

## The Role of Comfort in Product Design

### *The Evolution of the Car Seat, the Backpack and the Vegetable Peeler The Irresistible, Irreplaceable Quality that Links These Products with the New Logitech Comfort Wave Keyboard*

We put up with discomfort when we don't have an alternative. We put up with it until something better appears. And once in a while something new comes along that makes such a strong impact that we come to depend on it, to expect it to provide comfort, to feel that we deserve it. We know a product's redesign is successful when we find ourselves unable to believe that we ever used the previous version, or, better still, forget that the old design ever existed at all.

If comfort is something we all value once we have it, why do we put up with so much discomfort in our everyday lives? We sit in old, worn seats at the movie theater, our bodies sore from sitting in the same position for an extended amount of time. We type on our keyboards and stare at our computer screens for hours at a time. And, as the hours go by, we slouch, our vision blurs, and our necks and backs begin to ache.

Fortunately, some products – such as the car seat, the backpack, the vegetable peeler and, with the introduction of the Logitech Comfort Wave Design, the computer keyboard – capture the attention of individuals or companies dedicated to making them more comfortable, more in line with the human form. When those individuals or companies are successful, the design shift sets a new standard for comfort that we wouldn't want to live without.

#### **The Car Seat: Comforting the Weary Commuter**

In every city of the world, we see them: the weary commuter. Maybe you're among them.

The American Association of State Highway and Transportation estimates that in 2005, traffic congestion kept Americans sitting for 79 million additional hours in their cars. In Los Angeles, rush-hour traffic delays added 93 hours to the commute.

According to Edmund King, the executive director of the RAC Foundation for Motoring, England is a nation of car commuters. "We have the longest commute in Europe," King told the BBC, "and even if our commuting time doubled most of us would just shrug and leave more time for the journey."

The New Yorker magazine states that people working in Bangkok travel two hours every day to and from work. And, BusinessWeek reports that traffic jams in the Indian city of Bangalore can cause up to four-hour commutes!

Fortunately, car-seat design has improved tremendously. It wasn't always so comfortable and the evolution from bench seat to bucket seat is a story of gradual evolution.

Karl Benz's 1885 Motorwagen had a hard, wood bench seat that stretched from driver to passenger and a thin, curved beam that hit the upper back, providing minimal support. Though many later iterations of the bench seat had padded upholstery and more substantial back support, these bench seats were often fixed in one position. If you couldn't reach the pedals or the wheel, you had to perch on the edge of the seat.



1885 Benz Motorwagen with bench seat.

When Ford first began mass-producing the Model T in the early 1900s, the seats hadn't changed much. However, soon thereafter, gradual changes began to appear. While the '28 Model A's had the old fixed, non-adjustable seats, the '30 passenger models added adjustability to the front seats with a "worm gear controller," a metal rod that ran beneath the front seat to move the seat forward or back. In 1931, the most common Ford Model A, a two-door sedan, had two small stool-like front seats that people had to balance on when driving.

**Logitech's Definition of the Role of Comfort in Product Design (n.)**

1. Comfort is a state of delightful forgetfulness; a comfortable product goes beyond its function to add a quality of physical and emotional pleasure to an experience that would otherwise be unpleasant.



**1965 AC Cobra with bucket seats.**

Finally, with the introduction of sporty, compact cars in the '50s and '60s, such as the 1965 AC Cobra, the now ubiquitous bucket seat arrived to save us from the balancing act. Unlike the flat surfaces of previous seat designs, bucket seats conform to fit the shape of our bodies, leading to a more comfortable and enjoyable driving experience.

More recently, car manufacturers have added additional comfort features, such as lower back supports, headrests and heated seats. Today, instead of a worm controller, many cars have electronic controls that adjust the seats. The 2007

Volkswagen Jetta can even remember up to three different car-seat settings, automatically adjusting to a preset position with the push of a button.

Think of it. Just a few decades ago, people sat on bench seats – struggling to maintain good posture – while maneuvering busy streets. Isn't it unbearable to even imagine sitting on one of the car seats of the past?

Remember the wooden bench seat the next time you're faced with atrocious traffic. Try to keep in mind how lucky we are that today, we can turn on the seat heater, electronically adjust the tilt of the seat so that it's just right, lean back against the headrest and forget for a moment that we're stuck in traffic.

**The Backpack: The Instant Comfort of the Internal Frame**

Outdoor enthusiasts use frame backpacks to transport equipment and supplies across remote terrain, such as snow-covered mountain trails. There are two types of frame backpacks – those with frames that are housed within the backpack fabric, or internal frames, and those with frames that are fitted outside the fabric, or external frames.

Internal-frame backpacks, which have been around since about 1970, vastly outsell external frames, which have been commercially produced since the late 1920s. Most major sporting goods stores don't even carry externals anymore.

Though companies such as Logitech expend significant resources defining with great precision those visual cues that immediately convey the promise of comfort – a balance must be achieved so that the best innovations will be adopted, so that they will present themselves close enough to what usability expert Donald Norman, in his book The Design of Everyday Things, calls "mental models." These are "our conceptual models of the way objects work, events take place or people behave, [that] result from our tendency to form explanations of things. We base our models on whatever knowledge we have, real or imaginary, naïve or sophisticated." In this explanation, Norman illuminates the challenge companies face in overcoming traditions and expectations. We tell ourselves that the keyboard should have a certain shape because that's how it has been for many years; we don't question or challenge the old form. However, companies hoping to introduce a product that delivers comfort in a new shape must overcome resistance to the new form, the new story. They must strike the right balance between tradition and innovation.



Kelty

**Kelty internal frame backpack.**

The reason: internal frames tend to be lighter and easier to balance, supporting the way people naturally move. That's important to the people carrying these packs on their backs for long periods of time or with significant weight inside.

The World Health Organization states that eight out of ten people will suffer from lower back pain at some point in their lives.

According to the Japanese Ministry of Health, Labour and Welfare, more than 12 million Japanese experience back pain every year.

One hundred years ago, the backpack – or rucksack, as it's sometimes called – consisted of a heavy bag, often made of a coarse fabric such as burlap or canvas, and two straps. For

serious trips into the wilderness, or in warfare, the bag allowed people to carry more supplies than with the arms alone, but often at the price of serious physical discomfort.

Then in 1920, Lloyd "Trapper" Nelson was sent by the Puget Sound Naval Shipyard to Kodiak, Alaska. After completing his work for the Navy, Nelson took a short leave to hike into the Alaskan wilderness. A member of the local Native American tribe lent him the backpack his tribe had used for generations – a sealskin bag stretched over willow sticks. Though the bag improved on the earlier rucksack – and supported more weight by distributing the load to the willow frame – Nelson lay awake at night, with sore and bloodied shoulders, determined to come up with a better solution.

When Nelson returned to Seattle, he purchased an industrial sewing machine and after more than eight years of trial and error, developed a design that incorporated the wooden frame

with the rucksack. He was the first to commercialize the frame backpack in the U.S and within a year, the U.S. Forest Service wanted 1,000

Trapper Nelson's Indian Pack Boards.



TragerUSA

**Trager external frame backpack.**



Kelty

**Kelty external frame backpack.**

In the early '50s, Dick Kelty improved upon Trapper's external frame design by using aluminum instead of wood in the frame, as well as adding a hip belt. Kelty's innovations reduced the frame weight and, with the hip belt, transferred some weight from the back to the hips. In the early '70s, Greg Lowe introduced the Lowe 1972 Alpine Systems Expedition. This backpack featured interior aluminum stays (inspired by earlier internal-frame packs from Europe). Because internals sit closer to the body, they are much easier to use during popular outdoor sports, such as rock climbing or snow shoeing, that require good balance; for the same activities, the external frame might easily tip over or even cause the athlete to tip over.

Products that have a high level of contact with our bodies often evolve into more comfortable versions due to people and companies who carefully consider the body's shape and its point of contact with the object. Trapper, Kelty and Lowe were all motivated by the pursuit of comfort. They understood that rather than force the body to conform to the backpack, the backpack needed to conform to the body. Their thoughtful redesign benefited us all.

**Logitech's Definition of the Role of Comfort in Product Design (n.) 2. Comfort is a critical component of the design process; the value of comfort urges companies to create tailored products designed to fit the unique shape of the human body.**

### The Vegetable Peeler: A Gripping Example of the Importance of Comfort

**Logitech's Definition of the Role of Comfort in Product Design (n.) 3. Comfort is a source of support, both physically and emotionally; comfortable products strengthen our lives because we can rely on them to make our lives easier.**

The evolution of the vegetable peeler is an example of how one small change to a single product can affect the comfort of millions of people. For centuries people used a knife to take the skin off potatoes and other vegetables. Then Sam Farber came along.

Having retired after decades running the Copco kitchenware company, Farber must have felt pretty

uncomfortable watching his wife peel apples. The strip of metal that served as a grip just wasn't acceptable. And, to make things worse, Betsey Farber suffered from arthritis, which gave her more and more pain. At some point, Mr. Farber's concern led to action - he knew there must be a better way. With the help of Smart Design design agency, Farber began creating models to test the motions – twisting, turning, pushing, pulling, squeezing – people use when peeling vegetables. As a result of this research, Farber concluded that an enlarged handle and a rubberized grip could dramatically improve comfort. He could never have predicted the response.

Today, more than 20 years after its introduction, an OXO Good Grips peeler sits in the Museum of Modern Art in New York. And Mr. Farber's company, OXO International, produces an entire line of more than 500 products covering many areas of the home – each one featuring OXO's trademark plump, rubber grip.

Which makes us wonder: Why did we put up with the old version in the first place? And why did it take so long for this simple concept to come to market? What is it that motivates an individual to research and explore the possibility of a more comfortable product design?

#### **A Shared Concern: Desire for Comfort Inspires Logitech Comfort Wave Design**

In the examples of the car seat, backpack and vegetable peeler, it's a genuine desire by an individual or a company to provide the best tools for accomplishing a task – whether it be driving to and from work, walking a couple of miles or peeling vegetables in preparation for a family dinner.

Like those involved in the evolution of the car seat design, like Trapper and Kelty, like Sam Farber, it was a genuine desire to create a better, more comfortable typing experience that led Logitech's keyboard development team to create the Comfort Wave Design. Recognizing that fingers aren't all the same length, the team created a wave-shaped keyboard to mirror the varying height of your fingers. And like the redesigned car seat, backpack and vegetable peeler, once you try one of the new Wave keyboards, you'll realize that you could never go back to your old keyboard. You'll realize that you deserve to be comfortable. And you'll wonder why no one thought of the design sooner.



OXO  
**OXO Good Grips Swivel Peeler.**