

Carbon Rapture

An article for the British Carbon Group

"Every element says something to someone (something different to each) like the mountain valleys or beaches visited in youth. One must perhaps make an exception for carbon, because it says everything to everyone."

The Primo Levi quote at the top of the British Carbon Group website is a great quote but sadly I guess far from the truth. The reality is that the general public think little of the elements that make up everything around them, would find it hard to define what an element is and probably don't much care.

This year I was given the privilege to exhibit in the courtyard of Burlington house. This is the first time in over 150 years of joint occupancy of the building that any society, other than the Royal Academy of Arts, has mounted an exhibition in the courtyard. Whatever was going to be put in there needed to look good, engage people and be definitively chemical.

At heart I am an organic chemist and so I naturally lean towards carbon and through my work as a science communicator I just know people love molecular models. Put this together with a nice title 'Carbon Rapture' est voila! all you need to do now is to convince the courtyard committee that it is a good idea – and blow me they gave us the thumbs up.

Carbon Rapture consisted of three exhibits a diamond, graphite and buckminsterfullerene. I know you would have liked a carbon filament or nanotube in there but we only had 3 months in which to make the exhibits from scratch.

You all know the structures so I won't bother you with descriptions, if you want them go to <http://www.keele.ac.uk/depts/ch/makeitmolecular/rapture.html>, but I thought you would be more amused to here some of the curiosities that happen when you make molecular structures at a human scale.

First off installation day was a hoot. The 5.30 start was a bit of a killer, my restricted knowledge of what cranes can do didn't help and I will never forget that Oh my God moment when we opened up the 1 tonne of graphite electrode from UK-CG. By 10.00 we were still trying to stabilize the graphite with a block of wood nicked from a skip, and ladies off to the summer exhibition were stopping to look at the models and asking 'who's the artist?' to which I replied 'I am the scientist'. At about 11.30 Sir Harry Kroto turned up and was a little miffed that the diamond looked more glamorous than the buckyball.

Regarding the exhibits themselves, the diamond has what I call the James Bond effect. You know the start of the films, 007 with his gun is in silhouette and the disc of light follows him around until he eventually turns and shoots and the disc turns red, well you get the same disc effect with the diamond. If you stand parallel with a side of the tetrahedron and look through you see disc of seven hexagons at your eye line which you can see straight through to the other side of the model. If you then walk along the side to the other edge this disc follows you, it is an amazing sensation. I have tried to photograph it but my camera skills are not up to it, lots of others tried usually with a loved one on the other side of the model but I guess, judging from the time people took, it was not that straight forward.

The other oddity was caused by the 1 in 20 fall on the courtyard surface. Over the 5 weeks the exhibits were in the courtyard the C60 morphed itself from a football towards a rugby ball, it is still not spherical!

What was remarkable was to see people interacting with some real chemistry. People would walk into the courtyard and actually read the description of the models and then take a tour around them. Can you believe it in all the time it has been on display not one atom was lost!

After Burlington house the models went down to the British Science Festival and I am now working hard to find new sites for temporary exhibitions, gardens, museums shopping centres, any public sites, if you know of one near you and you think they might be interested in hosting then drop me a line g.r.jones@keele.ac.uk. For your info the joint sponsors of Carbon Rapture are the [Royal Society of Chemistry](#), [EPSRC](#), [Molymod](#), [UK-](#)

[CG](#), [Complete Fabrication](#), [makeitmolecular.com](#) and [Keele University](#), an amazing group who all stepped up to the mark to get the exhibition in.

It was all good fun. I hope some of you got to see it and others may get to see it in the future, if I had known about you at the time I would have sent you all a message. But, let's not forget it was not really there for you it was for the general public and so as I strive to make Levi's quote a reality, I hope that Carbon Rapture has managed to say something to somebody about carbon.

Graeme Jones
Keele University
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