

ENGLISH LEARNING
FOR CURIOUS
MINDS



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Episode #255

The Cobra Effect

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

[00:00:12] 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.

[00:00:22] I'm Alastair Budge, and today we are going to be talking about something called The Cobra Effect.

[00:00:30] It's what happens when good [intentions¹](#) lead to unexpected, negative consequences.

¹ purposes, plans

The Cobra Effect

[00:00:37] It's a story of human psychology, of people [outwitting](#)², [outsmarting](#)³, governments and policymakers, a story of human [ingenuity](#)⁴, and provides a lesson to us all of what happens when we don't think through the possible consequences of our actions.

[00:00:57] In today's episode we'll come across snakes, rats, cars, heroin, railways and rubbish. We'll travel from Britain to India, Vietnam to the United States, but there will be one [unifying](#)⁵ factor throughout: human beings.

[00:01:15] From Bogota to Bangkok, Kabul to Calcutta, people are people, and as we'll soon find out, people are excellent at finding opportunities when they [arise](#)⁶.

[00:01:28] So, let's get right into it.

[00:01:31] In life, there are [broadly](#)⁷ two ways of getting anyone to do what you want.

² getting an advantage over the others by acting more cleverly

³ getting an advantage over the others by acting more cleverly

⁴ the quality of being clever and original

⁵ bringing together

⁶ appear, happen

⁷ in a general way

The Cobra Effect

[00:01:37] Whether we are talking about **persuading**⁸ a 2-year-old child to brush his teeth or getting the population of an entire country to pay their taxes, you can either **incentivise**⁹ them to do it, or **punish**¹⁰ them if they don't do it.

[00:01:53] You might give your 2-year-old child a star for brushing his teeth or tell him he isn't **allowed**¹¹ to play with his toys if he doesn't brush his teeth.

[00:02:04] In our national “paying your taxes” **scenario**¹², a country might remind citizens of their **civic duty**¹³ to pay their taxes, or offer some reward for paying them on time, or it might send its citizens to jail, or **fine**¹⁴ them money, if they don't pay their taxes.

[00:02:25] Of course, this is a **gross**¹⁵ simplification, but as someone trying to get someone else to do something, you have two **broad**¹⁶ categories of options: the carrot, and the stick.

⁸ making it do it by talking

⁹ give them reasons, motivate

¹⁰ cause them to suffer

¹¹ permitted or free

¹² case, situation

¹³ the responsibilities of a citizen

¹⁴ require a payment from them as a penalty

¹⁵ extreme or very obvious

¹⁶ general, without detail

The Cobra Effect

[00:02:38] And so it was in British India, in Delhi to be precise, that the British were presented with a problem.

[00:02:47] In a story [recalled](#)¹⁷ by the German economist Horst Siebert, the British government was concerned with the amount of cobras, [poisonous](#)¹⁸ [deadly](#)¹⁹ snakes, [slithering](#)²⁰ around the streets of Delhi.

[00:03:02] You couldn't exactly ask the snakes politely to leave, or punish them for being in the city. The government could have surely hired people to go around either killing the snakes or pushing them away from the city, but it tried to do something different.

[00:03:20] It thought, well, if we offer a [reward](#)²¹ to local people for killing cobras, people will have a reason to kill them, the population will reduce, and our problem will be solved.

[00:03:33] So, it was widely published that the British would pay for any skin of a cobra.

[00:03:40] Initially it was a great success. People started hunting cobras, killing them and bringing in their skins for a [reward](#).

¹⁷ brought into memory and told

¹⁸ producing poison (a substance able to kill if taken into the body)

¹⁹ likely to cause death

²⁰ moving easily with a twisting or curving motion

²¹ money given in exchange for a good service or work

The Cobra Effect

[00:03:50] The cobra population started to go down, but then there was a constant and indeed ever-increasing number of cobra skins appearing at government offices, and there didn't seem to be any real [decrease](#)²², any real reduction, in the number of cobras [roaming](#)²³ the streets.

[00:04:11] How was it possible that there were so many dead cobras being brought to government offices, yet so many still [roaming](#) the streets?

[00:04:22] Well, it turns out that some [enterprising](#)²⁴ people had seen that this new law presented a money-making opportunity.

[00:04:30] They had started cobra farms, they had started [breeding](#)²⁵ cobras for the specific purpose of being killed and collecting the [rewards](#)²⁶.

²² reduction

²³ moving or wandering around

²⁴ good at thinking of things that would make money

²⁵ causing them to reproduce or have children

²⁶ money given in exchange for a good service or work

The Cobra Effect

[00:04:41] The cobra population **swelled**²⁷ as people realised there was a **quick buck**²⁸, some quick money, to be made, and cobra farms started to **pop up**²⁹ throughout the city and nearby area.

[00:04:56] When the British government **cottoned on**³⁰ to this, when they realised what was going on, the **reward** for cobra skins was stopped.

[00:05:05] So what happened? Well, this was pretty bad news if you were a cobra farmer. There was only really one potential customer for cobras, the government, and if it stopped paying you you were in real trouble.

[00:05:21] According to Horst Siebert, the German economist who **recalled** the story, the cobra farmers simply released their cobras into the wild, back into the city, and the government had an even bigger problem on its hands than before it had tried to “solve” the problem.

[00:05:41] This **incident**³¹ gave the name to the Cobra Effect, when a well-intentioned law or regulation has **unintended**³² negative consequences.

²⁷ became larger, increased dramatically

²⁸ quick, easy money

²⁹ appear suddenly

³⁰ realised what was going on

³¹ unpleasant event or situation

³² not planned

The Cobra Effect

[00:05:53] It just so happens that some of the most famous examples of this are to do with animals, and specifically encouraging the reduction of animal populations.

[00:06:06] In 1902, in Vietnam, when it was under French rule, the French government was concerned with the amount of rats running through the city.

[00:06:17] So what did it do? Like the British, it offered a cash [reward](#), but not for the skins of the rats, or the dead bodies, just for the [tails](#)³³.

[00:06:29] The government was flooded with rat [tails](#), and it no doubt thought itself very clever for creating this [incentive](#)³⁴ for the local population to solve the problem.

[00:06:42] But before long government officials started to notice that there were rats running around without [tails](#).

[00:06:50] What had been happening was that the [enterprising](#) local population would [cut off](#)³⁵ the [tails](#) of the rats, but then let them go, still alive.

³³ the extended rear parts of the animals

³⁴ reason or motive for them to do it

³⁵ remove using something sharp

The Cobra Effect

[00:07:01] The **tail**³⁶ wouldn't grow back, but the rats would be able to **breed**³⁷, to have children, meaning there would be more baby rats with **tails** to **cut off** and money to be made.

[00:07:14] And of course, there were plenty of enterprising people who also set up rat farms.

[00:07:21] And as you might imagine, the number of rats in the city **swelled**, it increased dramatically.

[00:07:28] This was over 100 years ago, and you might have thought that people would have learned by now.

[00:07:35] It **turns out**³⁸ that we haven't.

[00:07:37] In 2007, in an army base in Georgia, in the United States, there was a problem with wild pigs. There were thousands of these pigs that **roamed**³⁹ the army base and nearby area, **breeding** rapidly, destroying local **crops**⁴⁰, and generally being a **nuisance**⁴¹ to farmers.

³⁶ the extended rear part of the animals

³⁷ have children, reproduce

³⁸ happens or is proved to be the case

³⁹ moved or wandered around

⁴⁰ plants grown by people in large amounts

⁴¹ trouble, annoyance

The Cobra Effect

[00:07:59] In order to **incentivise** hunters and local people to kill these pigs, the US army **stated**⁴² it would pay up to \$40 per pig killed.

[00:08:12] The army didn't need the entire pig to be brought in as **evidence**⁴³, that would be complicated, having to deal with thousands of bodies of dead pigs.

[00:08:23] So, like French back in Vietnam over 100 years ago, to collect the **reward** you just needed the **tail**, complete with a form stating where the pig had been killed.

[00:08:38] You might be able to guess what happened. It seemed to be an **initial**⁴⁴ success, and thousands of pig **tails** were brought in, and tens of thousands of dollars were **paid out**⁴⁵.

[00:08:50] But people were bringing in so many pig **tails**, saying that they had killed so many pigs, that it seemed hard to believe.

[00:09:00] There weren't pigs **wandering around**⁴⁶ with no **tails**, so, if these **tails** hadn't come from the wild pigs, where had they come from?

⁴² said officially, declared

⁴³ a reason for believing it had actually happened

⁴⁴ at the beginning

⁴⁵ paid (for a large amount)

⁴⁶ moving around, roaming

The Cobra Effect

[00:09:11] After the army started calling around local meat processing plants, they discovered something surprising. They asked the owners of these meat processing plants whether they had ever sold pig [tails](#) before.

[00:09:27] No, not really, came the response.

[00:09:29] You can't do anything with a pig [tail](#), they were simply thrown away.

[00:09:35] But ever since the army started offering \$40 per [tail](#), meat processing plants had started receiving calls from local people offering to buy as many [tails](#) as they could [get their hands on](#)⁴⁷.

[00:09:49] Indeed, it was common knowledge that the “market value” of a pig tail was now not \$0, it was \$40, and a mini black market started to emerge for pig [tails](#). Pigs became more valuable, creating an even greater [incentive](#) to increase production.

[00:10:12] And the Cobra Effect isn't just for snakes, rats or pigs.

[00:10:18] We will talk a bit more about this in the next episode, on where our rubbish goes, but in 1997 the UK introduced something called the “Packaging Recovery Note”, PRN for short.

[00:10:33] A PRN is given to a recycling company by the UK government for every one tonne of recycling that is recycled. If a recycling company recycles 100 tonnes of recycled goods, it gets 100 PRNs.

⁴⁷ find, get

The Cobra Effect

[00:10:52] These PRNs can then be sold to the companies that produce goods that use materials like plastic, who are **obliged**⁴⁸ to buy PRNs to **offset**⁴⁹ the materials that go into their products.

[00:11:06] This is what's called the "**Polluter**⁵⁰ Pays" principle.

[00:11:10] At first glance, this is good, right?

[00:11:13] We should **encourage**⁵¹ people to recycle, and a government should provide financial **incentives**⁵² to recycle.

[00:11:21] But it **turns out** that this system might actually be reducing the amount of waste that is recycled, not increasing it.

[00:11:30] See, for one of these "Packaging Recovery Notes" to be issued, a company must show it has done the recycling.

[00:11:38] If it's in the UK, the recycling is weighed after it's processed and the PRN is issued.

⁴⁸ required or forced by law

⁴⁹ balance (the amount of the non-recycled materials)

⁵⁰ one who pollutes or causes harm to the environment

⁵¹ make them more likely

⁵² reasons, motives

The Cobra Effect

[00:11:46] If the recycling is exported, sent abroad to be processed, it is weighed before it's exported and the PRN is issued.

[00:11:56] And [herein](#)⁵³ lies the problem.

[00:11:59] With the example of plastic, only about 50% of plastic recycling is actually able to be recycled, so one tonne of mixed plastic recycling results in about half a tonne of recycled plastic.

[00:12:18] So if it is processed in the UK, 1 tonne of mixed plastic recycling leads to half a Packaging Recovery Note, but if it is exported, because the entire [batch](#)⁵⁴ is weighed before it is separated, the company gets paid for the whole volume.

[00:12:38] And there are very little checks on whether the material is ever actually recycled after it is exported. There was a documentary from 2018 that revealed that there were huge amounts of UK “recycling” just sitting in fields in places like Turkey, Poland and Malaysia.

[00:13:00] The entire [incentive](#) system that was created to encourage people to recycle resulted in a reduction in recycling happening in the UK, no incentives for the UK to invest in recycling facilities, an [incentive](#) for dishonest recycling companies to add waste to their “recycling” that isn't actually recycling, and ultimately for waste that

⁵³ in this

⁵⁴ quantity or bunch

The Cobra Effect

might otherwise have been recycled to be sitting in a field or [dump](#)⁵⁵ in a foreign country.

[00:13:32] It might be criminal, but it wouldn't be the first time that people have been pushed into illegal activities because of a law that had positive [intentions](#).

[00:13:44] Afghanistan, as you may know, is one of the world's biggest producers of opium, the main ingredient required to make heroin.

[00:13:54] After the US invasion of the country, the occupying forces tried to [figure out](#)⁵⁶ how to reduce opium production, and what to do with the [poppy](#)⁵⁷ farmers - the [poppy](#) is the flower from which opium is [harvested](#)⁵⁸.

[00:14:10] It could burn [poppy](#) fields when they were discovered, and punish the farmers for growing the [crop](#)⁵⁹.

[00:14:17] But Afghanistan is a large, mountainous country, which is very difficult to control. And no matter how many [poppy](#) fields were burned, new ones would [pop up](#).

⁵⁵ a location for depositing or putting rubbish

⁵⁶ work out, find a way

⁵⁷ a flower from which opium is collected

⁵⁸ collected

⁵⁹ a plan grown in large amounts

The Cobra Effect

[00:14:30] Afghanistan was, and of course still is a very poor country, and the money that could be made from growing opium offered a rare opportunity to earn a decent income.

[00:14:43] So, the British and US officials started offering opium farmers money, cash, to burn their **poppy** fields and **switch**⁶⁰ to other **crops**.

[00:14:55] Yes, these farmers would make less money if they grew other, legal, **crops**, but they would be paid the difference, and in fact in many cases they would be paid a lot more for burning the **poppy** fields, meaning that there shouldn't be any financial reason to continue growing opium.

[00:15:15] Sounds good in practice, of course, but what it actually led to was a **boom**⁶¹ in new opium farmers, because people rushed to grow opium in order to get paid to **switch**.

[00:15:29] Many **poppy** farmers would even **harvest**⁶² the opium from the **poppies**⁶³ before burning the fields, thus they were paid twice - once for selling the drug, and another for destroying the crop.

⁶⁰ change

⁶¹ increase

⁶² collect

⁶³ the flowers from which opium is collected

The Cobra Effect

[00:15:42] Today, Afghanistan is the world's number one producer of opium and is responsible for 80% of all of the opium produced worldwide.

[00:15:54] And for our last [incentive](#) we are going to go to a country, and indeed a continent, that we haven't talked about yet in this episode.

[00:16:04] We're going to South America, and heading to Bogota in Colombia.

[00:16:09] If you have been to Bogota, you will probably have spent quite some time stuck in traffic.

[00:16:16] The city's traffic is [notorious](#)⁶⁴, and with an [over-reliance](#)⁶⁵ on private cars and an inefficient public transport system there is a [vicious cycle](#)⁶⁶.

[00:16:26] Public transport is bad so people use cars, so there are more cars on the road, there's more pollution, and the situation gets even worse.

[00:16:37] In 1998 the local government proposed what it no doubt thought was an [innovative](#)⁶⁷ solution. In fact, it was inspired by a policy from Mexico City 8 years before, but the local government thought it would help solve the problem of traffic and pollution.

⁶⁴ very well known for something bad

⁶⁵ a situation in which they are too much dependant

⁶⁶ a continuing bad situation in which one problem causes another problem that makes the first problem worse

⁶⁷ using or showing new methods or ideas

The Cobra Effect

[00:16:55] Cars with different combinations of letters and numbers would be allowed to drive on different days, meaning that drivers wouldn't be able to use their car every day.

[00:17:07] Good idea, in theory, but what it led to in practice was an increase in the number of cars per household, as people bought second cars in order to be able to drive on the days when their [primary](#)⁶⁸ car wouldn't be able to.

[00:17:24] To make matters worse, because buying a car is expensive, these second cars would often be cheaper, older, and more [polluting](#)⁶⁹ models.

[00:17:36] So instead of [encouraging](#)⁷⁰ people to take public transport on the days of the week they couldn't drive, many just [switched](#)⁷¹ to more [polluting](#) cars, meaning that there were just as many cars on the road, and they were [pumping out](#)⁷² more and more [exhaust fumes](#)⁷³.

[00:17:53] As a result, pollution increased, not decreased.

⁶⁸ main

⁶⁹ being harmful to the environment

⁷⁰ making them more likely to do it

⁷¹ changed

⁷² producing, emitting

⁷³ waste gases produced by an engine

The Cobra Effect

[00:17:57] And we could go on. The Chinese listeners may remember Chairman Mao's "4 [pests](#)⁷⁴" campaign, which encouraged the [eradication](#)⁷⁵ of "mosquitoes, [rodents](#)⁷⁶, flies, and [sparrows](#)⁷⁷", which he believed were responsible for destroying the [crops](#).

[00:18:15] There were huge incentives to [get rid of](#)⁷⁸ these [pests](#), and the population, especially of [sparrows](#) - which are small birds - was [decimated](#)⁷⁹.

[00:18:26] But it [turns out](#) that these [sparrows](#) played a pretty important role in the [crop](#) ecosystem.

[00:18:33] They ate insects.

[00:18:36] And without any sparrows to eat the insects there was a huge [infestation](#)⁸⁰, damaging the [crops](#) even more than the sparrows, and contributing to a [mass](#)⁸¹ [famine](#)⁸² that is thought to have killed anywhere from 15 to 60 million people.

⁷⁴ harmful insects or small animals

⁷⁵ complete destruction

⁷⁶ small mammals with large front teeth, such as mice, rats and squirrels

⁷⁷ small, grey-brown birds

⁷⁸ destroy, be free of

⁷⁹ reduced to a great degree

⁸⁰ the presence of an unusually large number of insects

⁸¹ having an effect on a large number of people

⁸² a situation in which there was not enough food

The Cobra Effect

[00:18:53] And if you have ever travelled on a train in the United States and thought -
hmm, this doesn't seem to be a particularly direct route, the track seems to be [looping](#)
⁸³ from side to side, perhaps you were travelling on a piece of track built when the
United States Congress decided to pay railway builders per distance of track laid, thus
[encouraging](#) dishonest railway construction companies to [lay](#)⁸⁴ track in [loops](#)⁸⁵ rather
than in a direct line.

[00:19:25] Now, it might be easy for us to say, with the benefit of [hindsight](#)⁸⁶, to look
back at all of these examples and think “surely they could have thought of that before”.

[00:19:36] Or at least, surely they could have learned from other examples.

[00:19:40] But while there might only be a small group of people who [devise](#)⁸⁷, who
create, such a [scheme](#)⁸⁸, as soon as it is public there are thousands, millions, perhaps
even hundreds of millions of people for whom this [scheme](#) might present a
money-making opportunity.

⁸³ turning, forming a circle

⁸⁴ put down and set

⁸⁵ circular way or paths

⁸⁶ the ability to understand it after it has happened

⁸⁷ create, invent

⁸⁸ organised plan

The Cobra Effect

[00:19:59] And, [try as you might](#)⁸⁹, for all of the second, third, and fourth-degree thinking, all of the [brainstorming](#)⁹⁰ about how someone might try to abuse the system, or how there might be problems that people hadn't thought about, history certainly suggests that, [try as you might](#), it's easy to forget something that might later seem [blindingly](#)⁹¹ obvious.

[00:20:23] As the author of Freakonomics, Steve Levitt, once said, “When you introduce an [incentive scheme](#), you have to just admit to yourself that no matter how clever you think you are, there's a pretty good chance that someone far more clever than yourself will [figure out](#) a way to [beat it](#)⁹².”

[00:20:46] OK then, that is it for today's episode on The Cobra Effect.

[00:20:52] I hope it's been an interesting one, and that you've learnt something new.

[00:20:56] As always, I would love to know what you thought of this episode.

[00:21:00] No doubt there are examples of the Cobra Effect that you have seen in your town, city or country, and I would love to know.

⁸⁹ no matter how hard you try

⁹⁰ problem-solving process

⁹¹ extremely

⁹² use it to their own advantage, be more clever than it

The Cobra Effect

[00:21:08] What were their [intentions](#)? What actually happened? Do you think this was something [utterly](#)⁹³ predictable, or did someone find some [ingenious](#)⁹⁴ way around it?

[00:21:19] I would love to know, so let's get this discussion started.

[00:21:23] You can head right into our community forum, which is at community.leonardoenglish.com and get chatting away to other curious minds.

[00:21:33] You've been listening to English Learning for Curious Minds, by Leonardo English.

[00:21:38] I'm Alastair Budge, you stay safe, and I'll catch you in the next episode.

[END OF EPISODE]

⁹³ completely

⁹⁴ very clever and original

Key vocabulary

Word	Definition
Intentions	purposes, plans
Outwitting	getting an advantage over the others by acting more cleverly
Outsmarting	getting an advantage over the others by acting more cleverly
Ingenuity	the quality of being clever and original
Unifying	bringing together
Arise	appear, happen
Broadly	in a general way
Persuading	making it do it by talking
Incentivise	give them reasons, motivate
Punish	cause them to suffer
Allowed	permitted or free
Scenario	case, situation

The Cobra Effect

Civic duty	the responsibilities of a citizen
Fine	require a payment from them as a penalty
Gross	extreme or very obvious
Broad	general, without detail
Recalled	brought into memory and told
Poisonous	producing poison (a substance able to kill if taken into the body)
Deadly	likely to cause death
Slithering	moving easily with a twisting or curving motion
Reward	money given in exchange for a good service or work
Decrease	reduction
Roaming	moving or wandering around
Enterprising	good at thinking of things that would make money
Breeding	causing them to reproduce or have children
Rewards	money given in exchange for a good service or work
Swelled	became larger, increased dramatically

The Cobra Effect

Quick buck	quick, easy money
Pop up	appear suddenly
Cottoned on	realised what was going on
Incident	unpleasant event or situation
Unintended	not planned
Tails	the extended rear parts of the animals
Incentive	reason or motive for them to do it
Cut off	remove using something sharp
Tail	the extended rear part of the animals
Breed	have children, reproduce
Turns out	happens or is proved to be the case
Roamed	moved or wandered around
Crops	plants grown by people in large amounts
Nuisance	trouble, annoyance
Stated	said officially, declared

The Cobra Effect

Evidence	a reason for believing it had actually happened
Initial	at the beginning
Paid out	paid (for a large amount)
Wandering around	moving around, roaming
Get their hands on	find, get
Obligated	required or forced by law
Offset	balance (the amount of the non-recycled materials)
Polluter	one who pollutes or causes harm to the environment
Encourage	make them more likely
Incentives	reasons, motives
Herein	in this
Batch	quantity or bunch
Dump	a location for depositing or putting rubbish
Figure out	work out, find a way
Poppy	a flower from which opium is collected

The Cobra Effect

Harvested	collected
Crop	a plan grown in large amounts
Switch	change
Boom	increase
Harvest	collect
Poppies	the flowers from which opium is collected
Notorious	very well known for something bad
Over-reliance	a situation in which they are too much dependant
Vicious cycle	a continuing bad situation in which one problem causes another problem that makes the first problem worse
Innovative	using or showing new methods or ideas
Primary	main
Polluting	being harmful to the environment
Encouraging	making them more likely to do it
Switched	changed
Pumping out	producing, emitting

The Cobra Effect

Exhaust fumes	waste gases produced by an engine
Pests	harmful insects or small animals
Eradication	complete destruction
Rodents	small mammals with large front teeth, such as mice, rats and squirrels
Sparrows	small, grey-brown birds
Get rid of	destroy, be free of
Decimated	reduced to a great degree
Infestation	the presence of an unusually large number of insects
Mass	having an effect on a large number of people
Famine	a situation in which there was not enough food
Looping	turning, forming a circle
Lay	put down and set
Loops	circular way or paths
Hindsight	the ability to understand it after it has happened
Devise	create, invent

The Cobra Effect

Scheme	organised plan
Try as you might	no matter how hard you try
Brainstorming	problem-solving process
Blindingly	extremely
Beat it	use it to their own advantage, be more clever than it
Utterly	completely
Ingenious	very clever and original

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