



# EARTH IN VISION: 60 YEARS OF ENVIRONMENTAL CHANGE ON THE BBC



The Open  
University

# INTRODUCTION





In the mid twentieth century it was possible for people in the developed world to imagine themselves in control. Ideologically, the world was starkly divided between East and West, but in the Soviet Union and the United States alike, people could imagine that, with the help of the amazing technological feats of which they were capable, they could reach any goal and solve any problem. For the first time in history, it was even possible to imagine that humans could reach the moon.

By the beginning of the twenty-first century, however, this optimism about progress – and with it the assumption that technology and economy were simply tools in humans' hands – was seriously in question. One of the main reasons for this was the emergence of an entirely new way of looking at the world. Fifty years after the race between East and West to be first into space and first to land a human being on the moon, it is almost universally accepted that life on Planet Earth is far more precarious than had previously been thought. It is also widely acknowledged that human beings themselves are the main reason for this. Nowadays, most people are aware that they live on a shared globe; that they inhabit an ecologically and economically interdependent world.

This new thinking is also now shot through with an awareness of far-reaching uncertainties about the future. And the varied ways in which people think about the future are shaped by the varied ways in which they think about the past. (Are you from the richer or poorer countries of the world? Is your society more, or less, vulnerable to climate change or loss of biodiversity? Is it more, or less, responsible for creating these problems?) The galleries in this ebook will show you how we came to think this way, and explore the role of broadcasting in that journey.





# IMAGINING A GLOBE



From the late 1950s to the late 1960s new technologies and scientific research gave humanity an entirely new view of its place in the world. This global perspective emerged in parallel with heightened competition between the superpowers, the United States and the Soviet Union – a tension that carried with it the very real jeopardy of the total destruction of human societies through nuclear war. The strangeness of the period is hinted at in coverage of the first International Geophysical Year.

In this introduction to the most ambitious scientific collaboration in history, the Duke of Edinburgh shows himself to be a natural presenter. This 1957 TV special celebrates the opening of more than a year of experiments that marked the beginning of a truly global practice of science. Prince Philip emphasises the importance of technology in revealing this new view of the world:

“ *This attempt to find out about the Earth through the ears and eyes of these rockets and satellites seems to me to be the most fascinating part of the IGY. Since the beginning of time the world has never been seen as a planet. And it it's only a matter of time before a manned satellite becomes a possibility. And that'll be a step to – what? Your guess is as good as mine.*

-HRH Prince Philip, from *The Restless Sphere: The Story of the International Geophysical Year* - 1957 - BBC

*The Restless Sphere* - 1957 - BBC



It is important to note how much emphasis the script and footage of *The Restless Sphere* puts on the global scope of the IGY and its foundation in international collaboration. As the Cold War intensified, the project offered some respite, and a glimpse of what might be achieved through collaboration: a new view of human life on a dynamic Earth.

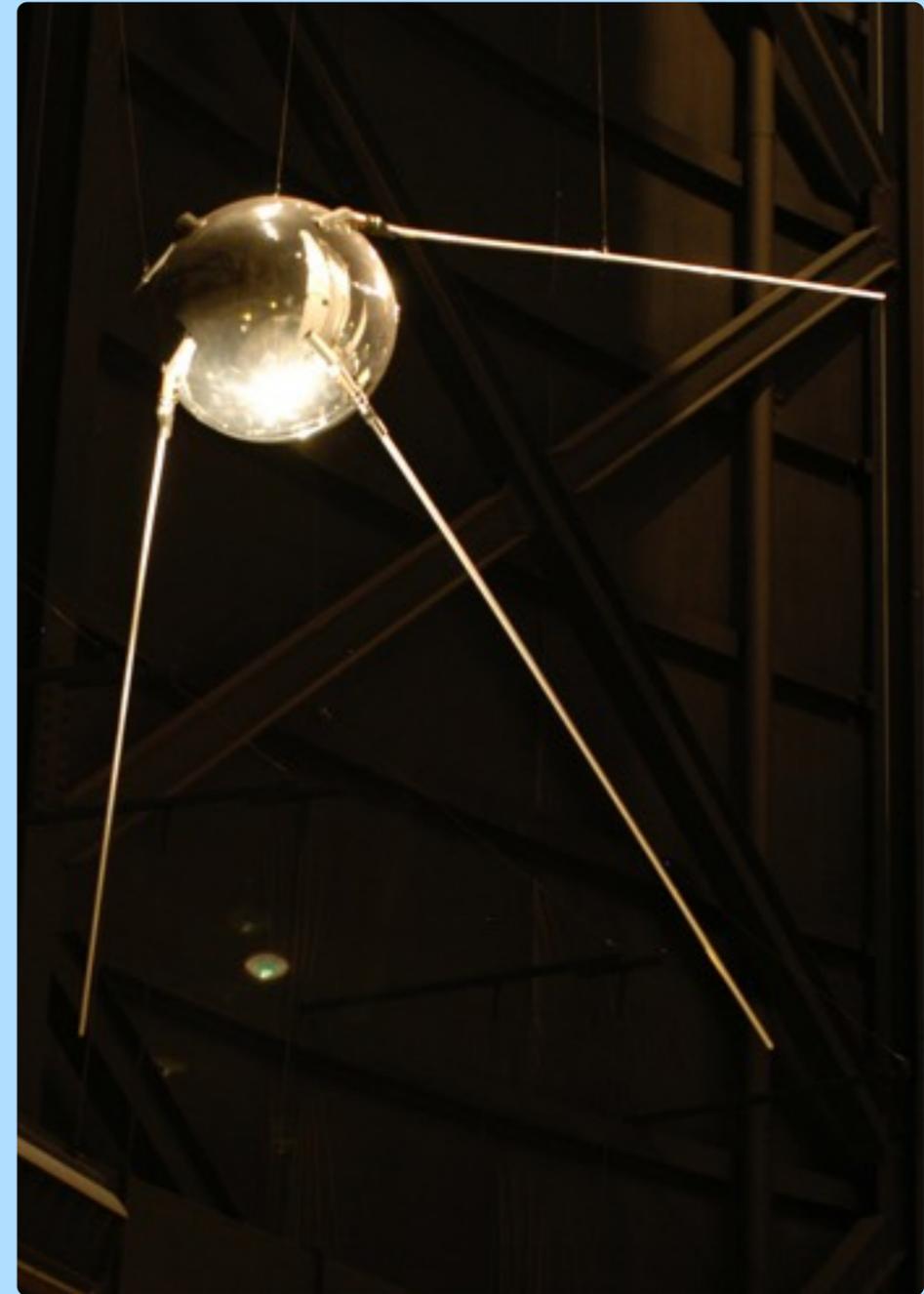
“*War, argument and controversy are news. Peaceful cooperation is a bore. I think that partly explains why so little has been heard about the IGY until quite recently.*”

At the same time, the USSR’s launch on 4 October 1957 of Sputnik 1 (‘Fellow Traveller’), the first satellite to orbit the earth, served as the starting gun for what became known as the space race, a competition for dominance in scientific and technological achievements.

The cultural significance of Sputnik1 is reflected in stamps and statues and any number of items designed to resemble it – not least a Russian samovar, or tea urn.

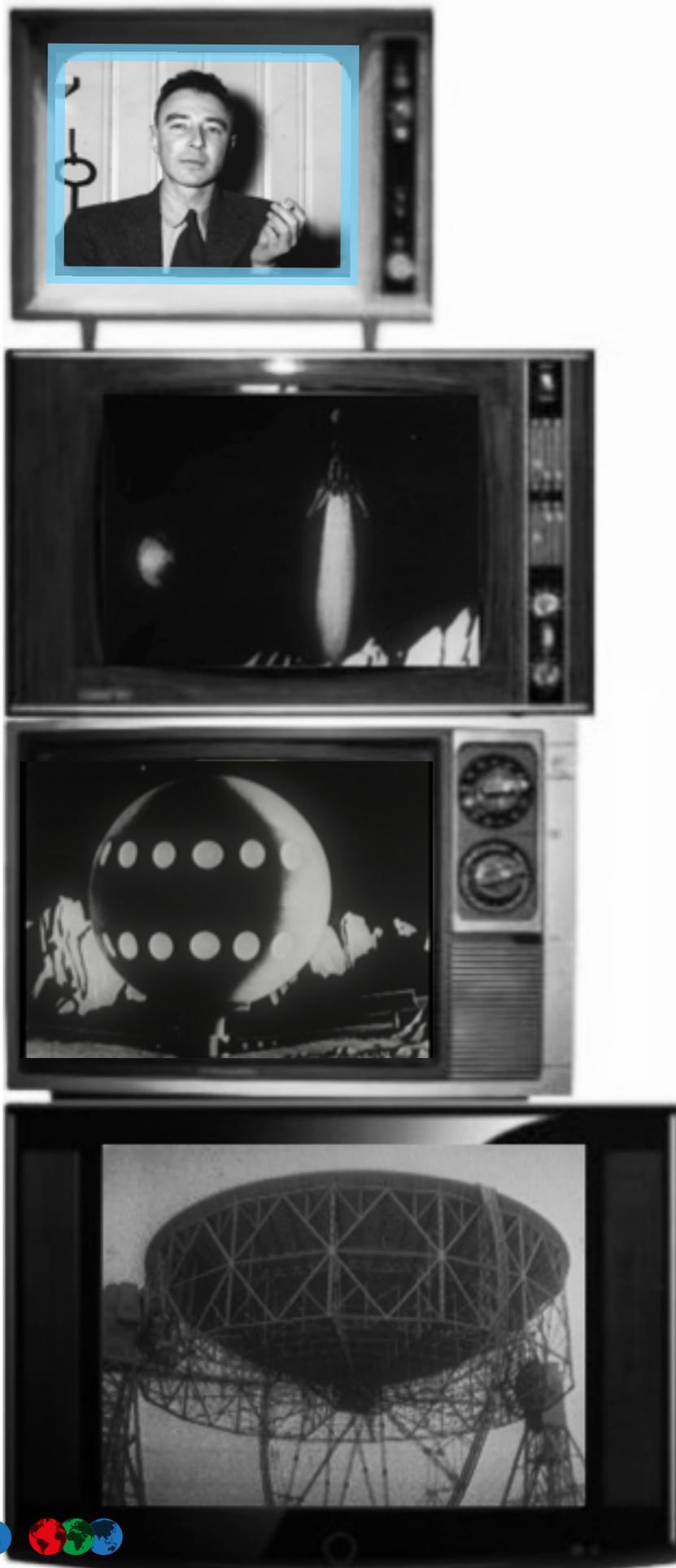
Sputnik 1 sent out a sound signal, and its chirping ‘beep beep’ was described by the US NBC news channel as

“*the sound that forevermore separates the old from the new.*”

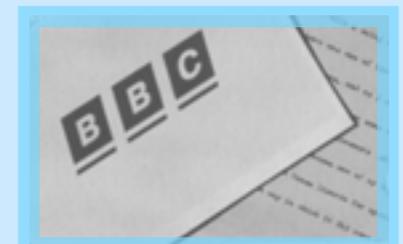


Sputnik 1





The sense of excitement of the period is nicely captured in a BBC documentary *Panorama: The Challenge of the Sixties*, aired a couple of years after the IGY, in 1960, which looked ahead to the sixties and considered, among other challenges, the race to the moon. But that same sense of excitement is tempered in the same programme by a melancholy plea from Robert Oppenheimer, one of the developers of the United States atom bomb, that humanity exorcise itself of that newly created danger. Oppenheimer's fearful tone and words serve as a reminder that there were major human-generated and global threats to everyday life before climate change.



**NEW**

27 JUNE 1957

**SCIENTIST**

International Geophysical Year  
July 1957—December 1958

**ALL READY TO START** by Sydney Chapman, F R S,  
President of the I G Y Commission

**Two-page world map of I G Y activities**  
by J. F. Horrabin

**BEYOND THE IONOSPHERE** by John Lear

**KEEPING AN EVEN TEMPERATURE IN  
THE FACTORY** by Thomas Foster

**Steps to Controlling Foot-and-Mouth Disease**  
by Clifford Selly

**SCIENCE WILL CHANGE THE BALANCE  
OF POWER** by Dr. B. K. Blount

**The Phœnix Myth: A Possible Explanation**  
by Dr. Maurice Burton

**PRINCE PHILIP'S STUDY CONFERENCE**  
book review by Dr. Willis Jackson, F R S



Coverage of the IGY in the  
*New Scientist*, June 1957





The director of *The Restless Sphere* was Aubrey Singer, who later made good use of what satellites could do for broadcasting with the ambitious and innovative global satellite link-up *Our World* in 1967. With, among other things, a globally transmitted *Beatles* performance featuring *All You Need Is Love*, the show sought to underline a sense of shared global community—but also hazard. The script refers to a

world whose future we are putting in danger simply by living on it.

Just over twenty years later, the anti-poverty satellite-linked Live Aid concert reckoned itself to be a bold new venture. A little time in the BBC's archives reading the script of *Our World* proves that there is rarely such a thing as a new idea.



# BANG GOES THE PLANET



01657-095

Sierra Club-Ballantine Book

35¢

POPULATION CONTROL OR  
RACE TO OBLIVION?

# THE POPULATION BOMB

WHILE YOU ARE READING THESE WORDS  
FOUR PEOPLE WILL HAVE DIED FROM  
STARVATION. MOST OF THEM CHILDREN.

DR. PAUL R. EHRLICH



Foreword by David Brower—  
Executive Director, Sierra Club

## Chapter 1 THE PROBLEM

I have understood the population explosion intellectually for a long time. I came to understand it emotionally one stinking hot night in Delhi a few years ago. My wife and daughter and I were returning to our hotel in an ancient taxi. The seats were hopping with fleas. The only functional gear was third. As we crawled through the city, we entered a crowded slum area. The temperature was well over 100, and the air was a haze of dust and smoke. The streets seemed alive with people. People eating, people washing, people sleeping. People visiting, arguing, and screaming. People thrusting their hands through the taxi window, begging. People defecating and urinating. People clinging to buses. People herding animals. People, people, people, people. As we moved slowly through the mob, hand horn squawking, the dust, noise, heat, and cooking fires gave the scene a hellish aspect. Would we ever get to our hotel? All three of us were, frankly, frightened. It seemed that anything could happen—but, of course, nothing did. Old India hands will laugh at our reaction. We were just some overprivileged tourists, unaccustomed to the sights and sounds of India. Perhaps, but the problems of Delhi and Calcutta are our problems too. Ameri-

Front cover and first page of Ehrlich's best-selling book *The Population Bomb*, published in 1968

The white middle-class male Britons who commissioned and made almost all television in the 1950s and 1960s had lived through both the second world war and Britain's last days as a global imperial power. Struggles for independence had been tense, and in cases, bloody. This background goes some way to explaining the editorial tone of *Panorama: The Challenge of the Sixties*. The film's footage, design and script would today be read by many people as very controversial.



Press for author's notes on early broadcasting about population



AN ESSAY  
ON THE  
PRINCIPLE OF POPULATION;  
OR, A  
VIEW OF ITS PAST AND PRESENT EFFECTS  
ON  
HUMAN HAPPINESS;

WITH  
AN INQUIRY INTO OUR PROSPECTS RESPECTING  
THE FUTURE REMOVAL OR MITIGATION OF  
THE EVILS WHICH IT OCCASIONS.

By T. R. MALTHUS, A. M.

LATE FELLOW OF JESUS COLLEGE, CAMBRIDGE,  
AND PROFESSOR OF HISTORY AND POLITICAL ECONOMY  
IN THE EAST INDIA COLLEGE, HERTFORDSHIRE.

IN TWO VOLUMES.

VOL. I.

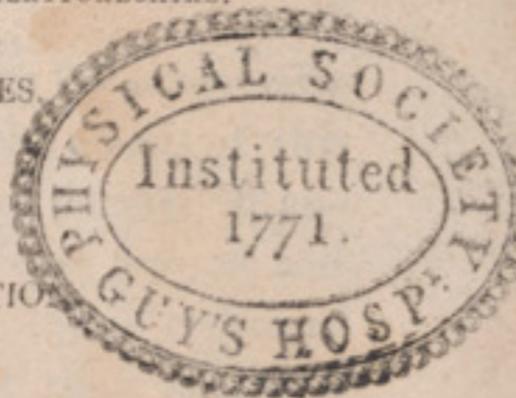
THE FOURTH EDITION

LONDON:

PRINTED FOR J. JOHNSON IN ST. PAUL'S CHURCH-YARD,

BY T. BENSLEY, BOLT COURT, FLEET STREET.

1807.



Britain had enjoyed 200 years of being a dominant global power controlling massive flows of resources. As this power waned, British audiences were invited to consider the relationship between scarce resources and population growth in an increasingly independent Africa. *Panorama: The Challenge of the Sixties* refreshed the arguments of eighteenth century economist and Anglican priest Thomas Malthus, reflected in the more recent work of economists and geographers such as the American scholar William Vogt. Malthus had argued that:

“ ... the power of population is indefinitely greater than the power in the earth to produce subsistence for man.

Vogt's 1948 book *The Road to Survival* is largely forgotten today, but it had reached 20 to 30 million readers with a very similar line of argument. For Malthus, Vogt and later American academic Paul Ehrlich, if population growth outstrips food supply the inevitable outcome is famine and conflict – a 'Malthusian crisis'.





## Harnessed Sunlight Grows Food by Tankful

Future "food factory" is visualized by artist. Chlorella and nutrient fluid circulate endlessly in 59 sunlit U-shaped tanks, glass-covered and

shallow, each 2,100 feet long and four feet wide. Crop is "harvested" from a part of the flow continuously diverted to processing plant.

A TINY green, edible fresh-water plant called Chlorella may end world food shortages. Far more efficiently than any present farm crop, it harnesses the sun's energy to make food from carbon dioxide, water, and minerals. Grown in tanks in mass-production "food factories" of the future, it could multiply an acre's yield tenfold. A "pre-pilot" plant, already in operation at Stanford Research Institute in

California, shows how the method works. Individual Chlorella plants, belonging to the one-celled group known as algae, are microscopic globules. They thrive in a mixture of water and minerals "aerated" with carbon dioxide gas. Enormously prolific, they multiply every few hours by dividing in two. Devoid of stalks or other waste, the resulting mass is totally edible.

Rivaling the miraculous "shmoo," Chlo-



Popular Science, July 1950

The BBC regularly returned to the theme of population, generally running with the 'population bomb' line of argument, where increasing human numbers were viewed as a threat. In episode 6 of a 1967 series *Outlook: The Population Problem - Chance for Survival* (BBC2), a professor suggests that 'on account of population growth we will in future all have to live underground, or in underwater cities, so that all productive land and water can be put to work using sunlight to produce food.'

'Is there an even more drastic stage?' asks the deadpan presenter Derek Cooper. 'Yes' replies Professor J.H.Fremlin,

“If we begin to synthesise our food chemically... Using as our raw materials mainly human excreta with a little bit of addition of assorted minerals. I don't think we'd need to feed the bodies back in. I think we could do without that. Then one could go on producing as much food as we needed for as far as one can see'.

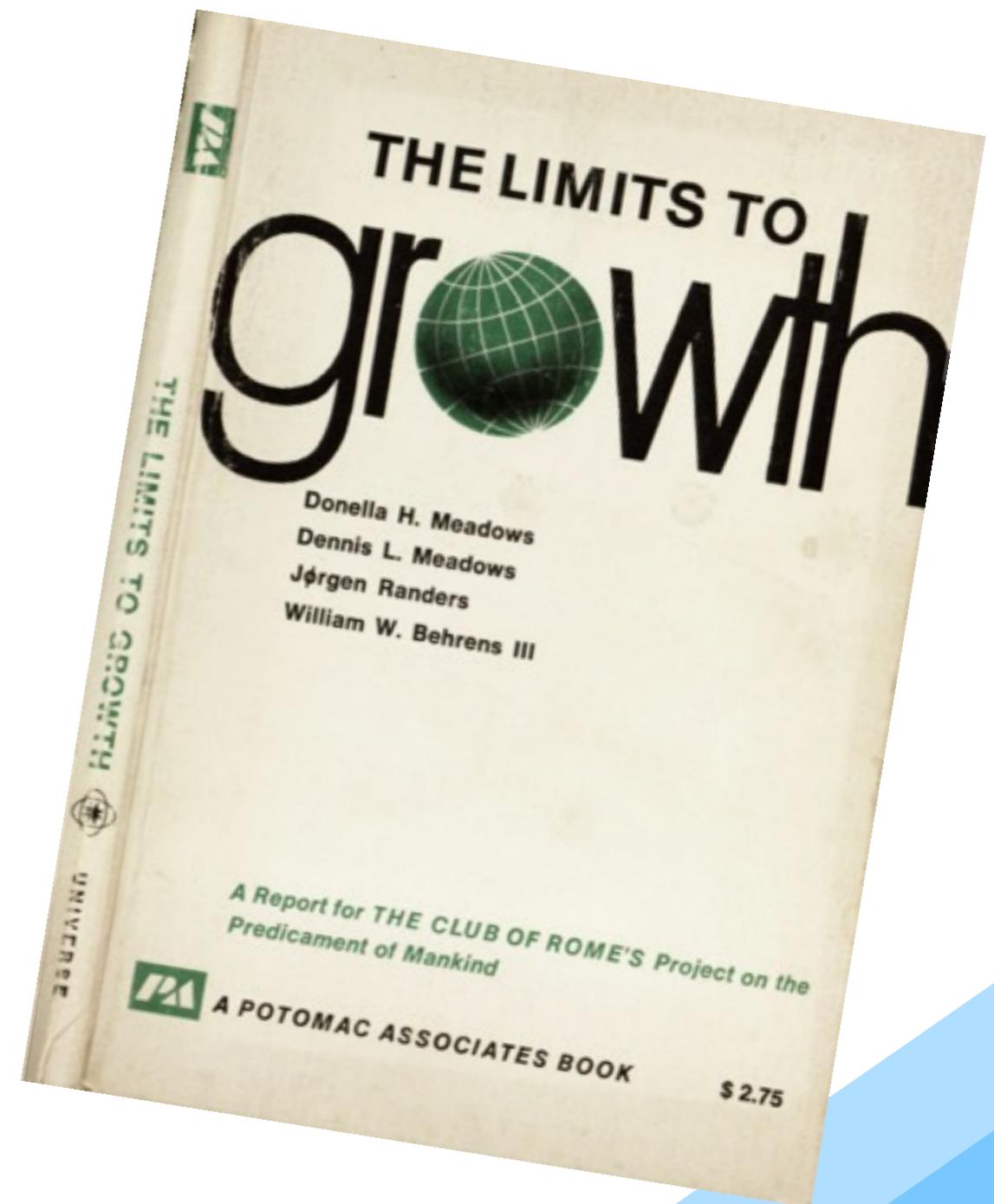


Touch the images  
to explore the gallery



Another high-profile publication connected population and ecological hazard, but focused on the unsustainability in the long term of the existing economic system. *The Limits to Growth* (1972) came out of the Club of Rome – a global think tank made up of academics, diplomats and industrialists. It was above all concerned with unlimited resource consumption in an increasingly interdependent world.

*The Limits to Growth* leaned heavily on computer-generated models of scenarios of the future. Although the most alarming scenarios generated by the Club of Rome did not come to pass, their work helped to promote longer-term thinking about interactions between economic development, consumption and environmental harm. Reversionings of Thomas Malthus's ideas had been repeated as bestsellers in print. It is no surprise, perhaps, that they should be equally alluring for television producers.



Most demographers (population experts) argue that now that a combination of economic development and better access to healthcare and education – especially for women in the global South – has brought down birth rates, population will stabilise within a couple of decades.

The population bomb arguments appear to have been overblown. Moreover, their prominence within environmental arguments since the 1960s long proved an obstacle to progress in international environmental politics.

Overpopulation was more often than not figured by northern environmentalists and diplomats as a problem of the global South. And these arguments still circulate... For example, touch the television screen on right of this text to read about the activities of Norwegian environmental campaigners at the major global climate change talks held in Paris in 2015 (UNFCCC COP21).





BBC REITH LECTURES 1969

RADIO 4 SUNDAYS AT 10.10 P.M. NOV. 9, 16, 23, 30 DEC. 7, 14

BBC THIRD PROGRAMME REPEAT ON MONDAYS AT 7.30

P.M. ON NOV. 10, 17, 24 DEC. 1, 8, 15

## Wilderness and Plenty

BY DR FRANK FRASER DARLING, F.R.S.E.

VICE-PRESIDENT, THE CONSERVATION FOUNDATION, WASHINGTON, D.C.

The BBC's Science Talks Editor, Dr Archie Clow, writes: Planet Earth is an island in space. On it man is, geologically speaking, a late arrival, and he evolved into an organic system already delicately balanced. This creature became ingeniously technological, increased superabundantly, and so created the world we know.

All the time he encroached on the wilderness – part of that balance. He raped and plundered the vast acreage of plants that produced even the oxygen he breathed. He deluded himself that he had nature on the run and intended to keep her on the run. But his predations, ingenuity, and the sheer sophistication of his activities polluted his environment so much that, according to Dr Fraser Darling, pollution may prove to be our Achilles heel. Pollution, he contends, could render our world uninhabitable to us – and possibly quite suddenly – because the problem could become too big and too complex to tackle in the time available. So we must earnestly find an answer to the question 'How far have we been living at the expense of posterity?'

The young science of ecology teaches us how plants and animals live, what their demands on their environments are, and what the feedback to the environment is. Man is not outside this; he is part of it all, and ecology is making us much more aware of the interdependence of humanity

and nature. The technologists would have us forget this in a mad race towards a concrete broiler-house human society. Fortunately men of sensibility like Frank Fraser Darling realize that wilderness must no longer be a derogatory term – a resource to be exploited today without thought of the morrow. In the midst of apparent technological plenty, the concept of wilderness has a psychological and aesthetic value: more than that, an essential place in the scheme of things.

If we accept the proposition that we must plan our little island in space then the planning groups should include ecologists who from their professional scientific expertise can say: 'If you go ahead and do that, you will probably produce this result.' Recent experience abounds with examples of the results of ignorance of ecology: for instance, the conversion of vast acres of virgin land into something akin to concrete.

Ecology is not just a subject of study for scientists. Every organism, including man, exists in a community; the inter-relationships of all these is ecology. So the social organization of an animal may be an important influence on the system; indeed Dr Fraser Darling says: 'I see now that human political behaviour is a major ecological factor.' The new sciences of today therefore must be built into the political activity of tomorrow.



In Washington.  
26 June '70  
Dear Archie,  
Thank you for your kind thought. Since I know about the Knighthood I have been thinking how it is largely due to you. Chance is the great thing & your choosing me for the Reith Lectures crystallized the chance. We must have a leisureed luncheon one day. Yours ever, Frank.

# ECO-LOGICAL

You heard how in *Panorama: The Challenge of the Sixties* the main concerns around population growth were about its impacts on society and economy.

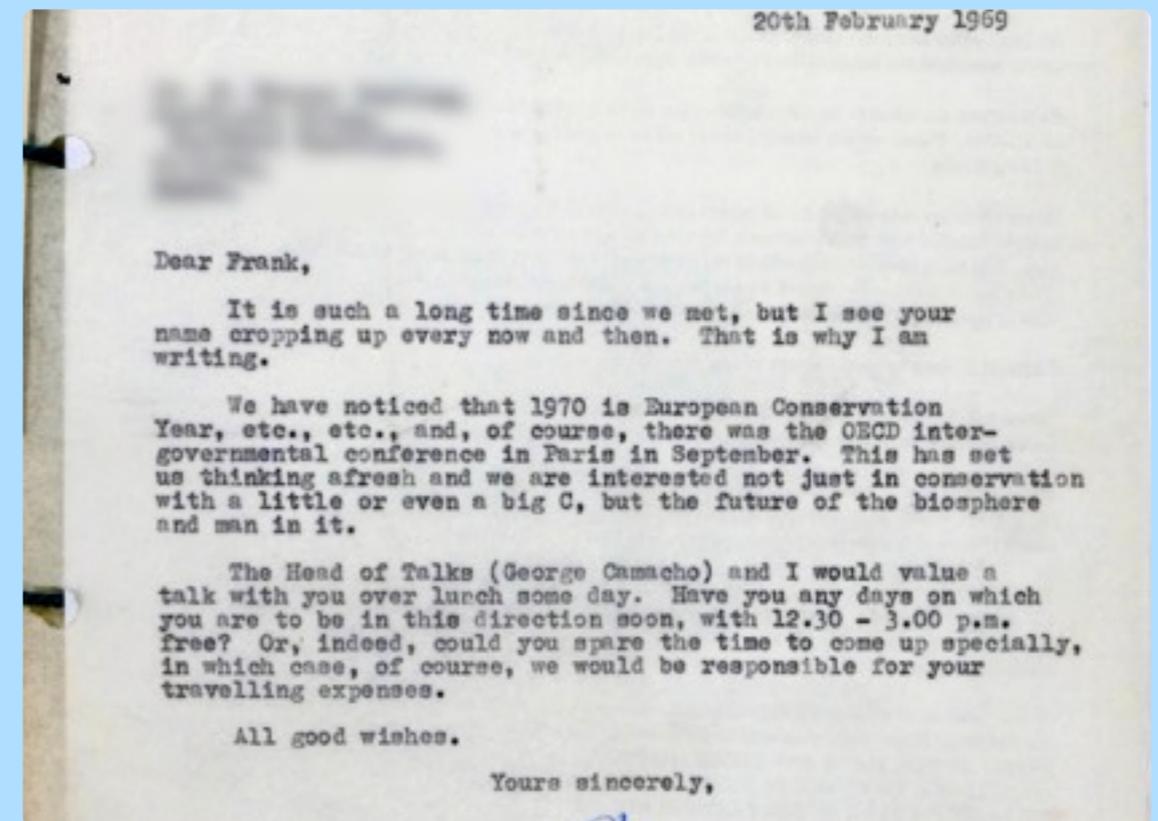
The end of the 1960s and early 1970s saw the emergence at scale of the modern environmental movement, and population was one of the driving concerns. But by now it was being seen from an ecological perspective as much as through the societal or economic lens of Malthus and his modern-day followers.

Nature conservation bodies were becoming concerned that the increase in both human numbers and consumption, including the growth of cities and the pressure to produce food, were shrinking wilderness globally. These concerns drive the narrative of Frank Fraser Darling's 1969 Reith lectures (annual radio broadcast lectures by a leading expert at the invitation of the BBC). The BBC's paper archive files show that a number of speakers and topics were under consideration that year, but that it was decided to invite a speaker who would issue

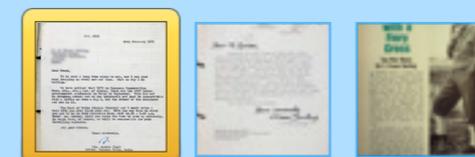
“*...a warning about the ecological and environmental changes now being brought about haphazardly and with uncontrolled and gathering momentum.*”

In correspondence with the BBC about his proposed lectures Fraser Darling suggested that

“*We need desperately to tackle human problems ecologically.*”



Letter inviting Frank Fraser Darling to discuss 1969 Reith lectures



The *Wilderness and Plenty* Reith lectures are seen as influential in informing the development of British environmentalism, which has in turn shaped some of the key environmentalist organisations that work globally, such as WWF and the International Union for the Conservation of Nature. Fraser Darling aims:

“ *to disturb in a cultivated sort of way and leave the audience with a lot of unanswered questions to mull over.* ”

His lectures ask:

“ *...how do we arrive at a modus vivendi which will not render civilisation a contradiction in terms ecologically?* ”

These are questions that are posed regularly by BBC documentaries and other content in the decades that follow, although new research brings to light new reasons for concern, above all relating to global environmental changes including the ozone hole and climate change.

**BBC** REITH LECTURES 1969  
RADIO 4 AT 10.10 P.M. ON SUNDAYS  
NOVEMBER 9, 16, 23, 30 DECEMBER 7, 14  
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NOVEMBER 10, 17, 24 DECEMBER 1, 8, 15

## WILDERNESS AND PLENTY

BY DR FRANK FRASER DARLING, F.R.S.E.

VICE-PRESIDENT, THE CONSERVATION FOUNDATION, WASHINGTON, D.C.



- 1 MAN AND NATURE
- 2 THE IMPACT OF MAN ON HIS ENVIRONMENT
- 3 THE TECHNOLOGICAL EXPONENTIAL
- 4 GLOBAL CHANGES: ACTUAL AND POSSIBLE
- 5 THE FORWARD VISION IN CONSERVATION
- 6 WHERE DOES RESPONSIBILITY LIE?

The series will be repeated in the BBC European and Overseas Services.  
The lectures will be published in *The Listener* after each broadcast for six issues beginning 13 November. Ask your newsagent to order these copies.  
The BBC is also publishing the lectures as a book.

Clips from  
lecture 1, *Man  
and Nature*



Clip from lecture  
6, *Where does  
Responsibility  
lie?*





**NEW PROBLEMS  
- NEW IDEAS**

Ten years on from the Stockholm Declaration, is there a sense of déjà vu? Despite recurring themes in environment–development politics some new issues, ideas and new voices emerge.

By the early 1980s structures had been put in place, mostly by the United Nations, that sought to advance international environmental goals. Among other things these had to acknowledge and try to resolve the long running tensions that had surfaced at the Stockholm conference between North and South, or developed and developing countries.

A BBC 2 special, *Horizon: The State of the Planet*, was broadcast in 1982 to mark a UN conference taking place ten years after the first global environmental conference in Stockholm. The broadcast was constructed as a televised debate on the world's environment and introduced as an international public hearing. It was organised by the UN Environment Programme (UNEP). There are plenty of familiar refrains here, including a reminder from an Indian environmentalist that the poor of India wish they were an endangered species, because they've noticed that the West are more concerned about wildlife than about human beings.

### *Horizon: The State of the Planet – 1982 – BBC2*



One of the striking things about the film is how stable, and in the main how narrow, is the cast of characters who appear in the environmental change story. Despite the presence of a prominent African professional woman, Kenyan environmentalist Wangari Maathai, the most familiar voices are those of white English men presenting a by-now regular refrain about environmental crisis, above all for wildlife, in their view driven by sheer human numbers.

But the *Horizon* film shows some important signs of the story moving on: for example, there is clear acknowledgement of the need to support development in the global South, but in forms that respect environmental limits.

Similarly, Maathai's presence in the film is significant in that it signals that a wider range of voices and views were beginning to win more space in this period. Maathai represents new thinking that argues that in order to protect the environment it is vital to support women's rights, democracy, and grassroots knowledge and activity. Among a long string of firsts in her career, Maathai achieved breakthrough success as an academic, campaigner and later, a politician. As an environmentalist she was a founder of the Green Belt Movement, which emphasised the power of grassroots action and the importance of women's perspectives and actions.



Still from *Horizon: The State of the Planet* –1982 – BBC2



*Horizon: The State of the Planet – 1982 – BBC2*

The Green Belt Movement saw African women restoring landscapes through tree planting. The movement was a response to reports from Kenyan women that their streams were drying up, their food supply was less secure, and they had to walk further to get firewood for fuel and fencing. The movement encouraged the women to work together to grow seedlings and plant trees to bind the soil, store rainwater and provide food and firewood, in return for a small monetary token. This kind of language and thinking was in stark contrast to the blunt insistence by western environmentalists on the need for birth control in such regions.

Summing up the debate, Maathai tries to speak on behalf of future generations. She suggests that we are all on trial, and particularly draws attention to the nuclear and wider arms race, to population and to over-consumption. She also notes inequality, and the importance of preserving biological diversity, arguing passionately that global society needs to make the environment *the* issue of the eighties.



*Under the Weather: Overheating -1981 - BBC2*

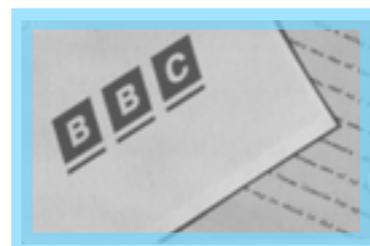
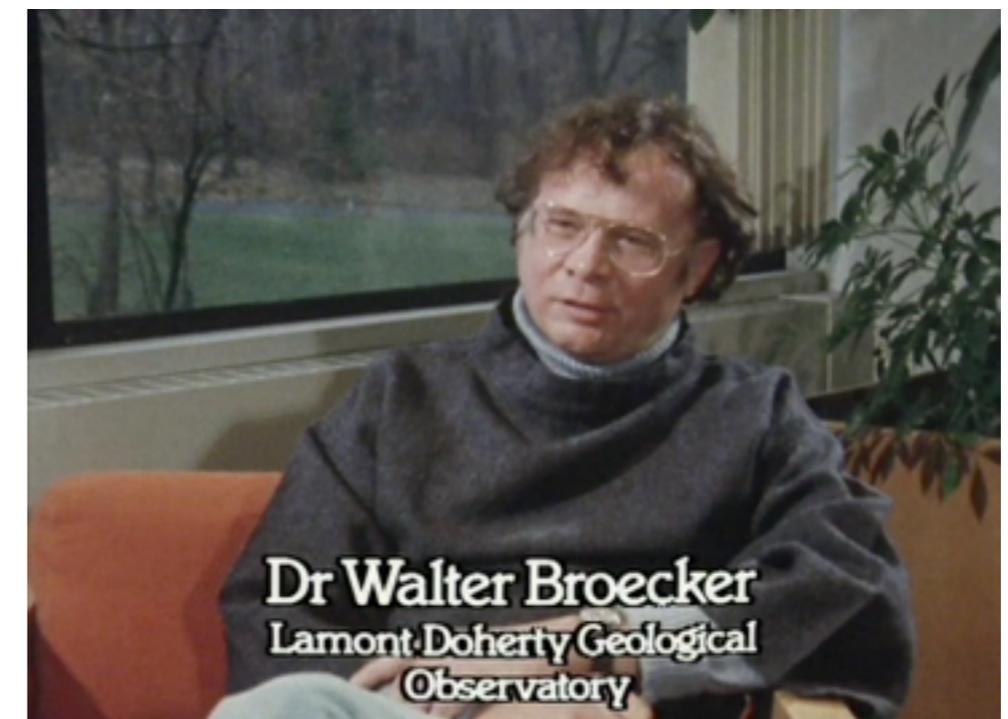
However, a new issue starts to emerge in this period that brings another set of voices to the fore in environmental debates through the course of the following decades: climate change.

It is startling to compare the content of the *Horizon* debate with that of the documentary *Under the Weather* (21/8/1981) BBC2. *Under the Weather* introduces new research which over the next two decades would come to dominate debates about global environmental change. It is one of the first documentaries on climate change to be screened. The uncertainties are emphasised, but the potentially far-reaching consequences are laid out before the audience.

In the following two decades climate change would come to further underline Wangari Maathai's key arguments about the interdependence of social and ecological systems and the vital importance of focusing on on-the-ground approaches to problem solving. It is chilling to hear Walter Broecker (in the second clip) bet on governments failing to rein in fossil fuels, and his suggestion that society needs to prepare for uncertain futures.

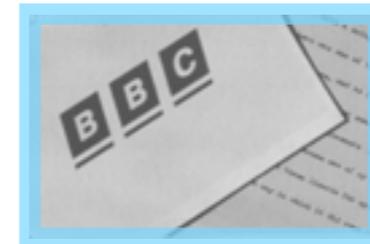


*Under the Weather: Overheating -1981 - BBC2*





**DOING YOUR BIT?**



By the end of the 1990s climate change, or global warming, had become a mainstream story, and individuals and households were being invited *to do their bit* by governments, campaigners and in this case, the BBC.

It is no accident that this sequence about climate change, energy use and physical impacts in distant places was filmed combining library/archive footage of glaciers and wind farms with the journalist speaking from a kitchen table and reaching to turn off a light. The clip comes from a BBC children's news programme *Newsround*. The *Newsround* team have always taken enormous care over the

editorial tone that frames the stories they cover, particularly where the underlying issues are potentially alarming.

To that end this piece invited the audience to take part in a competition to design an advertising campaign that would encourage more careful use of energy. The prize was a flight to Iceland to see how climate change already appeared to be changing that country's environment. Social research has long shown that people do not want simply to be told that the world faces terrible challenges; they want to feel empowered and given opportunities to change the way things are.



European Space Agency astronaut Samantha Cristoforetti



Both media and campaigners have sought to splice together striking images, often including aerial footage of threatened environments or photos of the Earth from space, with footage of the everyday. By bridging the gap between global issues and ordinary lives and places they are clutching for approaches that might mobilise action. A brief online search reveals images which, more than fifteen years on from the *Newsround* piece, seek to encourage young people to connect their actions with the global consequences of climate change.

European Space Agency astronaut Samantha Cristoforetti has provided the sponsors of Earth Hour, a global awareness campaign that encourages people to turn off all their lights for an hour, with a rare photo opportunity. Her hand-written message is a call to action. It is worth debating whether encouraging people to connect climate change action with depriving themselves of light is the right starting point. But it has certainly helped the sponsoring NGO, WWF International, to win space for itself as a global brand acting on climate change, and they protect the rights to their brand as keenly as any fizzy drink manufacturer.



# THE STATE OF THE PLANET

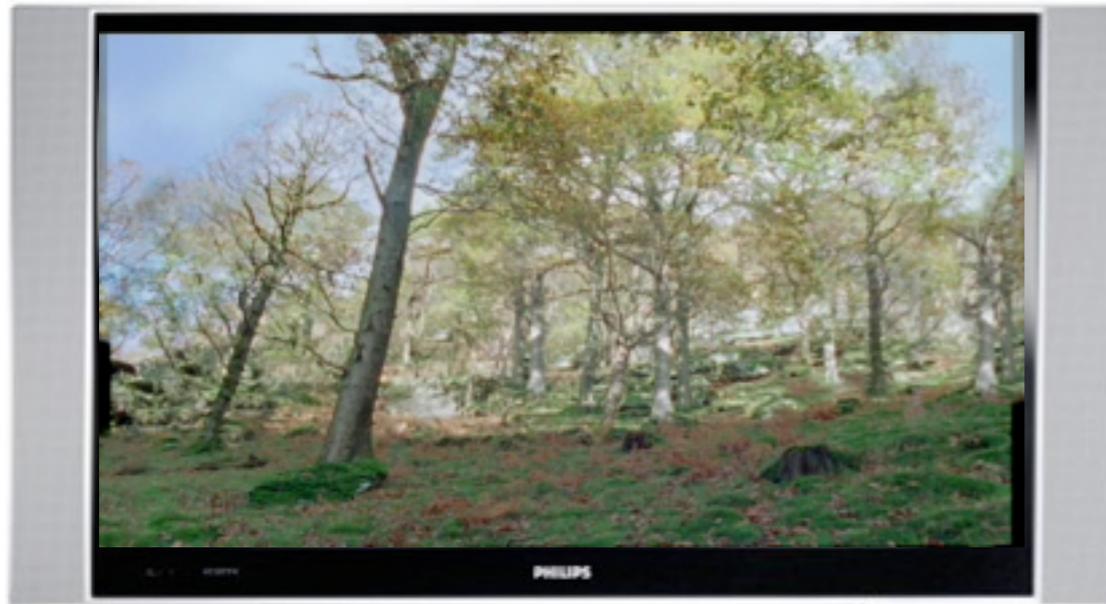
*State of the Planet* – 2002 – BBC1

Thirty years on from Stockholm this presenter-led documentary *State of the Planet* seeks to offer yet another summary of key environmental threats.

This was the first major TV documentary David Attenborough presented that directly addressed harm to the natural world. The central narrative device is a global search for evidence of environmental threats and their causes. The programme also includes visits to the labs and offices of leading environment scientists including Stephen Schneider (see clip on next page) and Robert May to gather authoritative answers to questions about how human beings are damaging the planet. These experts skilfully summarise complex science in the fields of climate change and biodiversity loss. The film-makers have spliced together the scientists' observations with Attenborough's commentary, dramatic and engaging aerial film and close-ups of objects and details that help to tell a story of increasing environmental hazard.



In these clips, you can see that the film-makers make frequent use of timelapse and collage effects, such as the layering of forests of trees and a forest of roads at a major highway intersection. This collage style proves to be a passing fashion, and now looks as dated as some of the studio-based camera work from, for example, *Panorama: Challenge of the Sixties*. It prompts thinking about what currently popular devices used in TV will fall out of the film-makers' repertoire.



*State of the Planet – 2002 – BBC 1*



*State of the Planet – 2002 – BBC1*



This film can be considered a bridge between the straight natural history documentaries that offer audiences a relaxing and enjoyable story about the natural world and issue-based documentaries of a darker hue. The makers of the film stay close to the idea that they must reward audiences with fantastic footage of the surprising, beautiful and extraordinary in nature. This serves to attract a large audience. But programme-makers also believe that this kind of footage helps enlist people to care for nature.

Dr Amanda Vincent's 2015 Commentary  
on *State of the Planet*



Now watch the clip again, this time with an audio commentary from Dr Amanda Vincent, who was the marine biologist and director of Project Seahorse who worked with Attenborough on this part of the documentary. Amanda's comments show that archive film can be of long-term value. Nearly two decades later, she sees potential uses of it both for her as a researcher and for the communities that appear in the film. To find out more, listen to Amanda talking to the author by pressing the audio icon.



“ We undeniably face huge challenges but the good news is ... that mankind already is doing better than many of you think.

-Hans Rosling, *Our World: Don't Panic–The Truth about Population* (2002) BBC2.



**WHERE WILL THE  
STORY GO NEXT?**

Humanity has had huge impacts on the global environment, with loss of habitats and species, and pollution of air, water and soil. And new issues have emerged, including evidence of human-caused changes to the atmosphere, such as the ozone hole and global climate change in the 1980s. Broadcasting and, later, more diverse digital media, have continued to tell these stories.

We can now look back on nearly sixty years of media storytelling about global environmental change. The launch of the first satellites and the global projects set in motion by the International Geophysical Year gave us a new view of humanity's place in the world. It is over forty years since the first big UN conference on the environment. That tense gathering, with its conflict between the developed world and the global South, took place against the backdrop of the dire warnings of the neo-Malthusians that emerged at the same time. Paul Ehrlich argued that a population bomb was about to go off with terrible consequences.



*Lost Souls, Ackroyd and Harvey, 2007*

*This World: Don't Panic -The Truth About Population -*  
2014 - BBC2

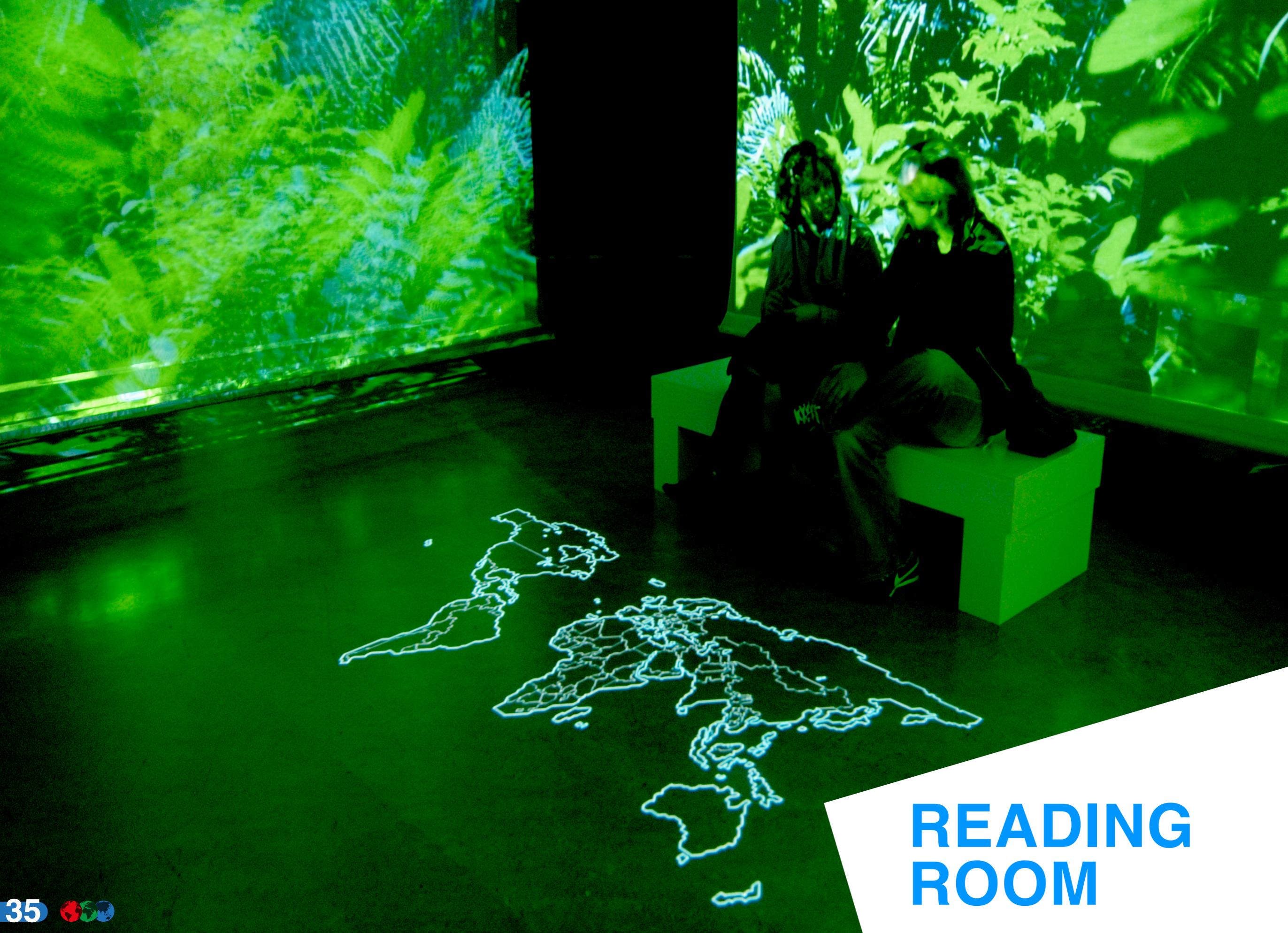


Broadcasters need to keep up with the latest research, and respect the fact that there is no such thing as a definitive answer to many of the biggest questions. A great example of them doing this is *This World: Don't Panic – The Truth about Population*. The statistics superstar Hans Rosling was given a full-length TV lecture slot, and a generous budget for interactive digital visuals to allow him to share his argument that the population bomb had effectively been defused by a combination of increasing wealth and health across the world. He takes care to acknowledge the reality of far-reaching global environmental problems but argues that growing human numbers are not the problem we thought they were. Some will dismiss Rosling as dangerously optimistic or naive, but he does offer hard evidence, and his positive reading of that evidence provokes serious thought about how to contemplate the future and act in the present.

What will the global environmental story be in another fifty years' time? Who will tell it? What will it look like? Where will people see or hear it? How will they share their views on it? Above all, perhaps, which of the major challenges that face us today will no longer be seen as problems, and which new ones will emerge?



Press here to read observational  
comments



# READING ROOM



# Culture and Climate Change: Narratives

ALICE BELL  
ROBERT BUTLER  
TAN COPSEY  
KRIS DE MEYER  
NICK DRAKE  
KATE FLETCHER  
CASPAR HENDERSON

# **Culture and Climate Change: Recordings**

**BERGIT ARENDS  
MARCUS BRIGSTOCKE  
ROBERT BUTLER  
NICEL CLARK**



# Earth in vision: pathfinding in the BBC's archive of environmental broadcasting

**Joe Smith, Kim Hammond** and **George Revill** share some of the findings of their work examining what digital broadcast archives are available and which could be made available in future.

Still from *Tonight* – transmission date: 21 May 1965, BBC1.

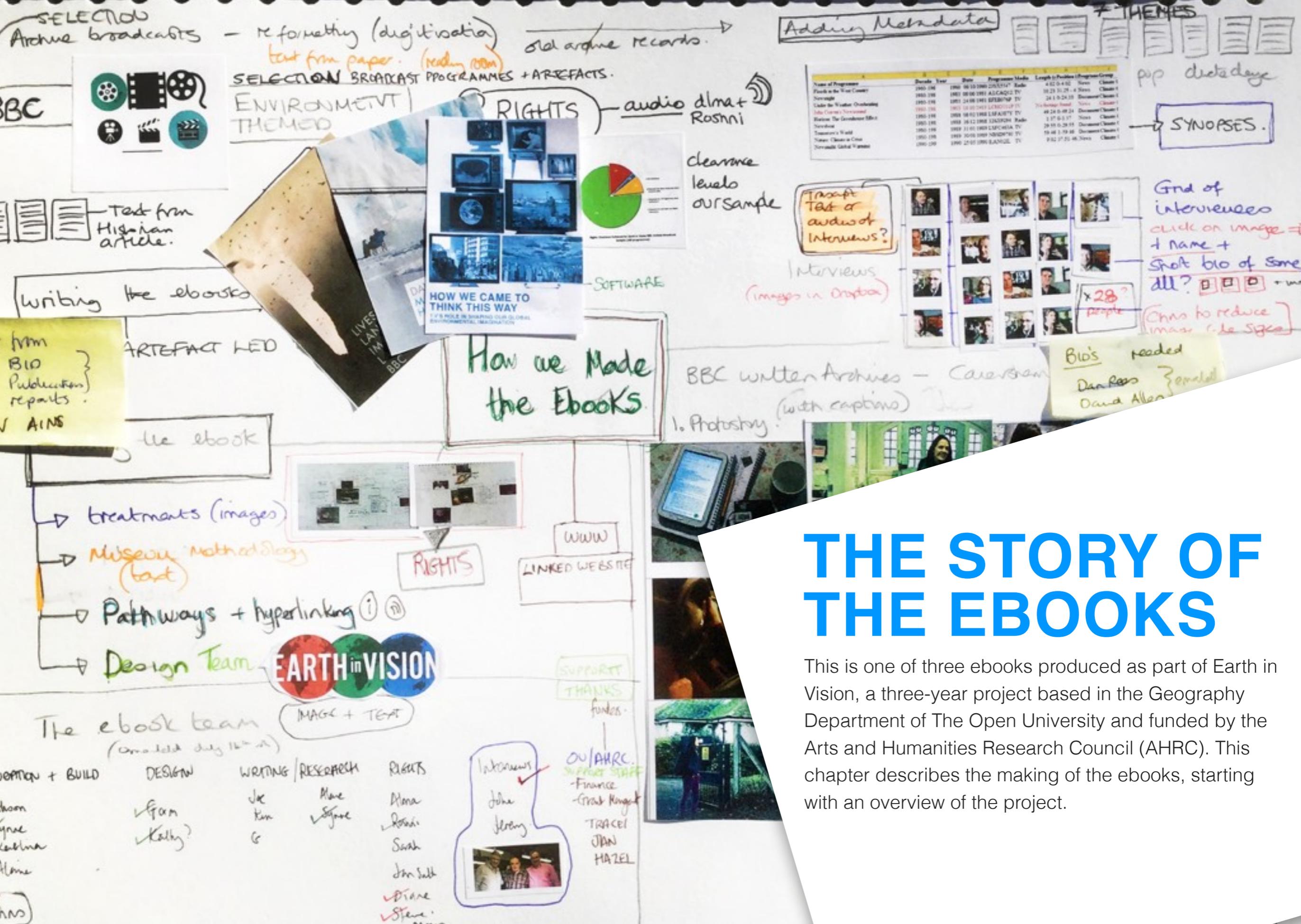


**T**he BBC's archives hold over a million hours of programmes, dating back to the 1930s (radio) and 1940s (television). It represents one of the great cultural and historical treasure-houses. It sits behind a well-padded door, however, with entry-passes distributed only to broadcasters or other media producers searching for clips. What might happen if the door were broken down? Everything from coverage of independence struggles in the global south to personal recollections of births, marriages and deaths might be viewed in a new light.

Large-scale releases of online digital broadcast and film archives have been undertaken in fits and starts, and YouTube

# BBC WRITTEN ARCHIVE CENTRE REFERENCES

BBC Written Archive Centre folder R51/1, 253/1, 10 February 1969; 23 March 1969; 1 April 1969; 7 May 1969, 1 June 1969, 26 June 1970; *Wilderness and Plenty* leaflet, undated



# THE STORY OF THE EBOOKS

This is one of three ebooks produced as part of Earth in Vision, a three-year project based in the Geography Department of The Open University and funded by the Arts and Humanities Research Council (AHRC). This chapter describes the making of the ebooks, starting with an overview of the project.

# EARTH in VISION

Earth in Vision is a pathfinding research project exploring the potential of emerging releases of digital broadcast archives (DBAs). The focus of the project is the BBC broadcast archive, which holds more than a million hours programmes dating back to the 1930s (radio) and 1940s (television). Though a small amount of this material has been released for public viewing on BBC iPlayer and dedicated YouTube channels such as BBC Earth, the majority remains substantially unavailable both to the public and to researchers.

Specifically, Earth in Vision explores the BBC's broadcast archive of environment-themed television and radio programmes spanning six decades from the late-1950s.

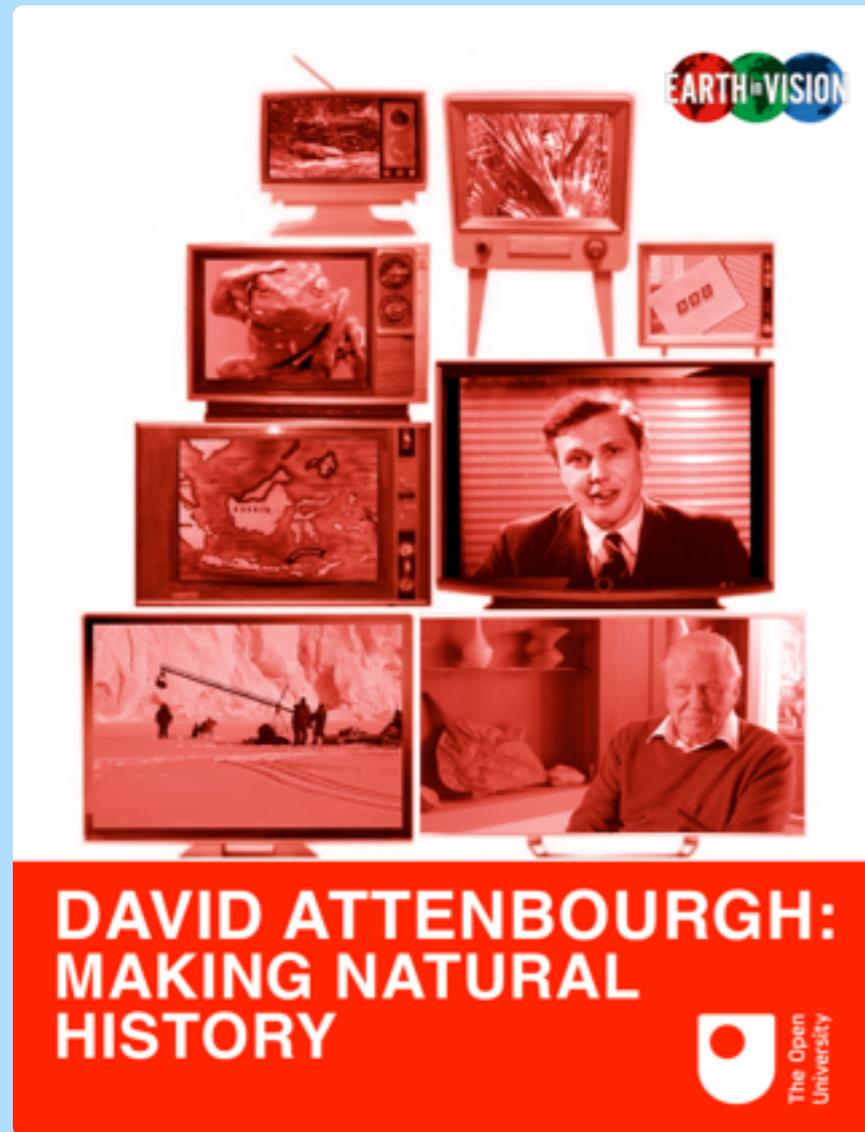


Press to find out more about online digital broadcast archives (DBAs)

The project's two central aims are to explore: first, how DBA content can be used to tell new environmental histories and inform new debates; and, secondly, how people may want to use DBAs to tell their own environmental stories, and what tools, information and metadata they may need or want.

The ebooks illustrate the Earth in Vision team's efforts to achieve these two aims.





David Attenborough: Making Natural History



### Digital Narrative Space

The Earth in Vision ebooks provide three new accounts of environmental history using BBC digital and paper archives. They also explore different aspects of the BBC's role as a prominent producer of environmental narratives.

In turn, the books examine: the iconic role of Sir David Attenborough in BBC environmental programming; the ways in which BBC programming produces and reproduces ideas of British landscape; and television's role in shaping understandings of global environmental issues.

The three stories illustrate the potential of the BBC broadcast archives in the writing of new historical, cultural and political accounts of these themes. They are published as free ebooks, and link to the [Earth in Vision website](#), which holds a sample of BBC archive content that has been rights cleared for public use.



Press to read more about ebooks

The ebooks draw on a range of digital assets and **metadata**, including footage from the BBC television and radio archives, documents from the archive of BBC paper files, the BBC Genome project, images, and filmed interviews with a range of natural history and environment-themed programme makers. These assets are outlined in the following sections, which also discuss the opportunities and challenges posed by digital formats, access and rights.

### BBC Broadcast Archives



The ebooks draw primarily on a sample of 50 hours (100 programmes) of BBC environment-themed radio and television programmes spanning six decades.

### Digital Formatting

The first stage in making archive footage available is to make digital copies to watch.



Press to read more about digital formatting.



Storytelling is associated positively with the act of ‘giving voice’: the ability to make and tell stories provides opportunities for free speech, plurality of expression and diversity in debate. Earth in Vision contrasts the formal strategic narratives represented by programming by the BBC (and other mainstream media organisations) with the tactical stories than can be created informally by the public.

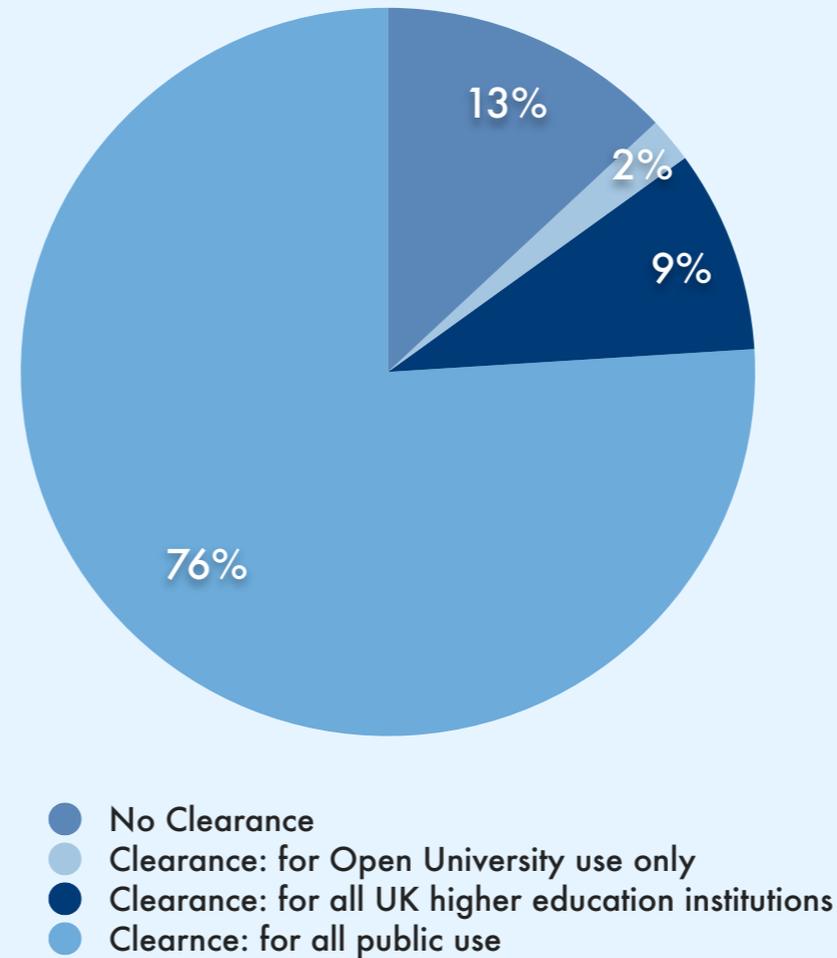
For the latter, people need access to broadcast archive content (programmes) and to the tools for downloading and re-versioning this footage with collages, voiceovers and mashups. This requires digital media archives and tools to be freely available....which brings us to the knotty issue of legal rights to reproduce broadcast archive content.

## Access and Rights

The processes involved in making ebooks highlight issues of access and accessibility. A founding purpose of Earth in Vision was to explore the challenges and opportunities arising from the expansion of legally available DBAs. This included investigating the ideas that diverse individuals and groups might have about how such material could be used.

Differential access is partly tied up with geographical location and socioeconomic factors - for example, inequalities exist in both network coverage and access to technological devices - but among the biggest barriers to opening up the possibilities of using digital archives to tell new stories are questions of copyright and intellectual capital. DBAs cannot be made public unless issues surrounding rights can be resolved. This process brings to light the already composite and collaged nature of content from broadcast media - including archived programmes - which is often shot through with third-party rights to embedded film clips, images and music that it becomes more or less impossible to clear the material for legal use.

Rights Clearance Achieved for Earth in Vision BBC Archive Broadcast Sample



As the chart shows, of the 50 hours (100 programmes) in our pilot sample, only 75% would have been available for full public rights clearance. If these figures are representative of the whole BBC archive, a quarter of a million hours of TV and radio broadcasts would be unavailable for open public clearance.

## AUDIO 10.1 Round Table Discussion

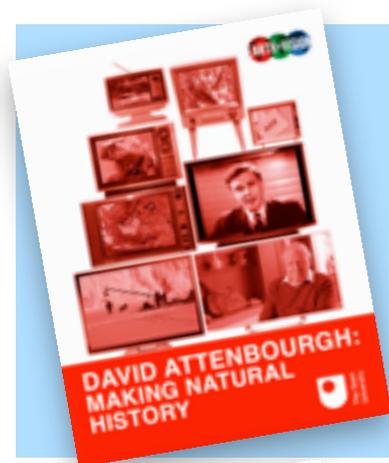


Listen to Alma Hales, Head of Intellectual Property at the Open University, and Roshni Amin, Sound and Vision Producer at the Open University, discussing the possibilities of digital broadcast archives and the issues of access and rights.

## Choosing Content: challenges and constraints

Choices regarding the number and length of BBC programme clips that could be used in these ebooks were tightly constrained by copyright and associated costs. Interestingly, such constraints were also in their way a stimulus to working creatively and economically with media assets.

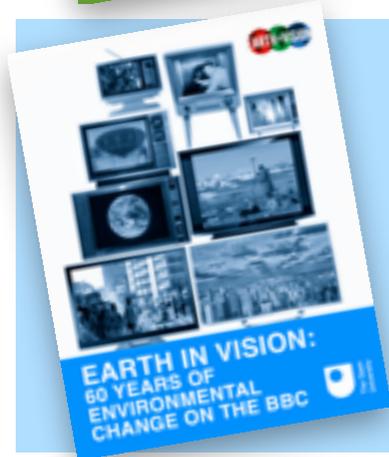
Each ebook had a maximum “budget” of approximately 18 minutes. The challenges of selecting broadcast archive content were different for each ebook, reflecting the different challenges of each story.



There is a vast and well-kept archive of David Attenborough’s work dating back over six decades and the task of selecting from it a mere 18 minutes of footage for Making Natural History was a big challenge.



In contrast, Lives in the Landscape drew on rarer and more niche content, and a search beyond the pilot 50 hours: the author used YouTube to search and watch material uploaded by members of the public who will almost certainly not have had formal copyright clearance. Some of the BBC programming found on YouTube does not exist in the BBC’s own archive, so although this material can be accessed informally, it could not be used in the ebook because it is not possible to obtain official copies that can be formally copyright cleared and paid for. In this context, the narratives that can be told by academics with public funding are highly constrained.



For Earth in Vision: 60 years of environmental change on the BBC, the challenge was to stretch 18 minutes of archive material to tell a story that spanned six decades. It was also a challenge to respect the complexity of the issues raised and allow hints of the controversies generated by some of these representations of the issues without becoming sidetracked. Factual programme makers are well used to this challenge, whereas academics actively pursue such detail.

## Adding the first layer of Metadata



Our starting point for selecting broadcast content was the BBC's own database of programming, but this has been designed to address the needs of BBC staff, and the information it provides is very limited.

An example of an original archive summary is shown on the right. Note that details such as who the reporter / presenter is, are missing.

One member of the Earth in Vision team had the task of watching the pilot sample of 50 hours of programming (100 programmes) and producing a meta database to guide navigation of the material for the purposes of drafting academic papers, designing workshops and writing the ebooks. This metadata included detailed time-coded summaries of each programme, and key words/issues and information such as locations, presenters and producers.



Press to read more about cataloguing metadata

## Original BBC Database Archive Summary

33. BRITAIN 70: THE COUNTRY WE ARE MAKING  
Date: 26/10/1970 - Programme Number: NBS9370X

Category	WILDCAT	Cat Number	21341
Ex media	FILM	Programme/Item	PROG
Duration	0:58:51	Copyright Information	BC

This film investigates man's effect on the environment and the plight of our natural world for survival in it.

> ACTUALITY Air pollution P. Scott sync in Manchester \* Demonstrates normal Peppered Moth on scot bark of tree Dark phase release on bark Dr. Bernard Kettlewells research Light-form making comeback Low aerial track over Sevenoaks water Geese on man-made reserve - trees screen, gravel pit Dr. Harrison and his work Aerials waterfowl in flight.

## Holdings

LOCATION	DESCRIPTION	RESTRICTION
WMR	EAST MUTE POS	
WMR	MAG TRK	
WMR	FINAL DISC	
WMR	EAST MUTE NEG	
WMR	EAST MUTE NEG	
WMR	SD NEG	
WMR	VHS CASSETTE WITH FOOTAGE	



Press to read Earth in Vision's detailed summary of *Britain: The Country we are Making*

## Adding Depth

### 1. The BBC Written Archives

The ebooks draw on a range of documents from the BBC Written Archives Centre in Caversham, where researchers can explore an array of documents and post-production notes on radio and television programmes. These records add a rich and fascinating layer of detail - scripts and script notes, discussions on commissioning and scheduling and audience research, as well as shooting schedules, letters, accounts and other ephemera.



BBC archivist Jacqui Kavanagh speaks about the written archives

## A Virtual Visit to the BBC Written Archives in Caversham, Reading, UK



Preparing what to take: pencils, notebook, camera and memory card, spare batteries and research notes



## 2. The BBC Genome Project

Another source of metadata used in the ebook about landscape was the BBC Genome Project - the BBC's online digitisation for public use of Radio Times data - which provides a searchable online database of programme listing information. Searches can be made by title, key word, year, month, day, time of transmission, TV only, Radio only or both.

The database made it possible to provide some context in terms of where programmes about landscape appeared on the networks while giving some information about their number, historical patterning, themes and content. It is possible to search for programmes from the very early years of British broadcasting (starting in 1922) until the last year of digitisation in 2009.

As a digitisation of the Radio Times, the project is itself a digital historical archive with its own historical integrity and its own stories to tell. Descriptive entries for specific programmes vary greatly across time and from station to station. Thought of as metadata, the Genome project is very much a compromise, limited by the original data source. In effect, it is a distinctive historical archive where important curatorial and editorial decisions have been made by generations of RadioTimes staff.



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You are here: Home > Nature & Environment > The Environment > Creative Content > Earth in Vision

## Earth in Vision

Interviews with media producers, from the iconic Sir David Attenborough & Desmond Morris, to new digital natives. This is an important historical collection and a powerful resource for anyone wanting to make or think about environmental media.

About Earth in Vision | Joe Smith - Earth in Vision Introduction | Sir David Attenborough and The Open University

Filter pages by: Activity | Audio | Video | Free Course | Course | Community

### Watch the interviews

Watch, listen, debate & collaborate with our experts

EARTH VISION

### 3. Interviews with Programme Makers

A further layer of metadata created by Earth in Vision is a collection of recorded critical reflections in the form of interviews with programme makers. These interviews were filmed and transcribed, and the team drew on relevant interviews to enrich their ebook narratives.

The full interviews, transcripts and interviewee biographies are available and free to view at the [Open Learn website](#) and at [Earth in Vision website](#)

## Spaces of archiving and encoding

With the addition of metadata, one task central to the project is scanning, copying, digitising and, where necessary, clearing the rights to use, an eclectic range of historical materials.

Digital archiving involves a process of translation from one format to another - for example, where a paper document is photographed and changed into a digital image file. Such processes always entail losses and gains. When material is digitised, information is lost as a result of the process itself and the level of resolution at which digitising and compression takes place. Some of this information might be considered unimportant

- for example the smell or feel of a piece of paper or a barely discernible pencilled scribble in the corner of a page. Yet thinking of the BBC paper archive materials used in the ebooks, there is something immediate, urgent and provisional in the paper memos and ephemera that is lost in the process of photography. Digital reproduction requires clear, sharp and precise images for screen legibility. But this step does involve attrition (and potential misrepresentation). Digital narrative spaces appear closer and more immediate to readers and yet can also have an objectified distance in which abstraction and translation into digital form results in the significant loss of material qualities.

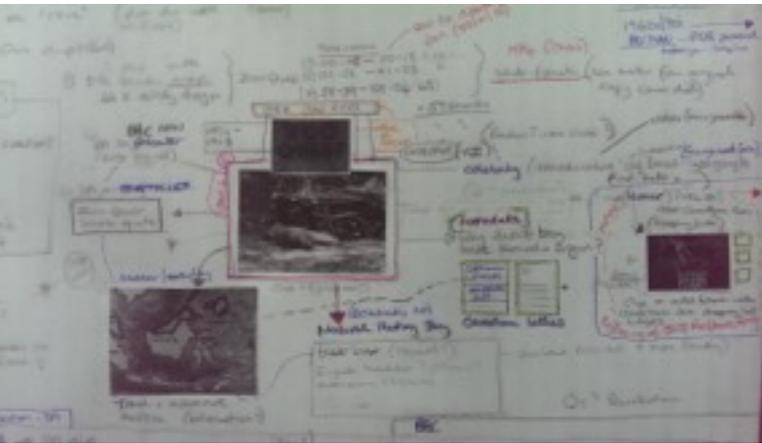


Press here for more on assumptions in digitisation

These issues open up ebook narrative spaces to a range of challenges and opportunities. For example, the abstraction that results from the loss of information with digitisation and clipping presents problems in providing contextual histories that take into account the processes of making programmes, the specifics of social, cultural, economic and political context as well as understandings of genre and format histories of programme making. However, the ease with which audio and video clips can be embedded alongside text and images makes it relatively straightforward to break with existing narrative genres and create new narratives arounds sets of collaged images and

## Curating the ebooks

Ebooks have sometimes been conceived of as a museum with a series of galleries (Troiani and Kahn 2016). Seen in this way, ebooks house a 'collection': they are built around digital artefacts - images, videos, audios and text - that are connected and contextualised by hypertext. There are thus similarities in the way in which ebooks and websites are constructed.



In ebooks, digital objects and artefacts are categorised and juxtaposed in rooms or galleries according to a chosen organising principle or principles. Within this structure, there are opportunities for the

ebook curator to create narrative journeys between the galleries and among the objects. The curator can use hypertext and a hierarchy of levels of detail around a particular gallery or specific object to allow the visitor/reader varying degrees of discretion as to how to read and navigate the ebooks. Ebooks based on collections of historical source material often assume that visitor/readers - as when visiting a museum - will move further or deeper into the collection and linger around particular objects or topics as their interest takes them. To this extent the experience of reading or visiting a multimedia ebook is more like visiting a website or using an interactive app than reading a digitised book on a Kindle or other proprietary e-reader.

Like websites, ebooks follow particular narrative conventions. For example, writing is characterised by the use of short paragraphs, editorial limits on the number of words per page - set at perhaps no more than 400 - and the adoption of textual strategies to gain the reader/visitor's attention, for example, through the use of introductory hooks explicitly designed for that purpose.

In addition, writing that assumes different levels (hierarchies) of visitor interest and knowledge explicitly structures the text: earlier paragraphs assume less knowledge and a more general audience, while information set lower down, or behind, the main page assumes on the part of the visitor/reader a desire to know more.

### Team Work

The Earth in Vision ebooks mimic in several important respects the production processes and values of the broadcast programming that forms their subject matter. When thought of through the museum/gallery metaphor, their narratives are artefact driven and rely substantially on visual and audio content. In this sense there is a real danger of reproducing the attention-catching presentism of which the mass media is sometimes accused. At the same time, the multimedia ebook format taps into a potentially rather more positive aspect of media production, as ebook production questions notions of solitary authorship. Even more than TV or radio production, the making of a multimedia ebook can be a team effort, involving writers, audiovisual content providers, curators and designers working together.

## The eBook Team

Click on images to read short bio



## Ebook Formats

It is arguable that in some important respects multimedia ebooks are more portable and accessible than apps or websites: while they have some of the functionality derived from these platforms, including search, hypertext, audio and video, as well as the potential for interactive engagement through quizzes, links and user-generated text or input, they do not necessarily need a constant internet connection to be at least partly functional.

At the time of writing, there are different ebook formats, standards and capabilities, principally those for the Apple and Microsoft operating systems. This gives rise to problems of access and accessibility. The Earth in Vision team concluded that while the Apple format offered the greatest functionality and was likely to be the choice of ebook makers, the Microsoft format was currently the most readily available to users on their devices. This presented the team with a series of difficult choices, given that, with limited resources, only one format was possible. The current ebooks have been produced as Apple iBooks. Ideally, this problem will be resolved in future by the production of multimedia ebooks in both formats.

The size of media files used in ebooks is also an important consideration for accessibility and portability: currently the total size of the Earth in Vision ebooks is 2.5 GB. One approach is to think in terms of museum standards of reproduction. But maximising portability - for example, to enable the ebooks to be read on public transport - would reduce substantially the total file size and hence the range or resolution of available content.

## The Future

With all its opportunities and problems, the ebook format opens up a space in which to explore and discuss digital storytelling and the making of digital narratives. The use of ebooks creates opportunities for experimental and innovative academic practice in the 21st century. The team's experience to date confirms that ebooks have very significant creative potential - potential that would be greatly enhanced if some copyright issues could be resolved, and if a greater degree of portability could be established between the Apple and Microsoft platforms.

Learning how to order and present material in interactive digital media such as ebooks - as well as how to invite others into, and lead them through, new digital spaces - promises to become not only a more prominent element of academic practice but a significant and well-measured response to calls for impact and public engagement. Ebooks and associated digital media forms also open up great opportunities for public engagement in research, and stronger interactions between university research and teaching.



Collage for each eBk  
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collage will be used as  
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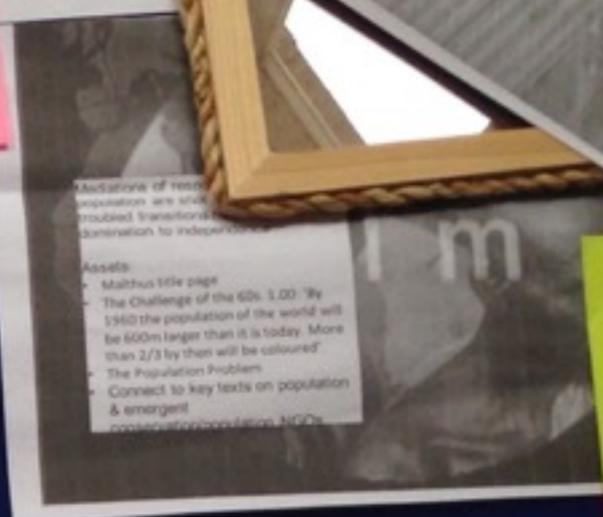
Looking for  
film  
History - story of film  
Under the sea  
Newspaper  
DA  
Think about the population



### how media culture & practice shape the story

- Men with large globes: Middle class white males predominate
- Cliches a survivor species: repeating motifs: globes; teeming streets; collages of forests and highways;
- 'send the worry over there': multichannel commissioning
- Sheep, goats and transmission times
- Some films are themselves 'actors in the story': emergence of 'blue chip'; magazine shows 'smuggle in' difficult content;
- Media approaches to environmental change draw from hit also reinforce environmentalist messaging

Some jobs of  
general landscape  
- hope valuing the  
environment, designed  
landscape environment  
- BBC discussion  
started conversations  
of landscape in UK



### Earth in vision: pathfinding in the BBC's archive of environmental broadcasting

Joe Smith, Kim Hammond and George Revell share some of the findings of their work exploring how digital broadcast archives are and could be made available

The BBC's archive holds over a million hours of programming, including environmental and nature documentaries. It was formed a well-preserved archive, which was open to the public only in 1998. It was the first time that the public had access to the archive. The archive is now open to the public. The archive is now open to the public. The archive is now open to the public.

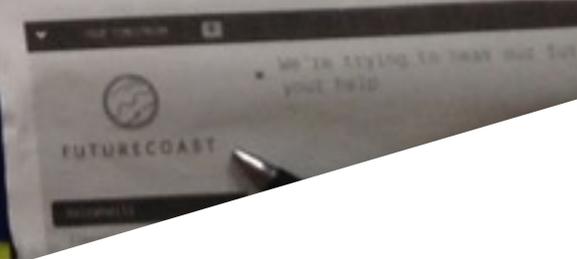
### Chapter 5: Doing your bit

PATHWAY ②  
Biographies

### Future of environmental broadcasting?

- 'Roll up roll up for the anthropocene show': a widening scope
- Environmental change made real and local: e.g. the 'watch' shows
- Interactive docs open up new forms? Bear 71 (a 'first bear documentary'; World Without Oil ('play it before you live it'; Future Coast ('we're trying to hear our futures')
- 'Now make your own': how to support a world of narrowcasters?

PATHWAY ①  
Comparative



# PATHWAYS



Collage for each eBook

with a picture selected for each chapter which will pop out within the collage

Collage will be used as a border

Programmes

Challenges for Keith  
Hudson - story of Paul  
Under the wire  
Newspaper  
DA  
Thinking About the Population

### how media culture & practice shape the story

- Men with large globes: Middle class white males predominate
- Cliches a survivor species: repeating motifs: globes; teeming streets; collages of forests and highways;
- 'send the worry over there': multichannel commissioning
- Sheep, goats and transmission times
- Some films are themselves 'actors in the story': emergence of 'blue chip'; magazine shows 'smuggle in' difficult content;
- Media approaches to environmental change draw from but also reinforce environmentalist messaging

- Screen grab of general landscape  
- People valuing the environment, designed landscape environment  
- BBC discussion debates conversations, landscape in UK

Table with multiple columns and rows of text, likely a data table or index.

### Earth in vision: pathfinding in the BBC's archive of environmental broadcasting

Joe Smith, Kim Hammond and George Revill share some of the findings of their work examining how digital broadcast archives are and could be made available.



The BBC's archive hold over a million hours of programmes, dating back to the 1930s (radio) and 1940s (television). It represents one of the great cultural and historical resource hoards. It also holds a well-preserved diary, however, with every program distributed only to broadcasters or other media producers searching for clips. What might happen if the door were further down? Emerging from coverage of independence struggles in the global south to personal profiles from of births, marriages and deaths might be viewed in a new light. Large scale releases of online digital broadcast and film archives have been

# WRITTEN AND BROADCAST ARCHIVE PATHWAY

*The Restless Sphere* -1957-BBC



Return to  
chapter



More from the *Restless Sphere*



*The Restless Sphere* – 1957 – BBC

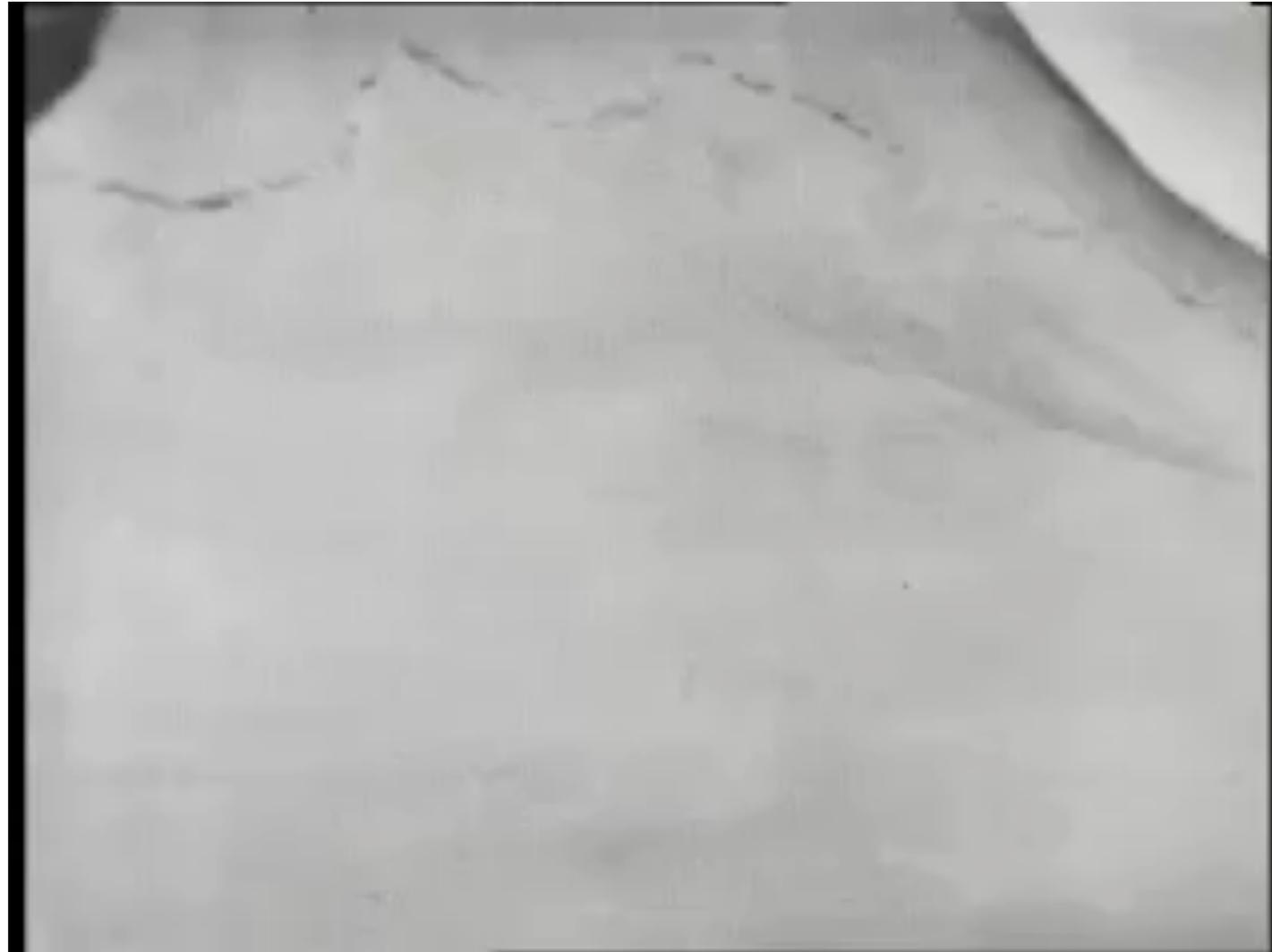


Return to  
chapter

More from the Restless Sphere



*The Restless Sphere -1957-BBC*



Return to  
chapter

More from the Restless Sphere



*The Restless Sphere-1957-BBC*



Return to  
chapter



Panorama The Challenge of the Sixties-1960-BBC



Listen to Robert Oppenheimer's 'melancholy plea'



A young Norwegian man from the group Green Warriors of Norway at the UN climate talks in December 2015, was determinedly handing out free condoms accompanied by overpopulation leaflets to men and women from all over the world, as they ended a day's work at the climate negotiations in Paris. The BBC's most recent documentary on the topic took the opposite view, with demographer Hans Rosling arguing that, although we face major challenges, increasing prosperity across the world has seen birth rates dropping and the human population stabilising. Rosling is careful to acknowledge that humanity is facing a body of very real challenges, most prominently climate change. But he also wants to balance decades of misrepresentation of the statistics, and also present new knowledge.



Green Warriors of Norway campaign 2015



From: Head of Talks & Current Affairs (Radio) 1st April 1969

Subject: REITH LECTURES

To: H.D.R. Copy to: A.D.R.: A/C.R.A.

1. The search for the significant and journalistically apposite theme, combined with a speaker of appropriate stature and ability, has proved no easier this year than any other. As ever, there is a wide range of proposals, so wide that I can do no more than set them down on the attached list, most of them without comment. Among the proposals are many non-starters (e.g. Isaiah Berlin, who I know will never agree to do the Reith Lectures, Kenneth Clark, whom we could hardly invite so soon after his "Civilization" series, Robert MacNamara, who could hardly be approached while he is doing his present job, etc.). Some of the subjects too, though all of importance, would be unlikely to strike a chord; others are too narrow (e.g. "Where do we find our Technologists?") or too broad (e.g. "The 1960s a Turning Point" or "The Age of Uncertainty").
2. For myself, I would give first priority to a scientific subject; but science in the abstract can, as we know from experience, be confined in its appeal, and however eminent and distinguished the speaker, fail to make an impact (e.g. Sir Peter Medawar). It would therefore seem to me that what we need is a scientific approach, intensely aware of social consequences, to some imminent major change or danger likely profoundly to affect mankind. It could be (a) "The Conquest of Space", it could be Murray Lawer or Stafford Beer on (b) "Information Systems and Society", or it could be (c) "Waste, Vent and Wilderness" - in effect a warning about the ecological and environmental changes now being brought about haphazardly and with uncontrolled and gathering momentum.
3. Of these, "The Conquest of Space" though real and immediate in terms of U.S. and U.S.S.R. achievement, is remote in terms of U.K. participation and curiously uncertain in terms of impact on mankind, positive benefit (I know this could be disputed) and grave danger. Information and Systems, of course, means electronic computers - a highly important subject which clearly deserves attention in terms which were only dimly perceived when Leon Bagrit gave his series on "The Age of Automation". It seems to me that this theme is a 'must' in the near future, and Murray Lawer (recommended by David Wilson) would be an excellent speaker. But I think it is too soon after the Bagrit series to consider for this year. Accordingly, of the three themes set out in paragraph 2, I plump for the third, by Frank Fraser Darling.

-continued-

Correspondence related to the 1969 Reith Lectures, *Wilderness and Plenty*

These papers show the process of the BBC choosing a speaker for their high profile BBC Radio 4 'Reith Lectures'. They show how executives are trying to align an appropriate theme and a capable speaker. They have quite particular ideas about what 'appropriate' and 'capable' means.



Return to main narrative

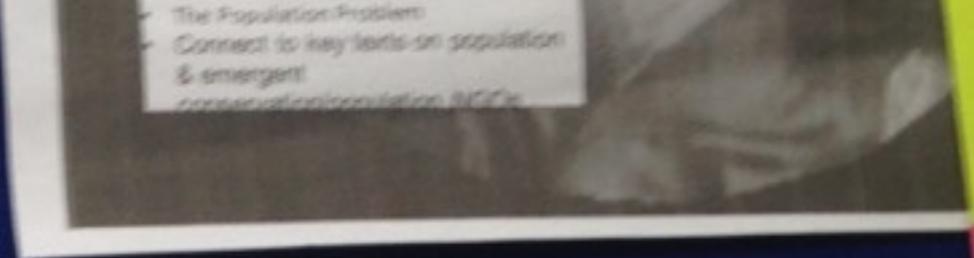


Follow meta data pathway for more information related to the 1969 Reith Lectures, *Wilderness and Plenty*

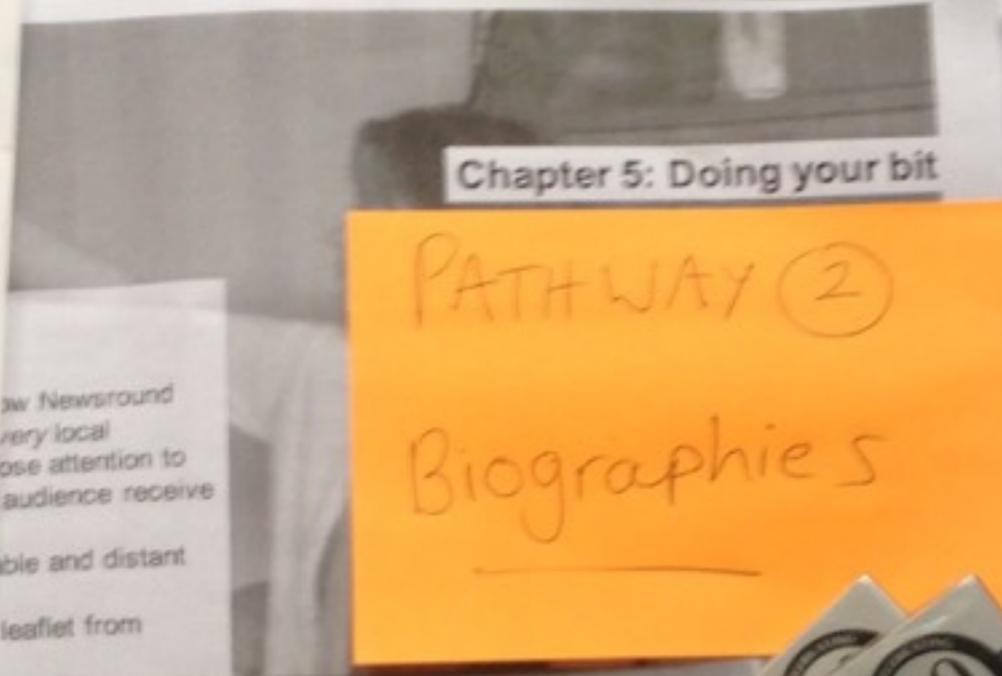


rs in the story':  
line shows "smuggle in"  
ental change draw from  
list messaging

- BBC discussion  
searched conversations  
discuss in UK



Population Problem  
connect to key texts on population  
& emergent  
conservation/population NGOs



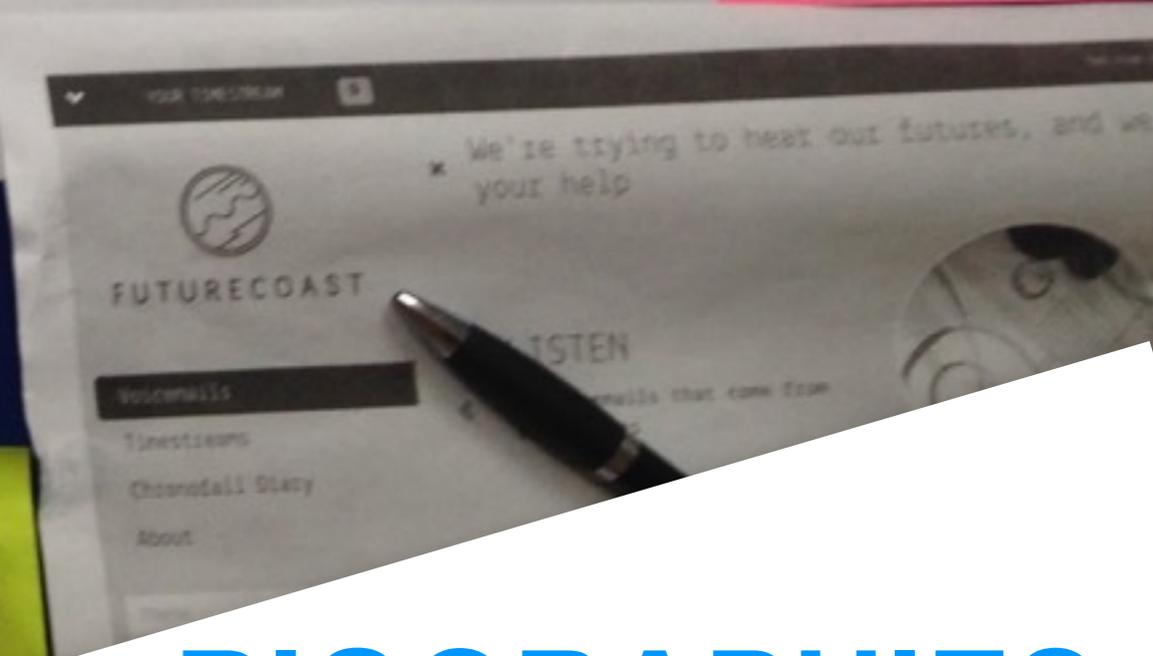
Chapter 5: Doing your bit

PATHWAY ②  
Biographies

Newsround  
very local  
use attention to  
audience receive  
able and distant  
leaflet from

### Future of environmental broadcasting?

- 'Roll up roll up for the anthropocene show': a widening scope
- Environmental change made real and local: e.g. the 'watch' shows
- Interactive docs open up new forms? Bear 71 (a 'first bear documentary'; World Without Oil ('play it before you live it'; Future Coast ('we're trying to hear our futures')
- 'Now make your own': how to support a world of narrowcasters?



# BIOGRAPHIES PATHWAY

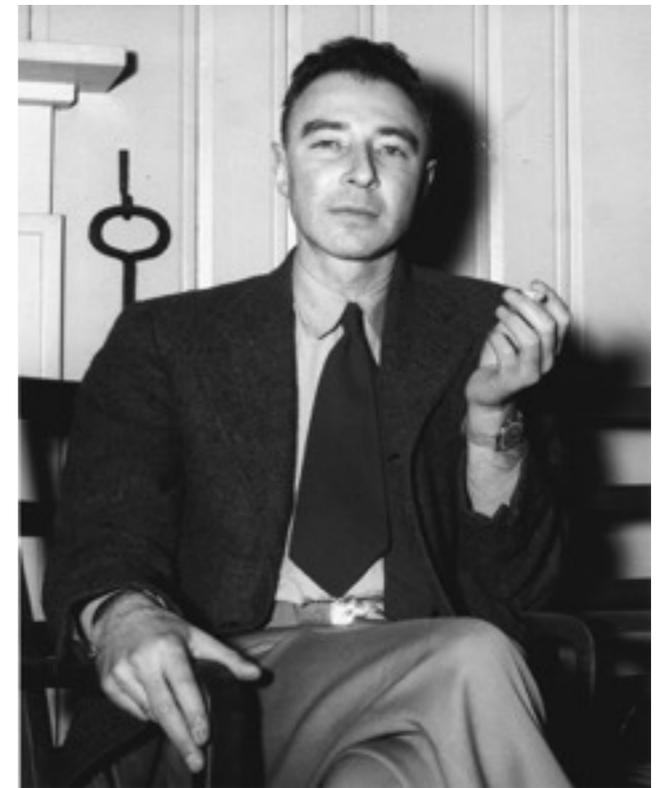
# J. ROBERT OPPENHEIMER

American theoretical physicist Julius Robert Oppenheimer (1904-67) is best known for his work on the Manhattan Project, which led to the development of the world's first atom bomb. He worked under J.J. Thomson, discoverer of the electron, at Cambridge university, and received a doctorate from Göttingen, which was renowned for theoretical physics.

In 1941 President Roosevelt approved research to develop a US atom bomb, and Oppenheimer was appointed, first, 'Coordinator of Rapid Rupture' and subsequently head of the secret weapons laboratory. The remote location of Los Alamos was chosen as the project's base, and Oppenheimer selected some of the world's greatest scientists to work on it. Oppenheimer was said to be difficult to work with by many of his contemporaries, a number of whom were strongly opposed to his involvement with the project. Despite this, the team successfully built and tested an atom bomb on 16 July 1945.

In August 1945, atom bombs were dropped on the Japanese cities of Hiroshima and Nagasaki, in an attempt to end World War II, the remnants of which were still raging in the Pacific. The results were devastating: more than 246,000 soldiers and civilians were killed and the two cities reduced to ashes. The use of the atom bomb ended the war but at a great cost to human life, giving rise to novel scientific, political and ethical issues.

Robert Oppenheimer had his government security clearance revoked in 1953, following accusations surrounding his involvement with the Communist party and a number of known members. His erratic behaviour during his trial contributed to his fall from grace. Despite this he had a successful academic career. He was three times nominated for a Nobel Prize.



Robert Oppenheimer with Albert Einstein at the US Institute for Advanced Study, where Oppenheimer was director from 1947 to 1966



# RICHARD DIMBLEBY

Richard Dimbleby (1913-65) began his career with the BBC in 1936 in broadcast radio news. He was the BBC's first war correspondent, a task to which he took a hands-on approach, even recording broadcasts while flying as an observer during air raids. Dimbleby later made the transition to television broadcasting and became the BBC's most prominent news commentator, which saw him report on a number of historic occasions.

Dimbleby came to present the current affairs series *Panorama*, which allowed him to make full use of his repertoire of journalism skills. His unique style of interviewing during *Panorama* – in depth yet respectful – was particularly commended. However, for some, Dimbleby's BBC performances became an embodiment of establishment Britain.

It was from the *Panorama* series that the special *The Challenge of the Sixties*, discussed in this ebook, emerged. In it, Dimbleby, Robin Day and James Mossman, along with world leaders and scientists, discussed the challenges facing the world over the forthcoming decade.

Dimbleby was one of the BBC's pioneering journalists and was awarded a CBE for his service to the public as a news and current affairs broadcaster.



# THOMAS MALTHUS

The Reverend Thomas Robert Malthus (1766-1834) was a controversial and influential British academic and writer of essays on population. Malthus was born in Surrey and in 1784 entered Jesus College, Cambridge, where he excelled in English declamation, Latin and Greek, but from which he graduated with a degree in mathematics.

Malthus toured Europe gathering population data, visiting Germany, Russia, Scandinavia and later, in 1802, France and Switzerland. In 1805 he became Professor of History and Political Economy at the East India College in Hertfordshire, and in 1818 was elected a fellow of the Royal Society.

Malthus became recognised principally for his 1798 *An Essay on the Principle of Population*, written in response to the prevailing optimism about progress and the future of society, asserting that population growth will always exceed the rate of food production on account of mathematical trends. Malthus concluded that populations expanded geometrically and food production increased arithmetically, leading to a fundamental imbalance. Multiple subsequent editions of *An Essay on the Principle of Population* were released, in which he addressed criticisms and updated information.

Malthus's writings sparked much debate on the topic of population growth and its social implications and the notion of Malthusian crisis is still under discussion today.



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# WANGARI MAATHAI

Wangari Maathai (1940– 2011) was the first African woman to receive the Nobel Peace Prize, for 'her contribution to sustainable development, democracy and peace'. She was also the first female scholar from East and Central Africa to take a doctorate (in biology), and the first female professor ever in her home country of Kenya. Maathai played an active part in the struggle for democracy in Kenya, and belonged to the opposition to Daniel arap Moi's regime.

In 1977 she started a grass-roots movement aimed at countering the deforestation that was threatening the means of subsistence of the agricultural population. The campaign encouraged women to plant trees in their local environments and to think ecologically. The so-called Green Belt Movement spread to other African countries, and contributed to the planting of over thirty million trees.

Maathai's mobilisation of African women was not limited in its vision to work for sustainable development; she saw tree-planting in a broader perspective which included democracy, women's rights, and international solidarity. In the words of the Nobel Committee: "She thinks globally and acts locally."

Wangari Maathai - Facts. Nobelprize.org. Nobel Media AB 2014. Web. 29 Nov 2016. <[http://www.nobelprize.org/nobel\\_prizes/peace/laureates/2004/maathai-facts.html](http://www.nobelprize.org/nobel_prizes/peace/laureates/2004/maathai-facts.html)>



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# DAVID ATTENBOROUGH

Sir David Attenborough (1926 –) graduated from Cambridge University with a degree in natural sciences. He went on to a career in BBC broadcasting, through which he became an icon of natural history programme making and presenting, as charted in another ebook in this series.

Attenborough worked behind the scenes at the BBC from the 1950s. His first appearance on television was when he stepped in at short notice to present *Zoo Quest*, which he had previously been producing. The *Zoo Quest* series was a huge success, launching Attenborough's career at the BBC both as a presenter and in senior administration - he was channel controller of BBC2 from 1965, and director of programmes (for both BBC1 and BBC2) from 1969. Attenborough returned to full-time programme making in 1973, working first with the BBC Natural History Unit to produce the series *Eastwards with Attenborough* - BBC1 and later the landmark series *Life on Earth* - BBC2 - (1979). Sir David reports that *Life on Earth*, which he wrote and presented, is the work he is most proud of. Since then he has presented numerous series, including *The Living Planet* - (1984) - BBC2; *The Blue Planet* (2001) - BBC1, *Frozen Planet* (2011) - BBC1; and *State of the Planet* (2000) - BBC1; *The Great Barrier Reef with David Attenborough* (2016) - BBC1 and *Planet Earth II* (2016) - BBC1.

*The Great Barrier Reef with David Attenborough* (2016) - BBC1 - has been developed as a freely available online interactive documentary. This reflects Attenborough's lifetime commitment to technical innovation and experiment in support of great natural history and environmental storytelling.



# AMANDA VINCENT

Dr. Amanda Vincent is a marine biologist whose work is at the forefront of marine conservation. Amanda holds the Canada Research Chair in Marine Conservation at the University of British Columbia. Having graduated with honours at the University of Western Ontario, Vincent completed a PhD at the University of Cambridge. She was a senior research fellow at the University of Oxford from 1991 to 1996, the year when she co-founded Project Seahorse. This was the beginning of a global multidisciplinary effort to conserve marine ecosystems.

Project Seahorse endeavours to combat all challenges facing marine life, and also addresses social and political impacts, working closely with communities and global organisations. The work has led to the formation of a regional coalition of 1,000 low-income fishing families in Asia, the establishment of 35 locally managed protected marine areas, and the gradual reform towards sustainability of the supply practices of traditional Chinese medicine. Dr. Vincent was the first to study seahorses underwater, continues her work as director of Project Seahorse.



**...TING NARRATIVES:**  
**S RESEARCH**  
 ...inary one-day symposium to discuss the impact of  
 search tool and as a method of communicating research.  
**09.30 TO 17.30**  
**4 JULY 2015**

Climate Issue	Topic of Programme	Year	Date	Programme Number	Media	Channel	First Aired On	Length (mins)	Positive in programme (mins)	Programme Type	Group
1.2.1	Florida is the New Country	1989	1989	18127360	Radio	5th Ave		4:02	0:00	News	Climate Change
1.2.1	Newswatch	1989	1989	18127361	TV	BBC 2		10:00	0:21 - 0:48	News	Climate Change
1.2.1	Could We Weather... (Continuing)	1989	1989	18127362	TV	BBC 2		24:1	0:34:34	Documentary	Climate Change
1.2	Horizon: The Greenhouse Effect	1989	1989	18127363	TV			50:00		News	Climate Change
1.2.1	Horizon	1989	1989	18127364	TV	BBC 1		49:24	0:49:24	Documentary	Climate Change
1.2.1	Newsnight	1989	1989	18127365	Radio	BBC 1		1:07	0:1:07	News	Climate Change
1.2	News: China in Crisis	1989	1989	18127366	TV	BBC 1		28:57	0:28:57	Documentary	Climate Change
1.2.1	Newswatch: Global Warming	1989	1989	18127367	TV	BBC 2		19:46	1:19:46	Documentary	Climate Change
1.2.1	Horizon: The Greenhouse Effect	1989	1989	18127368	TV	BBC 2		8:03	2:15:46:53	News	Climate Change
1.2.1	Tomorrow's World - Greenhouse Effect	1989	1989	18127369	TV	BBC 1		4:00	0:45:00	Documentary	Climate Change
1.2.1	Face the Facts: The Greenhouse Effect	1989	1989	18127370	TV	BBC 1		19:2	0:49:19	Documentary	Climate Change
1.2.1	Country File	1989	1989	18127371	Radio	BBC 4		34:55	0:34:55	Documentary	Climate Change
1.2.1	News Item: Doctor at World Climate Conference	1989	1989	18127372	TV	BBC 1		21:49	0:21:49	Documentary	Climate Change
1.2.1	Newsnight: The Big Deal	1989	1989	18127373	TV	BBC 1		3:36	0:3:36	News	Climate Change
1.2	The Global Environment: The Greenhouse Effect	1989	1989	18127374	TV	BBC 1		40:24	0:40:24	Documentary	Climate Change
1.2.1	Dance on Two: England Come	1989	1989	18127375	TV	BBC 1		15:25	0:15:25	Sports programme	Climate Change
1.2.1	The World Tonight: World Climate Conference in Geneva	1989	1989	18127376	TV	BBC 2		13:18	0:13:18	News	Climate Change
1.2.1	Newsnight: Greenhouse War	1989	1989	18127377	Radio	BBC 4		4:36	0:4:36	News	Climate Change
1.2.1	Newsnight: Searching for Earth	1989	1989	18127378	TV	BBC 2		49:00	0:49:00	Documentary	Climate Change
1.2.1	Newswatch	1989	1989	18127379	TV	BBC 1		1:16	0:1:16	News	Climate Change
1.2.1	Newswatch: Global Warming	1989	1989	18127380	TV	BBC 1		1:00	0:1:00	News	Climate Change
1.2.1	Newsnight: Global Warming - Ballpoint Interview	1989	1989	18127381	Radio	5th Ave		2:36	0:2:36	News Interview	Climate Change
1.2.1	Newswatch: Global Warming - High Conference Session Data	1989	1989	18127382	TV	BBC 2		3:09	0:3:09	News	Climate Change
1.2.1	News Special: What's Gone for Good - Climate Change	1989	1989	18127383	TV	BBC 2		11:40	0:11:40	News	Climate Change
1.2.1	News Item: Climate Change Effect on British Birds	1989	1989	18127384	TV	BBC 1		49:46	0:49:46	Documentary	Climate Change
1.2.1	Countryfile	1989	1989	18127385	TV	BBC 1		1:37	0:1:37	News	Climate Change
1.2	Earth: The Climate Wars: The British Engine	1989	1989	18127386	TV	BBC 1		1:37	0:1:37	News	Climate Change
1.2	Earth: The Climate Wars: Fight Back	1989	1989	18127387	TV	BBC 1		40	0:40	Documentary	Climate Change
1.2	Earth: The Climate Wars: Fight for the Future	1989	1989	18127388	TV	BBC 2		59	0:59	Documentary	Climate Change
1.2.1	What is Earth as we Doing? - Power to the People	1979	1979	18127389	TV	5th Ave		24:12	0:24:12	Documentary	Energy Self Sufficiency
1.2.1	Newsnight: World	1989	1989	18127390	TV	BBC 1		39:05	0:39:05	Documentary	Energy
1.2.1	Where is Earth as we Doing? Episode 1 - Energy Without End	1989	1989	18127391	TV	BBC 2		48:36	0:48:36	Documentary	Energy
1.2.1	Eye Open for a Dragon	1989	1989	18127392	TV	5th Ave (BBC 1)		19:18	0:19:18	Documentary	Endangered Animals
1.2.1	News Item: The Zoo: Save Animals	1989	1989	18127393	TV	5th Ave (BBC 1)		23:2	0:23:2	Documentary	Endangered Animals
1.2.1	The Zoo: Save 2. The Zoo Party	1989	1989	18127394	TV	5th Ave (BBC 1)		34:9	0:34:9	Documentary	Endangered Animals
1.2.1	Newsnight: A New Look for Animals	1979	1979	18127395	TV	5th Ave (BBC 1)		24:24	0:24:24	News	Endangered Animals
1.2.1	Animal World	1979	1979	18127396	TV	5th Ave (BBC 1)		4:27	0:4:27	News	Endangered Animals
1.2.1	Newsnight: What Use is a Whodder?	1979	1979	18127397	TV	BBC 1		49:40	0:49:40	Documentary	Natural History for Children
1.2.1	Newsnight: Newsnight	1989	1989	18127398	TV	BBC 1		1:4	0:1:4	News	Endangered Animals
1.2.1	The Edge of Extinction	1989	1989	18127399	TV	BBC 1		51:24	0:51:24	Documentary	Endangered Animals
1.2.1	Newsnight	1989	1989	18127400	TV	BBC 1		11:39	0:11:39	Documentary	Endangered Animals
1.2.1	World on One: What's a Tiger	1989	1989	18127401	TV	BBC 1		27:36	0:27:36	Documentary	Endangered Animals
1.2.1	Newsnight: A New Year of the US: The Midway Conference	1989	1989	18127402	TV	BBC 1		20:19	0:20:19	Documentary	Endangered Animals
1.2.1	Newsnight: Christmas Shopping for us	1989	1989	18127403	TV	BBC 1		49:36	0:49:36	Documentary	Endangered Animals

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Still from Tonight - transmission data



# METADATA PATHWAY

Metadata is vital if media producers, researchers, or indeed any online users of available content are to find what they are looking for. This section shows the transcripts and details of metadata connected to the programme clips.

## Panorama: The Challenge of the Sixties -1960

### Population

#### Predictions

#### Trends and Problems

TV Programme: 1960: Panorama:181:The Challenge Of The Sixties

Programme Number: LCA6728W; 0:44:23

Date: 04/01/1960; Reporter: Richard Dimbleby, Robin Day, Patrick O'Donovan

### Summary

Richard Dimbleby presents this programme which tries to predict the significant trends and problems that may face the world in the 1960s.

Special edition – problems which face the world, not just UK. By 1970 will be population increase of 600 million; or world population two thirds will be coloured people. There will be an increase of 51 million people in Africa, this could be one of the greatest challenges of the 60s.

Robin day reporting from Dar e Salaam – colonial rule and white supremacy on the way out; next decade Africa wants to be free of colonial rule; discussion of this - how white Africans nervous about this; potential for democracy in Africa; possibility of unification of African states for bigger more influential units.

China: population of China will be 95 million, of east Asia by 1970 will be nearly 1000 million (up 155 million); and then India sub continent may have 617 million by 1970. As well as threat from China, India has issue of how to nourish own population and how to maintain position as a big neutral power between east and west.

New Delhi; discussion of the Cold war

### 10 minutes in

Discussion of Russian communist system and future; probably doesn't have desire to expansion. China communism discussed and China-Russia and China-Asia relations. Discussion of military influence as reducing, growing out of date; wars becoming outdated. Struggles for survival. Capitalism is changing; communism is changing. British common wealth has helped countries to solve their problems; it has a good role to play.

Most immediate challenge to West comes from Soviet Russia. Population increasing.

Edward Crankshaw discusses Russia and Nikita Khrushchev with Robert Key. Will it be Chinese and Moa who dominate 60s; and their relation to Russia and us. We are on same side as Russia on this, on population increases in Asia. China may be more careless, has less to lose. Russians are our economic challenge of 60s. We have to be sensible about the non-white parts of the world.

### 20 minutes in

Discussion of Russian politics: need for greater prosperity there; need for enrolling younger people to communism.

Our own population is increasing expect, and in Europe expect overall increase of 35 million. Bertrand ? French economist and philosopher discuss problems Europe will be facing – unpredictable future. Must be Christian to undeveloped world; hope to increase growth and development; expect to improve quality of life – education, manners, towns, higher quality human beings.

North America will increase population by 50 million; Patrick O'Donovan reports from Washington. Discussion of USA – life good here and expected to stay so; some concerned with aimlessness of ordinary life – pointless busyness and self absorption – Mr Stevenson, democratic candidate - mass society obsessed with security (physical, economic etc) and loss of individual freedom. Been dominant, but new centres of power are emerging – India, Asia, Europe, China, might be a good change.



## Reith Lectures 1969: *Wilderness and Plenty*

### General Environmental Reith Lecture Global Changes

Radio Programme: 1969: The Reith Lectures 1969: Wilderness & Plenty – Global Changes  
Programme Number: 29SX6436; 0:27:35(starts at 0)  
Date: 30/11/1969; Reporter: Dr. Frank Darling

#### Summary

Global Changes – actual and possible fourth of six lectures in the 1969 Reith Lectures entitled Wilderness and Plenty

Explaining actual processes, goes further into aspects of pollution, mentioning freshwater lakes throughout the world and how disrupted; talks about eutrophication; pollution in lakes e.g. from agriculture. Losing fish from rich lakes.

Also outlining the dangers of a too high carbon dioxide content in the atmosphere and consumption of fossil fuels. Discusses taxing it. Talks about possible warming, for example of seas and the effects; e.g. melting of ice caps and rising sea levels.

Discusses international development; maybe too many over developed countries are the problem, but only a cynic would say t

#### 10 minutes in

Conservation Foundation and their work; ashamed, and ignorance is now culpable. Talks about pesticides and insect adaptatio minimal pesticide use. Cites examples of resulting ecological imbalance from insecticides in Sabah, and irrigation, for examp

Irrigation - discussion. Effects of irrigation, dams and so forth around the world.

Conservation Foundation looking at common fields between medicine, ecology, psychology, anthropology, architecture, plann round to a sense of impending tragedy – the population problem main factor but impending tragedy would be caused by culmi and pollution. Will be no cure of population problem though from this. Large catastrophe will be a culmination of several fact technology.

Stresses importance of natural wildernesses; it is a factor for world stability. Strange it has been a place of fear for people, it's habitable world.

#### 20 minutes in

Discusses wilderness and nature – importance of scrub and hedgerows, as visually important and silent work they do. Refers t McNamara and Lord Snow in which both strongly advocated reduction of world birth rate; also advocate development alongs population control. As these problems of population and pollution exist, man as a unified whole must take action now to rever

Why do we who believe in these problems go on working as if the catastrophe doesn't come – optimism and pessimism – we l still beautiful world.



Return to main narrative



Read full transcripts of the  
Reith Lecture 1969



Transcript: Reith Lectures 1969: *Wilderness and Plenty* Frank Fraser Darling. Lecture 1: *Man and Nature*

**REITH LECTURES 1969: Wilderness and Plenty**

**Frank Fraser Darling**

**Lecture 1: Man and Nature**

**TRANSMISSION: 9 November 1969 – Radio 4**

If I were asked to interpret briefly what I mean by 'Wilderness and Plenty' I'd reply: population, pollution, and the planet's generosity, meaning the history of man and the effect he has had—and is having—on the economy of nature since he appeared on the planet. These are closely interconnected themes, like the pattern of a fabric, in all the lectures, and I propose to follow them through their intertwined complexity. Let's begin with ourselves.

The most significant event in the organic history of the Earth in the last 100,000 years has been the rise in the world population of human beings in the past two centuries. Man spent so long getting a foothold, and even when he had reached the gregariousness that civilisation allowed, hazards were great. One might say that only then could the allegory of the Four Horsemen of the Apocalypse be conceived. We suddenly became aware that they rode, destroying the stability so newly gained. But the Earth seemed limitless—it is only 500 years or so since we discovered with certainty that the planet was globular and finite. The shock of that discovery seems to have been more religious and philosophical than biological, until the inexorable biological consequences occurred in the colonisation of the New World and the destruction of its indigenous but senile civilisations. The total world population of human beings was probably about 500 million at that time. It was less than 1,000 million by AD 1800, when the Industrial Revolution had just begun. But there are

Lecture 1: Man and Nature



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[Read Lecture 2](#)



Transcript: Reith Lectures 1969: *Wilderness and Plenty* Frank Fraser Darling. Lecture 2: *Impact of Man on his Environment*

**REITH LECTURES 1969: Wilderness and Plenty**

**Frank Fraser Darling**

**Lecture 2: Impact of Man on His Environment**

**TRANSMISSION: 16 November 1969 – Radio 4**

In my first lecture I argued that although man is not yet lord of creation, he is undoubtedly the dominant species on our planet. Moreover, he is such a complex creature that he is constantly challenging and altering his environment. As soon as he became man—and we need not bother just when it was—he began to alter the face of the natural world as it was until then. While he remained a hunter and food-gatherer he was little more than another indigenous animal. But as soon as he burned wood to keep warm he was consumed in it in a different way from natural decay, with different consequences. When he used fire as an aid to driving wild animals into places where he could kill them more easily, and by burning the bush could encourage hoofed animals to graze on the young grass which followed, he'd begun his ceaseless attrition of the natural wilderness.

At first men were presumably few, and they evolved on an Earth that had already been amassing biological wealth for millions of years. Their burning of habitat for hunting was, of course, a prodigious expenditure of organic matter for momentary expedience. And as the human species increased more men meant more burning. The same ground was burnt too often, and this led to an impoverishment of the broad spectrum of species of plants. Biological productivity and ecological wealth rest on the wide variety of species, which means flexibility and unconscious co-operation within the whole ecosystem. When man alters natural ecosystems by design or ignorance, they are usually simplified or made less complete, and they lose something

Lecture 2: Impact of Man on his Environment



[Return to main narrative](#)



[Read Lecture 3](#)



Transcript: Reith Lectures 1969: *Wilderness and Plenty* Frank Fraser Darling. Lecture 3: *The Technological Exponential*

**REITH LECTURES 1969: Wilderness and Plenty**

**Frank Fraser Darling**

**Lecture 3: The Technological Exponential**

**TRANSMISSION: 23 November 1969 – Radio 4**

I was talking last time of the impacts of man on his environment, coming historically—and prehistorically as well—into the present day. The ecological consequences of technology since the Industrial Revolution are still the burden of what I want to say now, but it is difficult to avoid some reflection on what technology is doing to the nature of man himself. Man, as distinct from woman the family craft-worker, likes steady work rather less and brings his inventive mind to easing craft processes I'm sure man invented the potter's wheel and the lathe, and then carried on patterns which woman had conceived in the first place. As I've said before, the male of the human species has an innate tendency to streamline and mass-produce.

Leonardo's drawings show us how far man had got by the time of the Renaissance towards transmitting power by way of cog-wheels and directing it at right angles by bevelling the cogs. There was no dearth of ingenious engines but the power was wanting. The 18th century was all ready for an access of power beyond that of wind and falling water when James Watt made steam drive an economical engine which was capable of doing more than pump water out of mines in Cornwall. The Industrial Revolution was on immediately, the biggest factor of change the world has known. But coal was cumbrous stuff and greater efficiency was constantly sought. Hydrocarbon oil could be won more easily than coal, and Benz took the technical step forward of devising an internal combustion engine which made use of the almost academic researches of Faraday and his kind in electricity. Technology and invention run ahead, creating an inexorable momentum. But a momentum in a known,

Lecture 3: The Technological Exponential



Transcript: Reith Lectures 1969: *Wilderness and Plenty* Frank Fraser Darling. Lecture 4: *Global Changes - Actual and Possible*

**REITH LECTURES 1969: Wilderness and Plenty**

**Frank Fraser Darling**

**Lecture 4: Global Changes - Actual and Possible**

**TRANSMISSION: 30 November 1969 – Radio 4**

There are processes going on in the world that are not obvious to many of us, but they are of great importance, and sooner or later we shall have to decide which way we are going. Last week I spoke of the enveloping character of advanced technology and the choking side-effects of pollution. There's another aspect of this subject which especially affects large bodies of fresh water such as the Great Lakes of North America, one at least of the Swiss lakes, even the new Lake Kariba in Africa, and, perhaps surprisingly, our own Loch Leven in Kinross-shire.

Lake Erie is now looked upon as the classic world example of the phenomenon of eutrophication — a sort of pathological overfeeding. Sewers and wastes went into the lake for years, which meant an excess of some plant nutrients, some animal poisons, and an upset in the natural oxygenation of the water. Fish life has gone, there has been a dense blooming of algae—microscopic water weeds—in the summer, and, of course, people do not bathe in this great lake any more. There has been a further dumping of phosphates into the lake since the use of detergents, and a vast quantity of nitrates coming from the use of nitrogenous fertilisers on agricultural land. Lake Erie is one of those ultimates which I've mentioned before, that we should concentrate on as examples of what can happen to places.

In Europe there's Lake Geneva: there the oxygenation of the lower levels of the lake is failing through increasing deposition of pollutants. The lake perch are living in an

Lecture 4: Global Changes - Actual and Possible



Transcript: Reith Lectures 1969: *Wilderness and Plenty* Frank Fraser Darling. Lecture 5: *The Forward Look in Conservation*

**REITH LECTURES 1969: Wilderness and Plenty**

**Frank Fraser Darling**

**Lecture 5: The Forward Look in Conservation**

**TRANSMISSION: 7 December 1969 – Radio 4**

In this Lecture I shall touch down in many countries, but first I shall talk about the one I know best—Britain. William the Conqueror made the New Forest of Southern England his playground. He chose well, knowing nothing about wild-life conservation and such ecological notions as habitat, community and succession. The Normans and their ancestors the Vikings were plunderers and destroyers rather than conservers. Nevertheless, the forests, chases and parks that the Normans reserved in England for their amusement have stood us in good stead. The New Forest is on poor gravel overlaying impervious clay, a horrible place agriculturally, and I cannot believe that William ejected many farmers, because the Saxons had a good deal of ecological sense. Let us be thankful it became a Royal Forest and has remained so till our day, being now the playground of a lot of people, a truly wonderful place for growing trees and a considerable haven for a representative sample of England's wild life. It is a big enough place to have some ecological power of its own to retain its integrity.

The New Forest is not a British national park, a national nature reserve, or a Forestry Commission holding as a whole. It is the New Forest and a place of which we should be proud. Of course, in time of war, busybodies without knowledge chirrup about the necessity for growing food and the apparently lazy New Forest had to give up some of its lawns. And they did grow their sugar-beet and what-not eventually.

The Commoners had looked after themselves by stipulating that at the end of the war the land should be laid down to grass again and the fences removed. They also got an

Lecture 5: The Forward Look in Conservation



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[Read Lecture 6](#)



## Transcript: Reith Lectures 1969: *Wilderness and Plenty* Frank Fraser Darling. Lecture 6: *Where Does Responsibility Lie?*

### REITH LECTURES 1969: Wilderness and Plenty

Frank Fraser Darling

Lecture 6: Where Does Responsibility Lie?

TRANSMISSION: 14 December 1969 – Radio 4

The euphoria of landing on the Moon has been less hallucinatory than that of the flight of the first man in space. Ten years of this extraordinary way of getting around have almost got rid of the notion that if we wear out, eat up and generally defile our very unusual planet we'll be able to blast off to some other virgin globe. The Earth is our home; it was made ready for the rapid evolution of exploiting man by many millions of years of organic activity. Man had no place in an earlier world.

There may be other planets we can live on, reached in travel time longer than our normal life-span, but the chances of our reaching a new world precisely at a time when man could make good use of it are remote. If advanced or even primitive cultures were present, should we employ the weapon of war to make room for ourselves, or should we exercise our usual unctuous hypocrisy of washing our hands in imaginary soap and water?

We can set aside this kind of day-dreaming and make up our minds that our concern is here on Earth insofar as persistence, nutrition and social well-being are our aims. Some economists and organic chemists have forecast the possibility of extreme densities of human beings on our Earth, which is more than two-thirds, covered by ocean, and assume that a social adjustment in our mentality will evolve as rapidly as our numbers increase. This seems to me unlikely, and as an ecologist living on a known Earth now well surveyed from the air, and even minutely from satellites, I'm bound to continue thinking in terms of Solar energy and photosynthesis by chlorophyll. And I see these, not only in terms of possible food production, but in terms of the power of the forest wildernesses to be storage banks and regulators of our

### Lecture 6: Where Does Responsibility Lie?



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## *Under the Weather: Overheating* – BBC2 – 1981

### **Climate Change Predictions Global warming**

Television Programme (BBC): 1981: Under The Weather: 6: Overheating  
Programme Number: EFEB076P ;  
Date: 24/08/1981; Reporter: Jack Scott  
Time Length: 24.10 minutes

#### **Detailed Summary**

The programme opens with narrator Jack Scott asking are we able to control the weather, with the answer no, although we can, for example, clear fogs by improving air quality. But the energy involved in creating weather is too large to handle or afford. For example the energy in a small thunder cloud is greater than that produced by earlier atom bombs. But if we change the scale and talk about climate change the answer is not so clear.

Recently meteorologists have had to investigate some worrying problems, the first of which was whether high flying aircraft like Concord introduce nitrous oxide into the upper atmosphere and reduce ozone? As the ozone layer protects us from harmful ultraviolet radiation, this would be a threat? But now scientists have calculated that nitrous oxides may even increase ozone.

Similar scare stories about aerosol gases – the chlorofluoro gasses (also produced in refrigerators) – where concern that these would reduce ozone – have been also been subject to challenge from more recent thinking that this isn't going to happen because of the rising quantity of CO<sub>2</sub> in the atmosphere which change the chemistry. However the bad news is that CO<sub>2</sub> is a threat in the way it behaves in the lower atmosphere. .

Since the industrial revolution world prosperity has depended on the burning of fossil fuels (images of cars, factories, oil rigs). The search for gas, oil and coal goes on and is an international priority. Reserves in the ground may sound like a promise of prosperity but they also mean increased CO<sub>2</sub> which could lead to a change in the environment.

To measure CO<sub>2</sub> have to be away from immediate local sources (industrial areas) – a landmark study measurement was done in a Hawaiian research station – the Mauna Loa Observatory – by Dr Charles Keeling, and this famous set of measurements taken since 1958 show a steady rise in parts per million CO<sub>2</sub> from 1958 (315ppm) to 1968 (320ppm) to 1975 (338 ppm) and still rising.

Approx 5 minutes in

CO<sub>2</sub> occurs naturally and is part of the process of heating the atmosphere (explanation of the reflection of long wave radiation from the Earth's surface which is absorbed and trapped by water vapour and CO<sub>2</sub>, the so-called 'greenhouse' effect because the process warms up the atmosphere). So if CO<sub>2</sub> increases, more long wave radiation is trapped and greater warming of the lower atmosphere occurs. This leads to more water vapour retention which adds to the warming but also increases clouds, and clouds have a cooling effect – so the calculations are complicated.

The first reaction of the "scaremongering community" to a rise in temperature is the that the ice flow of Antarctica and the Arctic might melt which would also increase temperatures because there would be less ice to reflect the sun's rays. and also lead to a rise in sea level. where the first estimate of a rise of



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## Horizon: The State of the Planet – BBC2 – 1982

### General Environmental

#### UNEP Conference on the Environment

##### What progress has been made?

TV Programme: 1982: Horizon: The State Of The Planet  
Programme Number: LSFB106B; 1:02:22 Minutes (starts at 0)  
Date: 13/12/1982; Reporter: Paul Vaughan

### Summary

Paul Vaughan narrates the programme, which is filmed coverage of the State of the Planet conference (in June, 1992, County Hall, London) organised by United Nations Environment Programme (UNEP) and attended by 100 world authorities on the environment. The programme includes coverage of some of the debates, as well as studio graphics.

The theme is that we are methodically destroying the planet, where the conference aims to assess that destruction, and how it can be stopped. It covers a debate on a series of subjects: land, plants and animals; air and water; industry; population and resources; and action. Issues of shrinking agricultural land, spreading desert, dwindling forests, species extinctions, air pollution, and polluted waters. There was dialogue and disagreement about causes and issues, with many calls for positive action now; if we don't act now we also may become extinct.

### Notes

#### Original Archive Summary

##### 11. HORIZON:THE STATE OF THE PLANET

Date: 13/12/1982

Programme Number: LSFB106B

Category	LONPROG	Cat Number	981108
Medium	FILM	Programme/Item	PROG
Duration	1:02:22	Copyright	MXD
Copyright source	CHECK		

Paul Vaughan narrates prog which if filmed coverage of conference organised by UN Environment Programme & attended by 100 world authorities on the environment at London County Hall to assess to halt the destruction made since



## Newsround – BBC1 – 1999

### Climate Change

#### Global Warming and Greenhouse Effect Changing Behaviour

TV Programme (News-children): 1999: Newsround  
Programme Number: LCNN700F; 0.01.74 Minutes (starts at 04.43 – 6.17)  
Date: 207/10/1999; Reporter: Kate Sanderson

#### Detailed Summary

Scene of Iceland. Kate Sanderson reporting on a Newsround 'Press Pack' competition:: The globe is warming up, but effect will this have on the world we live in? That's the problem puzzling scientists the world over. It is a global problem that needs global action. Already we use alternative energy, from wind farms to solar panels, but there is more we can do to help. Doing your bit at home, switching off the lights, turning down the heating, using less water. But what about persuading your friends to change their habits? We have a campaign: we want you to design an advertising campaign to persuade others to make a difference, write 200 words to say how you would persuade other Newsround viewers to make a difference. Do young people need to change their life styles? Why should they bother? Include poster designs and stickers to help make your case. If you are chosen, you will win a trip to Iceland, one of the most unspoilt places in the world. You'll be reporting for Newsround during Energy Efficiency week, on how global warming is effecting the environment and wildlife of this amazing country. Send your report in to the usual press pack address

#### Original Archive Summary

##### 14. NEWSROUND

Date: 07/10/1999

Programme Number: LCNN700F

Category	LONPROG	Cat Number	1242273
Item type	MAG	Programme/Item	PROG
Duration	0:08:05		

Children's news magazine programme .Inc Music of Black Origin Awards; Mexico floods; Millennium Wheel; Product recycling; Crash; Global Warming; Budgie Breeder Pres by Lizo MZIMBA, with Jessica ASHWORTH & Kate SANDERSON

>studio; sp s vt ITEM 01:MOBOS: Lizo intros vt ins Jessica ASHWORTH reps on Music of Black Origin Awards hosted by Mel G (dur2m25s) ITEM 02:MEXICO:(Newsrap):Over 80 killed in Mexico floods (dur17s) ITEM 03:WHEEL:(Newsrap):Final tests on Millennium wheel (dur18s) ITEM 04:ECO:(Newsrap):Gvt tests show that claims made by env friendly products that they don't harm Ozone etc can be misleading (no dur given) ITEM 05:CRASH:



## State of the Planet – 2002 – BBC2

### Summary

State of The Planet is a three part environmental documentary series in which David Attenborough investigates the main human activities that cause damage to our planet and what we can do about it. The three programmes are:-

1. Is There a Crisis?
2. Why Is There a Crisis?
3. The Future of Life.

The first programme examines the latest scientific evidence in order to discover if the planet's ecosystems are really in crisis. If so, Attenborough asks how it could have come about, and what is so different now that prevents certain species from adapting to survive, as they did in the past?

In the second programme Attenborough presents some stark facts. He states that humans are now triggering a mass extinction on a similar scale to that which wiped out the dinosaurs — but at an unprecedented rate. He investigates the five main activities of mankind that are the most likely contributory factors:

Habitat loss

Introduced species

Pollution

Over-harvesting

Islandisation

The state of our planet is in dire condition today due to the fact that destructive human activities as listed above are carried out at an unprecedented speed. If these were to continue, while the planet will not be extinct in our lifetime, our future generations will inherit a less colourful, less vibrant, biologically impoverished planet.

In the final programme, in light of mankind's relentless encroachment on the natural world and its inhabitants, the viewer is presented with a choice: leave behind a flourishing planet or a dying one. He closes the series saying:

“It seems we'll have to make further changes in our behaviour and attitude if we're not to inflict lasting damage on the other animals and plants with which we share this planet. We ourselves, as a species, may well survive, come what may. But it could also be that unless we change, we, like the ancient Easter Islanders, will be condemning generations to come to live in a poorer and impoverished world.



# IMPRINT

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