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WHAT IF? 2

ADDITIONAL SERIOUS SCIENTIFIC ANSWERS
TO ABSURD HYPOTHETICAL QUESTIONS



what if? 2



randall munroe

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7. T. REX CALORIES

Q

If a T. rex were released in New York City, how many humans/day would it need to consume to get its needed calorie intake?

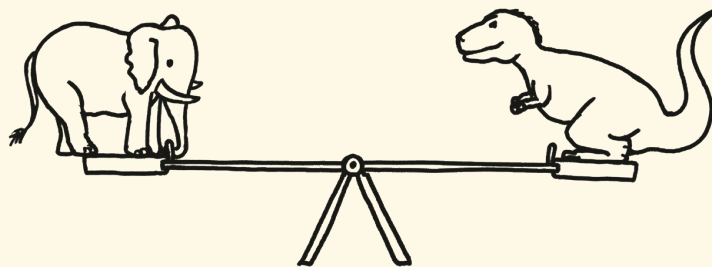
—T. Schmitz

About half of an adult, or one ten-year-old child.

SUN	MON	TUE	WED	THU	FRI	SAT
						

Shoot, I forgot to eat one yesterday. Am I allowed to double up?

Tyrannosaurus rex weighed about as much as an elephant.*



* This always seemed a little off to me; my mental image of elephants is that they're in the same size range as cars or trucks, whereas T. rex, as *Jurassic Park* showed, is big enough to stomp on cars. But a Google image search for car+elephant shows elephants looming over cars just like the T. rex in *Jurassic Park*. So, great, now I'm also afraid of elephants.

No one is totally sure what dinosaur metabolism looked like, but the best guesses for how much food a T. rex ate seem to cluster around 40,000 calories per day.

If we assume dinosaurs had metabolisms similar to today's mammals, they'd eat a lot more than 40,000 calories each day. But the current thinking is that while dinosaurs were more active (loosely speaking, "warm-blooded") than modern snakes and lizards, very large dinosaurs probably had metabolisms that more closely resembled Komodo dragons than elephants and tigers.*

Next, we need to know how many calories are in a human. This number is helpfully provided by Dinosaur Comics author Ryan North, who produced a T-shirt with a human body nutrition label. According to Ryan's shirt, an 80-kg human contains about 110,000 calories of energy, so a T. rex would need to consume a human every two days or so.†

The city of New York had 115,000 births in 2018, which could support a population of about 350 tyrannosaurs. However, this ignores immigration—and, more important, *emigration*, which would probably increase substantially in this scenario.

I'M THINKING OF MOVING OUT OF BROOKLYN.
THE RENT IS SO HIGH, AND EVERYONE
IS GETTING EATEN BY TYRANNOSAURS.



* For big sauropods, we know this must be the case, because if they had metabolisms like mammals they would overheat. However, there's a lot of uncertainty surrounding T.-rex-size dinosaurs.

† A T. rex would likely be willing to eat several days' to weeks' worth of food in one meal, so if it has the option, it might eat a bunch of people at a time, then go for a while without eating.

The 39,000 McDonald's restaurants worldwide sell something like 18 billion hamburger patties per year,* for an average of 1,250 burgers per restaurant per day. Those 1,250 burgers contain about 600,000 calories, which means that each T. rex only needs about 80 hamburgers per day to survive, and one McDonald's could support more than a dozen tyrannosaurs on hamburgers alone.



If you live in New York and you see a T. rex, don't worry. You don't have to choose a friend to sacrifice; just order 80 burgers instead.

And then if the T. rex goes for your friend, anyway, hey, you have 80 burgers.

AAAAAAAAAAAAA!!!!



Maybe the friend was more of an acquaintance, anyway.

* They stopped updating the "x billions served" number on their signs in the mid-1990s, so this is just a rough estimate.