

HARRY BREARLEY



Harry Brearley was born on 18 February 1871 in Sheffield. Like many children who grew up in the city, Harry was the son of a steelworker. When he left school at the age of twelve (leaving school at an early age to go into employment was not uncommon in this age) he became a labourer at his father's steelworks. In later years he would be promoted to the post of general assistant in the company's chemical laboratory, where he began to work in metallurgy.

Harry worked hard at the lab but also studied at home and in evening classes, learning how to specialize in steel production techniques and chemical analysis. By his early thirties Harry had earned a good reputation in the industry.

Industrial change

All through the 19th century, Europe had seen a massive industrial transformation which helped to bring about many new scientific inventions. Developments in metallurgy (the study of metals), chemistry and electricity led to new forms of explosives, made firearms more reliable and also led to a revolution in communications with new inventions such as the electric telegraph.

It was in 1908, when two of Sheffield's biggest steelworks decided to jointly launch a new research laboratory, that Harry was asked to lead on the project. He went on to join Brown Bayley's Steel Works (also in Sheffield) and he became a director of the firm in 1925.

The science of war

Arms manufacturing had increased massively just before WW1 but there were many practical problems because of the erosion of gun barrels. As a prominent metallurgist, Harry began researching new steels which would not erode at high temperatures. He tried adding extra chromium to the steel to see if this would help preserve the barrel casing for longer.

The accidental discovery

When at the testing stage, he discovered completely by accident that this new combination of traditional carbon steel and chromium was very resistant to chemical attack and he immediately named it 'rustless steel'. Being from Sheffield, 'The Steel City', Harry saw the potential for the new metal to be used in cutlery and household utensils.

Until now, household cutlery had been made from other metals, including silver.

As well as making cutlery quite expensive, it also meant that all food that was eaten had an odd taste of metal that came with it.

Today stainless steel cutlery is commonplace, with a whole host of other items being made from Harry's invention, from kitchen sinks to tea sets due to its malleability, affordability and the fact that it does not react when it comes into contact with cleaning products. It is also widely used to make medical equipment.

Charity

In 1941 Harry Brearley created a charitable trust The Freshgate Trust Foundation. The Foundation is a grant making charity, operating in Sheffield and South Yorkshire to help out people from 'modest' circumstances like Harry to experience travel, education, the arts and music.



HARRY'S STORY (IN HIS OWN WORDS)



I never went looking to become a famous inventor. I really didn't. I mean - me! A young lad from Sheffield born into a family wi' only one room to live in on Spital Street. Son of a steelworker, leaving school at twelve. I 'ave no business being famous! All those years of being a cellar lad or a bottle washer - I never dreamed I'd ever come up wit summat that'd still be around and being used by so many years and years later. It's unbelievable!!

Rustless steel were summat that came about completely by accident. Oh sorry, we renamed it didn't we? It's stainless steel you know it as in't it? Yes. Stainless steel. My accidental legacy.

After all me years of training and going t'night school I'd become quite a metallurgist - that's someone who deals wi' experimenting on't metals and I'd got a good job leading a team at Firth Brown's researching for the army. It were never my intention to produce something for civilian populations - I were tasked wit' making gun barrels. They were corroding see? Wasting away. That were no good for anyone, so I were given the task of finding a way to make 'em last for longer.

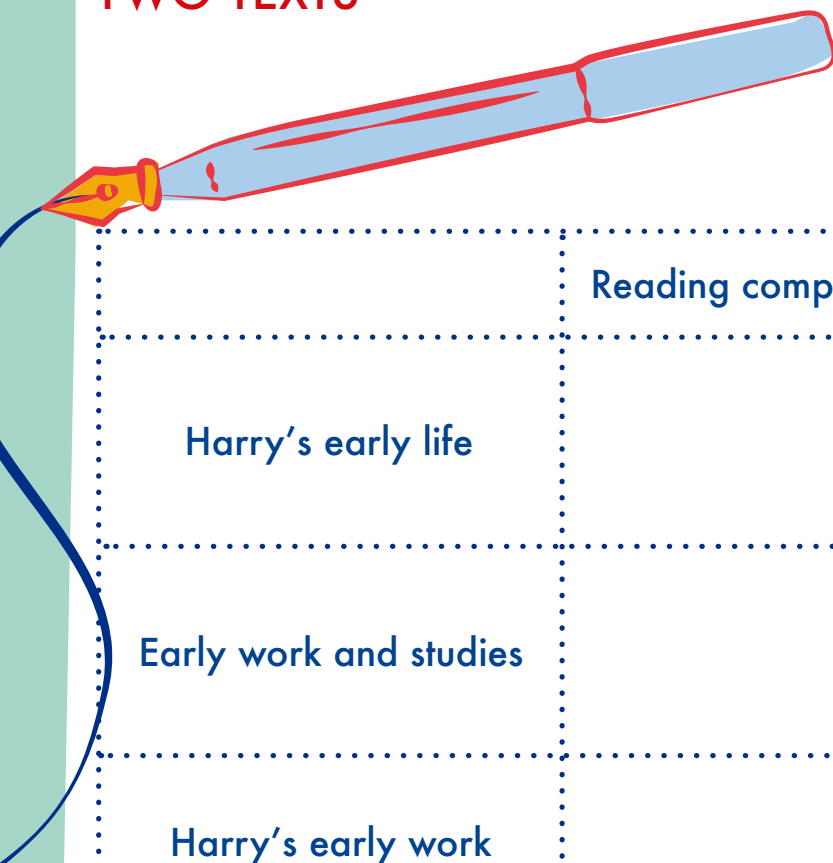
I remember the day it happened dead clearly. It were a summer's day - 13 August 1913. I were working in me lab and like any good scientist I were testing the metal compound I'd just created. It were regular steel but I'd decided to add some chromium to the mix to see if that helped wi' problem of everything sticking t' gun barrels. Well! As I were polishing it ready for testing - I noticed something amazing! The chemicals I were using weren't leaving marks on't metal at all. It were dead shiny. Which is not normal for steel I can tell you!

Now I'm from Sheffield - the famous 'Steel City' and we've been making cutlery for years. You know - knives, forks and what not. I immediately thought. "Hold on - this is perfect. We can use this make all sorts of things". And we did. Knives, forks, spoons, pots, pans, kitchen sinks you name it - we made it from rustless...sorry stainless steel.

It transformed me life I can tell you - so much so that when I were much older -round about 1941 I think it were, I set up a charity foundation to help lads and girls from backgrounds like mine to be able to have the same chance I got given. I were really lucky - I got to live a life where I could afford to go and get an education, travel and appreciate the arts a bit. We called it 'Freshgate' cos you know, that's what some kids will need. A new gate to go through to get a fresh start. Clever eh?



KEY POINTS FROM COMPARING TWO TEXTS



	Reading comprehension	Harry's story (monologue)
Harry's early life		
Early work and studies		
Harry's early work as a metallurgist		
The invention of 'rustless' steel		
Other uses of stainless steel		
Harry's charity		



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