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Introduction

During this essay I wish to explore the several changes that are being made to our planet and include research on how this is affecting life and what plans are put in place to help prevent these problems.

Keywords

Anthropogenic,

Planetary damage,

Sustainability.

In this essay I will investigate and give in-depth research on what's happening to our planet and also what humans are doing to it and show research on how it is affecting us. I will touch upon how these anthropogenic/ non-anthropogenic cases affect the world around us and what people are doing to prevent them. I will also investigate into organisations/industries that are trying to make a change. I will include articles that show the statistics on pollution, and also include my own knowledge that explains why I believe people are oblivious to climate change and aren't willing to make a change due to their greed for money.

Anthropogenic is an adjective used to describe something caused or produced by humans, whether its intentional or not. The word originates from the Greek anthropogenes, which means "born of man". The word can refer to any changes in the world and nature caused by people. It doesn't always have to be something bad though, the use of this word can be used in different context such as- "The existence of cities or roads" but the word is most often used to describe pollution. As we know there are many anthropogenic causes which are significant contributors to climate change such as: Pollution, Industrialization, Urbanization, Habitat destruction, Overconsumption etc... These cases are all caused by humans.

The word anthropogenic to myself means a lot more than just something caused by humans, as its definition states it's something caused by humans whether it's intentional or not. For myself, living in a crowded city really enlightens the word as litter can be seen everywhere and this is a great example of the word as it is something caused by humans either because their lazy or there aren't enough waste disposals, but either way it's causing pollution, and this proves the intentional usage of this word. I acknowledge my understanding of this word is limited as I believe anthropogenic cases are a lot bigger than myself although these cases are caused by my own kind.



Fig.1. *Anthropogenic examples*

Fig.1. *Anthropogenic examples* available at: https://climate.ec.europa.eu/climate-change/causes-climate-change_en shows a small fraction of anthropogenic cases, but they all individually have a major impact on our world. Out of the listed anthropogenic cases, burning coal, oil and gas alone is the world's primary cause of current climate change. Studies from AGI (2014) show an in-detail list of the amount of CO₂ emitted per million British thermal units of energy for various fuels. The list includes natural gas which emits 117.0 btu, Coal (anthracite) 228.6 btu, Coal (subbituminous) 214.3 btu, Diesel fuel and heating oil 161.3 btu and many more. These studies really show how much of an impact these have on climate change and really enlarge the meaning of the word anthropogenic.

The word anthropogenic correlates with my ideas as I'm investigating into a series of effects that the product and furniture design industries are facing and how these certain effects are having an impact on them. The use of this word in my studies may be challenged as anthropogenic cases aren't the only reason the product and furniture design industries are being affected although the word does fit my area of research as it will help me investigate into all the causes of climate change and help me explore what it's doing to our planet and how its affecting life on earth as well as work, It will help give me an insight into what's it's doing to businesses as well as the product and furniture industries.

An online article Adedeji (2023) states that "Today, more than ever, there is a need to incorporate sustainability practices into all stages of commercial furniture production. Recent environmental concerns have prompted many businesses in the furniture industry to set goals of protecting the environment and prioritizing societal values by making changes that will positively benefit the people and communities in and around their operations.

The production and operations stages get the most attention when addressing environmental concerns. This is because, for most manufacturers, the supply chain accounts for the bulk of their environmental footprint due to significant energy use and waste products generated from production to transportation."

To my understanding, this is a perfect example of what people from these types of industries are doing to help the environment and stay sustainable, but the article expresses how it's the wrong time to start thinking of sustainability during the production stage. I believe this is because it shouldn't be something that is thought about, it is something that should have been resolved ages ago or even better, never had to be thought about in the first place. To my understanding, these industries are already fearing sustainability and how it will affect their business and this all comes down to climate change and planetary damage caused by human beings. Adedeji (2023) Also states that the supply chain already accounts for the bulk of their footprint due to significant factors such as energy use and waste products generated from "Production to transportation" This again, really does deeper the word "Anthropogenic's" meaning and truly shows how just a fraction of anthropogenic cases have such a huge planetary effect on everything including furniture industries,

The article really stresses how the operations and production stages get the most attention when "addressing environmental concerns" as to my understanding is because of man made circumstances which we have brought upon ourselves. Whether this is because of greed for money or power, it's come with a price, and that's climate change which is causing these adverse effects upon life and these industries.

Planetary damage refers to the damage or degradation of our earths natural systems and ecosystems which can potentially have irreversible consequences for our planet and its

inhabitants. The meaning of planetary damage refers to the crossing of certain thresholds that can lead to irreversible changes to the earth. Some examples of planetary damage to the Earth would be to our land, oceans, disruption of natural processes and cycles and biodiversity. These all again link to anthropogenic cases which are all capable of abrupt or irreversible changes. The word quite literally means damage caused to our planet.

Planetary damage is something that is primarily impacted by mankind, but it's also impacted by natural causes, for instance: our planet is getting closer to the sun which is having adverse effects on our sea levels due to ice melting in the arctic/Atlantic oceans which is causing sea levels to rise therefor having an effect on our lands. The temperature rises due to this will be having effects on things such as our harvesting industries causing plenty of crops to die due to the heightened temperatures. My understanding of this word is that it is mainly focused on what the human race are doing to our planet, and how much it is impacting our life around us.

Fuller (2022) states that "Urgent attention is needed to control pollution and prevent pollution-related disease, with an emphasis on air pollution and lead poisoning, and a stronger focus on hazardous chemical pollution." To my knowledge, these anthropogenic cases are all a result of our own kind and how science, and other industries are affecting the air we breathe in. I understand the word "planetary damage" may be challenged during my investigations, but I do believe it will help deepen my understanding of how it is affecting our industries and life on earth. Fuller (2022) also states that "pollution" is now more than ever recognized as a planetary threat and "that its driver, its dispersion, and its effects on health transcend local boundaries and demand a global response. Global action on all major modern pollutants is needed." Therefor stating that pollution is now being taken seriously as it's having a major effect on our planet and our death rates, but can it be stopped or is it always going to be irreversible.

The article stated really emphasises on planetary damage and how pollution alone is having these adverse effects on our planet, and this really broadens my understanding of the word and also helps me to have an insight onto what people think about it or want to do about it. I believe the words "planetary damage" fits my body of research and the topic I wish to research on as it enlightens not only mine but a fraction of the words knowledge and helps me research further into how they're affecting us and what it could lead to or become.

The words "planetary damage" relates to my ideas as I wish to explore and investigate into the damages climate change is having on our product and furniture industries and also life itself.

Stated in the previous article Fuller (2022) "Global action on all major modern pollutants is needed." Clarifies that some people are aware of the planetary damage pollution is causing and are aware of the adverse effects its having now and can even have down the line, which

shows me it's starting to be taken seriously although this leaves me wondering whether people will see this and start taking it seriously as well. It makes me question whether people understand how much of an impact this can have on their businesses if things don't change now.

Goldenberg (2018) states that "The climate crisis of the 21st century has been caused largely by just 90 companies, which between them produced nearly two-thirds of the greenhouse gas emissions generated since the dawning of the industrial ages." Which backs my statement on whether people did it out of greed or for money, as it also states in Goldenberg (2018) that there is thousands of gas, coal and oil producers in the world but the CEO's, decision makers, or the ministers of coal and oil if you were to narrow these down to one person, these people together could fill a greyhound bus or two." Which too me is enough evidence to back my statement as these people together could put a stop to this but they are more than willing to continue so that they can earn money or gain power. But I question whether they know how long it will last as one day it's going to come to end if they don't stop it all now.

To my understanding, industries such as product & furniture design entail a large manufacturing process which requires a lot of energy usage but compared to other industries and businesses, industries like this are aware of the impact they're having on our world and are doing what they can to make a change. Although it's not enough, I can understand to keep their businesses open they need to make sacrifices until new ways are developed.

The word Sustainability is a noun that means to be able to sustain something over a period of time. It also means causing little or no damage to the environment. To be able to sustain something means that we give back to our environment or even re-use a certain material in order to protect it. To my understanding, the use of re-useable items/materials is growing popular amongst us humans and is becoming a large movement. Charity shops are a perfect example of this, we give our old clothes away to be re-sold and to also contribute to charity, which in my opinion makes this a positive movement as it allows people who struggle with money to buy clothes for cheaper and also donates money to those in need.

The word sustainability should mean something to everyone, I myself am a firm believer in re-using items. A perfect example I can give is when I have old clothes which I no longer use I tend to put them aside and use them when I am garden because I'm not bothered whether they get dirty or not but it's better than throwing them away or even buying new clothes for this purpose. Although I'm aware the word sustainable has a much larger meaning in the world of industries and businesses when climate change is a primary factor to the lack of resources and even a primary factor to planetary damage. But this is an acknowledged crisis and solutions are put in place whether they're being used or not.

Chrinian (2017) states that there's organizations with the interest of improving the sustainability of furniture design manufacturing. One of these organisations being a company called "American Home Furnishing Association (AHFA)", which is designed to improve resource management, enhance recycling, and waste processes and also limit water usage. This article also states that the next stage of the multi-step program is that companies are setting sustainability goals. These goals include things such as: "supply chain management; social responsibility; and climate change, which assists them in later providing specific health, safety and environmental criteria to register products with AHFA's Eco3Home seal of approval." This fits my topic of research as it shows me that organisations are worrying about this crisis and are making major changes in the way's their business are ran in order to be sustainable.

I believe the word "sustainable" may be challenged during my research as the meaning of the word can be rather vast, or it can be applied to multiple topics. But again, I also believe the word "sustainable" fits my topic of research as I'm investigating into how it's effecting businesses/ industries, our world and also the environment.

To my knowledge, the movement of being sustainable is becoming a large movement that many companies are incorporating into their business. Examples of this can be shops such as Hobbycraft and the range are swapping their plastic bags out for paper ones, now I understand this isn't 100% sustainable as the source of paper is decreasing due to deforestation but it's definitely a better manufacturing process than making plastic bags.

My understanding of the word is rather vast but also very limited, this may challenge my studies due to the infinite reasons for sustainability, but it also gives me a deeper understanding and shows me how much bigger the word is compared to my knowledge of it.

To my knowledge, industries and businesses have always chased after success and money therefore making accidents which can lead to major climate changes but do these businesses/ industries care about it or are they just oblivious? From my own experience working in workshops, and similar environments health and safety was their main priority but when it came to deadly toxins and chemicals being released into our atmosphere straight from the workshop their knowledge on the planetary damage this was causing was next to nothing. It shows me that most companies are matter in fact after the money and success rates rather than trying to make a change and saving the world.

For example: Even places such as amazon, based on my previous experiences from working there, the amount of energy usage was quite remarkable and always made me question how this impacted our planet or even their carbon footprint. But I always wondered how long this would last and whether they would do anything to make a change and help their footprint.

Each keyword is linked as they are all something that stems from damage done to the world by humans and sustainability links into this as it's something that has later on been acknowledged by companies and industries and is put in place to prevent any further effects on our planet. Each keyword has a different meaning for example: planetary damage is a word that refers to the damage of our earth and anthropogenic is a word that is used to describe something caused or produced by humans, un-intentionally or intentional. The word sustainability ties into this as it is put in places because of the first two keywords, and it means to be able to sustain something over a period of time by causing little or no damage to the environment.

When these words are placed together, they really do show the true importance of how this is being taken seriously and that the effect this is having on businesses/ industries and even life is starting to be noticed by more and more people.

These three keywords alone work in unison, but it makes me question whether humans are working with the world or against it and also why? And this is because these three key words shouldn't have to exist, but they all exist because of what humans are doing to the planet and the major effects we are having on it.

I studied these areas because I wanted to look into the seriousness of climate change/ planetary damage and wanted to see whether the plans put into place would actually help businesses/ industries or not. Because of my research I believe that these plans that are put in place wouldn't take effect for a while and even if they were to start now, we wouldn't see a change within our lifetime. I now believe that industries and businesses are going to face major changes and even challenges if things don't change so this leaves me questioning how long these businesses and industries will last if they aren't to make that change now and how would that affect them?

Will product & design industries ever be 100% sustainable and if not, how will that affect them?

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