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An Endeavor in Discontinuity: Exterior Car Design of the Future

To those involved in the culture of Car Design there are a number of unsolved issues that are often avoided or cast with disrespect when discussing the evolution of our craft. One "no-no" that chains us to the past is a challenge to the idea that "Perfect" Surfaces can be the only correct forms for cars. But will it always be so? The three great ages of Car Design's Morphological Paradigms have always been thought unescapable until a new manufacturing technology coupled with a dramatic shift in consumer interpretation of the "meaning" of the automobile come along - then the change can be bewilderingly rapid. The last century began with a "wooden houses on wheels" morphology, and the first dramatic shift to the paradigm came with the advent of pressed metal for bodies and a shift to a consumer psychology caught up in the progress of speed. This design canon of a "ship's symmetrical hull combined with voluptuous sculpture" relies on a continuity of form to control reflections on a glossy painted surface; a seamless progression of elevations and curves that owes its heritage to the techniques of "lofting" as perfected by shipwrights over centuries.

Symmetry and Continuity in Surfacing is a part of our legacy from those boat-hull days of Car Design, and we have kept at it ever since. This dominant species of Car Design lasted from the 30's until the 70's when it was overthrown in a major shock to design sensibilities by the "refrigerator box with a veneer of cake-icing-sculpture", a new design canon driven by fully automated assembly restrictions and a shift in priorities towards rational transportation under the predictive umbrella of Big Brands (I call these expressions in form "cake icing" because that is about the amount of geometrical change all this "sculpture" being practiced in car design today manages...just the ins-and-outs of a thin sugary top layer on massive unchanging sub-forms. Compare this amount of "sculpture" with that of cars of the 30's or 40's or 50's...they were rearranging the "cake" as well with their forms!).

The boxes of the 3rd paradigm required some curvature as well, and the twin dogmas of Symmetry and Continuity became reinforced in the changeover. Cartoon facial characteristics and other graphic hijinks are about all we are confronted with today, and since the 90's there has been little true progress in Car Design but much ballyhoo about the most insignificant manipulations in the sculptural "icing". However, time does not stand still for Car Design. New materials, new processes, and most importantly, new customer needs and desires are waxing stronger even as car design becomes more dogmatic. There are some signs of change: the BMW GINA

Concept Car began an age on discontinuous forms, probably best evidenced (if not first evidenced) in production with the BMW Z4. The interplay of concave and convex not as slow progressions of form change in a "hull" but as a result of spline interaction was the hallmark of this new design language. Previously "graphic" symbols became spline inferences (the side air outlets, for example). The Z4 was very progressive, but in many ways the refrigerator box was still lurking there under the veneer of "cake icing".

We will leave the stagnation of this Age when we endeavor to allow Surface to become something other than an interpretation of a boat hull with some swooping facets. The introduction of patterns and discontinuities may inspire Surface to become Structure itself, allowing thinner and lighter metals to take the place of today's underlying box beams. Communication may become Surface with the advent of low cost lightweight display "coatings" that offer something relevant to the social networking Facebook Generation. Or perhaps, as GINA indicates, Gesture and Pose will become Surface with the animation of what was once static. The customer of 2050 may find more value if his "Car" not only reliably gets him from A to B but also tucks him in at bed at night.

Architecture gives us plenty of examples, and there may be many advantages to be discovered by abandoning Surface Continuity in cars as well. The automotive painting process geared to give us shiny reflectivity is the most energy intensive part of car assembly; could that change? Baroque's convoluted architectural facades have shown to look much better than the Modernist sheer geometry when dirty. Perhaps a complexly surfaced car that looks "WOW!" when it is dirty would save us all some energy? There is no hard and fast rule that prohibits asymmetry. Aerodynamic balance is important, but there are new dynamic ways to handle that, and in any case we should be developing a look for cars that we can enjoy because it MUST go slower. Nature as our guide is ripe with examples when it comes to practicing asymmetry.

More importantly, we Car Designers have an obligation to get the standards of excitement back into the awareness of the consumers, who are beginning to care less about how the cars look. For decades when cars were expected to change dramatically they were either beautiful or ugly. But now we have eliminated the really ugly cars, and made everything look "ok" - good but the same. When everything is the same, no matter how good, nothing stands out and is beautiful.

For an international group of students the endeavor to go beyond Surface Continuity could open the door to the biggest Design Challenge waiting to be answered: Global Cultural Enfranchisement in Design. Modernism in Design has become the dominant sort of "business-English" for getting the job done and in the process has smothered local cultural content and threatened to disenfranchise vast areas of the world that never had a background in the Greek geometrical underpinnings of the Bauhaus. What do we know of the formal vocabularies of the world's indigenous "design" cultures, if everything must conform to last century central European rules



on shape? Even the geniuses of Bauhaus could only work with the tools they had available: lathes, 3-axis mills, straight saws, drills. They couldn't imagine production efficiencies with any other shape than those allowed by them and of course had no inkling of what a 5-axis mill or a Laser-Sintering Rapid Prototyping machine could produce. But we as a design community are still enslaved to their 1920's limits.

In Car Design this "business-English" efficiency combined with Brand-envy has stopped any emerging cultures from using their own heritage and giving us their own interpretations of the automobile. What exactly is a Korean car, or a Chinese car? An Indian or Israeli or Iranian or Argentinian Car? What does it really mean to be an American car, for that matter?

Non Continuity is a way to get young car designers to think outside of the restrictions of the "business-English" shape dogmas of today. We need their courage; we are running out of DNA for Car Design. The gene pool is too small, we are in danger of an incestual-design catalyzed Car Design-Irrelevancy. Soon the question will be, "Why should anyone care about cars?" It only takes one workshop to spark a revolution!!

Chris Bangle