

= Cow tipping =

Cow tipping is the purported activity of sneaking up on any unsuspecting or sleeping upright cow and pushing it over for entertainment . The practice of cow tipping is generally considered an urban legend , and stories of such feats viewed as tall tales . The implication that rural citizens seek such entertainment due to lack of other alternatives is viewed as a stereotype . The concept of cow @-@ tipping apparently developed in the 1970s , though tales of animals that cannot rise if they fall has historical antecedents dating to the Roman Empire .

Cows routinely lie down and can easily regain their footing unless sick or injured . Scientific studies have been conducted to determine if cow @-@ tipping is theoretically possible , with varying conclusions . All agree that cows are large animals that are difficult to surprise and will generally resist attempts to be tipped . Estimates suggest a force of between 3 @,@ 000 and 4 @,@ 000 newtons ( 670 and 900 lbf ) is needed , and that at least four and possibly as many as fourteen people would be required . In real @-@ life situations where cattle have to be laid on the ground , or " cast " , such as for branding , hoof care or veterinary treatment , either rope restraints are required or specialized mechanical equipment is used that confines the cow and then tips it over . On rare occasions , cattle can lie down or fall down in proximity to a ditch or hill that restricts their normal ability to rise without help . Cow @-@ tipping has many references in popular culture and is also used as a figure of speech .

= = Scientific study = =

The urban legend of cow tipping relies upon the presumption that cattle are slow @-@ moving , dim @-@ witted , and weak @-@ legged , thus easily pushed over without much force . Some versions suggest that because cows sleep standing up , it is possible to approach them and push them over without the animals reacting . However , cows only sleep lightly while standing up , and they are easily awakened . They lie down to sleep deeply . Furthermore , numerous sources have questioned the practice 's feasibility , since most cows weigh over half a ton and easily resist any lesser force .

A 2005 study led by Margo Lillie , a zoologist at the University of British Columbia , and her student Tracy Boechler , concluded that tipping a cow would require a force of nearly 3 @,@ 000 newtons ( 670 lbf ) and is therefore impossible to accomplish by a single person . Her calculations found that it would require more than four people to apply enough force to push over a cow , based on an estimate that a single person could exert 660 newtons ( 150 lbf ) of force . However , since a cow can brace itself , Lillie and Boechler suggested that five or six people would , most likely , be needed . Further , cattle are well aware of their surroundings and are very difficult to surprise , due to excellent senses of both smell and hearing . Lillie and Boechler 's analysis found that if a cow did not move , the principles of static physics suggest that two people might be able to tip a cow if its centre of mass were pushed over its hooves before the cow could react . However , cows are not rigid or unresponsive , and the faster humans have to move , the less force they can exert . Thus Lillie and Boechler concluded that it is unlikely that cows can actually be tipped over in this way . Lillie stated , " It just makes the physics of it all , in my opinion , impossible . "

Although he agrees that it would take a force of about 3 @,@ 000 newtons to push over a standing cow , biologist Steven Vogel thinks that the study by Lillie and Boechler overestimates the pushing ability of an individual human . Using data from Cotterell and Kamminga , who estimated that humans exert a pushing force of 280 newtons , Vogel suggests that someone applying force at the requisite height to topple a cow might generate a maximum push of no more than 300 newtons . By this calculation , at least 10 people would be needed to tip over a non @-@ reacting cow . However , this combined force requirement , he says , might not be the greatest impediment to such a prank . Standing cows are not asleep and like other animals have ever @-@ vigilant reflexes . " If the cow does no more than modestly widen its stance without an overall shift of its center of gravity " , he says , " about 4 @,@ 000 newtons or 14 pushers would be needed ? quite a challenge to deploy without angering the cow . "

= = Historical origins = =

The belief that certain animals cannot rise if pushed over has historical antecedents , though cattle have never been so classified . Julius Caesar recorded a belief that a European elk ( moose ) had no knee joints and could not get up if it fell . Pliny said the same about the hind legs of an animal he called the achlis , which Pliny 's 19th @-@ century translators Bostock and Riley said was merely another name for the elk . They also noted that Pliny 's belief about the jointless back legs of the achlis ( elk ) was false .

In 1255 , Louis IX of France gave an elephant to Henry III of England for his menagerie in the Tower of London . A drawing by the historian Matthew Paris for his *Chronica Majora* can be seen in his bestiary at Parker Library of Corpus Christi College , Cambridge . An accompanying text cites elephant lore suggesting that elephants did not have knees and were unable to get up if they fell .

Journalist Jake Steelhammer believes the American urban myth of cow tipping originated in the 1970s . It " stampeded into the ' 80s " , he says , " when movies like *Tommy Boy* and *Heathers* featured cow tipping expeditions . " Stories about cow tipping tend to be second @-@ hand , he says , told by someone who does not claim to have tipped a cow but who knows someone else who says he or she did .

= = Veterinary and husbandry practices = =

Cattle may need to be deliberately thrown or tipped over for certain types of husbandry practices and medical treatment . When done for medical purposes , this is often called " casting " , and when performed without mechanical assistance requires the attachment of 30 to 40 feet ( 9 to 12 m ) of rope around the body and legs of the animal . After the rope is secured by non @-@ slip bowline knots , it is pulled to the rear until the animal is off @-@ balance . Once the cow is forced to lie down in sternal recumbency ( on its chest ) , it can be rolled onto its side and its legs tied to prevent kicking .

A calf table or calf cradle , also called a " tipping table " or a " throw down " , is a relatively modern invention designed to be used on calves that are being branded . A calf is run into a chute , confined , and then tipped by the equipment onto its side for easier branding and castration .

Hydraulic tilt tables for adult cattle have existed since the 1970s and are designed to lift and tip cattle onto their sides to enable veterinary care , particularly of the animals ' genitalia , and for hoof maintenance . ( Unlike horses , cows generally do not cooperate with a farrier when standing . ) A Canadian veterinarian explained , " Using the table is much safer and easier than trying to get underneath to examine the animal " , and noted that cows tipped over on a padded table usually stop struggling and become calm fairly quickly . One design , developed at the Western College of Veterinary Medicine in Saskatoon , Saskatchewan , included " cow comfort " as a unique aspect of care using this type of apparatus .

= = Involuntary recumbency = = =

Cows may tip themselves inadvertently . Due to their bulk and relatively short legs , cattle cannot roll over . Those that lie down and roll to their sides with their feet pointing uphill may become stuck and unable to rise without assistance , with potentially fatal results . In such cases , two humans can roll or flip a cow onto its other side , so that its feet are aimed downhill , thus allowing it to rise on its own . In one documented case of " real @-@ life cow tipping " , a pregnant cow rolled into a gully in New Hampshire and became trapped in an inverted state until rescued by volunteer fire fighters . The owner of the cow commented that he had seen this happen " once or twice " before .

Trauma or illness may also result in a cow unable to rise to its feet . Such animals are sometimes called " downers . " Sometimes this occurs as a result of muscle and nerve damage from calving or a disease such as mastitis . Leg injuries , muscle tears , or a massive infection of some sort may also be causes . Downer cows are encouraged to get to their feet and have a much greater chance of recovery if they do . If unable to rise , some have survived ? with medical care ? as long as 14

days and were ultimately able to get back on their feet . Appropriate medical treatment for a downer cow to prevent further injury includes rolling from one side to the other every three hours , careful and frequent feeding of small amounts of fodder , and access to clean water .

= = = Death = = =

Dead animals may appear to have been tipped over . But this is actually the process of rigor mortis , which stiffens the muscles of the carcass , beginning six to eight hours after death and lasting for one to two days . It is particularly noticeable in the limbs , which stick out straight . Post @-@ mortem bloat also occurs because of gas formation inside the body . The process may result in cattle carcasses that wind up on their back with all four feet in the air .

= = In popular culture = =

Assorted individuals have claimed to have performed cow @-@ tipping , often while under the influence of alcohol . These claims to date , cannot be reliably verified .

Pranksters have sometimes pushed over artificial cows . Along Chicago 's Michigan Avenue in 1999 , two " apparently drunk " men felled six fiberglass cows that were part of a Cows on Parade public art exhibit . Four other vandals removed a " Wow cow " sculpture from its lifeguard chair at Oak Street Beach and abandoned it in a pedestrian underpass . A year later , New York City anchored its CowParade art cows , including " A Streetcow Named Desire " , to concrete bases " to prevent the udder disrespect of cow @-@ tippers and thieves . "

Cow tipping has been featured in films from the 1980s and later , such as *Heathers* ( 1988 ) , *Tommy Boy* ( 1995 ) , *Barnyard* ( 2006 ) , and *I Love You Beth Cooper* ( 2009 ) . It was also used in the title of a 1992 documentary film by Randy Redroad , *Cow Tipping ? The Militant Indian Waiter* . The 2006 Pixar film *Cars* features a vehicular variant called tractor @-@ tipping .

In The Little Willies song " Lou Reed " from their 2006 eponymous debut album , Norah Jones sings about a fictional event during which musician Lou Reed tips cows in Texas . In another medium , *The Big Bang Theory* , a television show , uses cow @-@ tipping lore as an element to establish the nature of a rural character , Penny .

In the United States and Canada , a form of vandalism involving Smart cars being flipped on their sides has been described . In 2009 , the *Toronto Star* featured " reports that vandals may be targeting the tiny vehicles in a 21st @-@ century take on tipping cows " in Amsterdam , Edmonton , and elsewhere ; and a 2014 article in *USA Today* used the phrase " urban cow tipping " to describe the act . The *Star* noted that at 725 kilograms ( 1 @,@ 598 lb ) , the small cars weigh about the same as a mature cow .

= = = As a metaphor = = =

The term cow tipping is sometimes used as a figure of speech for pushing over something big . In *A Giant Cow @-@ Tipping by Savages* , author John Weir Close uses the term to describe contemporary mergers and acquisitions . " Tipping sacred cows " has been used as a deliberate mixed metaphor in titles of books on Christian ministry and business management .