GET LIT

THE FUTURE IS ONLY AS BRIGHT AS YOUR CAR CABIN

Interview by Dan Herczak

Auto designer for General Motors for a quarter century, educator at CCS, Wayne State University, Lawrence Technical University, and the Cleveland Institute of Art, consultant on History Channel's *Top Gear*, founder of AutoArcheology, and now speaker at the Advanced Lighting for Automotive Summit, **Brian Baker** has quite the rap sheet. I had the good fortune to pick his brain on lighting design, American car culture, crafting a brand, Millennials, and more besides.

Want to skip culture and go directly to the lighting stuff? Look for the light bulb!
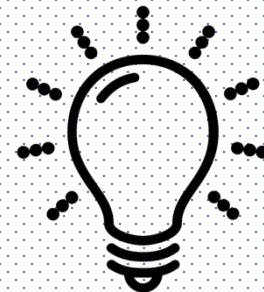
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Light Bulb by Till Teenck from the Noun Project

THE INDIANAPOLS 500 - c. 1919
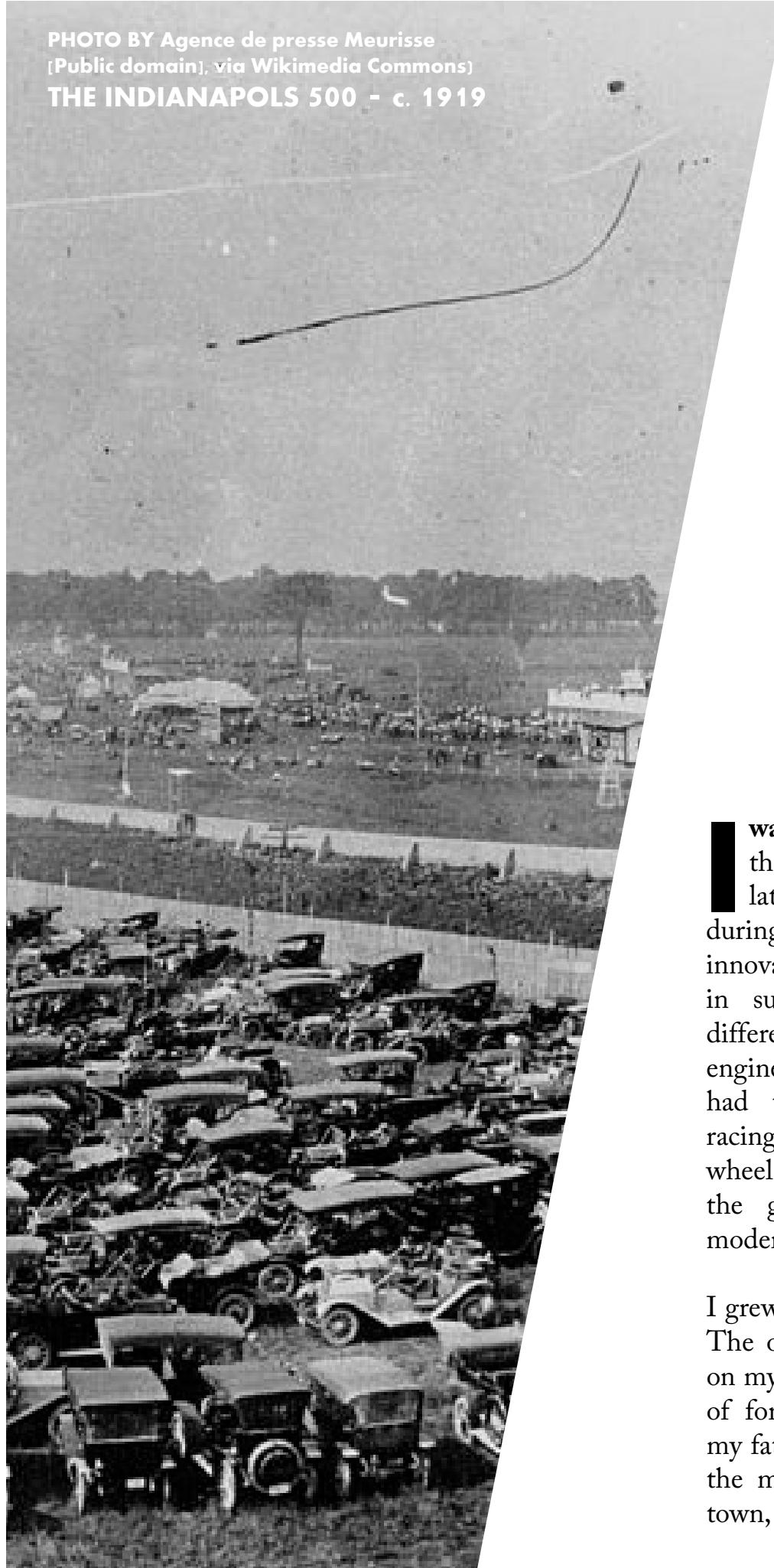
I **was fortunate** to grow up in this rich environment of the late 1960s in Indianapolis, during a tremendous surge of innovation. The rules were written in such a way that they had different types of vehicles; front engine cars, rear engine cars, they had turbine engine automobiles racing there, two wheel drive, all wheel drive… it was a changing of the guard from old school to modern race cars.

I grew up on the NW side of town. The owners of the speedway were on my paper route, as were a couple of former Indy 500 winners, and my father was the morning man on the most popular radio station in town, which, also, was the supplier

network for the Indy 500, remember, this was before the Indy 500 was even broadcast live, you had to listen to it on the radio or go a theater.

So I grew up in this environment of all this innovation. It wasn't unusual for me to be delivering papers as a kid and see Indy cars in garages in my neighborhood. And we'd go out on the track and we'd see the innovations each year, and it was the perfect nest, if you will, for a guy who ended up designing automobiles as a career to get inspired about what was possible. Different things, exciting things! Proportions, shapes, technologies, that were introduced everywhere. That seed, combined with parents who supported my doing something very different from what they did, made my trek possible - first to Detroit to the College of Creative Studies - then out to the

Art Center College of Pasadena where GM discovered me.

AMERIC AN CAR CULTURE

In my work, first at GM, and now at AutoArchaeology, and my professorships at various colleges, I've come in contact with the global design community. I worked in Europe for a couple years – that gave me a different perspective as a designer. In years since, I've consulted in India, South Korea, the UK… and when you've lived in another culture, other than the one

PHOTO By Rick Dikeman - From English Wikipedia, CC BY-SA 3.0,
THE INDIANAPOLS MOTOR SPEEDWAY

Motor Vehicles Per 1000 People ([Source](#))

■ San Marino ■ Monaco ■ **United States**
■ Liechtenstein ■ Iceland ■ Luxembourg
■ Australia

1263 **899** **797** **750** **745** **739** **717**
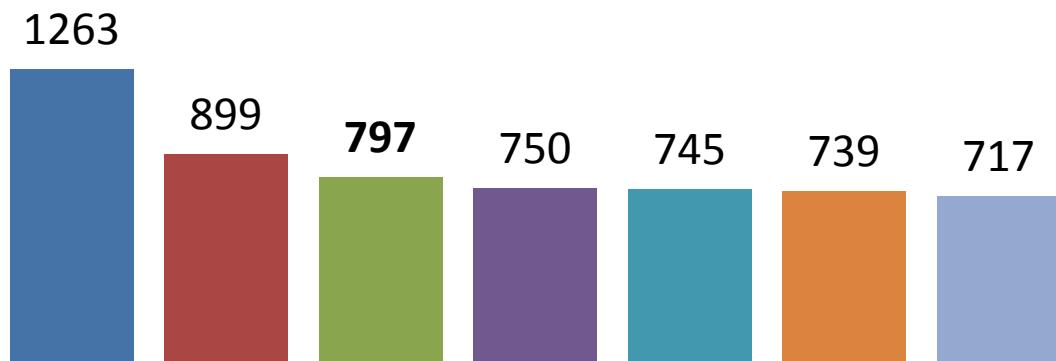
you grew up in, other than the American culture, you see the differences. It's very clear. What I try to impart to my clients and to people I interact with in the industry is how to address the US market. We're still a major player in the global sales community; Americans are among the biggest car buyers on the planet. Understanding our relationship with the automobile requires some study.

I'm a member of the Society of Automotive historians. I teach the history of transportation, not just automobiles. I go back to the carriage days and such to young designers because they need to understand whose shoulders they're standing on. Americans don't just have a car for the reason, say, a family in India does – using it to

travel to and from the market and putting way too many people on board and such. Americans have names for their cars. We have car clubs. We have such passion around them.

They've essentially replaced the horse, the horse was the mode of transportation for America in its early years. The relationship between the owner and the vehicle was such that it's now become part of our culture with automobiles. The distances we travel. Our national highway system. These things allow us to have a relationship with our cars – if you go on a road trip with your car for a week, your car is your buddy. You have to rely on it.

Helping people from Europe, Asia, and now Africa, I have some clients

there too, to understand that when an American buys a car, it isn't just transportation, generally.

Everyone has a fond memory of the first time they rode in an old Mustang. Or the first time they had the keys to dad's car by themselves. Those are pretty unique things when you go to countries where the whole family has one car – grandparents, parents and children. That's part of what I share with them.

Once a year, I host a group of 20 young automotive designers from Asia. They come to Detroit for one week in the middle of summer, when all the car things that go on in this country happen - Concours d'Elegance, cruise nights, air shows, automobile races. And we take a 1200 mile journey. On that journey we go to small towns, we go to

famous racing venues like the Indianapolis 500, we go to the air force museum, we go to Frank Lloyd Wright's design homes in Pennsylvania.

I try to show them an America they're not going to get if they just sign up for a tour group and walk around with cameras hanging around their necks.

It's a design tour. And it's intended to give the designers a sense of who they're actually designing products for. When they design a product in Asia and it gets imported to the U.S., they need to realize that Americans don't use their cars the same way as they do in Asia.

A car is the largest article of clothing you can wear. A friend, Larry Erickson, who was a designer at Ford Motor Company, now an independent designer, said that to me one time and I thought "wow, that's so true".

When you pull up in front of the country club, or the restaurant, you are immediately judged by the gown you are wearing, whether the gown is a Cadillac or the gown is a Tesla. That is what an automobile is. It speaks about you before you ever say a word.

"A car is the largest article of clothing you can wear."
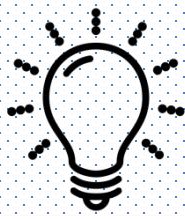
LIGHT DESIGN

There are two ways that America has exported its culture to the world: music and movies. When I meet my friends from around the world, they always have their favorite U.S. movie. And their perception of America is so much driven by that. But what comes out of both of these cultural phenomena, is our sense of drama.

Computer graphics in film, have exploded in the last 35 years, pun intended. The use of pyrotechnics and lighting to make these dramatic moments in film is not unlike what can be applied to automobile design. Rolls-Royce introduced a couple of years ago the starlight option, in which the ceiling of the car has tiny pinhole LEDs and it looks like you're under a constellation of stars. These are the kinds of applications for the drama that is part of American culture that can be imparted in cars. You look at what young people are doing with their Hondas, with the light shows they basically put on under the car, under the seats, under the dash, all around the car with their new taillights and headlight options and things – the aftermarket has just jumped on

this in a big, big way. And now the OEMs are jumping on it. Audi really defined themselves a few years ago by coming up with these very distinct pin LED lights, now everyone's got LED lights on the front of their cars. As LEDs are now being accepted as the primary lighting source, they're reliable enough and can pass the laws required for lighting, that's introducing a whole new wave of opportunities, the new materials – phosphorescence, the ability to make a material glow, with your touch – the things that can create a mood in the car are real opportunities that I want to talk about the conference.

DRIVER PSYCH OLOGY

Every automaker that I know of, of substantial size, employs industrial psychologists. They're in the culture of the company. Now how involved they are with the design team varies from company to company.

I worked side by side with the industrial psychologists at General Motors when we were trying to

"People who want just basic reliable clean transportation don't recognize that those are attributes that you can design around."

define what differentiated a Buick from a Cadillac, a Chevy from other brands. At the time, GM had 17 different global brands, and we had to come up with 17 unique looks and feels, 17 unique personalities. And we did a series of differentiators. Some of them were subtle, like music. "If Buick was a song, what song would it be? Would it be Gershwin's *Rhapsody in Blue*?

What would Cadillac's song be? We came up with these metaphors for each brand to help the design team to understand, quickly, the difference. And we created sculptures, that were not automobiles, they were literally pure speed shapes, each one reflecting the personality of that brand.

When it came to lighting, obviously Pontiac was much more aggressive with its lighting style than, say, Oldsmobile. You know, Pontiac was red and angular – we demonstrated this using video and other unconventional design metaphors, but, we made certain it was a full 360 degrees if you will. We wanted to cover the entire market from subtle to aggressive to
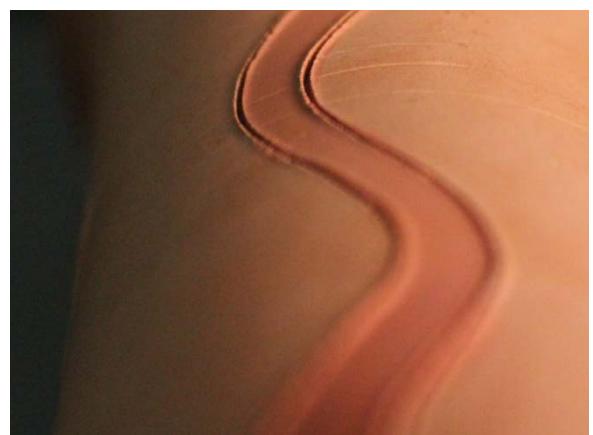
Source: Wikimedia Commons

pure function. There are some people who just want something to go from Point A to Point B. I contend that a large percentage of those people who want just basic reliable clean transportation don't recognize that those are attributes that you can design around. Just doing a box with 4 wheels is not going to cut it.

Getting back to how this all impacts lighting. Obviously you only need to watch the new series of commercials from Lincoln featuring Matthew McConaughey to understand the power of lighting. Those are carefully orchestrated films to try and impart the mood that Lincoln wants you to have. There's flashes of instrumentation, tachometers that wrap up and all this… the subtle lighting on the ground when he hits his button from afar telling him that, hey there's his Lincoln with the Lincoln logo projected on the ground. All the things that manufacturers are doing now - Mercedes-Benz, for instance, know the power of that tri-star logo of theirs. They now have an option where you can illuminate that tri-star so people on the highway see it and think "oh, it's a Mercedes, I better pull over" That is a huge factor in Europe, I can tell you, from having driven the Autobahn. If you know it's a Benz, you get out of his way. So they're using lighting to express to others 'hey, here's my personality, I'm warning you now.'

So that's a good segue into the more subtle side of what you're talking about with lighting.

I'll be speaking at the conference about a study I did in late 2014. Ford gave the College of Creative Studies and the University of Michigan some funds, they said "we'd like to know what Millennial females think they're going to want when they're moms." These are high school girls, 16, 17, 18 years old, and they drew them from the inner city, they drew them from the rural communities around Detroit – you don't have to go very far outside Detroit to be on a farm. You go 20 miles and you can find a farm girl.

So they recruited these young women from all over, it was a really excellent job of diversity. And I worked with them for a period of 2 months. We asked them what they thought they would want in their cars in 2035. I don't want to give away everything now but it's a hoot.

The first replies were "well, I want a Slurpee machine in mine. I want a microwave oven, these things" at first it was all about them. Then, it was focused on "oh, well, if I don't have to drive, can I have like a changing room, and a full length mirror? Can I change outfits while the car drives me to the next place I'm going?" and again, these are young girls, you have to bear that in mind. But, then I got down to

"alright, what happens if you've got 2 kids…"

And they started scratching their heads going, "well the shoe is on the other foot here, now, yknow, now I'm a mom." And that really changed the conversation, and I'm going to share, at the conference, Millennials' perspective on what they would need to do to keep their children safe, what they would want inside the interior of the vehicle… lighting is going to be a major factor.

Suddenly, the car is becoming a mobile room. It's like an elevator, the door closes, you don't have to look outside, and when the door opens you're where you want to be. And obviously that can be a very anxious environment if you don't do it well – this is where the psychology of lighting is going to be a big part of this.

Some of these young women thought "well I just want a soft play-pen room, that I can throw the kids in and let them bounce around", since safety belts may become a thing of the past, that's very much a possibility with connectivity and autonomous vehicles.

If it's a dead sure thing that they will not come in contact with one another, they will always divert and avoid each other, the ability to get up and move around and do things

that we don't think of doing in our vehicles today – relaxing on a couch, reading a book, while the car takes me from Queens to Manhattan – these are the things to bear in mind.

Now, obviously the logistics and the packaging of changing rooms and showers and all these other things these young women expressed they want is going to be a challenge – they'll all be cruising around in RVs.

But the idea is, making it more like your favorite small room in your home, it's that nook where you go and read, or that place where you have a cup o' coffee and watch a show or something.

That requires different lighting than, say, a kitchen. Or if you think of driving your car, if the metaphor is that it's your shop or your work area, you're doing something, you're driving the vehicle – but if you're relieved of that responsibility it's an opportunity for vehicle designers to create an ambiance that is very different from what we do today.

"The idea is, making [your car] more like your favorite small room in your home, it's that nook where you go and read, or that place where you have a cup o' coffee and watch a show"

I've been teaching since the late 80s. Part time, always taught, even when I was a practicing designer at General Motors, I've been teaching. And I've watched the change in young people who are interested in design. When I began teaching 20 years ago, it was more the 'gas in the blood' kind of testosterone, males-only environment, "yeah I wanna design the next Corvette, I wanna design the next Camaro, or whatever."

Now it's a mix of male and female, it is young people who are probably as interested if not more interested in their next computer than their next car. I call them the Nintendo generation, of which I have a couple of sons, that helps me with my insights. Let's explore their priorities.

Getting our first car was my generation's first priority, but no longer is that the case. My younger son waited until he was 18 to even bother to get a license, whereas when I was 15, I was standing at the DMV the morning I could get my first permit.

Their priority is not about going places physically, but more about going places virtually. They're more interested in how

much time they're going to spend on Reddit that day, versus, travelling to catch up with a buddy who lives two towns over, or two countries over. Physical travel is not nearly as important to them.

I think what we're going through as a society, balancing the value of face-to-face, is sometimes critical. What Millennials are going to sort out as designers is, when it does require you to physically travel somewhere – being with Grandma and Grandpa is still going to require a trip – what we do in the interim is not the drudgery of Chevy Chase vacation movies. It's more of "everybody grab your laptop and let's go get in the pod, and program it to take us to Grandma's house." And it won't be

"Their priority is not about going places physically, but more about going places virtually.."

"The car is becoming a mobile computer and it's about to become a mobile elevator."

the same experience. There's still going to be a segment of the population, particularly in America, that has this love affair with the vehicle. The Corvette guys are still going to be out there, they're still going to be passionate about driving, just as horses are still around us, though their use as transportation is pretty much gone in most places, there's clubs for horses. I mean I lived on the north side of Detroit, here, we've got hunt clubs, we've got equestrian clubs, people get out and enjoy their horses. Very much the same way outside of D.C. and about 10 different places around the U.S. there are these driving clubs for passionate driving enthusiasts. They build their own racetracks… and these aren't folks that are racers per se but they may have an old Shelby Cobra replica or something, they're deep-pocketed people. There are still going to be cars that you pilot yourself. We're not going to surrender it all to the machines.

But the vast majority of us will surrender it, because we're always striving as a culture to find more and more uses for our time.

The best metaphor for what's coming that I think people can visualize, and you've experienced it today in New York, is a crowded subway. There are thousands of people passing through that area every day. Yet under normal conditions no one gets trampled. The logarithms for how to navigate yourself through that are in your head, and you pass through that mass of people without tearing your clothes or falling on the floor or getting stomped on.

And I've seen it in Tokyo where it's twice as intense as New York, where you've got people whose jobs are to push people onto the train. But still people navigate it every day. And that's what's coming. This autonomous revolution will allow people to navigate through without sitting at stoplights and wasting energy.

If we could only capture the energy that we waste every hour, in this country, on this planet, of people sitting, waiting for traffic signals… Eliminating traffic signals will create an energy resource that we're going put to work, we're going to use it in some way. But a car is becoming a mobile computer and it's about to become a mobile elevator.

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BRIAN'S SESSION

Illuminating Stories of Automotive Interiors, Past, Future, Autonomous

May 24 – 4:15 PM

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I hope that when designers around the globe gather like this, there's a sense of "we're not just designing for the next five years, we need to be conscious of what we're doing now that will impact vehicles and transportation 100 years from now."

Most of us think in terms of our own lifetimes, but the reality is, as we get smarter about the planet – well we know things like, the oceans will rise six feet within the next 100 years – we must start planning an infrastructure around that, and the infrastructure will be impacted by the vehicles on it.

Americans hold dear to personal transportation. They have since the days of the horse. The ability to go outside of your door, get on your horse or in your vehicle, and travel somewhere, is very much a part of the American way of life. And as we globalize transportation, I think it's important to understand that regions of the world will require that, still. It's not always going to be solvable by mass transportation.

We need to think globally, we need to think in terms of how we're going to spend more time… perhaps, your office is mobile, going forward. And how you light that office is going to make a difference in how you feel at different times of day. It shouldn't be static – we tend to design vehicles with one lighting theme only now – it should be able to change. As our moods change. If we're having lunch in the car, it should be a different feel.

With the surgical focus on automotive lighting that we're going to have at this conference, it'll allow us to focus on where to point the needle, where to go heading forward, and I think getting together and talking about it is the first step in that direction.

Brian C. Baker
Founder
AutoArcheology