

# ENGLISH LEARNING FOR CURIOUS MINDS



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## Episode #286

### The Atomic Bomb Part 3: The Aftermath

#### 5th Aug«e, 2022

[00:00:00] Hello, hello hello, and welcome to English Learning for Curious Minds, by Leonardo English.

[00:00:11] The show where you can listen to fascinating stories, and learn weird and wonderful things about the world at the same time as improving your English.

[00:00:20] I'm Alastair Budge, and today is part three of this three-part mini series on The Atomic Bomb.

[00:00:28] In part one we looked at the Manhattan Project and the creation of the bomb.

[00:00:33] In part two, we looked at what happened when the bombs were actually dropped on Hiroshima and Nagasaki, and in today's episode, part three, we are going to talk about the [aftermath](#)<sup>1</sup> of the atomic bomb, and look at some of the difficult ethical questions that the atomic bomb has raised.

[00:00:51] OK then, let's get right into it.

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<sup>1</sup> the period after a significant unpleasant event

## The Atomic Bomb Part 3: The Aftermath

[00:00:55] At the end of the last episode, part two, an American [bomber](#)<sup>2</sup> had just dropped “Fat Man”, an innocent sounding object, on Nagasaki.

[00:01:06] “Fat Man” was far from innocent.

[00:01:09] It was a plutonium bomb with an explosive force of 21,000 kilotonnes, and together with its little brother, Little Boy", the two bombs killed anywhere from 130,000 to 230,000 people in the cities of Nagasaki and Hiroshima [respectively](#)<sup>3</sup>.

[00:01:29] Shortly afterwards, Japan [surrendered](#)<sup>4</sup>, and World War II was over.

[00:01:35] This was over three quarters of a century ago now, but ever since questions have been asked about whether the United States was justified in its use of the most powerful deadly weapons ever used on civilians.

[00:01:51] In short, should the United States have dropped the bombs?

[00:01:56] To explore this subject further, let's first remind ourselves of the background.

[00:02:02] Since the 1930s scientists in Europe had [hypotheses](#)<sup>5</sup> about the explosive and destructive power of atomic energy.

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<sup>2</sup> an aircraft designed to carry and drop bombs

<sup>3</sup> in a way that relates to each of the two cities in the order already mentioned

<sup>4</sup> stopped resisting and admitted defeat

<sup>5</sup> theories, ideas

## The Atomic Bomb Part 3: The Aftermath

[00:02:11] With developments in [nuclear fission](#)<sup>6</sup>—the process of actually splitting the nucleus to create a powerful reaction—the idea of creating an atomic bomb was moving from the theoretical to the possible.

[00:02:25] When war [broke out](#)<sup>7</sup> in Europe in 1939, there was increasing pressure in America to push forward and start work developing a bomb, as there was the very real fear that Hitler and the Nazis would be able to develop one first.

[00:02:42] This resulted in the Manhattan Project in 1942, which resulted in the first atomic test in New Mexico in July of 1945, and then the first [detonation](#)<sup>8</sup> of an atomic bomb a wartime enemy in August of 1945.

[00:02:59] The American [rationale](#)<sup>9</sup> for dropping the atomic bomb was, on one level, a simple one. It will save American lives [in the long run](#)<sup>10</sup>.

[00:03:10] Here's President Truman saying exactly that:

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<sup>6</sup> the process of splitting the nucleus to create a powerful reaction

<sup>7</sup> suddenly started

<sup>8</sup> explosion

<sup>9</sup> reasons

<sup>10</sup> after a long period of time

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[00:03:13] *We have used it in order to [shorten](#)<sup>11</sup> the [agony](#)<sup>12</sup> of war in order to save the lives of thousands and thousands of young Americans.*

[00:03:22] If you missed that, he said: "We have used it in order to [shorten](#) the agony of war in order to save the lives of thousands and thousands of young Americans."

[00:03:34] The United States had lost around 160,000 soldiers in the Pacific War, including 20,000 taking just the small islands of Iwo Jima and Okinawa.

[00:03:45] And almost a quarter of a million more were injured, and the war in the Pacific showed few signs of [easing up](#)<sup>13</sup>, of becoming any less bloody.

[00:03:55] On the Japanese side, the losses were considerable, and Japanese soldiers really did fight to the death rather than [surrender](#)<sup>14</sup>.

[00:04:05] In the fierce battle to take Okinawa, of the 21,000 Japanese soldiers defending the island, 99% fought to the death rather than [surrendered](#), and in the case of Okinawa it was 94%.

[00:04:19] The Japanese military leaders proudly said that any invasion of the Japanese [mainland](#)<sup>15</sup> would be met with similar resistance, and the Japanese Vice Admiral,

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<sup>11</sup> make it last less

<sup>12</sup> extreme suffering

<sup>13</sup> becoming less bloody

<sup>14</sup> stop resisting and admit defeat

<sup>15</sup> the main part of the country, not including the islands

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Takijirō Ōnishi, who was known as the father of the [kamikaze](#)<sup>16</sup>, estimated that up to 20 million Japanese would lose their lives if and when the Allied forces invaded.

[00:04:43] And a [full-scale](#)<sup>17</sup> invasion of Japan would most likely have been the next step, and plans had been [drawn up](#)<sup>18</sup> to start this in November of 1945.

[00:04:54] American military strategists estimated that this would have cost between 130,000 and 220,000 American lives just in the first phase of the invasion, and there would be between 400,000 and 800,000 Allied deaths in total before Japan [surrendered](#).

[00:05:14] The Americans, or rather the Allied forces, were sure that victory would come, it would just be a question of how many lives, and [let's be frank](#)<sup>19</sup>, American lives, would be lost before the Japanese [surrendered](#).

[00:05:29] The Atomic Bomb, so the argument went, would be a quick and clean way of forcing Japan to [surrender](#) without losing any Allied lives.

[00:05:40] And you might think that the dropping of the atomic bombs resulted in no Allied deaths, but this isn't actually quite right.

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<sup>16</sup> Japanese pilots trained to make suicidal crash attacks on enemy ships

<sup>17</sup> complete, extensive

<sup>18</sup> prepared

<sup>19</sup> let's be honest or speak the truth

### The Atomic Bomb Part 3: The Aftermath

[00:05:48] There were several prisoners of war being held in Hiroshima and Nagasaki, and when the bombs were dropped 12 Americans, 1 British and 7 Dutch soldiers were killed in the [blast](#)<sup>20</sup>.

[00:06:02] Still 20 Allied deaths as opposed to an estimated 800,000 is, at least by the standards of the original objective, a positive result.

[00:06:13] And, not that this was the primary concern for the Americans, the [death toll](#)<sup>21</sup> for the Japanese from the atomic bombs of Hiroshima and Nagasaki, even if we take the higher estimate of 230,000, was still significantly less than might have been expected had the Japanese [mainland](#) been invaded by the Allied forces.

[00:06:35] As a reminder, Japanese Vice Admiral Takijirō Ōnishi's estimated that up to 20 million Japanese would lose their lives, so "only" losing 230,000 seems like quite a good deal by that standard.

[00:06:50] So, [at first glance](#)<sup>22</sup>, to many back in Europe and in America, and still today to its supporters, the bombing of Hiroshima and Nagasaki had done exactly what they were meant to have done.

[00:07:04] But almost ever since the bombs exploded, questions have been asked about whether they were really necessary.

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<sup>20</sup> explosion

<sup>21</sup> the number of deaths

<sup>22</sup> when seen briefly and for the first time

## The Atomic Bomb Part 3: The Aftermath

[00:07:12] As you will no doubt know, this is a debate that has been going on for decades with no easy answers, but I will try to summarise some of the main arguments for and against the dropping of the atomic bombs.

[00:07:28] In terms of the main arguments for the dropping of the bombs, these were the ones put forward by the American military, and indeed by President Truman, who authorised the use of atomic weapons on the Japanese civilian population.

[00:07:43] It's also clear that this was not a [rash](#)<sup>23</sup> decision, a choice taken without [substantial](#)<sup>24</sup> thought and consideration. There was a top-secret [committee](#)<sup>25</sup> set up in May of 1945 called "The Interim [Committee](#)", which was dedicated to researching, debating, and ultimately advising the president on the use of nuclear weapons in war.

[00:08:08] President Truman wrote in his diary: "It seems to be the most terrible thing ever discovered, but it can be made the most useful..."

[00:08:19] Truman clearly believed that dropping the atomic bomb was the most effective way of ending World War II, but this act has subsequently been criticised as a war crime, an act of state terrorism, and simply unnecessary in winning the war.

[00:08:38] These arguments, the arguments against dropping the bomb on Hiroshima and Nagasaki fall into three main categories.

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<sup>23</sup> taken without thought, hasty

<sup>24</sup> a lot of

<sup>25</sup> a group of people organised to make decisions

### The Atomic Bomb Part 3: The Aftermath

[00:08:47] Firstly, that the United States should have dropped a bomb, but it should have been dropped in an empty area, a [neutral<sup>26</sup>](#) area, or above the sea, where people wouldn't have been killed but the power of the bomb would have been clear.

[00:09:03] Essentially the US should have dropped a bomb to frighten the Japanese into [surrender](#).

[00:09:09] Secondly, that the United States shouldn't have used the atomic bomb because the Japanese would have [surrendered](#) without it.

[00:09:18] As you may remember, the Soviet Union declared war on Japan and invaded Manchukuo hours before the bomb was dropped on Nagasaki. With the Soviet Union coming from the west and the Allies coming from the south and east, things were really not looking good for Japan.

[00:09:39] Japan was also running dangerously short of supplies, 1945 had been the worst rice harvest since 1909, so not only was the country [running out of<sup>27</sup>](#) supplies to fight a war, it was [running out of](#) supplies to feed its already tired and hungry population.

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<sup>26</sup> not belonging to either of the two sides

<sup>27</sup> not having enough

## The Atomic Bomb Part 3: The Aftermath

[00:09:59] A combination of a naval [blockade](#)<sup>28</sup> of Japan, not allowing ships to get in and out, and a traditional bombing would have resulted in far fewer deaths, and [crippled](#)<sup>29</sup> Japan militarily, which, combined with increasing pressure from Russia from the west would have resulted in a Japanese [surrender](#), so the second argument goes.

[00:10:23] And the third category of objection is on a moral or ethical level. The vast majority of those who died in Hiroshima and Nagasaki were civilians, not soldiers. Of the up to 230,000 people killed, it's estimated that only 20,000 were soldiers, so only 9% of the victims were [valid](#)<sup>30</sup> “military” targets.

[00:10:48] However many American lives Truman might have thought he was saving, there is no moral [rationale](#) for purposefully targeting innocent civilians, so the argument goes.

[00:11:00] To these arguments, the supporters of the use of atomic weapons [tend to](#)<sup>31</sup> have [counterpoints](#)<sup>32</sup>.

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<sup>28</sup> closing off or surrounding of a place by hostile ships or troops to stop entrance or exit of goods or people

<sup>29</sup> extremely weakened

<sup>30</sup> acceptable, justifiable

<sup>31</sup> usually do it

<sup>32</sup> points or arguments against

## The Atomic Bomb Part 3: The Aftermath

[00:11:07] The Japanese soldiers had shown themselves to be utterly<sup>33</sup> fearless<sup>34</sup>, and ready to fight to the end. There had already been a concentrated<sup>35</sup> bombing campaign on mainland Japan for most of 1945, but firstly, damage to Japanese military factories had been less than anticipated<sup>36</sup>, because these factories tended<sup>37</sup> to be small workshops, and secondly these bombing campaigns simply didn't seem to have really dented<sup>38</sup>, damaged, Japanese morale.

[00:11:39] To the argument about a symbolic<sup>39</sup> detonation of the bomb, proponents<sup>40</sup> suggest that it was too risky<sup>41</sup>, and had the possibility of backfiring<sup>42</sup>.

[00:11:49] If the US said to the Japanese, watch out at 12pm on this day we're going to show you something powerful over this bit of the Pacific Ocean and the bomb hadn't

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<sup>33</sup> completely

<sup>34</sup> not showing fear

<sup>35</sup> intense, involving a lot of effort

<sup>36</sup> expected

<sup>37</sup> usually were

<sup>38</sup> damaged

<sup>39</sup> serving as a representation or symbol of their power

<sup>40</sup> supporters of that plan

<sup>41</sup> very possible to fail

<sup>42</sup> having the opposite result

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**detonated**<sup>43</sup> properly, or worse, if the Japanese had somehow managed to shoot down the aeroplane carrying the bomb, it would have had completely the opposite effect, it would have **bolstered**<sup>44</sup> Japanese morale and potentially **prolonged**<sup>45</sup>, or extended, the war.

[00:12:19] At least by taking Japan by surprise, so the argument goes, these risks were **minimised**<sup>46</sup>.

[00:12:26] Now, in terms of who some of the major critics of using the bomb were, it might surprise you to find out, or maybe it won't surprise you at all, that it **tended** to be the scientists who played a part in creating the bomb who were often most opposed to its use.

[00:12:43] Leó Szilárd, the Hungarian scientist who **conceived**<sup>47</sup> the idea for splitting the atomic nucleus and **urged**<sup>48</sup> Albert Einstein to write to FD Roosevelt in 1939 to start work on an atomic bomb, he became one of the biggest critics, pointing out that if Germans had used an atomic bomb on a civilian population they would have been hanged for war crimes at Nuremberg.

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<sup>43</sup> exploded

<sup>44</sup> improved, strengthen

<sup>45</sup> extended

<sup>46</sup> reduced to the least possible level

<sup>47</sup> thought of, devised

<sup>48</sup> encouraged him strongly

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[00:13:09] Even Einstein came to regret his [role](#)<sup>49</sup> in encouraging Roosevelt to invest in an atomic programme, saying that it was the biggest mistake he made in his life, and commenting "had I known that the Germans would not succeed in developing an atomic bomb, I would have done nothing."

[00:13:27] In the years since the bombs were dropped, it is no [exaggeration](#)<sup>50</sup> to say that hundreds of thousands of pages have been written and lives [dedicated](#)<sup>51</sup> to the study of the rights and wrongs of dropping the atomic bombs, and what would have happened had they not been dropped.

[00:13:45] Building on some of the arguments we've already mentioned, there was the theory that the bombs were dropped as a sign to Soviet Russia of US military capability, and as a sign to "keep out" of East Asia and to not attempt any further military action in Eastern Europe.

[00:14:03] There's also the argument that racism and the [dehumanisation](#)<sup>52</sup> of the Japanese people made it easier to [justify](#)<sup>53</sup> dropping the bomb, as the American public

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<sup>49</sup> part, contribution

<sup>50</sup> something said to make it look more important than it really is

<sup>51</sup> committed, devoted or focused on

<sup>52</sup> treating them as less than human or not having human qualities

<sup>53</sup> show that it was reasonable or right

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had been so [conditioned](#)<sup>54</sup> to think of the Japanese as [fundamentally](#)<sup>55</sup> different to Americans that the deaths of hundreds of thousands of Japanese wouldn't be [problematic](#)<sup>56</sup> to Americans.

[00:14:27] Historians have spent much of the past 75 years [combing through](#)<sup>57</sup> [piles](#)<sup>58</sup> of evidence, documents, and recordings, trying to understand whether the Japanese really were close to [surrender](#), and whether the Americans knew this.

[00:14:42] Because, ultimately, the question of justification for dropping the bomb [hinges on this](#)<sup>59</sup>.

[00:14:49] If the Japanese were not close to [surrender](#), and wouldn't have [surrendered](#) unless there was a [full-scale](#) invasion, then supporters of dropping the bomb have one valid point. But if the Japanese were [on the verge of](#)<sup>60</sup> [surrender](#) and the Americans knew it, well justifying the death of almost a quarter of a million civilians becomes a lot more difficult.

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<sup>54</sup> put into that state, influenced

<sup>55</sup> in a basic way, deeply

<sup>56</sup> causing problems

<sup>57</sup> searching carefully among

<sup>58</sup> large quantities, stacks

<sup>59</sup> depends on this

<sup>60</sup> at the point when they were about to

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[00:15:11] And this is before we even get to the question of the atomic world we now live in, a world with atomic weapons with technology that can all be [traced back](#)<sup>61</sup> to this period in time.

[00:15:24] It's estimated that nine countries now have nuclear weapons: China, France, India, Israel, North Korea, Pakistan, Russia, the UK and, of course, the United States.

[00:15:38] Between these nine countries, there are an estimated 13,000 nuclear weapons, with two countries, Russia and the USA, accounting for about 90% of the world's nuclear weapon supply, with Russia having slightly more than the US.

[00:15:55] And many of these weapons are significantly more powerful than the bombs that were dropped at Hiroshima and Nagasaki.

[00:16:03] While at Hiroshima and Nagasaki, the US was able to drop atomic weapons being pretty sure that the Japanese hadn't developed their own atomic weapons, so there was very little that they could do to fight back, this was soon no longer the case.

[00:16:19] As soon as the USSR developed its first atomic bomb, in August of 1949, it became clear that one atomic power using an atomic bomb on another atomic power would lead to mass destruction, potentially even what's called Mutually Assured Destruction - the idea that by using these weapons you guarantee not just the destruction of your enemy, but also your own destruction.

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<sup>61</sup> identified as having its origins or beginning

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[00:16:46] And coming to the present day, while for many people in the 21st century the idea of atomic, or nuclear war, seemed theoretical, a [relic](#)<sup>62</sup> of the Cold War, the Russian invasion of Ukraine has brought it right back to the public attention.

[00:17:04] So, bringing it back to the original subject of this mini-series, the atomic bombs at Hiroshima and Nagasaki, there are few events in history that have been so [divisive](#)<sup>63</sup>, that have been so deadly, and where there has been such a clear choice to either take one path or the other.

[00:17:23] The path was chosen, two bombs were dropped, and the [Pandora's box](#)<sup>64</sup> of a nuclear world was opened.

[00:17:31] Time will only tell whether humans will ever decide that there is the shared [willpower](#)<sup>65</sup>, strength and determination to work together to put those 13,000 nuclear bombs back in their [Pandora's box](#).

[00:17:46] OK then, that is it for today's episode on the [aftermath](#) of Hiroshima and Nagasaki, and with that comes the end of this mini-series on the Atomic Bomb.

[00:17:58] It's evidently a frightening topic, but it's fascinating and important, so I hope you enjoyed it.

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<sup>62</sup> something belonging to the past

<sup>63</sup> causing disagreement

<sup>64</sup> something that once begun creates a lot of new problems (Greek mythology)

<sup>65</sup> strong intention, decision

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[00:18:04] As always, I would love to know what you thought of this episode, and of this mini-series.

[00:18:09] Do you think the United States was [justified](#)<sup>66</sup> in dropping the atomic bomb?

[00:18:14] Do you think there will ever be a world without nuclear weapons?

[00:18:18] How has your opinion on this changed, if at all, in the past year or so?

[00:18:23] I would love to know.

[00:18:24] You can head right into our community forum, which is at [community.leonardoenglish.com](http://community.leonardoenglish.com) and get chatting away to other curious minds.

[00:18:32] You've been listening to English Learning for Curious Minds, by Leonardo English.

[00:18:37] I'm Alastair Budge, you stay safe, and I'll catch you in the next episode.

[END OF EPISODE]

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<sup>66</sup> having good reasons, right

## Key vocabulary

Word	Definition
Aftermath	the period after a significant unpleasant event
Bomber	an aircraft designed to carry and drop bombs
Respectively	in a way that relates to each of the two cities in the order already mentioned
Surrendered	stopped resisting and admitted defeat
Hypotheses	theories, ideas
Nuclear fission	the process of splitting the nucleus to create a powerful reaction
Broke out	suddenly started
Detonation	explosion
Rationale	reasons
In the long run	after a long period of time
Shorten	make it last less
Agony	extreme suffering

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<b>Easing up</b>	becoming less bloody
<b>Surrender</b>	stop resisting and admit defeat
<b>Mainland</b>	the main part of the country, not including the islands
<b>Kamikaze</b>	Japanese pilots trained to make suicidal crash attacks on enemy ships
<b>Full-scale</b>	complete, extensive
<b>Drawn up</b>	prepared
<b>Let's be frank</b>	let's be honest or speak the truth
<b>Blast</b>	explosion
<b>Death toll</b>	the number of deaths
<b>At first glance</b>	when seen briefly and for the first time
<b>Rash</b>	taken without thought, hasty
<b>Substantial</b>	a lot of
<b>Committee</b>	a group of people organised to make decisions
<b>Neutral</b>	not belonging to either of the two sides
<b>Running out of</b>	not having enough

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<b>Blockade</b>	closing off or surrounding of a place by hostile ships or troops to stop entrance or exit of goods or people
<b>Crippled</b>	extremely weakened
<b>Valid</b>	acceptable, justifiable
<b>Tend to</b>	usually do it
<b>Counterpoints</b>	points or arguments against
<b>Utterly</b>	completely
<b>Fearless</b>	not showing fear
<b>Concentrated</b>	intense, involving a lot of effort
<b>Anticipated</b>	expected
<b>Tended</b>	usually were
<b>Dented</b>	damaged
<b>Symbolic</b>	serving as a representation or symbol of their power
<b>Proponents</b>	supporters of that plan
<b>Risky</b>	very possible to fail
<b>Backfiring</b>	having the opposite result

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<b>Detonated</b>	exploded
<b>Bolstered</b>	improved, strengthen
<b>Prolonged</b>	extended
<b>Minimised</b>	reduced to the least possible level
<b>Conceived</b>	thought of, devised
<b>Urged</b>	encouraged him strongly
<b>Role</b>	part, contribution
<b>Exaggeration</b>	something said to make it look more important than it really is
<b>Dedicated</b>	committed, devoted or focused on
<b>Dehumanisation</b>	treating them as less than human or not having human qualities
<b>Justify</b>	show that it was reasonable or right
<b>Conditioned</b>	put into that state, influenced
<b>Fundamentally</b>	in a basic way, deeply
<b>Problematic</b>	causing problems
<b>Combing through</b>	searching carefully among

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<b>Piles</b>	large quantities, stacks
<b>Hinges on this</b>	depends on this
<b>On the verge of</b>	at the point when they were about to
<b>Traced back</b>	identified as having its origins or beginning
<b>Relic</b>	something belonging to the past
<b>Divisive</b>	causing disagreement
<b>Pandora's box</b>	something that once begun creates a lot of new problems (Greek mythology)
<b>Willpower</b>	strong intention, decision
<b>Justified</b>	having good reasons, right

*We'd love to get your feedback on this episode.*

*What did you like? What could we do better?*

*What did you struggle to understand?*

*Let us know in the forum [community.leonardoenglish.com](https://community.leonardoenglish.com)*