

## Written evidence submitted by Dr David Whitehouse (AST0047)

Prior to my professional astronomy background at Jodrell Bank and the Mullard Space Science Laboratory, and my BBC Science correspondent and extensive media experience, I was nurtured at the Birmingham Astronomical Society (established 1950) which for a 3d (old money) bus ride into town showed me that it was possible for young lad from industrial inner-city Birmingham, from a family with no academic tradition, to dream of the stars as a career. In return for this I have lectured to astronomy societies, science societies, schools and others about astronomy and space exploration for 50 years so I am in an almost unique position to comment here on the state of UK amateur astronomy. When I started it was during the surge of enthusiasm after the Apollo moon landings and memberships were at their peak. Patrick Moore was one of the most famous people in the country and programmes like Horizon and Tomorrow's World were serving the thirst for space knowledge. I should add that I have been the president of the Society for Popular Astronomy, which specifically caters for beginners and the young.

Amateur astronomy is one of our great pastimes, in back gardens, village and church halls, pubs and clubs throughout our land. A few days ago I was at the Isaac Watts Memorial Church Hall in Southampton lecturing to the local astronomical society, and it was a delight. But contrary to the impression given during some oral evidence to the committee UK amateur astronomy is not altogether thriving. Membership, whilst spread all over the country, is generally low, even in the cities. In addition it is an aging membership with very few young members. I know that thousands of schoolchildren turn up for a day of space lectures at New Scientist Live, on trips to the National Space Centre, Jodrell Bank and to specialist events but they are organised by teachers.

(As an aside - an associated problem is the crisis in science teaching in the UK, especially in physics – the gateway to the physical sciences. Last year I am told the net increase in Physics teachers across the entire country was just a single teacher! Physics teachers are having to be drawn in from non-physics subjects, not an ideal situation. This leads me to suggest that there should be a new approach to science education in schools to enthuse those who do not want to become scientists and are uninspired by the experiments they have to do in physics and chemistry. Such a course would focus on inspiration and the appreciation of the sciences away from exam pressures.

Another symptom of this is that circulation of the New Scientist magazine, which one would have thought would be essential science reading for the young and many others. It is in long-term decline. Also The Sky at Night programme (established 1957) is now a niche broadcast. It does not have the engagement, popular reach or flair it had under Patrick Moore. Indeed, the public profile of UK amateur astronomy and its promotion has been taken over by professional astronomers! The UK, in my view, lacks a popular space and astronomy, and indeed science, programme.)

Astronomy societies, be they in the country or the big cities, have a poor attendance by the young and are mostly middle-aged and older with a very good representation by women but

not very good regarding diversity. Attending such a society requires individual effort by parents and the youngster concerned and they just don't attend astronomy societies. If they do they find few, or no other youngsters. This was not the case when I attended the Birmingham Astronomical Society as a teenager. My cohort of about eight resulted in two professional astronomers, a national science journalist and an engineer. Even the astronomy society that caters for beginners – the Society for Popular Astronomy (SPA) – which meets in London has a relatively sparse attendance considering it's in the capital.

Amateur astronomy societies are also struggling financially. Many of them find it difficult to afford to hire lecture halls and meeting rooms (rents have gone up a lot), especially in the cities. I have met some amateur astronomers who cannot afford to attend their local society. The Birmingham Astronomical Society for example can no longer afford to hire a lecture theatre (it used to do so at Aston University) and now has to have all its lectures on Zoom, a growing trend that extends the use of its membership fee.

Overall membership of astronomical societies is poor when compared with other countries, although our amateur astronomers are among the most enthusiastic anywhere.

Membership levels for the British Astronomical Association (BAA, established 1890) and the SPA are low and stagnant. Consider that the BAA has 2,500 members, the SPA (established 1953) has about 5,000, the Royal Astronomical Society (established 1820) 3,000 UK members and the British Interplanetary Society less than 1,000 UK members, whilst the Royal Society for the Protection of Birds (established 1889) has a million! With a pair of binoculars the night sky is a wonder available to all for free yet the UK has made its choice between the stars and the birds!

The UK also lacks a society to effectively promote space exploration which is remarkable given the recent surge in space activities, and the large role the UK plays in space science. The British Interplanetary Society (established 1933 in Liverpool) has long been a disappointment, poorly organised, inward looking resulting in a membership of only about 1500 and declining. It is situated in Vauxhall which is relatively out of the way and has a lecture theatre that seats only 50.

It was also mentioned during an oral session to the committee that it might be a good idea for UK astronomy researchers to use a small percentage of their funding for outreach, as is done so effectively by many others including NASA. This was a key suggestion of the Wolfendale Report on the Public Understanding of Science to parliament in 1995, of which I was a member. It was strongly opposed by scientists at the time but if it had been implemented just think what a difference it would have made 30 years later.

From Aberdeen to Truro, Belfast to Brighton, we have lots of enthusiastic astronomical societies where a small number of members gather to share their interests, pay their typically £30-£40 annual fees to attend a lecture a month, pay lecturers' travelling expenses, provide tea and biscuits and perhaps a small library for members. They might support an observatory which they often open to the public for free on observing nights. They arrange talks to schools, scout groups and sometimes become sidewalk astronomers to show passers-by the moon or Saturn. They are a national treasure of as much value as any large

expensive observatory or space mission. They are also an indicator of the health of UK astronomy and of the interest and uptake of astronomy and science in future generations.

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