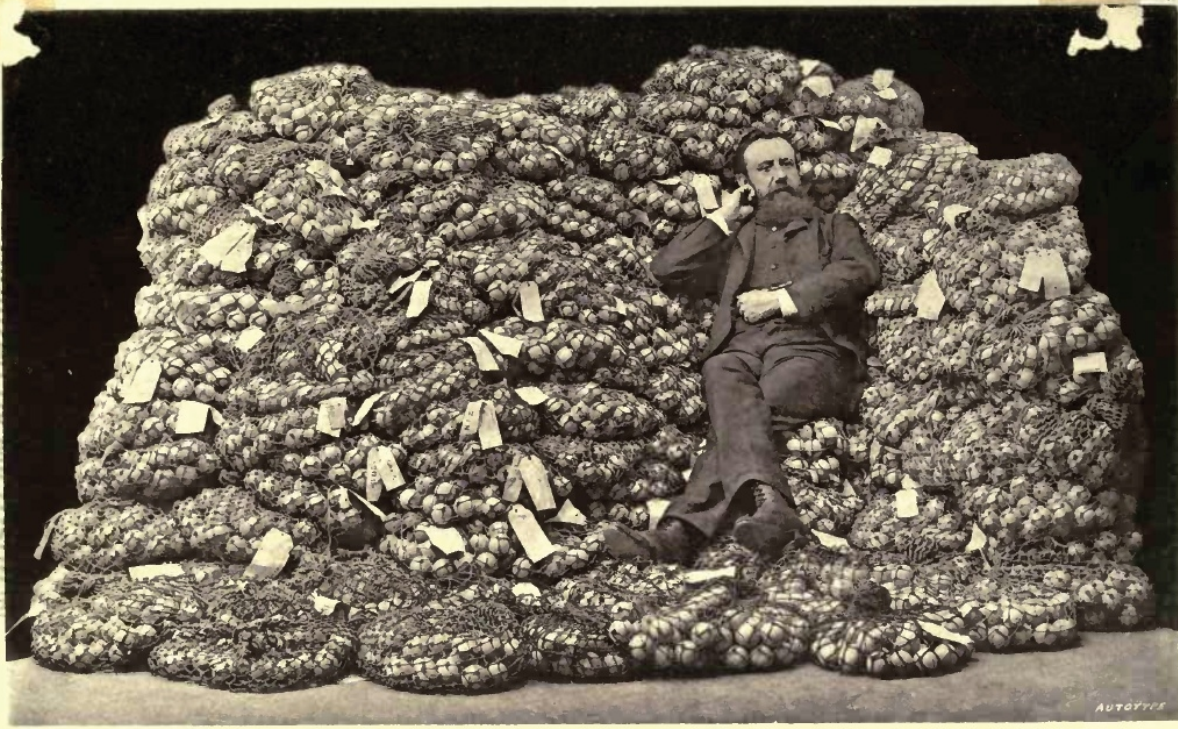
This ebook contains part of a delightful book published by the Burroughs & Watts Company of Soho Square, London called **Billiards Simplified; or How To Make Breaks**. It is believed to have been published in London around 1890. This section consists of an interview with Mr. James Burroughs as published in the Pall Mall Gazette.

The picture below shows Mr Burroughes lying on a mountain of rough billiard balls which are in the process of seasoning. In case you cannot easily read the caption to the picture, it says-

Photograph of Burroughes & Watts' Stock of Billiard Balls.

20,000, value £16,000. The largest Stock in the World. The average number cut from the Tusks of an Elephant is 10 (5 from each Tusk), and the above Stock represents the produce of the enormous number of 2,000 Elephants. Our average Sale of Billiard Balls is 950 per month, which is equivalent to the produce of 95 Elephants, or the annual total of 1,140 Elephants.

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PHOTOGRAPH OF BURROUGHES & WATTS' STOCK OF IVORY BILLIARD BALLS.

20,000, value £16,000. The largest Stock in the World. The average number cut from the Tusks of an Elephant is 10 (5 from each Tusk), and the above Stock represents the produce of the enormous number of 2,000 Elephants. Our average Sale of Billiard Balls is 950 per month, which is equivalent to the produce of 95 Elephants, or the annual total of 1,140 Elephants.

Giuseppe Trevisani
James Burroughes
F. Z. S.

HOW BILLIARD BALLS ARE MADE.

INTERVIEW WITH MR. JAMES BURROUGHES, F.Z.S.

FROM THE "PALL MALL GAZETTE."

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WE promised in a previous article on the ivory trade to say something on the making of billiard balls. We can do so today with some authority, as a representative was fortunate enough to find Mr. James Burroughes in his artistic little sanctum, on the well-known premises of Messrs. Burroughes and Watts, Soho Square, and disposed to answer any question that was put to him.

Mr. Burroughes was not literally sitting on "a mountain of billiard balls," as he is represented in one of the firm's photographs, but he might appropriately speak from such a pedestal, for he has made himself master of every branch of the subject. The photograph shows the process of seasoning the firm's stock of balls, numbering no less than 20,000 and valued at £16,000. The average number cut from the tusks of an elephant is ten--five from each tusk--so that this stock represents the produce of no fewer than 2,000 elephants.

THE ANNUAL TURN-OUT

"We turn out," said Mr. Burroughes, "from 10,000 to 12,000 balls a year, and to do that we must keep a very large stock in order that they may be thoroughly seasoned. Why they require to be seasoned is that ivory is a gelatinous substance and requires to be dried. We take a great deal of pains in this process. A ball never shrinks at the end grain, that is to say, in the way the tooth grows, but always in the diameter. After it has been roughed out we keep it for two or three years.

"Two sizes of billiard balls are made--one for the Continental and American markets, and one for the English. The former measures 2 1/4 in. to 2 1/2 in. Immense quantities of these are manufactured in England, and shipped to both continents. The size most used in England is 2 1/16 in., which is the match size as used by Roberts, but 2 1/8 in. is also made. No other sizes can be used on an English billiard table, as the cushions are only built for that height of ball.

The American game is based on the French, and the tables are the same size. Cannon is the usual game. On the Continent they don't use pocket tables, but in America they have what they call a pool table, which has six pockets. Russia, as distinguished from the rest of the Continent, has the same size of table as the English 12 ft. by 6 ft., but the cushions are higher to suit the larger balls. I have played billiards in Russia, and for the matter of that in almost every part of the world. The Russians do not play our game at all, often playing with numbered balls, and appear to have no idea of our scientific methods. All

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the English-speaking peoples, excepting the Americans, use the English-sized table and English-sized ball."

HOW TO MAKE A GOOD BALL

"The size of tusks out of which balls are turned are called scrivellos. You cannot make a satisfactory ball out of a tusk that is over a certain size, because if you turn a 2 1/16 in. out of a tooth that measures 2 1/4 in. or 2 3/8 in., you will remove too much of the outside skin or hard surface of the tusk. The nearer you have the tusk to the size of the ball the better surface you obtain. We consequently select different sizes for the English and Continental balls.

"The process of manufacture is very simple, but it requires great skill. The block of ivory is placed in an iron chuck, and one half of the ball is turned. The ring that is taken off is, in the case of the smaller size, used as a coupling ring for a pair of horses, and in that of the larger is sent to India as a native bangle."

Exhibiting one of these half-turned balls, Mr. Burroughes pointed to an iron pellet which had been disclosed embedded in the ivory. It had gone almost through the tusk, and in the course of time the hole had been filled up.

"After the second half has been turned it is hung up for a few months with its fellows in a net to dry. No artificial heat is used. They are kept free from any draught of air, as ivory cracks when exposed either to a hot or cold current. When considered thoroughly seasoned, they are most skilfully turned by men who have been taught this process for years, and it is certainly one of the most wonderful pieces of handicraft there is.

There are thousands of turners in the kingdom, but not one in a hundred will turn a billiard ball so as to produce a perfect sphere. Each one is carefully tested to ensure accuracy. But besides the size, the weight must also be exact, for this is essential to the correct playing of the game of billiards.

A set of match balls weighs 14 oz. Balls out of the same tooth will vary very considerably, and so there must be a careful selection. The polishing is the final operation, and that is done simply by whiting and water, with a good deal of elbow grease. A ball always retains its beautiful polish."

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A NEW PROCESS FOR HARDENING

"We have lately discovered a process for hardening the surface of balls, called by us 'etioliating and annealing.' A set subjected to the process is being used by Roberts at the Egyptian Hall. He has played 12,000 up with one set, and they are as good now as they were at the time of starting. I consider this a wonderful invention. We cannot patent it, but, of course, we keep the process secret. It is effected by chemical means which does not destroy the nature of the ivory."

THE LIFE OF A BALL

"The life of a ball is very various. A ball will not remain perfectly true, however much it is seasoned, because of the continual concussion, which causes the cells of the ivory to close up. If a ball is very much played with, especially in a heated room, immediately it is turned, it is very liable to crack and become untrue. I have known a ball to run untrue in a match of a thousand up. They can, of course, be readjusted, and in the billiard-ball department that is one of the principal branches of our business.

We never take off more than one-twentieth of an inch, unless the balls are very bad. They would be of no use for a match after readjustment, but for ordinary play they are quite as good, perhaps even better, because they have been consolidated. We have to study the bias of a ball. If the core does not run straight through the ball, because of being cut out of a circular tooth, it always runs untrue. The core should run straight through it."

ONLY AN EXPERT CAN JUDGE

"Only an expert would know a good ball. I have had over thirty-five years' experience, and my father gave me a practical knowledge at the bench, so that I can turn a ball myself. It is not surprising, therefore, that I should know a good ball at once, but a billiard player must trust to the manufacturer."

HIGH PRICES, AND WHY

"As to the price that depends upon the quality of the ivory, its density, and the straightness of the core, besides the perfection of shape, colour, and weight. In making

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balls for a match we will turn 300 and not be able to pick out more than four perfect sets. That accounts for the seemingly extravagant price which is charged for perfect billiard balls. They are the choicest of the choice.

The rise in the price of ivory at the last three or four sales has sent up the price of balls to four guineas a set. This is a big price to what was once charged. We have been fifty-three years here, and forty years ago we sold billiard balls at i8s. a set, equal to those for which we now charge four guineas. You can't buy a billiard ball block in the rough now under 143. to 155., that is for the best. Then the manufacturer has to make his selection, for balls crack in turning and drying.

"As to composition balls, they have been making them for over twenty years, and very largely of late and yet they cannot supersede ivory. The composition ball is made of two substances, and as the inner dries slower than the outer, it chips and cracks. No billiard player will use composition balls as long as he can afford ivory, at whatever price.

Of course composition balls will be used by people who don't care to pay the price of ivory, but billiards is quite another game when composition balls are used, the angles at which the balls go off being so different. No doubt the day will come when people will have to use composition because there will be no ivory. I don't think that will happen in my time. I should say fifty years hence.

"Decidedly billiards is more popular than ever it was. Every man who can afford it has a table in his town house, and his next move is to put one in his country house too. New billiard table makers are springing up every day. When we began there were only two makers in London. Now there are sixty-four. We have branches in India and the Colonies, and have just arranged to begin manufacturing in Sydney on a larger scale. All our balls are turned in London, and we employ regularly eight ivory turners."

HOW WE GET OUR IVORY

"A certain proportion of our supplies of ivory come from Asia, but the bulk and the best comes from Africa. Indeed, a great part of what is nominally East Indian is really African, for it is sent from Zanzibar and Mozambique to Bombay, and such parts as are not required for bangles and carved work are shipped to England. More or less comes from Burma, Siam, Cochin China, Ceylon, Sumatra, and Java, the Siamese being the best of the Asiatic, which is apt to discolour. The African is shipped from Senegambia,

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Guinea, the Congo, Benguela, and other places on the West Coast; Zanzibar, Mozambique, and Sofala on the East; Cape Town on the South; and from Tunis, Tripoli, Alexandria, and Cairo, being brought down from the interior in caravans.

London is the great market for ivory, and buyers, both for home and abroad, attend the four series of sales held at the London Docks. Liverpool, through its direct trading connection with the West Coast, receives a certain amount of ivory, and has a series of minor sales, and Antwerp is now trying to cut into the trade as an outcome of the Belgium efforts in the Congo Free State.

At the last series of sales held in London only 75 tons were offered, but the quantities usually range from 100 to 120 tons. The last auctions in Liverpool disposed of 13 tons, and about 31 tons were offered at Antwerp. Last year the total imports of ivory into this country weighed 11,757 cwt - This would mean at least 60,000 tusks, and the destruction of 30,000 elephants for this market alone.

France, Germany, and America share in these supplies, but they also obtain ivory direct, more especially Germany. One authority reckons the annual mortality of African elephants as high as 65,000 for export alone, besides which there is a large consumption in Africa itself, the chiefs in the centre keeping the choicest tusks for the decoration of their temples, houses, and graves. One qualification should be noted. However long-lived the elephant is, a considerable number must die naturally every year, and a corresponding proportion of ivory be obtained from elephants which are not slaughtered. The natives discover great quantities in what are known as the elephant's burial-grounds.

The End.

The Burroughes & Watts company was founded in 1835 and is still around today. They carry snooker and pool cues, billiards and pool tables, and accessories. They are on the web at <http://www.burroughesandwatts.com/>

I hope you enjoyed this ebook. I find it to be a fascinating look into the history of billiard balls. For additional information on billiard balls, visit [About Those Billiards Balls](#). And, for much more information on Pool and Billiards, visit my websites-

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Thanks,

Ernie Reynolds

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