Letter from the Prep Department – January 2017

As one surveys the landscape of present-day life throughout the developed world, the impact of technology – from the printing press to the electric light bulb to air conditioning to fire arms – is evident; it is difficult to imagine life without electricity, artificial light or the microprocessor. There have been many inventions that have been transforming and, generally beneficial, to mankind. Certainly, in the short span of a little more than 100 years, the automobile, without question, has been a revolution in mobility and convenience. Like no other time in human history, personal freedom and a mastery of geography have been made available to a majority of people on every continent.

The evolving automobile culture of the twentieth-century world has resulted in extraordinary commercial development and transformational social practices. Some even speculate that the automobile has contributed to the growth of democratic ideals and the fundamental notion of self-determination. However, since the end of the Second World War, it has also become increasingly apparent that the automobile is the instrument of a Faustian bargain we have struck – one that has given us unprecedented ability to control time and conquer space, but at a cost that is mounting.

In the nineteenth century, the railroads had initiated people to a new dominance of space; the ability to travel faster than ever before gave people a taste of motion and access. But, the automobile offered something else – something ineffable. At the turn of the 20th century, writing in the *Manifesto of Futurism*, Filippo Tommaso Marinetti declared that the automobile embodied the very essence of modernity. Enthralled by the car's speed and power, he wrote, "We affirm that the world's magnificence has been enriched by a new beauty: the beauty of speed. … We want to hymn the man at the wheel, who hurls the lance of his spirit across the Earth, along the circle of its orbit." Another English writer, R.P. Hearn, was likewise beguiled by the power and freedom he discovered during his first motor-car ride: "Most marvelous of all perhaps were the grand obedience which this instrument gave [the driver] -- the new power it placed at his disposal, the new sensations which it begot, and the new situations which it created and opened out for him." A nascent appetite had been stirred, an appetite not just for speed and power, but for the visceral experience of freedom.

Others writers, notably E.M. Forester and Scott Fitzgerald, were more ambivalent toward the automobile's speed and power, viewing it as a "symbol of intrusive, unsettling power" that was bound to unfavorably transform all social life and profoundly alter economic systems. Forester expressed alarm at how the motor-car was changing the proportions of human experience – time and geography – in the manifest world. It engendered, he felt, a habit of energy and fearlessness that shattered the rhythms of life. For Forester, all the worst aspects of technology and modernism were embodied in the motor-car. "I hate this continual flux of London," comments Margaret Schlegel in *Howards End*. The automobile, Forester's protagonist tells us, had ushered in the "epitome of us at our worst – eternal formlessness." Fitzgerald was admittedly seduced by the sexual energy exuded by the automobile – the embodiment of speed, aggression, violence and desire – and made clear connections between his characters' cars, the way they drove, their self-perceived power and their sexuality. Nevertheless, events in *The Great Gatsby* make evident that, ultimately, he saw the automobile's power as destructive and an agent to the general coarsening of modern life. Writers throughout the turn of the last century struggled to explain the disruption to civilization and an emergent incivility the automobile was ushering in, all in the name of modernity and human advancement.

In actual fact however, at the turn of the last century, the automobile affected very few people and had practically no impact on the world economy. Most cars in the early 1900s were located in either the United States or Europe. In 1895 there were only 300 cars in the United States. In 1905 that figure had risen to 78,000 registered vehicles; the speed limit was 10 miles per hour and there were 54 automobile-related deaths. In Britain in 1900 there were 8,000 automobiles, 10 miles of paved roads, the speed limit was 12 miles per hour and there were 96 automobile-related deaths. (Not unlike today, speeding accounted for 80% of all automobile-related deaths and injuries a century ago.) However, soon after the end of World War II, the automobile began asserting its predominance. Instead of decade-to-decade increases of 10 - 20 million automobiles on the road, the worldwide decade-to-decade increase became 100 - 150 million, reaching 1.25 billion in 2015. Today, the automobile has become ubiquitous and has impacted cultures worldwide in ways we have long ago stopped acknowledging while offering a starkly efficient window into the way we live.

- Based on WHO estimates, there are 1.25 billion registered cars in use throughout the world (2015). That amounts to one car for every six humans. In the U.S. there are 265 million registered passenger vehicles (2013). Saudi Arabia – 18 million (2014); China – 251 million (2014); Britain – 36 million (2014). At the current rate of increase, there will be 2 billion motor vehicles on the road by 2035.
- According to figures compiled between 2011 and 2014 by the U.S. Central Intelligence Agency, there are 64.3 million km of paved highways and roads worldwide explicitly constructed and maintained for automobiles. KSA has 221,372 km of highway; the US has 6.6 million km of highway; the UK has 394,428 km of highway; Canada has 1,042,300 km of highway; China has 4.4 million km of highway.
- The U.S. alone, according to CIA figures, spent $146 billion in 2013 for highway construction and maintenance. In addition, even with the cost of fuel down by 30% from 2012, the total average cost of driving a car in the U.S. is $8,700 a year, according AAA. Vehicle accidents cost $518 billion per year worldwide.
- In 1972, according to *The Atlantic*, 70% of the cost of U.S. motorways was paid by motor vehicle drivers through gasoline taxes and tolls; 30% of the cost was supported by taxpayers through the revenues of state and federal taxes. By 2012 the burden of paying for U.S. roads and highways had shifted dramatically to 52% of the cost paid by general tax revenues and only 48% paid by drivers. At an increasing rate, general tax revenues have been directed to subsidize automobile use. The message and the practical conclusion is that more and bigger motorways are good for everyone – this cognitive dissonance has been replicated throughout the world.
- Few countries track "vehicle kilometers traveled," but in 2015, Americans drove 5.1 trillion km. Estimates suggest that, worldwide, the current VKT exceeds 100 trillion km.
- In spite of the adoption of best practices by more and more nations – seatbelts, drink-driving laws and child restraints – the worldwide auto-related death rate, according to the WHO, is over 1.3 million per year. Tragically, this figure includes 400,000 people under the age of 25.

- According to *The Washington Post*, the average daily commute worldwide (where statistics are available) is 40 minutes. The average daily commute in the U.S is 45 minutes; 76% of commuters drive to work alone. The average daily commute in the UK is 54 minutes. The Post study also found that Americans waste 15-31 days of their lives each year commuting.
- Of the 92 million barrels of oil consumed each day worldwide, use by private motor vehicles accounts for 46% of consumption or 42 million barrels per day.

Transportation technology has always been a robust force for making and remaking cities. Prior to the advent of the automobile, horses and sundry carts and carriages not only influenced the design and development of cities, but plagued them with congestion and sanitation problems. Still, the impact the automobile has had on cities throughout the world is singular. Since World War II, the automobile has played a vital role in the location of most of the human activities, particularly regulating work and residence. It has transformed our very concept of "city" and reshaped the landscape of nations.

This network of social and economic practices – commodities, laws, institutions, nodes of capital, and modes of perception – that coalesce around the automobile constitute what Foucault called a *dispositif* or "apparatus." The term is meant to identify a complexly interwoven and integrated meta-system that subsumes a crucial aspect of social reality in organizational life and has a determining effect on what is taken for granted and considered real. Structurally, we are, indeed, locked-in to an automobile-dependent model of civilization. However, because of the automobile's primal appeal, it may be more appropriate to use the addiction-model to fully describe the present state of the human condition. It has seduced us and has also now become indispensable. Gradually, our cities, our time, our treasure and our mental health have all become subjugated to the automobile. Worst of all, the automobile has eroded our sense of civility and empathy.

The effect of the car on everyday life is, indeed, a subject of controversy. The negative consequences of automobile dependence include the use of non-renewable fuels, environmental degradation, urban sprawl, a dramatic increase in the rate of accidental death, the disconnection of community, the rise in obesity, air and noise pollution and urban decay. In his seminal work, *Crash*, the British novelist JG Ballard observes,

> We spend a large part of our lives in the car, and the experience of driving involves many of the experiences of being a human being . . . I think that the 20th century reaches almost its purest expression on the highway. Here we see, all too clearly, the speed and violence of our age, its strange love affair with the machine and, conceivably, with its own death and destruction.

The automobile has fashioned unmistakable benefits – leisure, initiative, personal freedom and the palpable sense of possibility, but this love affair with the machine and the highway has also had a price . . . perhaps one too high. There is a massive body of social science and public health research confirming the negative effects of commuting on personal and societal well-being. In short, the benefit–detriment balance has tipped; *life*, in all its physical, mental and spiritual dimensions, is now in the grasp of a destructive addiction.

In the past 100 years the automobile has inexorably altered the structure of society, permeating the warp and woof of our cultural and personal existence. Yet, all the automobile's deleterious effects have gradually, but relentlessly, been normalized. The ubiquity of the automobile and our habitualized perception have blinded us to its corrosive effects on our quality of life. Every dire consequence of our addiction has come to be regarded as an unfortunate, but "natural" aspect of our milieu. In spite of two-hour commutes, road-rage, noise pollution, devastating environmental damage, heartbreaking death and injury and extraordinary personal and governmental expense as well as the less-quantifiable psychic costs, our devotion to the automobile seems undiminished. Undeniably, the automobile-apparatus poses a critical dilemma for life in the twenty-first century. Notwithstanding the human desire for mobility, convenience and self-determination, going forward the question must be asked: how do we supplant the current automobile-apparatus and extricate ourselves from its dependence. What will be our relationship with the automobile in the next 100 years? Telecommuting, vigorous public transportation policies, substantive legislative will, alternative fuel sources, pedestrian-centered cityscapes – we are only just now contemplating the answers that smarter technology and realigned life-style priorities could provide. There will be no silver bullet, no miraculous transportation revolution,

but as we apply our ingenuity to this challenge, the American humorist, Will Rogers, suggests a starting point: “If you find yourself in a hole, the first thing is to stop digging.”