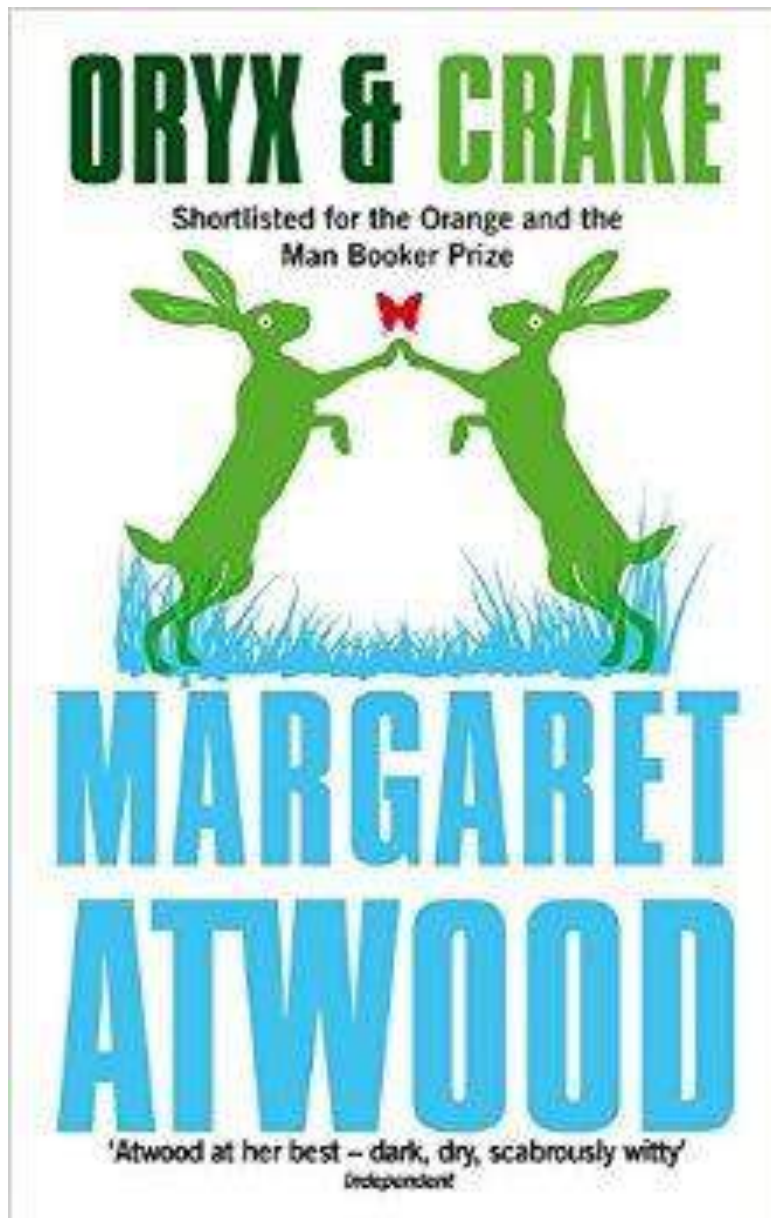


Literature Teaching Unit: *Oryx and Crake*

Literature, the environment and sustainable development



Bildung für eine nachhaltige Entwicklung

Leistungsnachweis

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Introduction

Margaret Atwood's dystopian, science-fiction novel *Oryx and Crake* explores the relationship between humans and their environment. It deals extensively with issues central to the contemporary discussion around sustainable development, such as climate change, food production and consumption, social and gender inequality, science, culture and technology, mass extinction, genetic engineering and bioterrorism. Atwood's novel *Oryx and Crake* is set in a dystopian near future, uncannily similar to our own. The protagonist, Jimmy (who also calls himself Snowman during certain parts of the narrative) wakes up in a post-apocalyptic world, in which he seems to be the only human survivor. Flashbacks provide the reader with an idea of how the world descended into such a state. Snowman frequently thinks about his pre-apocalypse childhood: a hyper-capitalist, ultra-commodified and technologically driven society. It is during these flashbacks that the reader is introduced to Crake, a genius scientist responsible for the apocalypse by engineering a global bioterrorist attack. Crake's reasons for doing so turn out to be the unsustainability of human life on earth. Before wiping humans out, Crake creates a new, genetically altered species of human called the 'Crakers'. These creatures lack certain human traits that Crake found unsustainable (such as love, property, religion, art, knowledge of death) and possess certain physical characteristics from the animal world that Crake found advantageous. Crake's plan is to destroy unsustainable humanity and leave the planet to the Crakers. Atwood compels the reader to heed the novel's not-so-subtle warning, namely, the way humans live today in the 21st century is unsustainable. If we continue down this path, this is where we are headed.

Students will spend a semester studying this novel as part of the module: "Literature, the environment and sustainable development". The literature teaching unit will last 11 weeks and happens during normal English class time. Students are asked to read a certain number of pages each week. Over the course of the module, students will deepen their understanding of the topic of sustainable development, as well as developing their English language skills. They will furthermore improve their close reading skills, critical thinking and analytical abilities. Through regular discussions and debates students will also have the opportunity to practise formulating and voicing their own opinions on this topic.

Learning Outcomes

The overall aim of this module is to get students actively engaging with the topic of sustainable development by reading the dystopian, speculative-fiction novel *Oryx and Crake*.

Below are the stipulations for a 'Bildung für eine nachhaltige Entwicklung' in the English classroom as set out in article 6 of the curriculum for Bernese schools:

In der Auseinandersetzung mit verschiedenen Kulturen des Sprachraums – erfahren die Schülerinnen und Schüler Englisch als eigenständige Erstsprache traditionsreicher Kulturen, – reflektieren Schülerinnen und Schüler kulturell und gesellschaftlich bedingte Lebensgewohnheiten und Ansichten.

Mit dem Erlernen und Einüben des Englischen – eignen sich die Schülerinnen und Schüler eine Lingua franca für Menschen auf der ganzen Welt an, – erwerben sie die Sprache, die weltweit in Wissenschaft, Wirtschaft und Politik der Informationsbeschaffung und -verbreitung dient.

In der Interpretation von literarischen Werken und kulturellen Artefakten – erfahren Schülerinnen und Schüler historische, ethische und politische

Dimensionen von Literatur und Kunst, – befassen sich die Schülerinnen und Schüler mit Perspektiven von Menschen aus anderen Kulturen und Zeiten.

In Klassendiskussionen und -debatten lernen sie sachliches und strukturiertes Argumentieren.

This literature teaching unit attempts to achieve each of these aims over the course of the 11 weeks. Below are the learning outcomes:

Sustainable Development Learning Outcomes:

- Students learn about the UNDP sustainable development goals and reflect on the extent to which these goals are thematised in the novel.
- Students critically analyse the novel in terms of what it tells us about our current understanding of an ecologically ethical society.
- Students learn about the genre of dystopian & science fiction writing and how this can be, or has been, applied to certain areas of the sustainable development goals.
- Atwood's book can be read as a warning (if we carry on doing what we are doing, this may be the consequences). Students therefore are encouraged to reflect on the lessons they can take from this novel.
- Atwood's fiction is based on the current state of climate science, genetic engineering etc. Over the course of the module, students will have the chance to learn about advancements in these areas in the real world, and develop their ability to discuss their opinions on these topics and express their opinions through two formal debates.
- The book was written in 2003, students reflect on whether Atwood could write a different book today.

General English learning outcomes:

- Students improve their close reading skills
- Students practise critical analysis
- Students extend their English vocabulary
- Students practise their dialogic speaking skills through regular class discussion and debates.
- Students practise their monologic speaking skills through a 5 minute presentation on one of the UNDP 2030 goals.

Working Plan

Lesson	Length	Chapters	Achievements Aims	Overview of Activities
1 UNDP Goals	90'	Introduction to the novel & read first three pages together in class.	<ol style="list-style-type: none"> 1) Sts can provide a working definition for the term sustainable development 2) Sts learn about and can name at least 8 of the UNDP sustainability goals. 3) Sts can defend their opinions on which two goals they feel are the most important. 4) Sts can provide arguments for the role of literature in thinking about issues around sustainable development. 5) Sts read the first three pages of the novel and carry out a close reading. 	<p>Opener: Pictures</p> <p>Activity 1: Defining sustainable development.</p> <p>Activity 2: Input: UNDP's goals and explanation of mini presentations.</p> <p>Activity 3: Top two goals</p> <p>Activity 4: Input: Margaret Atwood, Dystopian literature and Speculative Fiction</p> <p>Activity 5: Read Mango</p>
2	90'	End of 1 and all of 2	<ol style="list-style-type: none"> 1) Students understand the narrative perspective of the novel (retrospective, third person, memories, addressee) as well as the particular circumstances under which the narrator tells her story. 	<p>Opener (1): Earliest Memories</p> <p>Activity 1: Close reading</p> <p>Activity 2: Feedback</p> <hr/>

			<p>2) The students can recognize some of the stylistic features of the novel</p> <p>3) Sts learn about a UNDP goal and can relate it to issues raised in the novel.</p> <p>4) Sts reflect on the sustainability of our current living arrangements and imagine a more sustainable city.</p>	<p>Opener (2): Student presentation on sustainable cities</p> <p>Activity 4: Discussion about living situation in the novel and why it is so.</p> <p>Activity 5: Sustainable living worksheet</p> <p>Activity 6: Feedback</p>
3	45'	3 and half of 4 (Rakunk and Hammer)	<p>1) Sts will have improved their close-reading/ critical analysis skills.</p> <p>2) Sts will have considered the human/animal relationship as portrayed in the novel and discussed what point about sustainability and the human/animal relationship the author is making.</p> <p>3) Sts will have practised their reading comprehension skills by reading an article on the topic of biotechnology.</p>	<p>Opener: Student presentation</p> <p>Activity 1: Close reading: Human/Animal relationship</p> <p>Activity 2: Create your own animal hybrid</p> <p>Input: Role-Play debate – give sts techniques, tips, language. Two teams, each has article to read. Divide up groups and role</p> <p>Activity 3: Prepare for a debate.</p>
4	45'	Remainder of 4 (Crake, Brainfrizz and HottTotts)	<p>1) Sts will have practised organising their thoughts on an issue concerning sustainable development.</p>	<p>Class debate</p> <p>Motion: Biotechnology is immoral</p>

			<p>2) Sts will have had practise structuring their arguments and testing the soundness of their premises through a class debate.</p> <p>3) Sts will have debated a topic central to issues surrounding Sustainable development.</p> <p>4) By assuming different roles, sts will have to argue from a perspective that is not necessarily their own. This will encourage them to appreciate/ understand other people's points of view.</p>	
5	45'	5-7	<p>1) Students will have made connections between stories of the afterlife and the story Snowman tells the Crakers.</p> <p>2) Students will have carried out a close reading of certain sections of the novel and will have considered the range of techniques used by the author to demonstrate the clones' attitude to life and death.</p>	<p>Opener: Afterlife images</p> <p>Activity 1: Creations Myths: Group work (what is Snowman's creation myth?)</p> <p>Activity 2: Individual work on Questions</p> <p>Activity 3: Class feedback</p>
6	45'	8-10	<p>1) Sts will have reflected on the portrayal of women in the novel.</p> <p>2) Sts will have drawn parallels between the novel's depiction of society's treatment of nature and its treatment of women.</p>	<p>Student presentation: Gender Equality</p> <p>Opener: "What connections between social injustice (especially classism, racism, sexism) and environmental destruction are evident in the fictitious world of O and C?"</p>

			3) Sts will have improved their skills of critical analysis.	<p>Activity 1: Input: Ecofeminism, Postcolonialism</p> <p>Activity 2: Interpreting extracts. Expert Groups. Each group gets an extract and is asked to analyse it from either a feminist, postcolonial and ecofeminist perspective.</p> <p>Activity 3: Jigsaw activity</p> <p>Activity 4: Feedback</p>
7	45'	11-12	<p>1) Students can express their own opinion on the value and role of art in our society and contrast it with the role of art in the novel</p> <p>2) Sts will have started to record the special features of the new race of beings (the Crakers) and will have discussed whether these features create a more sustainable relationship between them and their environment.</p>	<p>Opener: “So that’s what art is, an empty drainpipe. An amplifier. A stab at getting laid” Discuss: Why does Crake say this? Is this a true judgement of the use of art?</p> <p>Activity 1: Art speaking activity</p> <p>Activity 2: The Crakers- special features worksheet (this will be continually completed as we learn more and more about the Crakers, at the end of the module we will discuss it again.)</p>
8	45'	13-14	<p>1) Sts will have reflected on the commodification of culture in our society today, and expressed their opinions as to the sustainability of this.</p> <p>2) Students will have practised their close reading skills and critical analysis skills by completing the worksheet comparing the novel's</p>	<p>Opener: Motto analysis</p> <p>Activity 1: Martha Graham vs. Watson-Crick Worksheets</p> <p>Activity 2: Conflict Continuum between Crake and Jimmy</p>

			<p>representation of two future institutes of higher learning.</p> <p>3) Sts will have deepened their understanding of character in the novel by completing the conflict continuum worksheet.</p> <p>4) Sts will have explored which worldview they share.</p>	<p>Homework: Watch intelligent squared debate on AI- the risks could outweigh the benefits. Takes notes. http://www.intelligencesquaredus.org/debates/artificial-intelligence-risks-could-outweigh-rewards</p>
9	45'	15	<p>1) Sts will have practised organising their thoughts on an issue concerning sustainable development.</p> <p>2) Sts will have had practise structuring their arguments and testing the soundness of their premises through a class debate.</p> <p>3) Sts will have debated a topic central to issues surrounding Sustainable development.</p>	<p>Class Debate</p> <p>Motion: "AI means that humans are soon going to become extinct and replaced by the posthuman"</p>
10	45'	N/A	<p>1) Students can name at least three themes in the novel, as well as recognise a possible main theme.</p> <p>2) Students can analyse different book covers for the novel and come to conclusions as to why certain designs capture the essence of the novel.</p>	<p>Opener: Themes</p> <p>Activity 1: Book Covers</p> <p>Activity 2: Class discussion: What is the author's message concerning sustainable development?</p> <p>Activity 3: Look at completed worksheet with features of the Crakers. How human are the Crakers?</p> <p>Activity 4: Design your own sustainable humans</p>

			2) Student have discussed how humans could be made to be more sustainable.	
11	90'	N/A	<ol style="list-style-type: none"> 1) Students can present and defend their own opinion on a specific topic in relation to <i>Oryx and Crake</i>. 2) Students can illustrate their ideas with convincing arguments and base them on the book. 3) Students can present and condense their argumentation into a relatively short text (400-500 words). 	<p>Assessment- Essay</p> <p>Students are asked to choose two UN development goals and discuss them in relation to the novel.</p>

Detailed Lesson Explanation and Reflection

Lesson 1

This lesson aims to introduce students to the term ‘sustainable development’, as well as to the UN’s Development Goals. The opener is simple and consists of the teacher displaying a series of images to the class. This opener is designed to activate students’ prior knowledge of the topic, as well as to generate interest and provoke a response from the class. The teacher then writes ‘sustainable development’ on the blackboard and asks students to brainstorm any words/phrases/ideas that they associate with this term. The teacher writes the class’s ideas on the blackboard and then tells the students to work with a partner and to come up with a working definition of sustainable development.

The teacher asks each pair to find another pair and discuss each other’s definition. Once they have done this, the group should choose either the best, or rewrite a new definition based on all the ideas of the group. Each group then nominates a member to write the definition on the blackboard. There should now be around five definitions for sustainable development on the blackboard. The teacher tells the students that, as a whole class, they have five minutes to pick the best definition on the board. Students are therefore required to voice their own opinions and argue their case in order to eventually reach a compromise. This task thereby introduces the students from the very outset to a BNE goal for this module, namely, that students learn to voice their informed and well-structured opinions during a discussion. Once the class has chosen their final definition, the teacher tells them to write it down, because we will be returning to this definition throughout the module.

The teacher then provides students with the World Commission on Environment and Development’s definition of sustainable development: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” and asks the class to compare this definition with the one they chose.

The teacher gives a short input into the UN’s Sustainability Goals and tells the students about the mini presentations that they will give in pairs in order to get an oral mark. The teachers tells students that they should sign up for a presentation during the break.

The teacher then transitions to Atwood’s novel *Oryx and Crake* and gives an input on the PowerPoint about Margaret Atwood, utopian, dystopian and speculative fiction. The teacher tells students to work in their table groups and list some problems facing society today. Once they have done this, they discuss whether society could ultimately eliminate these problems. The teacher tells students that such a society would be called a utopia—an ideal society, in which these problems no longer exist. The teacher then asks whether students can think of any novels or films that depict utopian societies. After collecting a few ideas, the teacher elicits what a dystopian society is: “If a utopia is an imagined society in which all thinkable problems have been eliminated, what is a dystopia?”. Once the definition is established, the teacher checks comprehension by asking students to think about some real or fictional examples of dystopias (such as Nazi Germany, Soviet Russia, North Korea). This opener takes the form of a Socratic dialogue and aims at allowing students to come to their own definition of the dystopian and at activating students’ prior knowledge of real or imaginative utopian/dystopian societies. The teacher follows this opener with a brief input into utopian and dystopian writing. This input provides the basis of the students’ research task. They

need to know the main features of dystopian writing given to them by the teacher during this input in order to identify such features in both their assigned novel and *Oryx and Crake*. Students therefore told to take notes during this input. The teacher then introduces the research task and explains the procedure. Students work in groups and each group gets a novel to research. Their task is to find out what their novel is about, and then to research and discuss why this novel is dystopian. Students should refer to the main characteristic of dystopian fiction that they learned during the teacher's input. Students exchange their findings in a jigsaw activity. The jigsaw activity involves each person in the group forming a new group with a student from each of the four other groups. Students take it in turns to introduce their novel (by means of a brief plot summary), to explain the features of dystopian writing that are found in the text. While each group member introduces their novel, the other members complete the worksheet. By the end of the lessons, students have a comprehensive overview of dystopian fiction, and a list of the most prominent features of the genre. For the final stage of the lessons, the teacher asks for some of the most prominent features that the students found.

Lesson 2

The students will present their mini presentations at the beginning of the second period, because this is when the topic of sustainable cities will be dealt with. The teacher opens this lesson by asking the class to tell their partner their earliest memory. Is it a good memory? Why do you think you remember it? After a few minutes the teacher asks a couple of students to tell the class their partner's first memory. The teacher then asks a student to reflect on why we remember certain things (e.g. because they evoke certain emotions in us). This opener on memories is a way of getting students to reflect on important events in their life which remained in their memory, particularly an event which became their first memory. Having reflected on this for themselves, they should be in a better position to understand why the burning animals made such an impression on Jimmy.

Students are then handed out a close reading worksheet and told to work with the partner and complete the questions. The questions focus both on content (Jimmy's earliest memory – why do they think he remembers? What does he remember in particular? (his feeling of guilt). Jimmy doesn't understand why the animals are burning, but the reader can make sense of the conversation between father and man. It is clear that the Compound in which Jimmy lives with his family has been the victim of bioterrorism. The aim of this activity is for students to gain insight into the main character, as well as understand the narrative perspective of the novel (retrospective, third person, memories, addressee) as well as the particular circumstances under which the narrator tells his story. The students furthermore pay attention to some of the stylistic features of the novel. Student work on the questions for 15 minutes. The teacher then brings the class back together and goes through the questions together as a class.

The next part of this lessons returns to the subject of sustainable development. Students learn about UNDP goal (11: sustainable cities and communities) and can recognise how this topic is dealt with in the novel. A pair of students give their 5 minute presentation on the UN sustainability goal. The teacher then writes the following on the blackboard: *The Compounds, the Modules and the Cities*. Students should discuss each word with their partner and provide a one sentence definition for each.

After a short feedback stage, the teacher hands out a worksheet on sustainable cities and asks students to work with a partner in order to complete the worksheet.

Lesson 3

Society's treatment of animals is a central theme in Atwood's *Oryx and Crake*. Scientific progress has altered the distinction between human and animal. Animals are regarded solely in terms of their utility for humans. The 'Pigoons' are the most notable example of this. Pigoons are pigs that have been genetically altered to grow human organs and human brain tissue. All animals in the novel have been genetically altered in some way, even down to Jimmy's pet 'Rakunk' (a cross between a racoon and a skunk). This furthermore poses questions about 'real' nature.

The aim of this lesson is to have students consider how animals are portrayed in the novel and discuss the novel's message about the sustainability of the human/animal relationship, whereby animals are regarded solely as objects for human use. The lesson begins with a 5 minute student presentation on one of the UN 2030 development goals. The teacher then hands out three different placemats to each the table group. Students read the statement in the middle of the placemat and then spend a few minutes in absolute silence writing their reactions to the statement down in one of the free sections. Once each student in the group has written something down, the group discuss the topic for a few more minutes. The teacher then tells students to move on to the next placemat and do the same thing. Once this activity is over, student stick their placemats up on the walls of the classroom and everyone spends some time walking around and reading what their peers have written.

Students are then asked to name the animals that appear in the novel, as well as to identify what is strange about them (i.e. they have all been genetically altered to better suit human needs). The teacher then tells the students to spend some time discussing the following with their partner: "*You have recently been employed by OrganInc Farms¹ and have been asked to design a new family pet before the Christmas shopping season commences. Rakunks were a big hit last Christmas but people are bored of them now, so your task is to design an animal hybrid that children and parents will both enjoy having at home*". Students should discuss which two animals they would splice together, which genes they would keep from both and why. Students discuss for about 7 minutes with their partner. The teacher then leads a 3-4 minute feedback round, getting students to volunteer their ideas. At the end of this opener, the teacher asks the students to reflect on what they have been doing: How did they feel when deciding on which animal genes to choose to splice together? What position did they assume? What position did the animal occupy? Is this a sustainable way of considering animals? The teacher then shows the class some real examples of animals that we have genetically altered and provides a short input as to the main arguments surrounding biotechnology.

A central BNE aim as stated in the curriculum article 6 of the Bernese high school curriculum is that students learn how to organise and structure their arguments, as well as how to present their arguments to others. This will be practised in the form of a debate. The teacher tells the class to turn to page 64 in their copies of *Oryx and Crake* and asks a student to read out Jimmy's mother's view on the morality of biotechnology: "You're interfering with the building blocks of life. It's immoral. It's...sacrilegious" (p.64). The teacher tells the class that they are going to prepare for a debate on whether biotechnology is immoral or not. The teacher gives an input on the PowerPoint explaining how a debate works. The teacher then divides the class in half and gives each half a different article. One in favour of biotechnology and the other against. Students

¹ The company Jimmy's dad works for.

should read this article, highlighting important points and writing down their own ideas. They should now be prepared to debate the topic next lesson.

Lesson 4

According to article 6 of the Canton of Bern's curriculum, students should learn techniques to express and argue their point of view in a debate. Given the subject matter of the novel, there are many opportunities to engage students in provocative debates about contemporary issues. This lesson therefore strays from the text, taking it only as a platform from which to discuss the ethics of biotechnology.

The aim of this lesson is to encourage the students to think critically and abstractly. It furthermore aims at improving students' presentation skills, argumentative skills, as well as their spoken language. This debate takes the form of a role-play debate. This is when students are assigned a role and should argue from the perspective of their assumed identity. Students are divided into groups of 4 and each group gets a different identity (Biotechnologist, Animal right's activist, patient benefitting from biotechnology, institution fining the research). Students have already had time during the last lesson to formulate arguments from their perspective.

At the beginning of the debate, each group has the time to present their group's point of view. Each presentation should last 4-5 minutes and each person in the group should say something. Once the presentations are over, students can ask other groups questions and a debate ensues. The teacher chairs the debate and offers help/conversation starters should the class need them.

At the end of the class, the teacher leads a brief reflection on the arguments that came up during the debate. Which arguments did students think were strongest? Which ones were unclear? The teacher asks student to reflect on their group's performance: Did they find this point of view difficult/easy to defend? Why? Was it useful having to defend a point of view with which they did not necessarily agree? Students thereby learn to organise, structure and reflect on their own thoughts. This is a central BNE aim in article 6 of the curriculum for English.

Lesson 5

This lesson focusses on how human attitudes to death are explored in the novel. During this lesson, students explore how death is dealt with in the novel in terms of the stories invented by Snowman to tell the Crakers where they came from.

To explore the idea of creation myths, students are given a worksheet with a selection of images depicting certain religious and scientific explanations for what happens to us after we die. Students are asked to work together in pairs and 1) discuss what stories each picture tells and 2) discuss why these stories exist. The stories function to offer positive explanations of death. The teacher then encourages the students to make connections between such stories and the novel.

Students then receive a worksheet with close-reading questions about the chapters read for today. They are expected to complete the worksheet alone. The teacher will lead a feedback session at the end of the class in order to allow students to discuss their ideas.

Lesson 6

As one of the UN 2030 development goals, the lessons aptly begins with a student presentation on gender equality.

The teacher then asks students to discuss the following question with their partner: “What connections between social injustice (e.g. classism, racism, sexism) and environmental destruction are evident in the novel?” Once students have brainstormed their initial thoughts, the teacher asks for some ideas and then gives the class a 10 minute input on ecocriticism, ecofeminism and postcolonialism and explains to the students how these three critical theories can be used to analyse the novel.

The next activity is designed to allow student to apply what they have just learned. They are asked to interpret extracts from the novel through the lens of either ecofeminism or postcolonialism. This activity is split up into 3 phases. The first phase involves expert groups. Students form groups of 4 or 5 and receive an extract and a theory that they should use to analyse this extract. All groups have the same extract, but are given different theoretical perspectives. This activity therefore demonstrates not only the breadth of literary analysis, but also the importance of what perspective one adopts on how they perceive the world. The groups should discuss how to interpret the extract, and each student should take their own notes. This is important because each student will later be required to refer to their notes.

Phase two involves the jigsaw element of the activity. Each person from the group splits up and forms a new group with other students from different groups. The students then give a short presentation (5 minutes each) on how they have interpreted it from their own particular perspective. The other students should be taking notes during this phase.

The lesson ends with a feedback round. Each group is given the task of summarizing the most interesting pieces of analysis in now more than a few sentences that they will read out to the class.

Finally, the teacher encourages students to reflect on how the novel might be different were it told from Oryx's point of view.

This lesson aims at providing students with different lenses through which they can view the world. This is a vital element of sustainable development in education. Students learn to understand how one passage from a novel/ event in the real world can be interpreted in vastly different ways, depending on which perspective one adopts (e.g. ecocritical, feminist, postcolonial).

Lesson 7

The main goal of this lesson is to have the students discuss the relationship described by Crake between Art and sexual reproduction and, by extension, between culture and biology. When discussing art versus science with Jimmy, Crake comments that: “So that’s what art is, an empty drainpipe. An amplifier. A stab at getting laid”. The teacher displays this quote on the PPT and asks students to spend 2 minutes discussing with their partner whether they agree or not. Why do they think Crake says this? Can they find a reason to support Crake’s view of human art/culture? The teacher then shows pictures of mating rituals in the animal kingdom (e.g. very colourful birds, bird ‘dances’ etc.) and then shows pictures of famous pop/rock bands surrounded by female admirers. Does this change the class’s mind about the use of art in our society? This opener is designed simply to be comical and to generate ideas that will be pursued later on in the lesson.

This lesson begins with fun activity that aims to see whether there is any connection between art and love/reproduction. First, each student receives a painting by one half of a famous artist couple such as Wassily Kandinski and Gabriele Münter. The goal of the activity is to find the student who has got the painting done by their painter’s partner by describing their painting as precisely as possible. To make things a bit more challenging and to increase the language learning potential of the activity, the students are not allowed to look at their paintings once the activity starts. Instead, they first need to study their paintings individually and write down a couple of notes. In the second phase, the students are asked to walk around and talk to each other about their paintings. If they believe that they have found their match, students should stay together. Once most students have found a possible partner, they are asked to compare their pictures and reassess the question whether the paintings were done by a couple. Following this activity, the students are asked to discuss the following questions: “Is art just a human way of finding a mate?”

The teacher then transitions to a discussion about Crake’s view of sustainable human beings. The teacher hands out a basic worksheet with an outline of a person of it. The students are to label the worksheet with all the special features that we have found out about the Crakers thus far (e.g. temperature regulation means they have no need for clothes, digestive system means they can only tolerate a plant-based diet etc.). The student will keep adding to this worksheet over the next few weeks, until they have a comprehensive diagram of Crake’s image of sustainable human beings.

Lesson 8

The sustainability of human culture is a major theme in *Oryx and Crake*. The novel depicts a world in which the humanities have become devalued and replaced by science, consumerism, and entertainment culture. This lesson focuses on the role of and sustainability of human culture and language in our society.

The lesson begins with the teacher asking students to discuss this question with their partner: "There are many new words and brand names in the novel. In what way has technology changed your vocabulary over the past five years?". Students spend 2 minutes brainstorming and then the teacher asks for some suggestions, which she writes on the blackboard. The teacher then asks the class to reflect on the new words and asks them whether they think this enriches or impoverishes the English language?

The teacher then transitions to the novel by displaying Jimmy's university Martha Graham's slogan on the PPT slide: Former Motto of the university: *Ars Longa Vita Brevis* (Art is long, life is short). New Motto: "Our Students Graduate with Employable Skills". The teacher asks students what the significance of this change of motto is. The teacher lets students discuss in pairs for a few minutes then leads a feedback session.

Students then receive a worksheet in which they are required to compare the two universities described in the novel: Martha Graham and Watson-Crick. It is important that students understand the way that the Martha Graham institution perverts the meaning of art in the same way that the Watson-Crick institution perverts the meaning of 'nature'. Crake says to Jimmy at one point: "I don't believe in Nature either...Or not with a capital N"

The final activity is based on the tension between the two main characters in the novel, Jimmy and Crake, which intensifies throughout these chapters. Students are encouraged to reflect on each character's different perspective by imagining how they would answer questions on their view of the world. Students are then asked to react to these attitudes. The teacher divides the class in half and tells one side that they have to assume Crake's point of view and the other half should adopt the perspective of Jimmy. The students get into pairs or groups of three and complete the 'conflict continuum' worksheet. Students will need to use their imagination to complete the worksheet, as the answers are generally not to be found in the text. However, they need to base their suppositions on what we already know about the characters. Once students have completed the worksheet, each group pairs up with a group from the other side of the classroom and compares answers. The teacher then explains that they class should now react to Jimmy and Crake's attitudes. A representative for Jimmy is nominated and told to go to a corner of the room and make a statement out of one of the points on the worksheet. A representative from team Crake also goes to other corner and says something contrary to this statement. Everyone in the class takes up a position against the wall between these two extremes, to show which of the two conflicting attitudes they personally agree with more. The teacher can then pick out a couple of students to defend their position. Once this round is over, students sit back down and two more representatives are called upon to state their conflicting positions.

Lesson 9

This lesson takes the form of another class debate, this time on the topic of Artificial Intelligence and Posthumanism. Students have watched a debate on the subject for homework and are therefore equipped with arguments. This time, the debate does not take the form of role play, but instead the students have to either argue for or against the motion: “AI means that humans are soon going to become extinct and replaced by the posthuman”

The aim of this lesson once again refers to the aims set out in article 6 of the Bernese curriculum. Students practise organising their thoughts on an issue concerning sustainable development. They further improve their abilities to structure their arguments and test the soundness of their premises through a class debate. The topic at hand is furthermore one intricately linked to issues of sustainable development.

Lesson 10

As students have now finished the novel, this lesson encourages them to reflect on the novel as a whole, as opposed to on a chapter by chapter basis. The teacher tells student to each write down three themes in the novel. Once they have done this, students get into group and compare their themes. The group then chooses one main theme and writes it on the board. The teacher picks out certain themes from those written on the blackboard and asks each group to explain why they think this is a main theme. Finally, the teacher shows the class a short video clip of the author talking about what she considers the main theme of the novel.

The next activity involves the students analysing book covers, as well as thinking about how they would design their own cover for the novel. The teacher tells the students that they are going to get a selection of different book covers for the novel. In groups, they should analyse each cover. Students discuss 1) why the publishers choose the image to represent the themes in the novel and 2) which cover they like the best and why. Once students have finished discussing the first activity and have chosen their preferred novel cover, they should come up with their own cover design for the novel. Having students analyse various book covers (and the poster for the film) is a way of getting them to think about the essence of the novel that they have just read. The images on book covers are chosen for a specific reason by the publisher (perhaps it invokes a certain feeling, represents a specific character or scene, or it picks up on a central symbol). By discussing why certain images have been used on the book cover, students can gain deeper insights into the novel. The visual aspect of this task furthermore serves to engage and interest the students. Students are now asked to produce their own image that encapsulates the essence of the novel. In doing so, they distil all their accumulated knowledge about the novel into one image. This task therefore helps students to concentrate on the most important things they have learned, and therefore allows them to structure their knowledge about the book more effectively.

The teacher tells the class to get out their worksheet on the Crakers and to complete it with any new features that they have since learned about. Students should then spend 3 minutes discussing whether they think Crake's version of a sustainable human being works, students should justify their opinions. After collecting a few ideas, the teacher then asks the class the following questions: *If you had the chance to engineer an improved human being, would you do it? If so, what features would you choose to incorporate? Why would these be better than what we've got? Your model must be biologically viable.*

Students work on their sustainable in groups humans for 10 minutes. The teacher hands out large pieces of paper and the students are expected to present their ideas to the class.

The lesson ends with a "*what happens next...*" activity. Because the novel ends on a cliff-hanger, the teacher asks the students to write 100 words of what happens next (I.e. Does Snowman talk to the humans he suddenly finds are still alive or does he shoot them). The teacher should be very strict about the word count, telling students that their ending must be no more, nor no less, than 100 words. Students get about 20 minutes to write their endings. After which, they get together in groups of 4 and read each other their endings. The group then chooses the best out of the 4 that will be read out in class.

The teacher then rounds off the lesson by asking the class the following questions: How do you envisage the future of humanity in the real world? Are we heading towards an Oryx and Crake-like apocalypse?

Lesson 11

For the last double lesson on *Oryx and Crake* the students write an opinion essay. The task is to choose *two* of the UN development goals for 2030 and to discuss them in relation to Atwood's novel. Student get a double lesson to complete the assessment. A central aim of BNE in the English classroom is to encourage students critically reflect on the subject matter in relation to issues around sustainable development. This is what they will be asked to do for the exam.

Students are given the following guideline for their essays:

Introduction

- In a couple of sentences, briefly summarize the two UN development goals
- How do these two goals connect to Atwood's novel *Oryx and Crake*?
- Thesis: What point do you think the novel is making about these two development goals? (this is the argument you will be making throughout your essay)

Main Body (= 3 paragraphs)

- Topic sentence (the first sentence of your paragraph should tell the reader what the paragraph is about)
- Provide context
- Provide evidence for your argument/ Quote from the novel
- Analyse your evidence in relation to your argument
- Conclusion to your paragraph (this should relate back to the thesis in your introduction)

Conclusion

- Bring all your arguments together
- Finish with a powerful final sentence (perhaps a comment about society today/in the future that has been inspired by the novel)

Appendix

Lesson 1

Mini presentations

Below is a selection of the UN's sustainability goals for 2030. In Pairs, you are going to research a goal and present it to the class in a mini presentation lasting **no longer** than 5 minutes. This will count towards your oral mark. Each person should talk for an equal amount of time.

You can research your goal by going on to the United Nations Development Programme's website:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>

Lesson	Sustainable Development Goal	Presenters (2 people per topic)
1	N/A	N/A
2	11. Sustainable Cities and Communities	
3	12. Responsible Consumption and Production	
4	14. Life Below Water	
5	13. Climate Action	
6	5. Gender Equality	
7	6. Peace, Justice and Strong Institutions	
8	4. Quality Education	
9	15. Life on Land	
10	7. Affordable and Clean Energy	
11	1.No Poverty	
12	2.Zero Hunger	

UN Sustainable Development Goals 2030

Sustainable Development

«Development that meets the needs of the present without compromising the ability of future generations to meet their needs»

World Commission on Environment



SUSTAINABLE DEVELOPMENT GOALS



2030 Goals

- On September 25th 2015, countries adopted a set of goals to **end poverty, protect the planet, and ensure prosperity for all**. Each goal has specific targets to be achieved over the next 15 years.
- For the goals to be reached, everyone needs to do their part: governments, the private sector, civil society and people like you.
- Source: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Mini Presentations

- Over the course of the next 11 weeks, you are each going to give mini presentations on one of the UN sustainable development goals.
- Your task:
 - Choose a partner.
 - Come to the front of the classroom and sign both your names next to the development goals that you would like to present to the class.
 - Your presentation should be no longer than 5 minutes.

Margaret Atwood and Sustainable Development

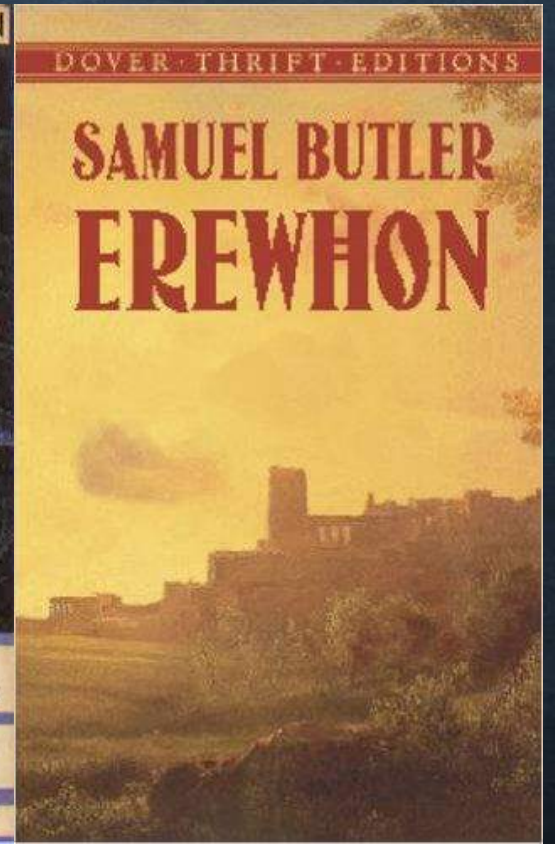
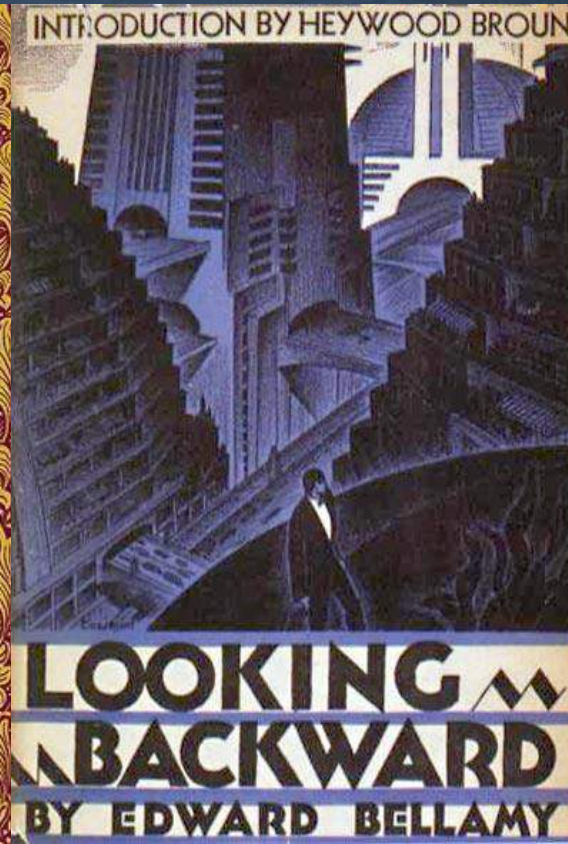
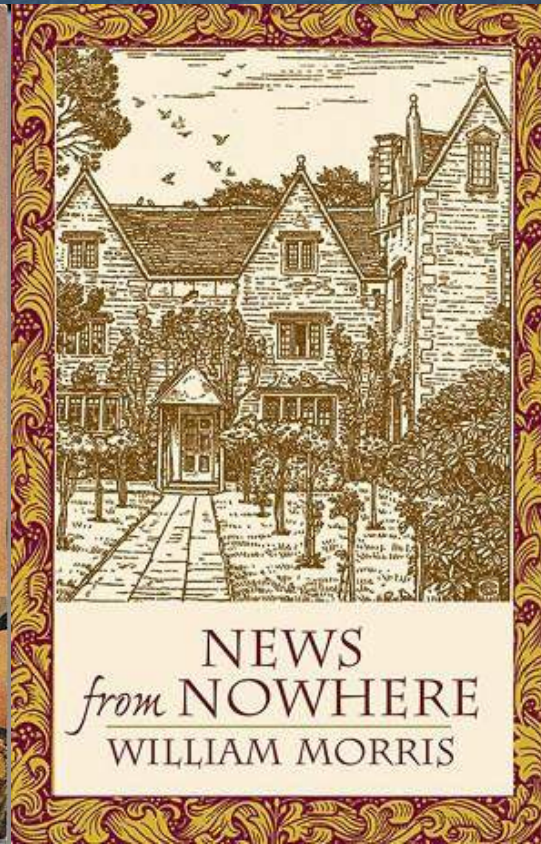
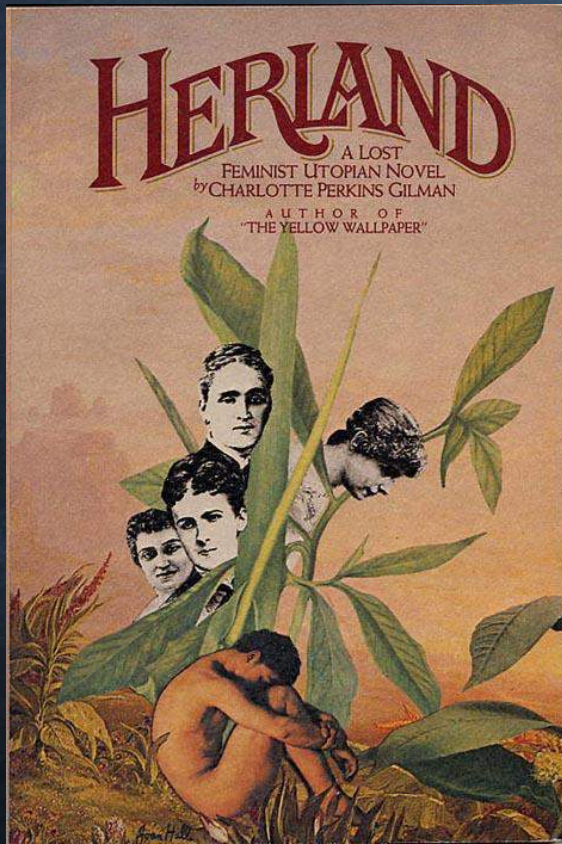
- Award-winning Canadian author
- Born: 18th November 1939
- Currently focuses her attention on sustainable development
- *Oryx and Crake* critiques the unsustainable way that humans currently live their lives and imagines what the world will look like in the not-so-distant future, if we fail to change our ways.
- *Oryx and Crake* is therefore an example of dystopian literature.



- DoP: AD 1516
- Two meanings:
 - 1) No place
 - 2) The good place

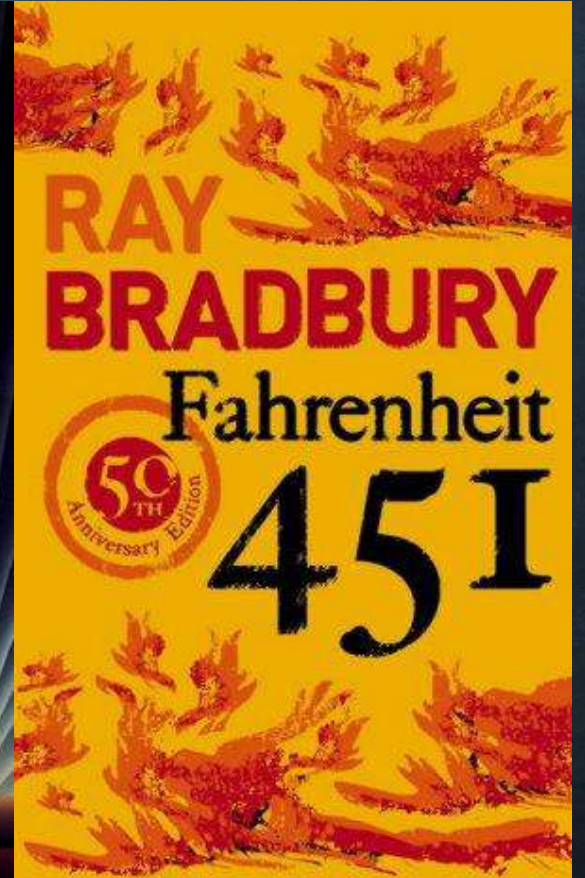
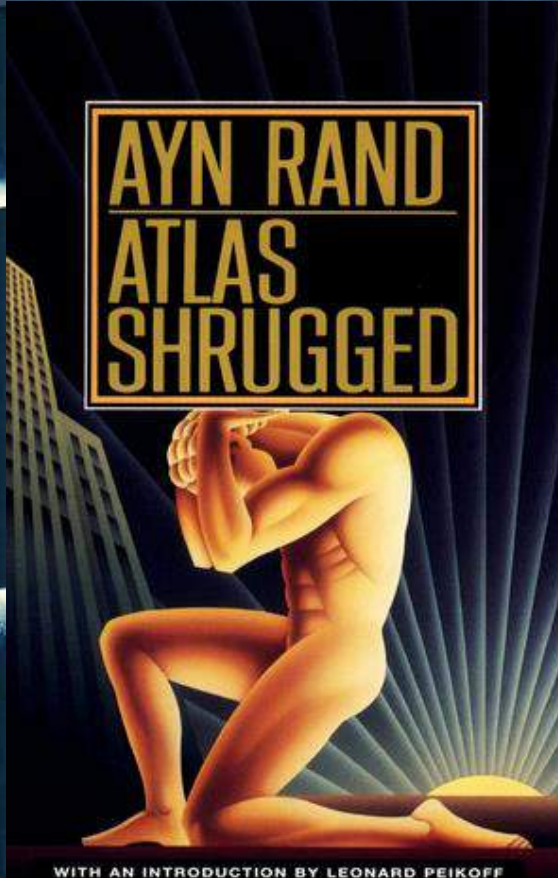
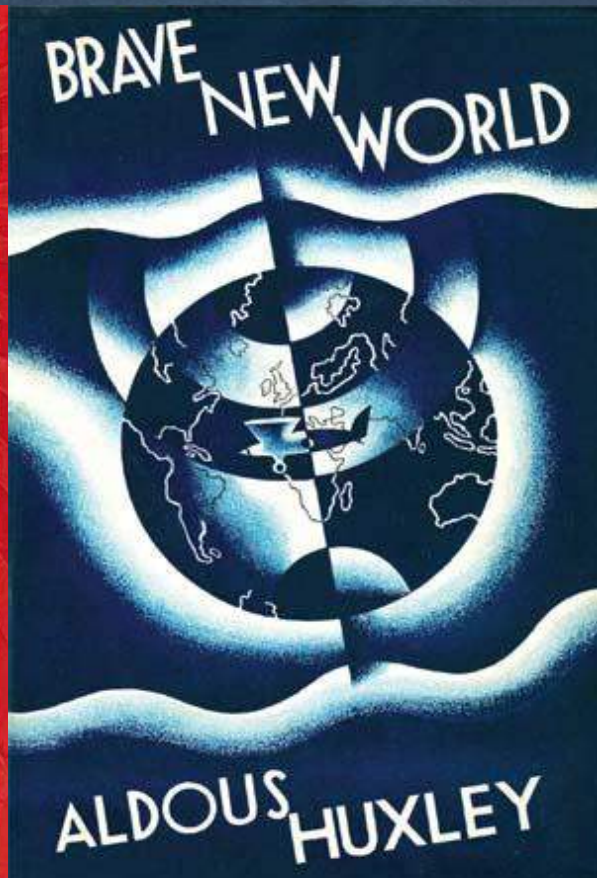
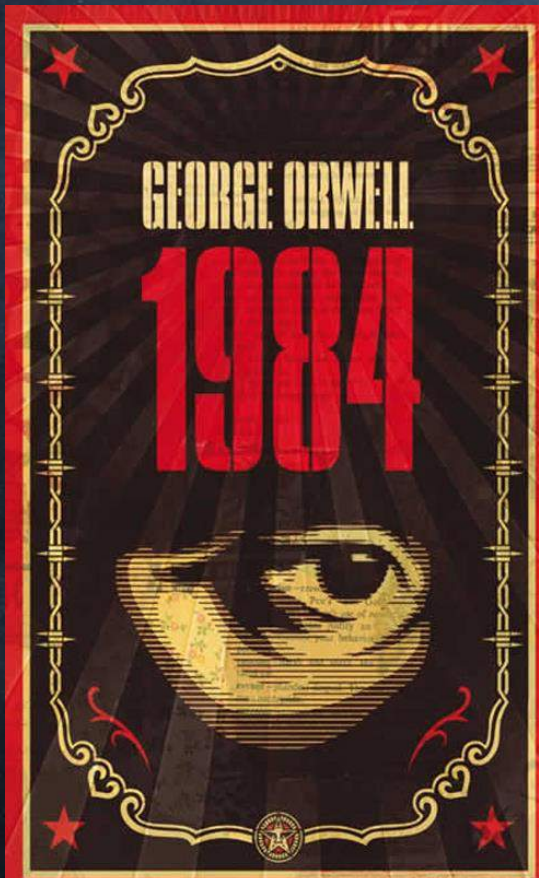
How are Utopian stories told?

- Travel through space or time
- Traveller coming back and reporting



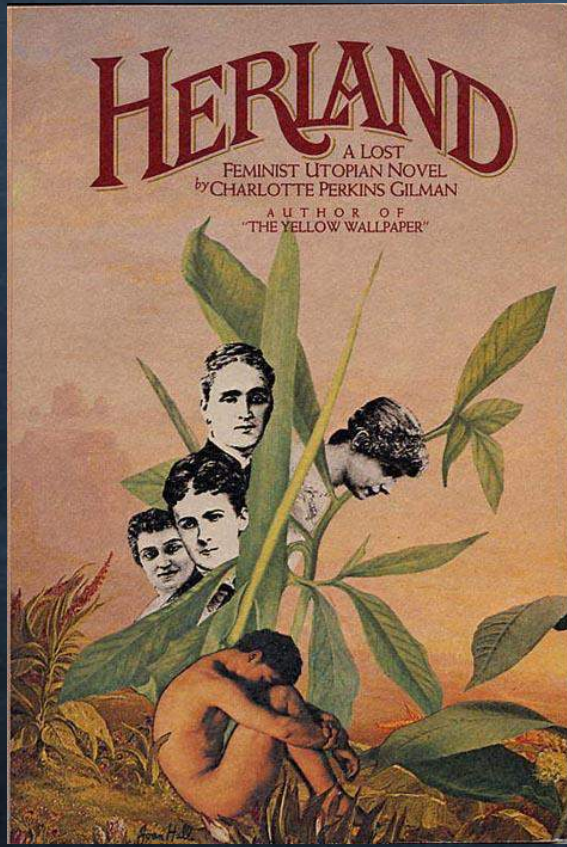
How are Dystopian stories told?

- Person growing up in a horrible place
- Attempt of rebellion or escape

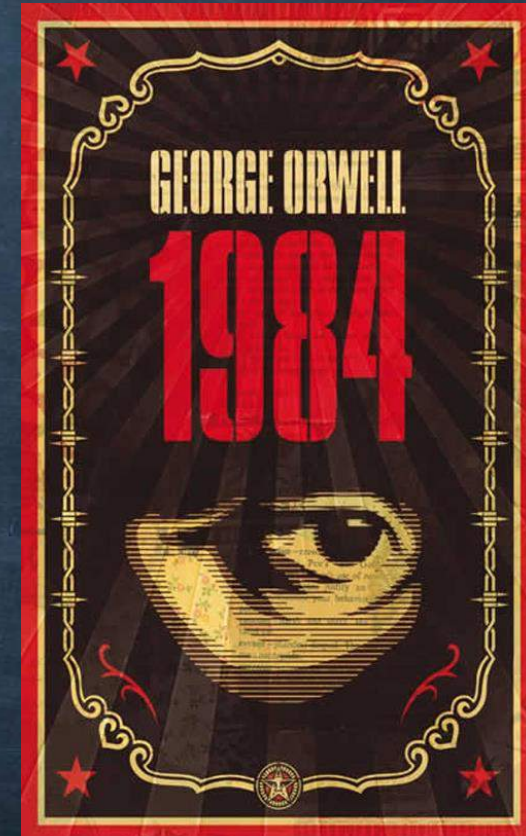


Utopia vs. Dystopia

Traveller discovers
Utopia



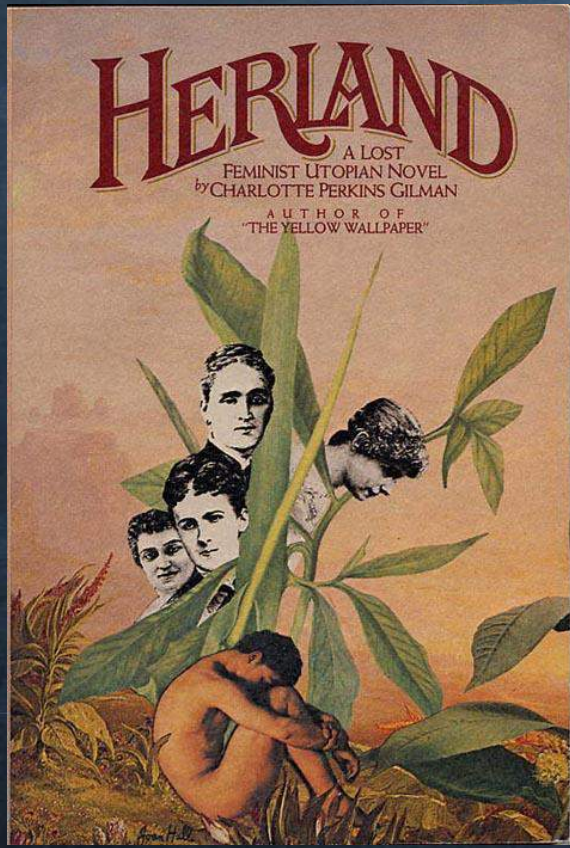
Character grows up in
Dystopia



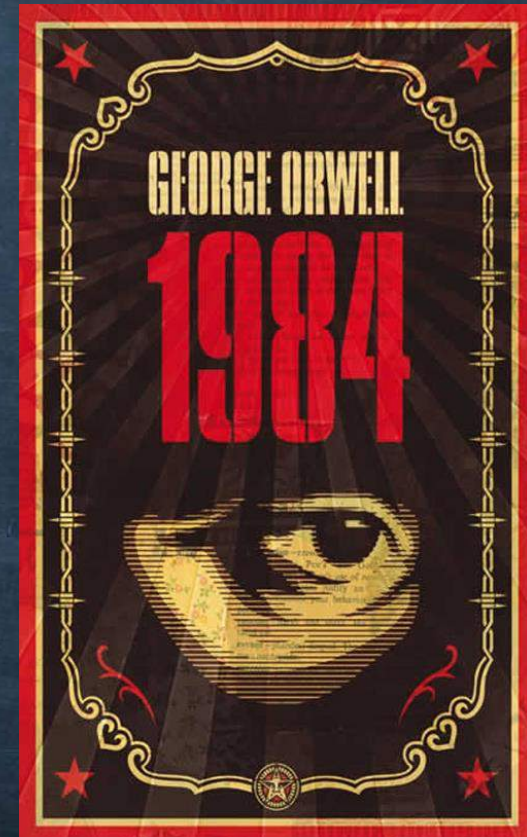
Why ?

Utopia vs. Dystopia

Far away
Not our society



What our society is or
soon could become



Illusion of a Utopia



Uniformity



Lack of Knowledge = Lack of Power

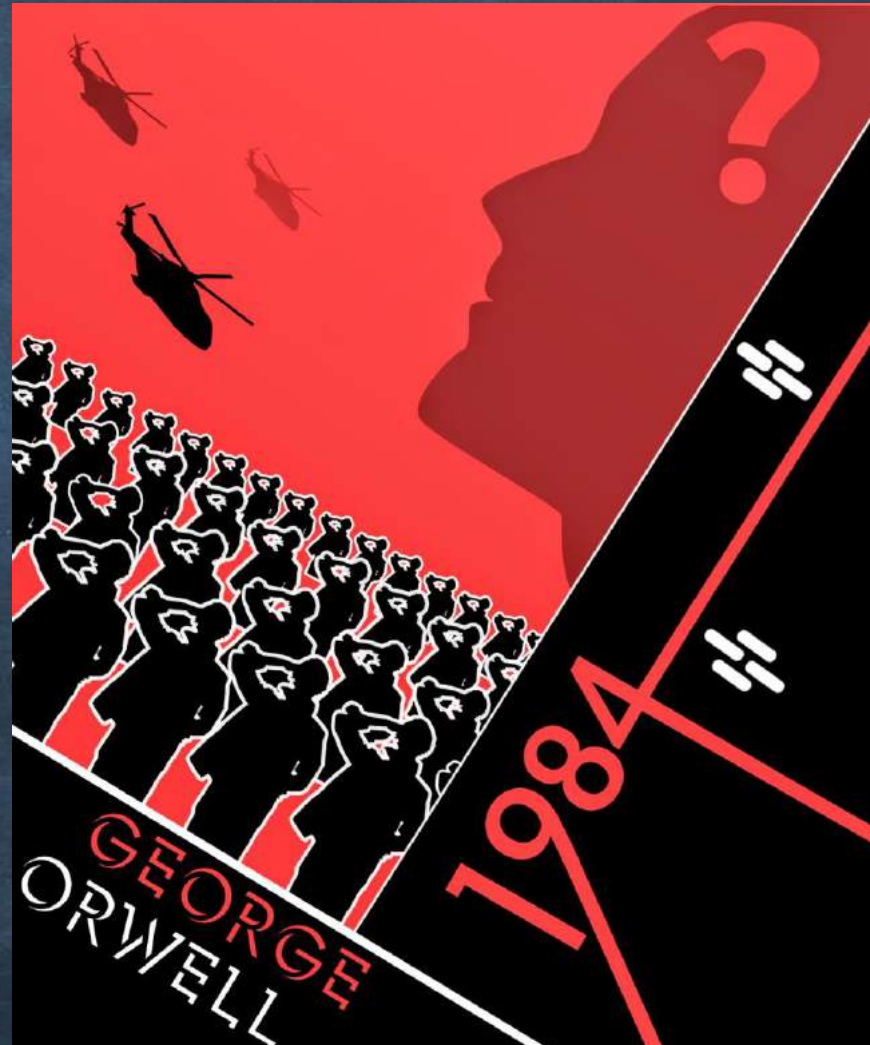


Constant Surveillance

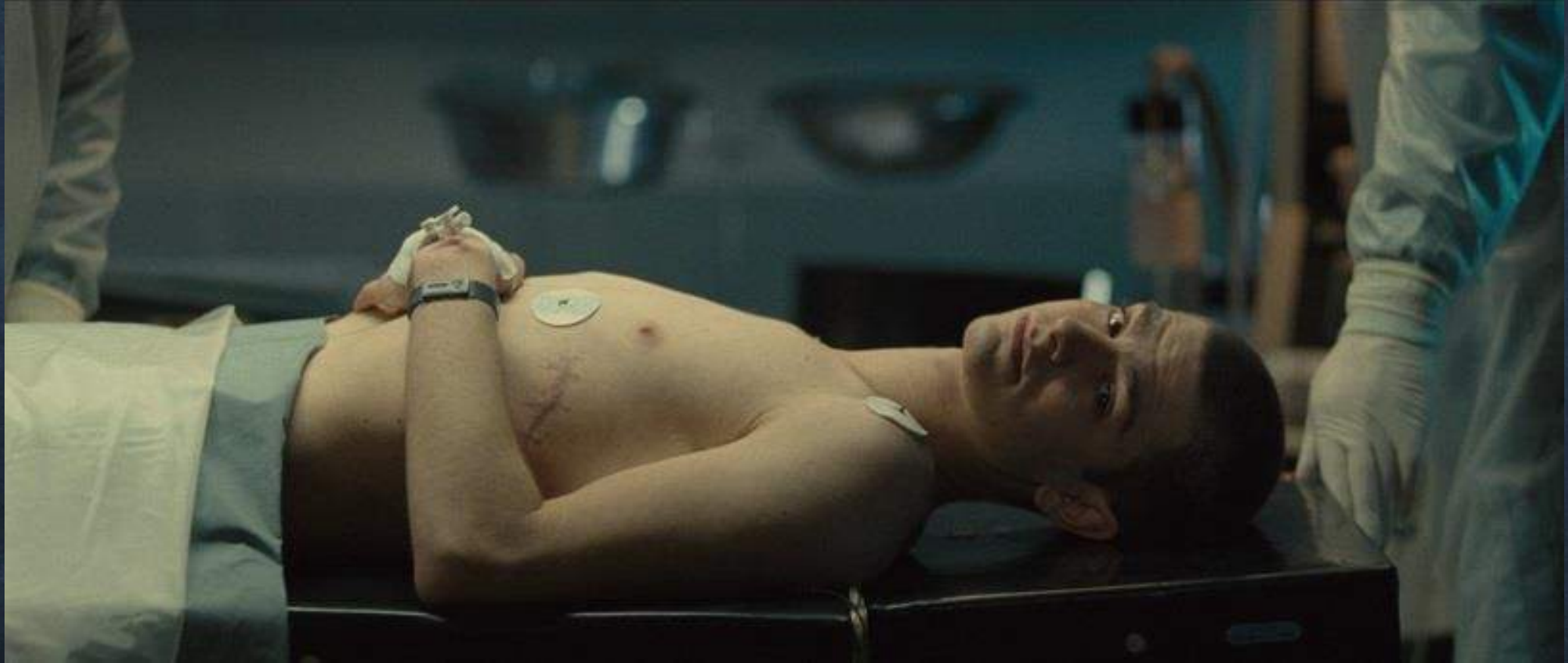


BIG BROTHER IS WATCHING YOU

Power is faceless



Dehumanisation



Lesson 2

Close Reading

1. Reread the middle paragraph about Jimmy's first memory on page 17.

What is the significance of Jimmy's duck boots? Why is he worried about them?

2. How can you connect Jimmy's feelings towards his duck boots, to the feelings he has while watching farm animals burning.
3. Contrast the young Jimmy's reaction to the burning animals to his father's reaction? What does this tell us about the culture they live in?
4. What do we find out from the father's conversation about why the animals are being killed?
5. "He didn't want to eat a pigoon, because he thought of the pigoons as creatures much like himself. Neither he nor they had a lot of say in what was going on." (27)

What does this quote further tell us about Jimmy's relationship to animals.

6. What connects the memories that Snowman remember of his childhood in chapter 2? Are they happy/sad memories? Why do you think Snowman thinks about these memories?

Cities and Communities in *Oryx and Crake*

- 1) Look at the picture below. Discuss with your partner what problems you think we face in terms of the sustainability of our cities.



- 2) Read the information opposite about the current state of cities and communities in our world today. With a partner, discuss which problem you think is the most important to solve first?
- 3) Imagine a sustainable city/community of people. What would it look like? How would it solve these problems? Who would create the community? Who gets to live in it? How does it differ from our cities today? Write notes in the space below. Be ready to share your ideas in groups later.

Our sustainable city:



Half of humanity – 3.5 billion people – lives in cities today

By 2030, almost 60 per cent of the world's population will live in urban areas

95 per cent of urban expansion in the next decades will take place in developing world

828 million people live in slums today and the number keeps rising

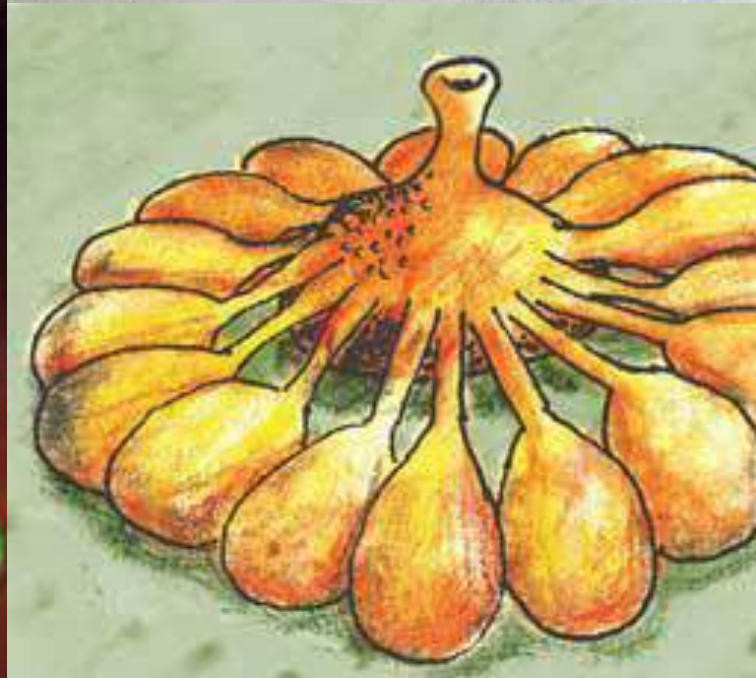
The world's cities occupy just 3 per cent of the Earth's land, but account for 60-80 per cent of energy consumption and 75 per cent of carbon emissions

Rapid urbanization is exerting pressure on fresh water supplies, sewage, the living environment, and public health

But the high density of cities can bring efficiency gains and technological innovation while reducing resource and energy consumption

Lesson 3

Hybrid Name.....
Special Features



**“Create-an-animal was so much fun, said the
guys doing it: it made you feel like God.”
(p.57)**

**How has biotechnology altered the
human/animal relationship in Oryx and
Crake?**

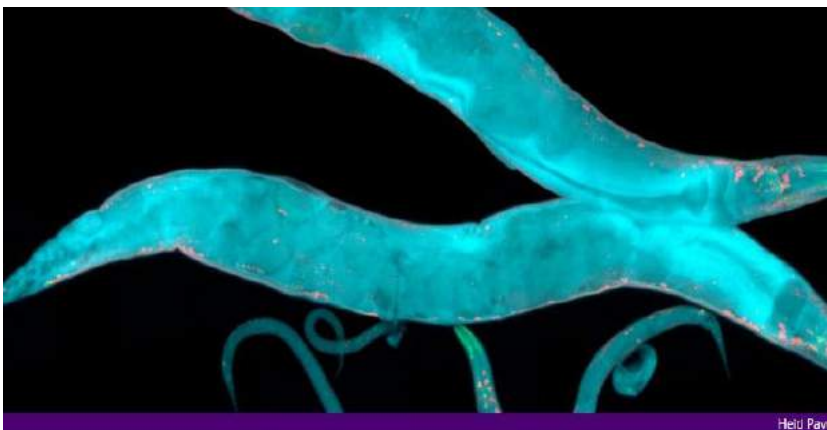
Why does Jimmy take so much comfort from watching videos of Alex the talking parrot? What is the significance of this reference to a real-life parrot?

**“it’s just proteins, you know that!
There’s nothing sacred about cells
and tissue, it’s just...” (65)**

**In *Oryx and Crake*, humans have
become the new lab rats**

Lesson 5

1. With your partner, look at the pictures below and discuss the following:
 - a. What stories do they tell?
 - b. Why do these stories (and many, many more) exist?



Immortality Is One Step Closer as Scientists Turn Off the Ageing Process in Worms

Those lucky worms.
DAVID NIELD 28 JUL 2015

Held Paw

ECOCRITICISM

What is Ecocriticism?

- "Ecocriticism is the study of the relationship between literature and the physical environment" (Cheryll Glotfelty and Harold Fromm – *The Ecocriticism Reader: Landmarks in Literary Ecology*, (1996))
- It is an "Earth-centred" approach
- Eco critics analyse how the natural world is culturally constructed, as well as how we perceive our relation to it.
- Human culture is connected to the physical world. Human culture affects the natural world and is affected by it.

Purdue Online Writing Lab:

<https://owl.english.purdue.edu/owl/resource/722/13/>

Typical Questions to ask about *Oryx and Crake*

- How is nature represented in this text?
- How has the concept of nature changed over time?
- What is the influence on metaphors and representations of the land and the environment on how we treat it?
- How are animals represented in this text and what is their relationship to humans?
- Where is the environment placed in the power hierarchy?
- How is nature empowered or oppressed in the novel?
- What rhetorical moves are used by environmentalists, and what can we learn from them about our cultural attitudes towards nature?

Ecocriticism + Feminism





“Ecofeminism is about connectedness and wholeness of theory and practice ... We see the devastation of the earth and her beings by the corporate warriors and the threat of nuclear annihilation by the military warriors as feminist concerns. It is the same masculinist mentality which would deny us our right to our own bodies ... and which depends on multiple systems of dominance and state power to have its own way”

Ynestra King, the coordinator of the first ecofeminist conference in 1980

“To be a feminist, one must also be an ecologist, because the domination and oppression of women and nature are inextricably intertwined. To be an ecologist, one must also be a feminist, since without addressing gender oppression and the patriarchal ideology that generates the sexual metaphors of masculine domination of nature, one cannot effectively challenge the world views that threaten the stable evolution of the biosphere in which human beings participate or perish”

Patrick Murphy, Murphy, Patrick. *Farther Afield in the Study of Nature Oriented Literature*. Charlottesville: University Press of Virginia, 2003.

Typical Questions to ask about *Oryx and Crake*

- How do the roles or representations of men and women towards the environment differ in this novel?
- What parallels can be drawn between the sufferings and oppression of groups of people (women, minorities, immigrants, etc.) and treatment of the land?

Discuss...

- Do you agree that there is a connection between the exploitation of women and the destruction of the environment? Why/Why not?
- Can you relate this idea to any aspect of *Oryx and Crake*?

Postcolonial criticism



“Post-colonial criticism is similar to cultural studies, but it assumes a unique perspective on literature and politics that warrants a separate discussion. Specifically, post-colonial critics are concerned with literature produced by colonial powers and works produced by those who were/are colonized. Post-colonial theory looks at issues of power, economics, politics, religion, and culture and how these elements work in relation to colonial hegemony (western colonizers controlling the colonized).”

Purdue Online Writing Lab: <https://owl.english.purdue.edu/owl/resource/722/10/>

Typical Questions to ask about *Oryx and Crake*

- How does the literary text represent various aspects of colonial oppression?
- What person or groups does the work identify as "other" or stranger? How are such persons/groups described and treated?
- What does the text reveal about the politics and/or psychology of anti-colonialist resistance?
- What does the text reveal about the operations of cultural difference - the ways in which race, religion, class, gender, sexual orientation, cultural beliefs, and customs combine to form individual identity - in shaping our perceptions of ourselves, others, and the world in which we live?

Purdue Online Writing Lab: <https://owl.english.purdue.edu/owl/resource/722/10/>

Extract Analysis

You will now work in groups and analyse an extract from the novel either from an ecocritical, ecofeminist or postcolonial perspective. (15')

Each group will give a 5 minute presentation on their extract. (15')

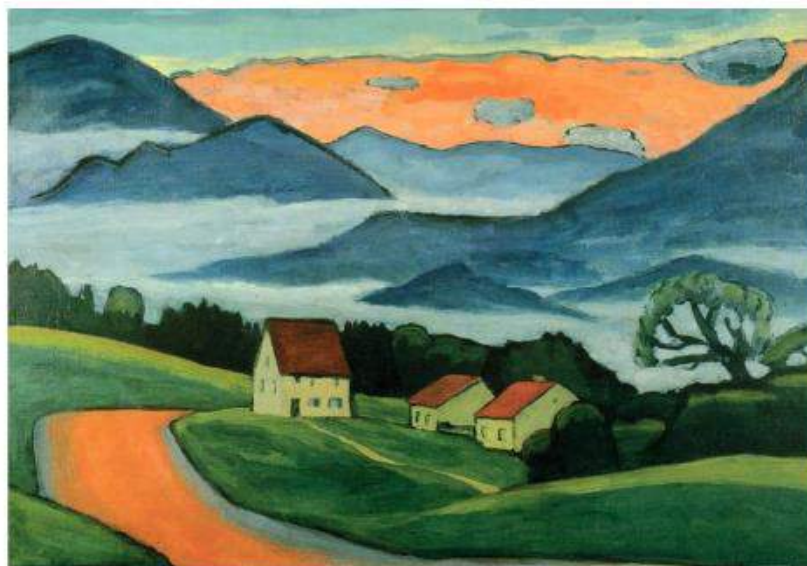
Lesson 7



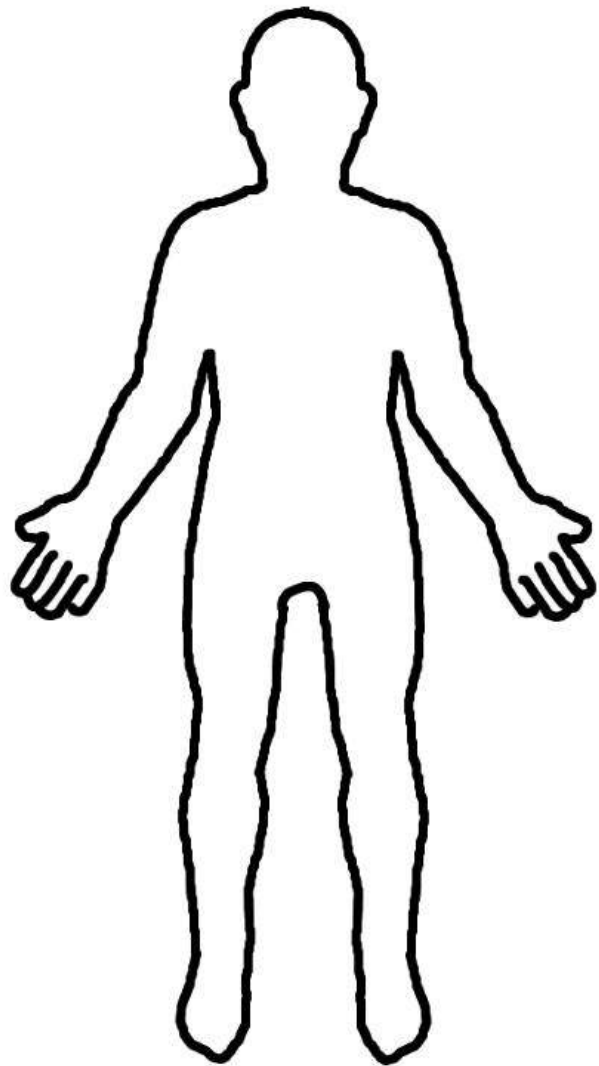
Lesson 7



Lesson 7



The Crakers: Sustainable Humans



Conflict continuum worksheet

Think about Jimmy and Crake’s different opinions about the world. In groups, make notes about how either Jimmy or Crake would answer the following.

Good things about human society:

.....

Bad things about human society:

.....

The meaning of life:

.....

Attitude towards nature:

.....

The most important quality in a friend:

.....

The most annoying characteristic in a friend:

.....

A motto that sums up a good attitude to life:

.....

Lesson 10

