

EXTRACTS from Film One

TEACHERS' NOTES: *Gaia & Genesis*

Film One: *Gaia*

HANDOUTS

Statements

Below are some statements. READ THEM ALL and choose a statement you consider to be the most interesting. After you've made your choice, compare, contrast and share your chosen statement with TWO other people in your class. Be prepared to support your choice, with reasons. Are there statements your friends have chosen that are different from yours? Argue the case for the importance of YOUR chosen statement, above theirs.

Now exchange your views with the rest of your class.

Here are the statements:

{1} *"Once a photograph of the Earth is taken from space a new idea as powerful as any in history will be set loose."*

- Fred Hoyle, Astronomer {1915-2001} -

{2} *"Why is the hunter who shoots a deer for venison subject to more criticism than the person who buys a ham at the supermarket? Overall it's probably the intensively reared pig who has suffered more".*

- Peter Singer, Australian Philosopher, *Animal Liberation* -

{3} *"Every indicator is showing red: species diversity, water quality, weather patterns, refugees... we are unravelling nature like an old jumper".*

- Penny Kemp and Derek Wall, *A Green Manifesto* -

{4} *"Think of the earth as a living organism that is being attacked by billions of bacteria whose numbers double every forty years. Either the host dies, or the virus dies, or both die".*

- Gore Vidal, Writer, *"Gods and Greens," Observer, 27 Aug. 1989* -

{5} *"Wildlife is decreasing in the jungles, but increasing in the towns".*

- Mohandas {Mahatma} Gandhi, Indian leader, {1869-1948} -

{6} *"I think we must ask ourselves if this is really what we want to do to creation - to drive it to extinction - because extinction really is irreversible. Species that go extinct are lost forever. This is not like Jurassic Park. We can't bring them back".*

- Stuart Pimm, Biologist, *National Geographic*, February 1999 -

{7} *"There are an estimated hundred billion galaxies {100,000,000,000}, each with on average one hundred billion stars {100,000,000,000}. In the face of such overpowering numbers, what is the likelihood that only one ordinary star is accompanied by an inhabited planet? Why should we, tucked away in some corner of the cosmos, be so fortunate? To me it seems far more likely that the universe is brimming with life. But we humans do not yet know".*

- Carl Sagan, {1934 - 1996}, Astronomer -

{8} *"With the population explosion and the cancers of urbanism, no creature other than man has ever managed to foul its nest in such short order"*

- Professor Lynn White, Professor of History, *Science*, 155, {10th March, 1967},

{9} *"The ultimate test of man's conscience may be his willingness to sacrifice something today for future generations whose words of thanks will not be heard".*

- Gaylord Nelson, former governor of Wisconsin, founder of Earth Day -

{10} *"Human happiness is not as important as a wild and healthy planet. The ecosystem has intrinsic value, more value to me than another human body or a billion of them. Until such time as Homo sapiens should decide to rejoin nature, some of us can only hope for the right virus to come along".*

David Graber, Biologist, *Los Angeles Times*, October 29, 1989 -

{11} *"We, all of us in the First World, have participated in something of a binge, a half century of unbelievable prosperity and ease. We may have had some intuition that it was a binge and the earth couldn't support it, but aside from the easy things {biodegradable detergent, slightly smaller cars} we didn't do much. We didn't turn our lives around to prevent it. Our*

sadness is almost an aesthetic response - appropriate because we have marred a great, mad, profligate work of art, taken a hammer to the most perfectly proportioned of sculptures".

- Bill McKibben, *The End of Nature*, 1989 -

{12} *"Modern society will find no solution to the ecological problem unless it takes a serious look at its lifestyle. In many parts of the world society is given to instant gratification and consumerism while remaining indifferent to the damage which these attitudes cause. Simplicity, moderation and discipline, as well as a spirit of sacrifice, must become part of everyday life, lest all suffer the negative consequences of the careless habits of a few".*

- Pope John Paul, 1996 -

Presentations

ALLOCATE ONE QUOTE PER GROUP

Ask your class to split up into GROUPS of THREE/FOUR. ALLOCATE each group ONE quote.

The groups have – at your discretion - one or two lessons, to read, discuss and prepare a strategy with the aim of making a dramatic presentation on their allocated quote to the rest of the class {ensuring at some point that the rest of the class see their allocated quote}.

Presentations, ideally, should include: {1} someone from the group addressing the class without notes and all members being active {2} a visual presentation {e.g. play, power-point, poem, Rap etc} accompanied by a piece of music they feel would ideally accompany their presentation.

Ensure that as well as explaining the meaning and significance of their allocated quote, pupils and students' presentations include their own personal thoughts and feelings about the subject matter:

"I'd like to share a revelation that I've had during my time here. It came to me when I tried to classify your species. I realized that you humans are not actually mammals. Every mammal on this planet instinctively develops a natural equilibrium with the surrounding environment, but you humans do

not. You move to an area, and you multiply and multiply, until every natural resource is consumed. The only way you can survive is to spread to another area. There is another organism on this planet that follows the same pattern. Do you know what it is? A virus. Human beings are a disease, a cancer of this planet."

- Agent Smith in the science fiction film *The Matrix* -

"It is through our technology that we've been able to fly far away from earth to learn, in truth, how precious it is. It is no coincidence that our awakening to the special nature of our world and to its uniquely balanced environment and its limitations coincided with our first glimpse of earth from outer space, through the eyes of astronauts, television cameras and photographic equipment".

- Dixy Lee Ray, Governor of Washington State, *Trashing the Planet*, 1990 –

"The evidence brings news of an imminent shift in our climate towards one that could easily be described for humans as Hell"

- James Lovelock, Scientist, *The Revenge of Gaia* {2006} –

" The misery of man appears like childish petulance, when we explore the steady and prodigal provision that has been made for his support and delight on this green ball which floats him through the heavens. What angels invented these splendid ornaments, these rich conveniences, this ocean of air above, this ocean of water beneath, this firmament of earth between? This zodiac of lights, this tent of dropping clouds, this striped coat of climates, this fourfold year?"

—Ralph Waldo Emerson, US Philosopher and Poet {1803-1882} and author of *Nature*

"A human being is part of the whole called by us the universe. He experiences himself, his thoughts and feelings as something separate from the rest – a kind of optical delusion of his consciousness illusion. This delusion is a prison for us, restricting us to our personal desires and to affection for a few persons nearest to us. Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty".

- Albert Einstein, German born, US Physicist, {1879 – 1955} -

"A wrong attitude towards nature implies, somewhere, a wrong attitude towards God, and that the consequence is an inevitable doom. For a long

enough time we have believed in nothing but the values arising in a mechanized, commercialized, urbanized way of life: it would be as well for us to face the permanent conditions upon which God allows us to live upon this planet”.

- T.S. Eliot, US Poet & Playwright, {1888-1965} -

“The big whole - let us call it, for the sake of simplification - Mother Earth or Gaïa, transcends man. He must bend himself to the imperatives of ecology, to that which suits Nature. Man must accept, that no longer is he at the centre of the world. Judeo-Christian anthropocentrism, reinforced by that of the Renaissance, must be not only abandoned but combated”.

- Professor Michel Schooyans, Academic, Louvain University -

“Hyper-active fish, stupid frogs, fearless mice and seagulls that fall over...it sounds like a weird animal circus, but this is no freak show. Animals around the world are increasingly behaving in bizarre ways, and the cause is environmental pollution. The chemicals to blame are known as endocrine disruptors, and range from heavy metals such as lead to polychlorinated biphenyls (PCBs) and additives. Biologists have known that these chemicals can alter the behaviour of wild animals. And in recent years it has become clear that pollutants can cause gender-bending effects by altering animals' physiology, particularly their sexual organs. But now two major reviews have revealed that the chemicals are having a much greater impact on animal behaviour than anyone suspected. Low concentrations of these pollutants are changing both the social and mating behaviours of a raft of species”.

- Andy Coghlan, “Pollution triggers bizarre behaviour in animals”,
New Scientist, 3rd September 2004 -

“We all live by robbing nature, but our standard of living demands that the robbery shall continue. We must achieve the character and acquire the skills to live much poorer than we do. We must waste less. We must do more for ourselves and for each other. It is either that or merely to think and talk about changes that we are inviting catastrophe to make. The great obstacle is simply this: the conviction that we cannot change because we are dependant on what is wrong. But that is the addict's excuse, and we know that it will not do”

- Wendell Berry, Eco -Theologian, *Feminism, the Body, and the Machine* {1989} -

PRINTOUT FOR TEACHERS

Gaia

THE SCRIPT

Planet earth is four thousand five hundred million years old. To try to understand this astronomical time span we can compare the life of the planet to the life of a 45 year old woman whom we will call Gaia.

While very little is known about Gaia's early childhood we do know that when she was 7 her flowing molten lava begins to cool down and as a crust develops rocks begin to form. By Gaia's 8th birthday microscopic life has emerged and by the time she's 15 photo-syntheses has developed in the seas. Over the next ten years, complex cells start evolving, and, by the time she's 25 *multi* - cellular life has appeared.

When she's 39 primitive life forms and insects emerge and around her 40th birthday fish begin to populate the great oceans - while on the land, plants appear. In her early forties amphibians, reptiles, mammals and birds come into being and in the spring of her 44th year she blossoms and flowers. Just days before her 45th birthday, prehistoric humans, our ancestors, appear and over the next week these new arrivals discover fire, weapons and tools.

Less than an hour ago we learn how to grow crops and domesticate animals and farming is born. About 30 minutes ago we begin making bronze weapons and we also discover the wheel. Stonehenge is built just 26 minutes ago and during the next four minutes sophisticated human civilisations begin to emerge. The Buddha is born in India 13 minutes ago and in Greece a minute later, Hippocrates, the father of modern medicine is born. 10 minutes ago Christianity emerges and then 2½ minutes later Islam. Gunpowder reaches the west just over 4 minutes ago and 1½ minutes later Europeans arrive in the New World to begin their conquest and colonisation of the Americas.

One minute ago, as scientist Edward Jenner discovers vaccines the industrial revolution begins and our relationship with the earth changes forever. 57 seconds ago as the human population exceeds one billion, electricity, railways and cars are invented and thirty seconds later as we take to the sky for the first time we discover film and shortly afterwards the

age of television arrives. 33 seconds ago the First World War erupts claiming ten million lives followed a few seconds later by the Second World War – when 60 million people die – and 22 seconds ago, in 1945, the nuclear age is spawned. 10 seconds ago, our remarkable ingenuity allows us for the first time since our arising to leave Gaia and head for the heavens, and, making our first tentative steps into space, we are astonished by what we find. While images of earth from space reveal an intrinsically beautiful planet - they also reveal one that is badly damaged - and three seconds ago as the human population reaches 6 billion, scientists chillingly warn that while Gaia will undoubtedly survive in one form or another, the question is, will we?

"Gaia is no doting mother, tolerant of our wrong doings, nor is she some delicate damsel in danger from brutal mankind.....She is stern and tough, always keeping the earth comfortable for those who obey the rules but ruthless in her destruction of those who misbehave". {James Lovelock - Scientist and Author: Gaia, A New Look at Life on Earth, 2008}

Since the industrial revolution – in this last minute of Gaia's life –we've changed our atmosphere, our land surfaces and our habitats more than they'd changed previously in millions of years and although our meteoric rise to ascendancy has been breathtaking, in the process, we've presided over the extinction of countless thousands of species of plants and animals.

We've come a long way since first stepping out of the forests a few days ago, and, in a sense we've come full circle in once again rediscovering our dependence on the living processes of the Natural World. With the growth of industrial civilisation this was largely forgotten, but now, as these last few seconds of biological time slip away and as global temperatures rise and polar ice caps melt we are obliged to remember that Gaia is greater than us – committed to her own survival, and, anything that threatens that survival will be ruthlessly destroyed in the interests of a higher value – life itself.

WATCH-WORDS!

The following words and phrases have been used in this film and are useful words and phrases for pupils and students to know, and understand:

Anthropocentric, anthropocentrism, biocide, carbon capture, climate, compassion, colonisation, conscience, consciousness, conservationist, consumption, cosmos, crowning glory of

creation, deicide, dominion, ecological, ecosystem, eco-theologian, epiphanies, ethical, environmentalism, exploitation, extinction, firmament, *Gaia*, Gaia hypothesis, gender-bending, geology, habitats, homo sapiens, host planet, hydro-geological, insidious, integral, integrity, intrinsically, Judeo-Christian civilisation, living organism, matricide, moral agents, petulance, population explosion, prodigal provision, self-regulating, biological organism, seminal, species diversity, transcends, urbanism, water quality.

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