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Negotiating Outer Space – Britain in the 1950s

Cultures of outer space are usually presented with respect to the space race of the post-war years, bringing to mind the Soviet Sputnik satellite and the American Apollo missions to the Moon. However, in my research, I wish to define the extent of a British culture of outer space, focusing on the mid-twentieth century, and in particular the 1950s. In what follows I shall outline some of the findings from a broader theme of research, which will ultimately constitute a cultural geography of Britain and the space race. As such, I will be concentrating on British cultural and institutional responses to the concept of space exploration, rather than the physical developments of rocket and space technology that were carried out by the British government. Following a brief literature review on the debates surrounding the nature of post-war British science, technology and industry, I will outline some of my empirical research on the British Interplanetary Society and the *Dan Dare* comics, and demonstrate that a British culture of outer space was present and active, even before the first forays into outer space occurred.

It is important to outline some of the historiographical context surrounding the themes of national identity, technology and the role of the scientist in modern society. One debate which forms part of this context ostensibly places a view of Britain in post-war industrial and economic decline against that of a twentieth-century boom in British technology.

The so-called 'declinists' argue that Britain became over-stretched following the Second World War, and that the socialist Labour government of 1945 rose to power upon the persuasive argument that the massive effort Britons made to win the war could also be harnessed to achieve a better society in peace time. Ultimately, they say, Britain failed to live up to those dreams, burdened by the weight of Empire abroad and war-crippled productivity at home. The historian Corelli Barnett criticises the landmark 1942 Beveridge report, the blueprint for the welfare state, as an example of this over-optimism, for placing ethics and ideals before resources. [1] Martin Wiener also criticises the rise of post-War socialism in Britain, amounting it to an anti-

[1] Barnett, C. (1986) The Audit of War: The Illusion and Reality of Britain as a Great Nation. London: MacMillan.

capitalist shift, which strangled the essence of the industrial revolution.[2] Thus, Wiener concludes, 'British retardation' was what was faced with in the late-twentieth century.

The key proponent of the anti-declinist argument is David Edgerton, who proposes that England was above all a 'militant and technological nation' during the mid-twentieth century.[3] Examining the aircraft industry, Edgerton demonstrates how England was committed to the development of the armed forces, science, technology and industry. In contrast to the earlier arguments, Edgerton frames his response to the post-War state not with the British commitment to Empire, but with the onset of the Cold War, and conflicts such as the Korean War, which necessitated a massive re-armament programme in Britain. Edgerton has more recently broadened his argument beyond the scope of the aeroplane industry, in a wider attempt to account for what he calls 'the scientisation of Britain,'[4] and whilst acknowledging the influence of the welfarist histories of Britain, he ascertains that Britain in the mid-twentieth century should be viewed more as a warfare state then as a welfare state.

These ideas of Britain as a 'militant and technological nation' could be transposed on to the development of Britain's fledgling space project, which grew out of a missile and nuclear armaments programme, and was of limited success before being absorbed into a joint European space project in the early-1970s. Given these failures, it could be difficult to attribute Britain's space project with Edgerton's technological vision of Britain. However, Edgerton ascertains that 'it is not the cancellations which are significant, but the enormous amounts of money that were spent' on big projects such as the Britain's Blue Streak rocket, which is indicative of a more general trend in British culture in the post-war period, and arguably provides greater insight into British national identity than the material outcomes of such expenditure.[5]

Taking a more spatially specific approach to the influence of science and technology in post-war British culture, Jon Agar has examined the development of the radio telescope at Jodrell Bank in Cheshire. Agar takes WW2 as a major influence in

[2] Weiner, M. (1981) *English culture and the decline of the industrial spirit 1850-1980*. Cambridge: Cambridge University Press

[3] Edgerton, D. (1991) England and the Aeroplane - An Essay on a Militant and Technological Nation. London: MacMillan

[4] Edgerton, D. (2006) *Warfare State: Britain, 1920 - 1970*. Cambridge: Cambridge University Press.

[5] Edgerton, D. (1991) England and the Aeroplane - An Essay on a Militant and Technological Nation. London: MacMillan, p. xiv

the development of post-war technology, noting how networks between the military, scientists, civil servants and engineers that formed during the War helped foster a national technological community.[6] One product of these developments was Jodrell Bank, and the science of radio astronomy. Agar's main argument is that the 'spectacle' of Jodrell Bank was just as important for British culture as the actual work on radio astronomy was for the scientific community. He shows how Jodrell Bank was presented as 'a public instrument of national prestige,' and came to embody the national identity of Britain as a progressive and scientifically advanced nation.[7] Related to the work of Agar are social histories of science, including the early work of Bruno Latour on the role of the scientist in society, and how this relates to the production of knowledge and the relationship between knowledge and power.

These terms of debate about national identity, science and technology will inform my empirical research into Britain and outer space, and initial research has focused on two areas, which I shall now explain in turn.

The British Interplanetary Society was formed in 1933 by Philip Cleator, the son of a structural engineer from Liverpool. It was on a trip to Germany in 1934 that Cleator gained an appreciation of the connection between rocketry and space travel, and on his return he explained that 'the rocket motor only comes into its own in the vacuum of space … where the propeller is of no use at all.'[8] This connection between rocketry and space travel was to become the basis of the society's arguments for the promotion of space exploration.

However, the society's initial activities were significantly affected by the Explosives Act of 1875, which forbade any experimentation in Britain involving rockets. This meant that the society's main practical task was limited to:

> the stimulation of public interest in the subject of interplanetary travel, and the dissemination of knowledge concerning the true nature of the difficulties which at present hinder its achievement.[9]

This would be achieved largely through the publication of the quarterly *Journal of the British Interplanetary Society*. The opening issues of the *Journal* were brief,

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[6] Agar, J. (1998) Science and Spectacle - The Work of Jodrell Bank in Post-War British Culture. Amsterdam: Harwood Academic Publishers.
[7] Ibid., p.97
[8] Cleator, P. E. (1934a) Journal of the British Interplanetary Society **1**(2): p. 15
[9] Cleator, P. E. (1934b) Retrospect and Prospect. *Journal of the British Interplanetary Society* **1**(1): p. 4

containing articles on themes such as rocketry and the solar system, which were of a scientific nature, but not overwhelmed with technical detail.

Cleator was aware of the international aspect of interplanetary research, and a column called 'International Interplanetary News' was established in the *Journal*. This would detail the activities of other similar societies, in a general spirit of concordance. However, it was later revealed by Arthur C Clarke, who was an early member of the BIS, that:

> to our annoyance the conservative Americans did not consider that space travel was respectable. Though they had formed the American *Interplanetary* Society in 1930, the name had been changed to American *Rocket* Society [in 1934]. The suggestion was made that we should follow suit, but we refused to lower our sights.[10]

Such pressures reflected the reality that, in 1930s Britain, space travel was not seen to be a serious pursuit, and, as such, the quote also emphasises the foresight and imagination that the founders of the BIS had. As a result of this general attitude to space flight the society was occasionally the subject of scorn and ridicule in the press and academia. For example, *Nature* commented in 1939 that 'while the ratio of research results accomplished to speculative theorizing is so low, little confidence can be placed in the deliberations of the British Interplanetary Society.'[11] Other sources reveal that, in the pre-war period, the BIS was 'generally regarded as something faintly funny,'[12] and 'widely regarded as crackpot.'[13]

Although forbidden from firing any rockets, the end product of this period was a design concept called 'The BIS Spaceship,' set out in a 1939 edition of the Journal, which was designed to send three men to the Moon and back. The proposed Lunar space vessel would have been enormous, at 100 feet tall, weighing more than a thousand tonnes. The multi-stage rocket concept adopted by the BIS was remarkably similar to the approach later successfully used in the 1960s by NASA. This was the pinnacle of the achievements of the pre-war BIS, and although the BIS spaceship was never constructed, the general ethos of the society seems to have struck a chord with a growing body of amateur enthusiasts, who were unaware of just how soon interplanetary travel would become possible.

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[10] Clarke, A. C. (1989) *Astounding Days: A Science Fictional Autobiography*. London: Victor Gollancz Ltd., p.147, original emphasis

[11] anon (1939) Interplanetary Travel. *Nature* 143: p. 635

[12] Moore, P. (1952) What We Know About the Moon. *Journal of the British Interplanetary Society* 11(1): p. 19

[13] Tucker, A. (2008) Sir Arthur C Clarke, *The Guardian*, March 20th 2008, p. 45

The BIS successfully re-grouped immediately after the end of the Second World War, and changed tack somewhat with regard to its published output. It leaned towards becoming more of a technical / engineering society than a populist group, as more detailed engineering solutions were becoming available to help solve the problem of space flight.

It became apparent that the primary goal of the BIS, the popularisation of space exploration, had become somewhat at odds with the secondary aim of the society, which was to conduct practical research. This was because the engineering solutions to this problem were becoming tangible, and, therefore, increasingly complex. To mitigate this problem the BIS developed another publication, which would have the sole aim of targeting the general public and stimulating interest in outer space.

This new magazine was called *Spaceflight,* and was launched in 1956 under the editorship of Patrick Moore, who was to become well-known for his television programme, *The Sky at Night*, which started in 1957. As such, Moore was more interested in the science of astronomy than the engineering of space flight itself. This preference is reflected in the content of the early issues of *Spaceflight*, which included a run of articles called 'Sky Diary', which contained instructions to the reader about which constellations and comets to watch out for in the night sky.

It started to become obvious in the late-1950s that putting an artificial satellite into Earth orbit was a far more likely achievement than sending a human into space. Thus, readers of *Spaceflight* in 1956 and the first half of 1957 were regularly informed of the American effort to launch such a satellite, known as the 'Vanguard' project, whilst the BIS was notably unaware of the Soviet plans to launch their own satellite. When Sputnik launched the start of the space age in October 1957, there was just enough time for Patrick Moore to issue an editor's statement on the Soviet satellite:

> Scientists in all countries will be eager to congratulate the Soviet workers upon their magnificent achievement … Their feat is indeed among the most notable in all scientific history[14]

The next issue of *Spaceflight*, in January 1958, was, as would be expected, entirely devoted to Sputnik, containing triumphant articles titled 'The Space Age is Here', and 'The First Days of Sputnik 1'. It was also announced that the BIS was to set up an

[14] Moore, P. (1957) Editorial. *Spaceflight* **1**(5): p. 158

organisation to carry out observations of satellites, which would include the 'BIS Observatory' near Harrogate. Subsequently, observations and photographs of Sputniks 1 to 4, some taken from the Harrogate observatory, as well as from the new radio telescope at Jodrell Bank, were published in *Spaceflight*.

It was in this manner that the BIS promoted space exploration in the 1950s, having gone through an eager but relatively unnoticed pre-war existence, and an increasingly technical period in the late-1940s and early-1950s. The British public before Sputnik do not seem to have been overly aware of space exploration, with one notable exception, a children's magazine that was first published in 1950 called *Eagle.*

Eagle was one of the most popular post-war children's comics, and at its peak in the 1950s attracted almost one million readers each week. The boys' magazine was the creation of the Reverend Marcus Morris. Morris was eager to reach out to not only his parish, but to children all over the country. He had become disheartened by the post-war influx of low-brow publications from America that became known as 'horror comics'. Nonetheless, he was convinced that 'the strip cartoon … could be used to convey to the child the right kind of standards, values and attitudes, combined with the necessary amount of excitement and adventure.'[15]

Eagle was an instant success, the first issue a sell-out of 900,000 copies in April 1950. The bold, forward-inclined typeface and flying eagle image led the reader to the first comic strip, entitled *Dan Dare – Pilot of the Future*, by Frank Hampson. The *Dan Dare* comics were known for their vibrancy, use of colour and attention to detail, which was in line with Marcus Morris' desire to produce a high quality publication for children. A certain level of scientific rigour and detail was also added to the comic through the inclusion of science fiction writer Arthur C Clarke as a technical advisor to the first editions of *Dan Dare*. As well as being known for his science fiction writing, Clarke was also a chairman of the British Interplanetary Society, and possessed a great deal of technical knowledge which was to be of use to Hampson.

Hampson worked closely with Marcus Morris in the formation of the early *Eagle* ideas. Their initial proposal for the star attraction of *Eagle* was a character called 'Lex Christian,' who was to be a 'tough, fighting parson in the slums of the

[15] Morris, M. (1977) Foreword, in *The Best of 'Eagle' Annual, 1951-59*. D. Gifford (ed). Exeter: Webb & Bower.

East End of London'.[16] This character was the basis for Dan Dare, and this background outlines a certain aspect of Christian morality that was not explicit in the comic strips, but nonetheless formed the foundation of Dare's moral stance.

Also related to this wider message of morality in *Eagle* is that Dare is not a type of 'superhero' character, and does not possess any special powers, he simply uses his skills as a pilot to escape danger, and often seeks non-violent solutions to problems. Indeed, Dare's principal identity is that of a pilot - he is usually drawn in his pilot's cap and green military uniform - and this has obvious connections in the 1950s to the daring airmen that helped win the Battle of Britain, as well as the wider mythic and heroic discourses surrounding the experience of World War 2.

Another aspect of the *Dan Dare* comics is the type of world which Hampson chose to convey in his future vision of the 1990s. The opening page establishes the setting of the Earth-based parts of *Dan Dare*. We see a coastal landscape from above, with a rocket poised for take-off from what we are informed is the 'headquarters of the interplanet space fleet'.[17] From what we can tell in later pages, this is based in Britain, although the world is ruled by an 'elected World Federal Government' in an apparently peaceful and post-conflict status. The opening landscapes are typical of Hampson's view of a future Britain. The space port headquarters form an open, planned landscape with modern white Bauhaus-style buildings with green spaces scattered in-between. Some of the buildings are strikingly reminiscent of the dual nuclear piles of Windscale (now Sellafield), Cumbria, which were opened as plutonium production plants in 1950.

The presence of rockets and flying machines in and around the space port forms a striking element to the opening pages of *Dan Dare*, which would have been exciting and new to readers in 1950. One of the advantages of the comic format is that movement can be portrayed conventionally through the use of motion lines. They are a repeated feature of the opening page of *Dan Dare*.

The main point to take from Hampson's initial representations of Earth in the 1990s was that Britain was to become the principal power of the space age, and that the British values of bravery, morality and perseverance embodied by Dan Dare were to set the standard for human exploration of outer space.

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[16] Ibid.
[17] Tatarsky, D., Ed. (2007) *Eagle Annual - The Best of the 1950s Comic*. London: Orion, p. 7

In this paper I have attempted to outline some of my doctoral research on a cultural geography of Britain and the space race. The main point that I wish to underline is that there was an active British culture of space exploration which dated back at least to the founding of the BIS in 1933, decades before humans made the leap to outer space, and in a time when Britain's position on the world stage was undergoing a period of transition. I feel that a fuller understanding of these issues is important in the wider appreciation of British history and national identity in the twentieth century.

Bibliography

Agar, J. (1998) *Science and Spectacle - The Work of Jodrell Bank in Post-War British Culture*. Amsterdam: Harwood Academic Publishers.

anon (1939) Interplanetary Travel. *Nature* **143**: 635.

Barnett, C. (1986) *The Audit of War: The Illusion and Reality of Britain as a Great Nation* London: MacMillan.

Clarke, A. C. (1989) *Astounding Days: A Science Fictional Autobiography*. London: Victor Gollancz Ltd.

Cleator, P. E. (1934a) *Journal of the British Interplanetary Society* **1**(2): 13 - 16.

Cleator, P. E. (1934b) Retrospect and Prospect. *Journal of the British Interplanetary Society* **1**(1): 2 - 4.

Edgerton, D. (1991) England and the Aeroplane - An Essay on a Militant and Technological Nation. London: MacMillan

Edgerton, D. (2006) *Warfare State: Britain, 1920 - 1970*. Cambridge: Cambridge University Press.

Moore, P. (1952) What We Know About the Moon. *Journal of the British Interplanetary Society* **11**(1): 19.

Moore, P. (1957) Editorial. *Spaceflight* **1**(5): 158.

Morris, M. (1977) Foreword, in *The Best of 'Eagle' Annual, 1951-59*. D. Gifford (ed). Exeter: Webb & Bower.

Tatarsky, D., Ed. (2007) *Eagle Annual - The Best of the 1950s Comic*. London: Orion.

Tucker, A. (2008) Sir Arthur C Clarke, *The Guardian*, March 20th 2008

Weiner, M. (1981) *English culture and the decline of the industrial spirit 1850-1980*. Cambridge: Cambridge University Press.