

The Theory of Increaseable Traction

<http://theoryofracing.com>



Simon de la Tour, to the band: "Well, If I absolutely *had* to select only one,
over all the years,
I should say there's probably a very good chance that it just might be *Echos*."

Abstract

This paper presents the claim that traction available to the front wheels is increased by braking, and that this increase in traction in turn allows braking harder. It then presents a fanciful situation of affairs based upon that principle.

The Theory of Increaseable Traction is intended to be true and correct.

The Theory of Infinite Traction is intended to one-up my instructor at the ELF-Renault School of Racing, Simon de la Tour, who after our first set of laps, ripped apart cars 1, 2, and 3, then said: "Car 4: Quite good. If you continue to drive like that, you should do quite well through this school.", and added "If I had to criticize, I should say that you could have carried a bit more speed. The car will turn quite sharply. So... don't baby it so. But quite nice, really!"* ... and then resumed ripping everyone apart.

Hence the Theory of Infinite Traction tries to prove that the car will turn **arbitrarily** sharply. I try to prove this here on paper as I was not successful at making any credible right angles in my Renault-powered Martini race car while I had the chance.

*So I'm sitting there thinking "He's saying I'm gonna be World Champ!!", a more pleasant and easier thought to think than "Uh-oh... I didn't intend to baby it, ..."

The Theory of Increaseable Traction

- 1.a) Use of the brakes results in additional (in addition to the pull of gravity) downforce experienced by the front wheels.
- 1.b) More downforce results in more traction.
- 1.c) More traction in turn allows harder braking.

The Theory of Infinite Traction

a.k.a The Racer's Abstraction of "Weight Transfer"

- 1.a) You can effectively turn the car into a slot car, pinned to the roadway at the front and unable to slip, by pushing down on the front end - *if* you push down hard enough.
- 1.b) You can push down on the front end as hard as you please by braking correspondingly hard.
- 1.c) You can brake as hard as you please by going correspondingly fast beforehand.

Thus, we have:

- 1.d) The front half of the car will turn arbitrarily.*