

Currently  17.5°C

Latest Observation

weatheroffice
Environment Canada

Text + -

LOGIN/REGISTER

Search this site:

Mathematical mind appreciates the paradox

By JASON BROWN
Sat, Jul 17 - 4:54 AM



Watching the ridiculousness of the riots in Toronto surrounding the G20 meeting, I find myself musing about how organized the anarchists are, how they must have leadership.

My mathematical mind just picks up on things like that, drifting toward the comical in everyday life. And I know that people find me humorous because I've heard a number of people say behind my back, "There's something funny about him."

Anyway, one thing that a mathematical outlook gives me is an appreciation for paradoxes, seeming or real contradictions in logic.

There are descriptions of paradoxes dating back to ancient Greece.

Zeno created one where he had a tortoise in a race with Achilles, with the much-faster Achilles giving the tortoise a head start. (It would have to be a slow weekend for Achilles to race a tortoise, but this is the mathematician Zeno's mind experiment, and he probably had all sorts of time on his hands.)

While you know, of course, that at some point Achilles will pass the tortoise, Zeno pointed out that whenever Achilles reached the spot where the tortoise started, the tortoise, being in motion, would be at some point ahead. And when Achilles reached that point, the tortoise would again still be ahead. And so on, forever. It seems that Achilles will never catch the tortoise because whenever he reaches the spot where the tortoise was, the tortoise was still ahead.

Considering this paradox led mathematicians to develop a notion of limit, the basis of calculus. Therefore, only good things come from trying to deal with the incongruities of a paradox.

I don't know if you caught a recent interview of Billy Bob Thornton that Jian Ghomeshi did on the Q radio show on CBC, but if you haven't, I highly recommend you go to the web and watch it for all its excruciating hilarity. Based on this, I came up with a new paradox, which I have dubbed the Billy Bob Paradox, based on an old mathematical chestnut.

Here's how it goes. Suppose I make the rule that I will speak only to those people who don't speak to me and won't speak to anyone who does. Sounds pretty simple, doesn't it? (But you are wondering whether to answer me, aren't you? If you do, I'm not talking to you.)

Here's the kicker, though. Do I talk to myself?

On one hand, if I talk to myself, I shouldn't because I don't talk to people who talk to me. But, on the other hand, if I don't, I do because I talk to anyone who doesn't talk to me.

The paradox is enough to leave me speechless (or not).

Sometimes, a paradox can have a mathematical solution, but the answer is so counterintuitive it can still leave you vacillating from one point of view to another. One of my favourites is called the Monty Hall Paradox, which has at least some Canadian

MULTIMEDIA CENTRE

TOP VIDEO



Former Afghan commander charged

TOP VIDEO



Celebrating Canada Day

TOP SLIDESHOW



Pictures of the Week July 4-10

ANNOUNCEMENTS: Obituaries | Births | Cards | InMemoriams | Milestones

Fly Cheap From Halifax

Check Cheap Flights From Halifax Save Money & Book W/ RedTag Now!
www.RedTag.ca

Bayers Lake Medical

Family Practice & Walk-In Clinic. Accepting new patients
Primacy.ca/BayersLake

Halifax Flights

Save on Halifax Flights Book Your Vacation Now on Expedia!
www.expedia.ca

Halifax Concerts Tickets

Get Good Prices for Concerts in Summer 2010, Halifax, Canada
www.merkado.ca/tickets-halifax

TODAY'S ARTSLIFE STORIES

[Twin sisters have a brand new bag](#)

[The heat is on, but not in kitchen](#)

ASTROLOGICAL FORECAST

[Lanois says motorcycle accident nearly killed him](#)

[Even old songs are new on this tour: Plant](#)

MOVIE TIMES

[Titus takes on the world](#)

ARTS IN BRIEF

[Lohan begins 90-day jail term](#)

[Vaginal gel reported to cut chance of getting HIV in half](#)

[Back to ArtsLife Section](#)

RECOMMENDED EMAILED COMMENTED VIEWED

1. [Fells to return to scene of scuffle](#) (59 votes)
2. [Ex-Bedford man fights for life](#) (34 votes)
3. [Boys will be buried Thursday](#) (31 votes)
4. [N.B. driver could face \\$10,000 fine for excessive speeding](#) (20 votes)
5. [Halifax violence on rise](#) (19 votes)
6. [Macintosh guilty](#) (19 votes)

context because the game show host hails from Winnipeg, a city known for, among other things, being the birthplace of my lovely wife.

Hall used to be the host of a show called Let's Make a Deal, where he bartered with contestants who were motivated simply by a desire to win unknown prizes.

The show inevitably led to the following scenario: Hall would show the contestant three closed doors. Behind one of the doors was a grand prize, such as a car or a vacation. Behind the other two were dud prizes, with one usually being a donkey with a lei around its neck.

The contestant chose one of the three doors. Then, to build suspense before opening the contestant's door, Hall opened one of the other two doors, showing a donkey. He then allowed the contestant to switch to the other closed door. The big question was whether the contestant should switch, and many a contestant squirmed under the weight of that choice.

So should the contestant switch? What would you do?

You would think that there is no reason to switch because you know that after you pick a door, Hall can always pick one of the two doors left to show a donkey. So there is really nothing you learn from him doing it. You are left with two doors, one with the big prize behind it, and you have a 50-50 chance of being right. You may even feel that you would kick yourself if you changed doors and lost, having chosen the right door at the start. So that is even a bigger reason not to change.

But look at it from this point of view: You have, from the start, a one-third chance of picking the big prize door from among the three. If you picked the correct door and switch, you lose. But you have a two-thirds chance of picking the wrong door to start, and switching guarantees you win because Hall has opened the other losing door. By switching, you double your chances of winning, plain and simple.

Even though the mathematical reasoning shows the advantages of winning, it's still easy to waver and think that you shouldn't. That's the beauty of the math and the paradox.

So if you happen to get on the revised version of the show, which has started to run again with Wayne Brady as the host, remember to switch. And if you win, be modest about your new-found mathematical outlook, but make sure to tell everyone how modest you are.

Jason I. Brown is a professor of mathematics at Dalhousie University in Halifax. His research that used mathematics to uncover how the Beatles played the opening chord of A Hard Day's Night has garnered worldwide attention. He is also the author of Our Days Are Numbered: How Mathematics Orders Our Lives. (jbrown@herald.ca)

Marriott Halifax

Marriott's Official Site. Spacious, Comfortable Rooms & Luxury Bedding.
Marriott.com/Halifax

- 7. [Discharge for woman who hit protester](#) (17 votes)
- 8. [Football player happy to leave tainted team](#) (17 votes)
- 9. [Supporters push for convention centre](#) (16 votes)
- 10. [Driver faces fine for 'stunting'](#) (16 votes)

The ChronicleHerald.ca

- | | | | | | |
|---|--|---|---|---|--|
| <p>NEWS</p> <ul style="list-style-type: none"> -Front Page -Metro -Nova Scotia -Canada -World -Business -Sports -Arts & Life -Travel -Books -Religion -Science -The Nova Scotian <p>COMMUNITY</p> <ul style="list-style-type: none"> -Community News -NS Communities | <p>OPINIONS</p> <ul style="list-style-type: none"> -Editorials -Columnists -News Columns -Business Columns -Sports Columns -Arts & Life Columns -Community Blogs -Community Reviews -MacKinnon Cartoon <p>ANNOUNCEMENTS</p> <ul style="list-style-type: none"> -Obituaries -Births -Cards -InMemoriams -Milestones -Contact us to place an Announcement | <p>MULTIMEDIA</p> <ul style="list-style-type: none"> -Photos -Videos -Community Photos <p>JOBSPRESS</p> <ul style="list-style-type: none"> -JobsPress -News & Resources -Advertising -Post a Job <p>WHEELSPRESS</p> <ul style="list-style-type: none"> -WheelsPress -Search -Sell Your Vehicle -Dealers -Advertising | <p>NEWSPAPER</p> <ul style="list-style-type: none"> -Today's E-Paper -Classifieds -Place a Classified Ad -Subscribe -NIE -Professional Directory -South Shore Calendar <p>ABOUT THE HERALD</p> <ul style="list-style-type: none"> -About Us -Contact Us -Work @ The Herald -F.A.Q -Library Services -Privacy Policy -Terms of Use | <p>ADVERTISING</p> <ul style="list-style-type: none"> -Advertising Sales -Web Advertising -Media Kits, Rates, Etc. -Place a Classified Ad -Pay Your Account <p>CLIENTS</p> <ul style="list-style-type: none"> -Print Upload -Web Upload -Real Estate Portal -Media Kits, Rates, Etc. <p>FUN & GAMES</p> <ul style="list-style-type: none"> -Lotteries -Sudoku -Crossword -Comics -Contests | <p>USEFUL INFORMATION</p> <ul style="list-style-type: none"> -E-Flyers -Eye on Nova Scotia -N.S. Highway Cams -Horoscope -Lotteries -Tides -Weather -Movie Times -What's Happening -Mayflower TV Guide -Herald Archive |
|---|--|---|---|---|--|