

Here are some documents that we used for research.



## Climate Change

The first scientist to predict climate change (1988) was/is Professor James Hansen. He has recently published the most comprehensive review of where we are now, reviewed by 18 other senior academics.

<https://www.youtube.com/watch?v=JP-cRqCQRc8>

James Hansen is a key figure in the story of modern climate change. This is true from the point of hard science, the dangers of political interference or popular activism. In a 1988 US Senate hearing, Hansen famously declared that the “greenhouse effect has been detected and is changing our climate now”.

Towards the end of his time as the director of NASA’s Institute for Space Studies, Hansen described how government officials had changed his testimony, filtered scientific findings and controlled what scientists could and couldn’t say to the media – all to underplay the impact of fossil fuel emissions on the climate. In recent years, the so-called “grandfather of climate science” has added to his CV the roles of author and twice-arrested climate activist and anti-coal campaigner. He still a Professor at Columbia University.

So when Hansen’s latest piece of blockbuster climate research was finalised and released in June 2016, there was understandable global interest, not least because it mapped a potential path to the “loss of all coastal cities” from rising sea levels and the arrival of “super storms”.

So what is Hansen saying?

[Hansen’s paper](#), is written with 18 other co-authors, many of them highly-reputable names in climate science in their own right, is unusual. Most scientific papers are short, a few pages. Hansen’s paper - in the journal [Atmospheric Chemistry and Physics](#) – runs to 52 pages (although it’s hard to worry over space when you’re laying out a possible path to widespread global disruption and the complete reshaping of coastlines).

Firstly, Hansen says they may have uncovered a mechanism in the Earth’s climate system not previously understood that could point to a much more rapid rise in sea levels.

When the Earth’s ice sheets melt, they place a freshwater lens over neighboring

oceans. This lens, argues Hansen, causes the ocean to retain extra heat, which then goes to melting the underside of large ice sheets that fringe the ocean, causing them to add more freshwater to the lens (this is what's known as a "positive feedback" and is not to be confused with the sort of positive feedback you may have got at school for that cracking fifth grade science assignment).

Secondly, according to the paper, all this added water could first slow and then shut down two key ocean currents – and Hansen points to two unusually cold blobs of ocean water off Greenland and off Antarctica as evidence that this process may already be starting. If these ocean conveyors were to be impacted, this could create much greater temperature differences between the tropics and the north Atlantic, driving "super storms stronger than any in modern times", he argues.

"All hell will break loose in the North Atlantic and neighbouring lands. Hansen points to evidence from ancient climates (known as paleoclimate data) to suggest this has previously happened on Earth – an interpretation that was challenged during the interactive peer review process.

Now, according to the IPCC, global sea levels will only rise a maximum of not quite a meter by the end of the century. But Hansen says this is too conservative. His paper claims that climate models, including those used for his paper, don't properly capture the consequences from adding freshwater from melting ice sheets. Sea levels could rise several metres beyond the IPCC's estimates, and the rise would be much faster.

So what's the result? According to Hansen:

*These feedbacks raise questions about how soon we will pass points of no return in which we will lock-in consequences that cannot be reversed on any time scale that people care about.*

*Consequences include sea level rise of several metres, which we estimate could occur this century or at the latest next century if fossil fuel emissions continue at a high level.*

*That would mean the loss of all coastal cities, most of the world's largest cities and all of their history.*

The idea that ice sheets are becoming unstable and could raise sea levels several metres is not as controversial as you might think. There is good evidence that sea levels have been many metres higher in earth's history, well before humans came along.

A May 2015 study found Antarctica's ice sheet alone could have pushed sea levels as much as 17 metres higher, but it would have taken thousands of years. Commenting on Hansen's study, Dr John Church, a sea level rise expert at Australia's CSIRO, says multimeter sea level rises are consistent with current research, but where Hansen departs is on claiming it could all happen before the

end of this century. But Church says that as fossil fuel emissions grow, the world is committing future generations to much higher sea levels. “Even with the lower emission scenarios we have committed the world to ongoing sea level rise for centuries,” he says. Other scientists have already challenged many of Hansen’s conclusions, as Hansen himself predicted would happen.

“You can be sure that many scientists – indeed most scientists – will find some aspects in our long paper that they would interpret differently,” Hansen says.

But he also commented that these disagreements shouldn’t be misinterpreted.

*I find that the public sometimes misinterprets our science discussions – how research is done. Scepticism is the lifeblood of science. It takes time for conclusions to be agreed upon and details sorted out.*

Hansen and his co-authors have laid out their science and are proposing an idea that will live, die or evolve through the scientific method. Whether or not March 2016 becomes another seminal moment in Hansen’s storied climate career only time, and a failure to reign in fossil fuel emissions, will likely tell.

Hansen has long called for a straightforward rising price on greenhouse gas emissions, which he argues would “quicken the transition to cleaner energy.”

“This is a tragic situation, because it is unnecessary,” he says.

*We could already be phasing out fossil fuel emissions if only we stopped allowing the fossil fuel industry to use the atmosphere as a free dumping ground for their waste.*

**Source: The Guardian newspaper.**

This year while Big Dirty Oil,  
Gas, and Coal were pumping  
**\$184,994,697**  
into Political Climate Denial



## Climate change and denial.

The debate is over about whether or not [climate change](#) is real. Irrefutable evidence from around the world—including extreme weather events, record temperatures, retreating glaciers and rising sea levels—all point to the fact that climate change is happening now and at rates much faster than previously thought.

The overwhelming majority of scientists who study climate change agree that human activity is responsible for changing the climate. The [United Nations Intergovernmental Panel on Climate Change](#) (IPCC) is one of the largest bodies of international scientists ever assembled to study a scientific issue, involving more than 2,500 scientists from more than 130 countries. The IPCC has concluded that most of the warming observed during the past 50 years is attributable to human activities. Its findings have been publicly endorsed by the [national academies of science](#) of all G-8 nations, as well as those of China, India and Brazil.



## Who are the climate change deniers?

Despite the international scientific community's consensus on climate change, a small number of critics continue to deny that climate change exists or that humans are causing it. Widely known as climate change "skeptics" or "deniers", these individuals are generally not climate scientists and do not debate the science with the climate scientists directly—for example, by publishing in peer-reviewed scientific journals, or participating in international conferences on climate science. Instead, they focus their attention on the media, the general public and policy-makers with the goal of delaying action on climate change.

Not surprisingly, the deniers have received [significant funding](#) from coal and oil companies, including ExxonMobil. They also have [well-documented connections](#) with public relations firms that have set up industry-funded lobby groups to, in the words of one [leaked memo](#), "reposition global warming as theory (not fact)."

Over the years, the deniers have employed a [wide range of arguments](#) against taking action on climate change, some of which contradict each other. For example, they have claimed that:

- Climate change is not occurring
- The global climate is actually getting colder
- The global climate is getting warmer, but not because of human activities
- The global climate is getting warmer, in part because of human activities, but this will create greater benefits than costs
- The global climate is getting warmer, in part because of human activities, but the impacts are not sufficient to require any policy response

After 15 years of increasingly definitive scientific studies attesting to the reality and significance of global climate change, the deniers' tactics have shifted. Many deniers no longer deny that climate change is happening, but instead argue that the cost of taking action is too high—or even worse, that it is too late to take action. All of these arguments are false and are rejected by the scientific community at large.

To gain an understanding of the level of scientific consensus on climate change, one study examined every article on climate change published in [peer-reviewed scientific journals](#) over a 10-year period. Of the 928 articles on climate change the authors found, not one of them disagreed with the consensus position that climate change is happening and is human-induced.

These findings contrast dramatically with the [popular media's reporting on climate change](#). One study analyzed coverage of climate change in four influential American newspapers (New York Times, Washington Post, LA Times and Wall Street Journal) over a 14-year period. It found that more than half of the articles discussing climate change gave equal weight to the scientifically discredited views of the deniers.

This discrepancy is largely due to the media's drive for "balance" in reporting. Journalists are trained to identify one position on any issue, and then seek out a conflicting position, providing both sides with roughly equal attention. Unfortunately, this "balance" does not always correspond with the actual prevalence of each view within society, and can result in unintended bias. This has been the case with reporting on climate change, and as a result, many people believe that the reality of climate change is still being debated by scientists when it is not.

While some level of debate is useful when looking at major social problems, society must eventually move on and actually address the issue. To do nothing about the problem of climate change is akin to letting a fire burn down a building because the precise temperature of the flames is unknown, or to not address the problem of smoking because one or two doctors still claim that it does not cause lung cancer. As the [United Nations Framework Convention on Climate Change](#) (UNFCCC) acknowledges, a lack of full scientific certainty about some aspects of climate change is not a reason for delaying an immediate response that will, at a reasonable cost, prevent dangerous consequences in the climate system.

**Learn more: (Just Google or Go Duck go the following).**

### **Who are the deniers?**

[Climate Cover-Up: The Crusade to Deny Global Warming](#)

[Merchants of Doubt](#)

['Some Like It Hot'](#) — Mother Jones article on climate change skeptics

[Responding to Global Warming Skeptics — Prominent Skeptics Organizations](#)  
[DesmogBlog.com's Disinformation Database](#)

['The Denial Machine'](#) — CBC's the fifth estate program

### **Who funds the deniers?**

[What Exxon doesn't want you to know](#)

[ExxonSecrets: How ExxonMobil funds the climate change deniers](#)

['Put a Tiger In Your Think Tank'](#) — Mother Jones article on ExxonMobil funding

### **The science of climate change**

[Intergovernmental Panel on Climate Change](#)

[Joint science academies' statement: Global response to climate change](#)

[RealClimate: Climate Science from Climate Scientists](#)

[Scientific Consensus on Climate Change](#) — Science Magazine

[The Science of Global Warming](#) — Union of Concerned Scientists

### **Climate change reporting in the media**

[Journalistic Balance as Global Warming Bias](#)

['Snowed'](#) — Mother Jones article about the media's reporting on climate change

['The Fossil Fools' by George Monbiot](#)

### **More information**

[DeSmogBlog.com](#) — Excellent blog on the deniers

[Skeptical Science.com](#) — Database and refutation of common skeptic arguments

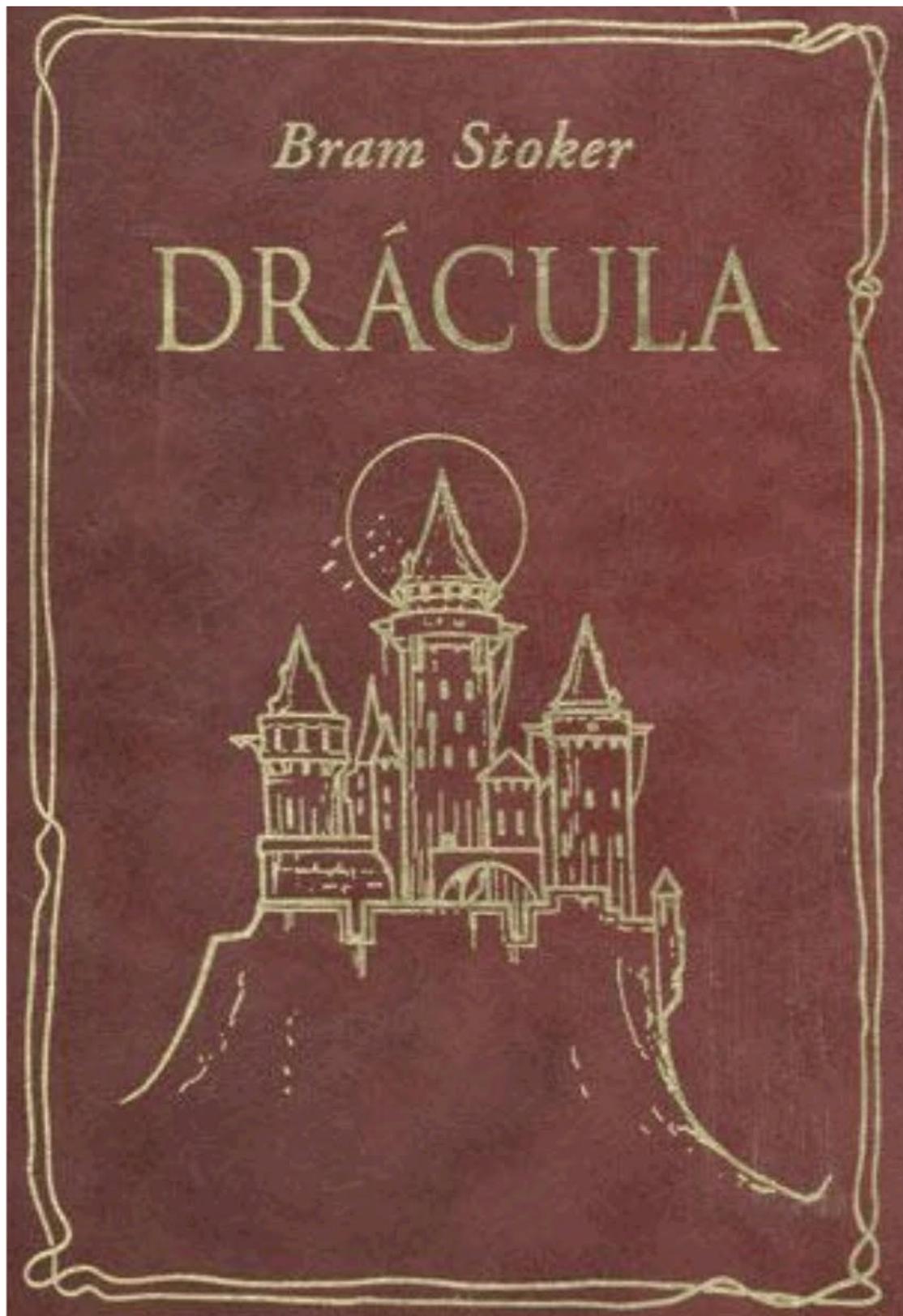
[How to Talk to a Climate Skeptic: Responses to the most common skeptic arguments](#) — Grist.org

[Editorial on stolen climate change emails](#) — Nature Journal

[A review of the distorted science in Michael Crichton's State of Fear](#)

[Recent news stories on deniers](#)

With thanks to the Suzuki Foundation.



## **BRAM STOKER**

He was born Abraham Stoker in 1847 at 15 Marino Crescent – then as now called "The Crescent" – in Fairview, a coastal suburb of Dublin, Ireland. His parents were Abraham Stoker and the feminist Charlotte Mathilda Blake Thornely. Stoker was the third of seven children. Abraham and Charlotte were members of the Clontarf

Church of Ireland parish and attended the parish church (St. John the Baptist located on Seafield Road West) with their children, who were both baptised there.

Stoker was an invalid until he started school at the age of seven — when he made a complete and astounding recovery. Of this time, Stoker wrote, "I was naturally thoughtful, and the leisure of long illness gave opportunity for many thoughts which were fruitful according to their kind in later years."

After his recovery, he became a normal young man, even excelling as an athlete (he was named University Athlete) at Trinity College, Dublin (1864 – 70), from which he graduated with honours in mathematics. He was auditor of the College Historical Society and president of the University Philosophical Society, where his first paper was on "Sensationalism in Fiction and Society".

In 1876, while employed as a civil servant in Dublin, Stoker wrote a non-fiction book (*The Duties of Clerks of Petty Sessions in Ireland*, published 1879) and theatre reviews for *The Dublin Mail*, a newspaper partly owned by fellow horror writer J. Sheridan Le Fanu. His interest in theatre led to a lifelong friendship with the English actor Henry Irving. He also wrote stories, and in 1872 "The Crystal Cup" was published by the London Society, followed by "The Chain of Destiny" in four parts in *The Shamrock*.

In 1878 Stoker married Florence Balcombe, a celebrated beauty whose former suitor was Oscar Wilde. The couple moved to London, where Stoker became business manager (at first as acting-manager) of Irving's Lyceum Theatre, a post he held for 27 years. The collaboration with Irving was very important for Stoker and through him he became involved in London's high society, where he met, among other notables, James McNeil Whistler, and Sir Arthur Conan Doyle. In the course of Irving's tours, Stoker got the chance to travel around the world.

Bram Stoker died in 1912, and was cremated and his ashes placed in a display urn at Golders Green Crematorium in London.



## The novel DRACULA

Stoker visited the English town of [Whitby](#) in 1890, and that visit is said to be part of the inspiration of his great novel [Dracula](#). He began writing novels while manager for Henry Irving and secretary and director of London's Lyceum Theatre, beginning with [The Snake's Pass](#) in 1890 and [Dracula](#) in 1897. During this period, Stoker was part of the literary staff of the [The Daily Telegraph](#) in London, and he wrote other fiction, including the horror novels [The Lady of the Shroud](#) (1909) and [The Lair of the White Worm](#) (1911). He published his [Personal Reminiscences of Henry Irving](#) in 1906, after Irving's death, which proved successful,<sup>[5]</sup> and managed productions at the [Prince of Wales Theatre](#).

Before writing *Dracula*, Stoker met [Ármin Vámbéry](#), a Hungarian writer and traveler. *Dracula* likely emerged from Vámbéry's dark stories of the [Carpathian mountains](#).<sup>1</sup>Stoker then spent several years researching European folklore and mythological stories of [vampires](#).

*Dracula* is an [epistolary novel](#), written as a collection of realistic but completely fictional diary entries, telegrams, letters, ship's logs, and newspaper clippings, all of which added a level of detailed realism to the story, a skill which Stoker had developed as a newspaper writer. At the time of its publication, *Dracula* was considered a "straightforward horror novel" based on imaginary creations of [supernatural](#) life. "It gave form to a universal fantasy . . . and became a part of popular culture."

According to the *Encyclopedia of World Biography*, Stoker's stories are today included in the categories of "horror fiction", "romanticized Gothic" stories, and "melodrama."<sup>1</sup>They are classified alongside other "works of popular fiction" such as [Mary Shelley's Frankenstein](#),<sup>1</sup> which also used the "myth-making" and story-telling method of having multiple narrators telling the same tale from different

perspectives, according to historian Jules Zanger. "'They can't all be lying,' thinks the reader."

The original 541-page manuscript of *Dracula* was believed to have been lost until it was found in a barn in northwestern Pennsylvania in the early 1980s.<sup>[</sup> It included the typed manuscript with many corrections, and handwritten on the title page was "THE UN-DEAD." The author's name was shown at the bottom as Bram Stoker. Author Robert Latham remarked: "the most famous horror novel ever published, its title changed at the last minute." The manuscript was purchased by [Microsoft](#) co-founder [Paul Allen](#).



## The myth lives on

The story of *Dracula* has been the basis for numerous films and plays. Stoker himself wrote the first theatrical adaptation, which was presented at the Lyceum Theatre under the title *Dracula, or The Undead* shortly before the novel's publication and performed only once. The first motion picture to feature Dracula was [Dracula's Death](#), produced in [Hungary](#) in 1921. The now-[lost](#) film, however, was not an adaptation of Stoker's novel, but featured an original story. The following year, German director [F. W. Murnau](#) directed [Nosferatu, eine Symphonie des Grauens](#). Prana Film, the production company, had been unable to obtain permission to adapt the story from Bram's widow [Florence Stoker](#), so screenwriter [Henrik Galeen](#) was told to alter numerous details to avoid legal trouble. Galeen transplanted the action of the story from 1890s England to 1830s Germany and reworked several characters, dropping some (such as Lucy and all three of her suitors), and renaming others (Dracula became [Orlok](#), Jonathan Harker became Thomas Hutter, Mina became Ellen, and so on). This attempt

failed to avoid prosecution, however; Florence Stoker sued Prana Film, and all prints of the film were ordered destroyed. The film did survive the court-ordered purge, and subsequent rereleases have typically undone some of the changes, most notably restoring the original character names (a practice also followed by [Werner Herzog](#) in his 1979 remake of Murnau's film [Nosferatu the Vampyre](#)).

Following *Nosferatu*, Florence Stoker licensed the story to playwright [Hamilton Deane](#), whose [1924 stage play adaptation](#) toured England for several years before settling down in London. In 1927, American stage producer [Horace Liveright](#) hired [John L. Balderston](#) to revise Deane's script in advance of its American premiere. Balderston significantly compressed the story, most notably consolidating or removing several characters. The Deane play and its Balderston revisions introduced an expanded role and history for Renfield, who now replaced Jonathan Harker as Dracula's solicitor in the first part of the story; combined [Mina Harker](#) and [Lucy Westenra](#) into a single character (named Lucy); and omitted both [Arthur Holmwood](#) and [Quincey Morris](#) entirely. When the play premiered in New York, it was with [Bela Lugosi](#) in the title role, and with [Edward van Sloan](#) as [Abraham Van Helsing](#), roles which both actors (as well as [Herbert Bunston](#) as [Dr. Seward](#)) reprised for the English-language version of the 1931 [Universal Studios film production](#). The 1931 film was one of the most commercially successful adaptations of the story to date; it and the Deane/Balderston play that preceded it set the standard for film and television adaptations of the story, with the alterations to the novel becoming standard for later adaptations for decades to come. Universal Studios continued to feature the character of Dracula in many of their [horror films](#) from the 1930s and 1940s.

In 1958, [Hammer Film Productions](#) followed the success of its [The Curse of Frankenstein](#) from the previous year with [Dracula](#), released in the United States as *The Horror of Dracula*, directed by [Terence Fisher](#). Fisher's production featured [Christopher Lee](#) as Dracula and [Peter Cushing](#) as Van Helsing, but it diverged considerably from both the original novel and from the Deane/Balderston adaptation. It was an international hit for Hammer Film, however, and both Lee and Cushing reprised their roles multiple times over the next decade and a half, concluding with [The Legend of the 7 Golden Vampires](#) (with Cushing but not Lee) in 1974. Christopher Lee also took on the role of Dracula in [Count Dracula](#), a 1970 Spanish-Italian-German coproduction notable for its adherence to the plot of the original novel. (For instance, it was the first film version of the story to include the character of Quincey Morris.) Playing the part of Renfield in that version was [Klaus Kinski](#), who later played Dracula himself in 1979's *Nosferatu the Vampyre* directed by Werner Herzog (My personal favourite – Paul Stebbings).

In 1977, the [BBC](#) made [Count Dracula](#), a 155-minute adaptation for television starring [Louis Jourdan](#). Later popular film adaptations include [John Badham](#)'s 1979 [Dracula](#), starring [Frank Langella](#) and inspired by the [1977 Broadway revival](#) of the Deane/Hamilton play, and [Francis Ford Coppola](#)'s [Bram Stoker's Dracula](#), starring [Gary Oldman](#). The character of Count Dracula has remained popular over

the years, and many films have used the character as a villain, while others have named him in their titles, including [\*Dracula's Daughter\*](#) and [\*The Brides of Dracula\*](#). As of 2009, an estimated 217 films feature Dracula in a major role,<sup>1</sup> a number second only to [\*Sherlock Holmes\*](#) (223 films).<sup>1</sup> A large number of these appearances are not adaptations of Stoker's novel, but merely feature the character in an unrelated story.

### **Second Life – a Virtual world.**

In our production Mina and Van Helsing meet in Second Life – a virtual world that exists now. Here you can choose your own virtual being (avatar) and interact with others in real time and space created by the users, of whom there are millions worldwide. Interestingly one of the three categories of avatar is “Vampire”.

Here is a brief introduction to Second World on Youtube:

<https://www.youtube.com/user/Secondlife>

Thank you.

Paul Stebbings

TNT Theatre and ADG Europe

[tnttheatre1@gmail.com](mailto:tnttheatre1@gmail.com)