

Bulletin

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On the Move

People, Ideas and Goods in Motion



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DISCOVER MORE

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**SINGAPORE
AIRLINES**
A great way to fly

A STAR ALLIANCE MEMBER 



The following contributed to this issue:

1 Julica Jungehülsing

Originally from Kiel, Jungehülsing has lived in Sydney since 2001. Her reports from Australia, New Zealand and other countries of the South Pacific have appeared in Stern, GEO, Die Zeit and SZ-Magazin. Jungehülsing's book "Ein Jahr in Australien" was published by Herder in 2007. In this issue of Bulletin, she describes an idea that is typically Australian – the concept of a "fair go": Practically nowhere else on earth are opportunities to advance in society as great as they are Down Under. *Page 28*

2 Tim Georgeson

A photographer, filmmaker and creative director, Georgeson contributed the photographs that accompany the report by Julica Jungehülsing. Georgeson has worked in war zones and photographed rock concerts. His photos have appeared in National Geographic, the New Yorker, Newsweek and many other publications. His advertising campaigns for Heineken and the World Wildlife Fund (WWF) have been seen all over the world. *Page 28*

3 Steffan Heuer

Heuer is the US correspondent for the German business magazine brandeins and co-author of the book "Fake It!: Your Guide to Digital Self-Defense." Here, he discusses data protection, privacy issues and the useful (and unsettling) prevalence of electronic navigation. *Page 40*

4 Ole Häntzschel

A Berlin-based graphic designer, Häntzschel specializes in presenting complex information in an interesting and readily understandable way. He works for international companies and media, and has won numerous awards. In this issue, he depicts a world in motion: passengers, freight, communication, traffic congestion, commuters and many other aspects of mobility. *Page 48*

Freedom of Movement Today

The whole world is on the move. Cars, trucks, bicycles, airplanes, ships and trains are more numerous than ever before. Never has there been so much running, hiking, commuting and traveling. Emigration and immigration are becoming increasingly common. Goods are being transported; capital is being shifted from one place to another. The world is smaller today than it was in any previous generation – thanks to both physical and virtual mobility. Ten years ago, ubiquitous high-speed internet, low-cost telecommunications and the option of mobile availability anytime, anywhere were not yet a reality. Today, life without them seems inconceivable.

This issue of Bulletin focuses on the freedom of movement we enjoy today, looking at it from a wide variety of perspectives and in diverse settings. We show how introducing standardized containers has allowed global trade to flourish – and we tell you where the next revolution in transportation is likely to occur (page 24). In a feature report, we visit Australia to learn why social mobility there is greater than elsewhere – why people are able to move up in society more easily than in most other parts of the world (page 28). And we introduce Elon Musk, the Henry Ford of our time. Much like his countryman, who sold over 15 million Model T cars in the first part of the 20th century, Musk is hoping to win over the public with a new vehicle: a battery-powered car. The Tesla is currently available as a luxury sedan, with sales comparable to those of similar Porsches or Audis, but more affordable Tesla models will soon be on the market as well (page 56).

We present a set of infographics showing how the world has become more mobile (page 48). We go on vacation (page 66), and we accompany two-time Pulitzer Prize winner Paul Salopek on his seven-year (!) trek retracing the steps of the earliest modern humans as they ventured forth from Africa to populate the rest of the world (page 43). So much movement, at such a rapid pace, is positively dizzying, as Heidi Bohl might put it. A 60-year-old restaurant owner from the Toggenburg region in Switzerland, she has spent no more than a few days outside of Switzerland in her entire life. Has she missed anything? No, she replies, "When you're happy, there's no need to go anywhere" (page 78).

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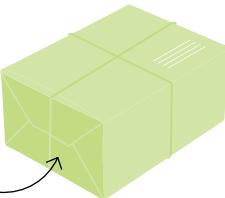
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Heidi Bohl has only ever left Switzerland twice. "Why should I leave?" she asks.

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Data analyst Xu Di uses a bicycle station in Hangzhou, China. Photo by Wenjie Yang.



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On the Move

As long as humankind has existed, people have moved from place to place. Today, thanks to communication technologies, we can even travel without leaving home. The world has become a village – but we still want to discover it for ourselves.

By Sara Carnazzi Weber

Human history has always been shaped by movement, whether motivated by necessity or compulsion, a thirst for adventure or discovery, or economic success.

Technical progress has changed the nature of mobility and expanded the areas in which we are able to travel. Milestones have revolutionized human life – the invention of the wheel, the steam locomotive, the automobile and civilian aviation have transformed our view of the world and opened up new opportunities.

Advances in information and communication technologies have truly created a global village. Suddenly virtual mobility has become a possibility. With the internet and mobile telephones making inroads into more and more aspects of our lives, we may even wonder whether virtual mobility might some day replace physical mobility altogether.

Internet in Three out of Four Households

Yet physical mobility and long-distance communications have always existed side by side. The people of ancient times used fire and drums to send messages when distance made face-to-face communication impossible. Written messages, whether produced with pen and paper or with the help of a printing press, opened up new avenues for communication across time and space. The possibilities expanded exponentially with the advent of electronic communications. A desire to take advantage of time that would otherwise be spent traveling spurred the development of telecommunications technologies.



Whether to make the trip or just a telephone call? The brave new world of communication.

With the invention of the telephone in the late 19th century, people began to speculate as to whether this new tool might take the place of physical movement. Much of the utopian literature of the turn of the 20th century depicted a future society in which interactions would take place exclusively through teleconferences. How much of these scenarios has become reality?

Not very much. To be sure, the electronic communications that began with the telegraph and telephone have made dramatic progress, particularly in terms of speed and availability. The internet, email and mobile phones have become ubiquitous, and they render travel unnecessary in countless situations. In the OECD countries, the number of households with internet access has grown from 28 percent to 75 percent over the past decade. The number of

It has become nearly unimaginable to meet without first exchanging cell phone messages.

cell phone users has jumped from 15 million to 1.35 billion since the beginning of the 1990s. But during this same period the increase in travel has continued unabated. Since 1970, the number of kilometers traveled by car has more than doubled, increasing by 25 percent in the past decade alone. Hopes that success in connecting people through computers might alleviate traffic-related problems – ranging from environmental pollution to the daily stresses endured by commuters in congested cities – have not been fulfilled. Or, to look at it from another perspective, the fear that interpersonal relationships would wither in a digital world has proved unwarranted.

Increasingly Efficient Movement

Yet the relationship between physical and virtual mobility is more complex than simply a choice of one or the other. The options provided by modern communications technologies can take the place of physical movement. When businesspeople hold a telephone conference, there is no need for them to travel. Telecommuting and distance learning make traveling to a workplace or training site unnecessary, and commercial and service websites allow users to shop, make bank payments and take care of administrative tasks without actually having to visit an office or business.

Virtual and physical mobility can also complement each other, as when telecommunication makes physical mobility more efficient. Mobile phones are often used to plan or reschedule an in-person meeting. It has become nearly unimaginable to meet without first exchanging a flurry of cell phone messages to determine location and time. Complex types of telecommunications can serve a complementary function as well. We can hardly conceive of managing air or rail travel without such tools. And “intelligent” transportation systems that provide real-time road information can help to optimize traffic flows.

“Mr. Watson, I want to see you”

Finally, virtual mobility can encourage physical mobility. When people can be productive during their travel time, using mobile phones or laptops, they are less tempted to restrict their physical movement. Many prefer a longer commute by public transportation to a shorter but less productive commute by car.

Most importantly, when people become aware through modern means of communication of the options that are available, their desire to travel increases. They may decide to take a trip after receiving a telephone call or email; online information about a protest can draw large numbers of people out onto the streets. And on the internet, you may meet people you would like to get to know in person.

As more and more information about individuals, potential business partners, places and countries becomes accessible online, there is greater interest in getting to know them in person, which in turn increases travel activity. Just as interest in discovering the world was triggered by maps and accounts of travel to faraway countries hundreds of years ago, today the readily accessible virtual world makes people want to discover the actual world. The first words that Alexander Graham Bell, the inventor of the telephone, is said to have spoken into his telephone in 1876 express a desire that we can relate to today. His message to his assistant: “Mr. Watson, come here, I want to see you.”

As technology advances, virtual mobility will be able to take the place of actual mobility in even more ways. But these advances will also encourage physical mobility and travel – particularly since much of the world’s population has not yet reaped the many benefits of mobility.

One of the major challenges of the future will be to deal with increasing physical movement in the world. The traditional urban model, with jobs located in central areas and homes on the periphery, is at risk of collapse. Further challenges include increases in energy consumption and environmental pollution. There are a number of ways to address these issues, ranging from optimizing traffic management to implementing futuristic transportation systems, and from creating economic incentives by raising prices to providing for the common use of resources. We will also need new approaches to urban planning. Virtual mobility will be helpful in dealing with these challenges, but at the same time it will continue to be part of the problem. □

My Life, My Path, My Bicycle

It is handy, easily available and inexpensive, good for the environment and sometimes it even provides for economic livelihood. Bicycles are solving traffic problems throughout the world and making their owners happy.



**Bicycle Sharing Program
Hangzhou, China**

Xu Di, 31, data analyst:
“In Hangzhou, there is a bicycle station almost every 300 meters and an app shows availability. Many residents don't have their own bicycle anymore; it's far more practical to borrow one. My wife and I borrow two when we visit my parents, they don't live far away.”



2
E-Bike
Zurich-Altstetten,
Switzerland

Verena Streit, 62, retiree:
“The Flyer changed my life.”

After retiring in 2011, a colleague suggested that I do a bicycle tour. That's when I had the idea to buy 'Pinky,' my first e-bike, it's bright pink. I've since bought a second e-bike with a stronger battery. I ride for pleasure and am enjoying getting to know Switzerland on my e-bike.”



Raahgiri
Gurgaon, India

Amit Bhatt, 38, is a transportation specialist and co-organizer of the "Raahgiri" or car-free Sunday: "India should not make the same mistake as the Western industrialized nations that have invested in automobile infrastructure and, as a result, become mired in traffic problems. We need modern concepts and more bicycles."





**Bicycles as Goods Transport
Ruiru, Kenya**

Laban Njoroge, 42, farmer:
“I use my bicycle to transport grass for my three cows. I have a barn, but not my own land, so I go to other farms to cut grass. That costs me one franc.

Then I get water and hang three canisters on the bike. My friend here uses his bike to bring firewood to the market. Incidentally, my bike is 20 years old, it cost 48 francs back then – I like it because it is built like a rock.”



Laura Kastelijn, 34, model:
“Like almost all Dutch people,
I was practically born on a
bicycle; I've been cycling since
I was two years old. My first
bike was a 'Winther tricycle',
the same model that my
three-year-old son Dolf is
now riding. I recently bought
a cargo bike so I can transport
the children. We could have
bought a car, but the children
love the cargo bike.”



**The Folding Bike
London, UK**

*Olaf Storbeck, 40,
finance journalist:*

“The ‘Brompton fold-away bike’ is my constant companion in London. It takes 15 seconds to fold it down to the size of a briefcase. I take this bike everywhere I go – up to my apartment, to the office, the pub. It fits into a supermarket shopping cart, in the coatroom at the theater, on the floor of a taxi.”





**Bicycle Paths
Buenos Aires, Argentina**

*Ignacio Aladro, 44,
judicial officer:*

“Buenos Aires is an exciting city for visitors and residents alike. The distance between my apartment and my office at the main courthouse is ten kilometers, and there is a direct subway connection. In Europe, this ride would be uncomfortable at rush hour, but here, it is hell. Because I wasn’t willing to be transported like cattle anymore, I switched to the only means of transport that allows me to get somewhere in this city at least halfway on time.”







Bicycle Sharing Program in Hangzhou, China

"In the history of our planet, no means of transport has spread so quickly as the shared bicycle," explains British traffic specialist Peter Midgley: There were only a handful of cities that offered bike-share systems around 2000. Today, there are more than 500 cities with a total of more than 500,000 bicycles.

Bike-share systems are most widespread in Asia. There are 79 cities with bike-share systems in China alone. One example is Hangzhou. Neighboring Shanghai, this city of 6 million created the country's first computer-based bike-share system in 2008, now with almost 70,000 bicycles available for use. About 3,000 stations are spread around the city and the red bicycles are integrated into the public transportation system. A smart card allows users access to bicycles and to pay for all means of transportation. An app displays the stations' locations and bicycle availability.

It has yet to be determined whether there is a connection between bike sharing and the satisfaction of the residents of Hangzhou (surveys show it to be the happiest city in China), yet the government's goal is to make China once again the "Kingdom of Bicycles." Hangzhou seems to be well on its way. Following a drop in cyclists from 43 percent (2000) to 34 percent (2007), the figure rebounded to 37 percent (2009) after the bike-share system was launched.

- The initial investments in the system in Hangzhou amounted to CHF 25 million.
- Bicycles can be used free of charge for the first hour, then the prices begin to rise progressively. The next hour costs 15 cents, the third hour 30, etc.



E-Bike — Zurich-Altstetten, Switzerland

Every seventh bicycle sold in Switzerland is an e-bike, about 230,000 of them are already on the roads and the Swiss Bicycle Information Office (SFZ) estimates that the number will reach a half million within ten years. With the growing number of electric bicycles, the customers have also changed.

Roland Fuchs, director of the SFZ and spokesman for Velo Suisse says that the first people who bought e-bikes from e-bike pioneer Flyer were mainly "physicists and other tech enthusiasts" interested in environmentally-friendly transport solutions. Between 2002 and 2005, as sales of e-bikes rose annually from around 500 to 1,000, many older people were added to the mix as customers. Then, starting in 2006, as sales of battery-driven bikes practically doubled, reaching sales of 50,000 e-bikes per year, they also became trendy among younger women. The main reasons for purchasing e-bikes were topographical conditions, such as hilly areas and the need to transport children in a trailer.

Up until 2010, e-bikes topped out at 25 km/h, then came the 45 km/h model, making the e-bike a fast, sporty vehicle with a greater appeal for men. Young people have yet to get on board, due to the high prices of e-bikes.

- In Swiss cities, public transportation is the e-bike's greatest competitor. The better the public transportation, the fewer e-bikes you will see on the roads.

– With the major increase in e-bikes, the number of accidents has also risen. However, TCS offers safety classes for e-bikers. But experts do not believe that e-bikes are, in general, more dangerous; there are simply more accidents because there are more bicycles.



Raahgiri — Gurgaon, India

The idea of closing off a section of the road to make it available to residents has been around for a while. The first initiatives can be traced back to the 1960's. The concept became popular in Colombia with the Ciclovía Recreativo in Bogotá (1976) where a 120 km section of the road was closed Sunday after Sunday so that two million people could ride bikes, do yoga, go jogging or take a walk.

A Ciclovía can have different goals. It can inspire local residents to exercise or promote the use of the bicycle as a means of transport. Even Switzerland has held its own version of Ciclovía. In 1973, at the height of the oil crisis, the car-free Sunday was meant to encourage the population to save gas. Later on, referendums for car-free Sundays were rejected (1978 and 2003).

The Raahgiri in Gurgaon started only last November. The car-free Sunday in this satellite city of New Delhi with about one million inhabitants, is based on the Columbian model, but with a strong political component. India's major cities are becoming mired in traffic chaos. The bicycle could help solve certain traffic problems, yet it is seen as transportation for the lower class. The organizers of the Raahgiri (Raah = path, Giri = rebellion) want to change this. The bicycle should be seen as an integral part of a modern transport concept that is supported by the government.

- Traffic deaths in India per year: 140,000.
- In Gurgaon, 33 percent of people on the road are pedestrians or cyclists, but less than 23 percent of the roads have intact sidewalks and bicycle lanes are non-existent.
- Raahgiri: Every Sunday, about ten kilometers of road are blocked off to cars in Gurgaon so that 15–20,000 people can enjoy walking or cycling without traffic. The initiative has received many awards and has already spread, with new Raahgiris being held in Mumbai and Ludhiana.



Bicycle as Goods Transport — Ruiru, Kenya

In many countries in sub-Saharan Africa, the bicycle is more than a way to get places or to exercise. It is an economic factor and a source of income for many families. Mobility is a basic requirement to secure a regular income. Because cars are expensive, the roads bad and gas availability unreliable, the "Bodaboda" or bicycle taxi is indispensable for transporting people and goods. The first Bodabodas appeared in the 1960's and 1970's and were sometimes used by smugglers, hence the name. Boda means border in English, as in the border between Kenya and Uganda. The bicycle spread from there.

In rural areas, the bicycle is indispensable for farmers. Well over half of Kenya's population lives from farming, mainly operating on very small plots of land. Farmers must cover the distance

between their homes and the land they are farming and seeds have to be transported and the harvest brought to merchants.

But the bicycle also plays a greater role. It helps maintain contact to the next village, provides access to schools, health care, water and other important necessities.

- The bicycle is the most important means of transport in Kenya, where about 90 percent of the roads are unpaved.
- A Bodaboda driver rides about 50 kilometers per day.



Cargo Bike — Hilversum, the Netherlands

One in ten citizens owned a bicycle in 1896 and domestic manufacturers were producing one million bicycles per year – almost half of the world's production. If you think this is Holland, you'd be wrong. At the end of the 19th century, another country was leading in bicycle transport: the US. In the Netherlands at that time, the bicycle was still a luxury for the upper class.

By 1930 the world map of bicycling looked entirely different. In the US, bicycle density had dropped considerably, with every sixth American now owning a car. The trend was absolutely the opposite in the Netherlands: There was one bicycle per 3.25 inhabitants. What happened? Bicycles became popular due to lower production costs and higher wages among workers. At the same time, the Dutch government supported cycling very early on. By 1932, the country already had 1,400 kilometers of bicycle trails.

As in many other European countries, the car enjoyed its heyday in Holland between 1950 and 1975, while bicycle use stagnated. Yet the many car accidents (in 1971, more than 3,000 people died, 450 of them children) resulted in political movements like "Stop de Kindermoord," and the oil crisis accelerated the need for fuel-free transport.

The comprehensive "Masterplan Fiets" (Bicycle Master Plan), which took seven years to prepare (starting in 1990), and major investments in bicycle infrastructure made Holland what it is today: one of the leading bicycle countries in the world where, instead of using the car, entire families take to the roads with Bakfiets (cargo bikes) built in the Netherlands.

- The bicycle as the primary means of transportation (selected countries): The Netherlands (31%), Germany (13%), UK (2%).
- Per capita investment in bicycle infrastructure (selected cities, in euros): Groningen: 26, Amsterdam: 25, Copenhagen: 23, London 11.5, Berlin: 2.4.
- Traffic index: Amsterdam ranks 50th among 60 European cities with only 19% congestion. In comparison:
1st Moscow (74%), 2nd Istanbul (62%), 8th Paris (35%),
18th Berlin (27%), 57th Bern (16%).



Folding Bike — London, UK

The UN has estimated that five billion people worldwide will be living in cities by 2030. Space is already tight and the roads overflowing in New York, Tokyo and London, to name a few.

The folding bike is the perfect mobility concept for solving the specific traffic problems of the big city. The company that began producing the folding bike in the 1970's is now experiencing

a resurrection. The bike that folds down to the size of a briefcase made by the West London manufacturer Brompton is today a cult object. The hype around the Brompton bike is huge, and with its small wheels and curved top tube, this cycle makes hybrid commuting possible. People can ride part of the way, then go by public transport or car. It's also ideal for small apartments and is nearly theft-proof. You can take it into the office, museum or theater and hand it over to the coatroom attendant.

Brompton produces about 35,000 handmade folding bikes annually, of which 80 percent are exported. Depending on the options, the bike costs from 1,500 to over 2,500 Swiss francs. With just 160 employees, Brompton Bicycle Ltd. is one of London's largest manufacturing operations. In 1995 the company was honored for its export successes with an award from the Queen.

- Brompton will soon be launching a folding e-bike.
- The company is also planning a bicycle share program; they are developing a system that holds 40 folding bikes in the area of a parking space.



Bicycle Path — Buenos Aires, Argentina

Buenos Aires is flat like Amsterdam, enjoys twice as much sunshine as Copenhagen and its temperatures are about 14 degrees warmer than Hamburg on average. Argentina's metropolis would be an ideal bicycle-friendly city, but most of its inhabitants consider the bicycle more as a child's toy, torture device or transportation for the lower classes.

Confronted with a growing torrent of cars on its roads, conservative mayor Mauricio Macri has been forced to consider affordable traffic solutions. Inspired by the European bicycle culture, he began investing in bicycle paths in 2009. However, buses, taxis and motorcycle couriers declared cyclists as their natural enemy and have turned the bicycle paths into waiting zones, bus stops or express lanes.

Nevertheless, more and more residents are leaving the crowded buses and bottlenecked roads for the 130 kilometers of wide bicycle paths and trails separated from the road by cement barriers.

- There are now about 150,000 commuter trips made by bicycle every day in Buenos Aires, five times more than before the construction of the new bicycle paths in 2009.
- The bicycle now makes up about two percent of all inner city traffic; the government's goal is five percent.

Reports and design: Simon Brunner, Andreas Fink, David Schnapp



“I became an economist thanks to a Russian satellite”

Laura Tyson, advisor to Barack Obama and the first dean of the London Business School, discusses the advantages and disadvantages of globalization, increasing inequality and gender quotas.

By Daniel Ammann (article) and Dan Cermak (photos)

Professor Tyson, people are more mobile and economically interdependent than ever before. If you had to respond in a single sentence, would you say this is good or bad?

As an economist, I believe that closer ties in the global economy are a good thing overall.

Why?

The transnational exchange of goods, services, capital and people plays a significant role in the economic growth of individual countries and the global economy. It creates wealth. This has been shown by a new study by the McKinsey Global Institute in which I was involved. We looked at the development of 195

countries over the past 20 years.* The results are clear. Countries that are open to such exchange have benefited, while those that are not have fallen behind.

What benefits does globalization offer?

British economist David Ricardo described the beneficial effect of foreign trade 200 years ago, and he has been proved right. It's about specialization. A division of labor allows countries to concentrate on what they do best, such as manufacturing goods that they are able to produce more cost-effectively than other countries. On a global scale, this increases efficiency and output. The world is governed by scarcity, and we >

“Overall, the benefits outweigh the negative”: Economics professor Laura Tyson.

need to use our resources as efficiently as possible. This is beneficial for all of the countries involved. So the first benefit of globalization is specialization and efficiency. Number two is competition: As the world becomes more mobile and interconnected, there is more competition between countries and companies. This leads to new, better, innovative solutions.

Do you see political as well as economic advantages?

Absolutely. More exchange, more global trade, helps us to understand the rest of the world, especially our differences. This is important for geopolitical relations and international stability. And not least, globalization allows us to address global challenges, such as climate change.

What are the disadvantages of a more mobile and highly interconnected world?

Interdependence and globalization also lead to structural transitions that can have a negative impact on certain countries, companies and individuals. Let me give you a simple example. I just mentioned specialization: Let's say you're a farmer in a small community, or you manufacture a product for a small number of customers. Suddenly an outsider appears who is able to do your job better and more cheaply. That's a good thing for the economy because it increases efficiency. But for you personally, of course, it has a negative effect, perhaps even robbing you of your livelihood. Or take the example of trade between the US and China: Americans benefit, since it allows our companies to sell their products in China. But it has had the effect of moving some of our production abroad, where labor is cheaper. It has also meant that some jobs and entire companies have left the US or disappeared altogether.

There are winners and losers.

Overall, as I've pointed out, countries and the global economy are benefiting. The question, however, is how these benefits are distributed. One might imagine a world in which the winners provide



"Global trade helps us" (Photo: Apple Store in Hong Kong).

compensation to the losers. The benefits are ample enough for that to be possible.

Is that only a theoretical possibility?

Unfortunately, countries have not really committed the resources to do that. As a society, we haven't yet succeeded in providing adequate support to globalization's losers.

What might be done?

The Nordic countries, and particularly Denmark, are pursuing a policy of "flexicurity," which combines a high level of flexibility in the labor market with an active employment policy and a social safety net.

Can you give a specific example?

Let's assume that you have completed your training, you have certain skills, and you are doing relatively well in your job. And then international competition pushes you out of your industry. If you find yourself in such circumstances, you need to be able to be flexible without having to worry about your family's welfare. Perhaps you will need retraining, and you may even have to relocate to find a new job. The Scandinavian countries make sure that people in such difficult situations receive enough income support to look after themselves and their families. To put it in general terms, structural transitions must be handled in a socially responsible way.

How has the exchange of goods and persons changed over the past 20 years?

The McKinsey Global Institute study shows growth particularly in the exchange of goods. Within that category, there is more trade in technological products. In the past, international trade tended to focus on labor-intensive goods, such as clothing and agricultural products. This shift reflects trends in the global economy. You may find it surprising that there has been no substantial change in the movement of persons. Of course, people are traveling more today than they used to. However, less than three percent of the world's people leave the country of their birth to settle in another country.

Laura Tyson, 67, is one of the best-known economists in the United States. She chaired the Council of Economic Advisors in the Clinton administration from 1993 to 1995, and helped to shape its economic and trade policy. She was appointed dean of the London Business School in 2002 as the first woman to hold that position. Today she is a professor at the University of California, Berkeley, and a member of President Barack Obama's Economic Recovery Advisory Board. She sits on the Boards of Directors of Morgan Stanley, AT&T and Eastman Kodak and serves as an advisor to the Credit Suisse Research Institute.

Why so few?

The first reason, of course, is that countries have laws governing immigration. They don't make it easy to live and work in a foreign country. And there are also language, cultural and social barriers. For individuals, moreover, emigration involves unknown risks. As a result, the world is far more interconnected in the area of goods and capital than in the movement of workers. Indeed, it is more likely that jobs will move than the people who perform them.

You tend to take a cautious view of capital mobility. Why?

I have no problem with capital that is invested over the long term. But short-term, largely speculative investments can be very dangerous, particularly for emerging and developing countries. Short-term capital can be quickly withdrawn, for example in response to changed political or economic circumstances. This can rapidly exacerbate a country's difficulties, plunging it into a serious crisis and recession. We have seen this repeatedly, for instance during the debt crises in Latin America in the 1980s and in Asia in the late 1990s. A number of economists and policymakers

have therefore called for better controls on the inflows and outflows of short-term capital. Emerging and developing countries, in particular, need "patient" capital that is invested over the long term, making it possible to fund development.

The middle class and the socially disadvantaged have been hit hard.

It appears that people in the Western industrialized countries are becoming increasingly skeptical about globalization, seeing more risks than benefits. Many countries are tightening their immigration laws. There is a trend toward protectionism.

What went wrong?

The global economic crisis that began in 2008, and the slow recovery since then. There is a widespread perception that the burdens of the recovery have not been evenly shared. The middle class and the socially disadvantaged have been hit hard. The recession destroyed jobs and livelihoods and put pressure on wages. Many apparently believe that the

elites have done better – the people who caused the crisis and are at the top of companies – in other words, the elites of globalization.

There are increasing calls for protectionist measures.

It is understandable that one response is protectionism, a desire for protection against external influences – and that people are blaming those who are different from themselves. It's hard enough in normal economic times to convince the economic winners to help the losers.

Although we haven't actually called it by name, we've been talking a great deal about the central issue of this period: economic inequality.

That's exactly what it's all about.

Can you explain why inequality is a problem?

First of all, it's important to note that economic inequality is leading to rising tension because this is a trend that has been with us for quite some time.

You warned about it a long time ago.

I recently came across a memo that I wrote for Al Gore in 2000 when he was running for the presidency. In it, I listed the five biggest problems facing the American economy. One of them, in fact, was the increasing economic inequality.

So why is it a problem?

The richest one percent of the population accounts for a very large share of the country's national income and is pulling away from the rest. Middle-class incomes, on the other hand, are stagnant or experiencing only slow growth. If all wages were to increase, inequality would be seen as less of a problem. As it is, however, economic growth is being undermined.

In what way?

The middle class makes up the largest group of consumers. And consumption accounts for the highest proportion of overall economic demand. When >



"Good work": Tyson with US President Bill Clinton in Washington, 1999.

middle-class incomes are stagnant, consumption remains stagnant as well, and growth slows down. Studies have also shown that greater equality promotes economic growth. It helps to offset business cycles, since the middle class continues to consume, thereby supporting the economy. But the biggest problem with inequality is probably the loss of talent. It leads to an erosion of equal opportunity. This is at odds with our sense of fairness and justice.

Please explain.

We are losing many talented people from disadvantaged families who no longer have the opportunity to develop their skills and talents – for themselves, their families and society as a whole. A growing share of the population is caught in the disadvantaged circumstances it is born to, with little access to education and training. We are seeing very disturbing trends. Increasing economic inequality is causing a decline in social mobility from one generation to the next. In other words, inequality prevents people from moving up in society.

That has been a motivating principle for generations. If you work hard and apply yourself, you can be more successful than your parents.

Exactly. We have said that you can make it if you really want to. Here is the ladder, you just need to climb it. And now we're removing the rungs. We're depriving ourselves of that talent.

What can be done to alleviate economic inequality and maintain social mobility – the chance to get ahead?

Before I answer your question, let me lay out my basic assumptions. The market creates income inequalities. Certain skills receive higher compensation than others. This results in economic inequality. What can we do about it? In the short term, policymakers can use the tax system to correct the market. Income can be taxed at progressive rates, with the revenues used for redistribution. One might also consider a negative income tax, an old idea from Milton Friedman:

Those earning less than a certain amount would pay no taxes, but instead receive money from the government to assure a minimum standard of living. So taxation is one approach. Policies could also be put in place to provide more transfers to families – for health insurance, child allowances, training benefits, pension subsidies and similar purposes. The European welfare states do far more in this regard than the United States.

The counterargument is that tax increases drive away those who pay the high taxes needed to finance the welfare state.

In most European countries, social benefits are financed not by direct taxes, but rather by a value-added tax. When seeking to reduce inequality, it is very efficient to use this non-progressive tax to finance social-assistance programs that have a progressive effect.

Certain skills receive higher compensation than others.

You were the first woman to be appointed dean of the London Business School, in 2002. It is our impression that little progress has been made in recent years in achieving gender equality in the business world. Are we mistaken?

It varies a lot by sector. When it comes to American higher education, I don't share your perception. Many women hold high positions at universities, including highly prestigious institutions. The president of Harvard is a woman, for example. Women have made great strides in the field of education, and that also holds true for economics departments. Many countries have succeeded in closing the education gap; in many disciplines, more women than men are completing their degrees.

And how about in the private sector?

During the first decade of the current century, the United States showed little

progress in women's wages and their representation in top jobs. In a number of European countries, on the other hand, we have seen pretty aggressive moves including gender quotas for corporate boards and top management positions. But the largest gap, globally, is in politics. Women make up a very small percentage of leaders at the presidential and ministerial level.

Christine Lagarde, Managing Director of the International Monetary Fund (IMF), made the following comments to the Financial Times two years ago: "When I was a lot younger, I was dead against quotas. I thought at the time that we as women should be accepted on our own merits. But as I'm getting older, I see that it's moving on too slowly. And now I support quotas. I support quotas in companies. I support quotas in political circles as well." How do you see this issue?

I agree with Christine Lagarde that progress is too slow. I am a bit older than she is, and I never gave any thought to quotas. But I certainly would not have wanted to be recruited as part of a quota.

Why not?

Everyone would have known that I was selected because of the quota. Would my colleagues have treated me the same? This is what makes me skeptical about quotas. I have no doubt that we would find enough well qualified women to fill a quota. But people would assume that those women owed their positions to the quota rather than to their performance. That's the downside.

Have you experienced disadvantages in your career because of your gender?

No, in fact I think that as a woman I have benefited from the women's liberation movement and from the growing gender consciousness. The academic institutions that I was interested in were making active efforts to recruit a higher percentage of women at the time. For example, the Massachusetts Institute of Technology (MIT) in Cambridge was very happy to have me enroll in its



"I wouldn't have wanted to be hired to fill a quota." Tyson in Zurich.

doctoral program in economics. I was the first student from a women's college to attend MIT. My gender was also an important factor when Bill Clinton appointed me to the chairmanship of the Council of Economic Advisors. There were no formal quotas, but I'm sure I benefited from being a woman.

What was the response of your male colleagues?

(laughing) Many of my colleagues were really furious. Some of them were foolish enough to express their anger publicly, suggesting that I wasn't as well qualified as they were. Of course, I benefited from being a woman. But I did good work for Clinton, not because I was a woman, but

because of my ability to deal with economic issues.

If Hillary Clinton decides to run for president, how would you respond if she were to ask you: "Laura, what are the best instruments for promoting upward mobility for as many people as possible?"

To respond, let me tell you something of my own life story. From the very beginning, it is a story of publicly funded education. My father was the son of poor Italian immigrants who lived in an impoverished area of New Jersey. His chances of moving up in society were very, very small. Then he served in the US army in World War II. After the war, he received benefits under the GI

Bill, which was a law that provided financial support for returning soldiers, allowing them to complete training or go to college. My father went to night school and was subsequently able to pursue a successful career. I personally benefited from the National Defense Education Act, which financed my entire graduate education.

Can you tell us more about that law?

It provided for an enormous increase in US spending on higher education and scholarships – particularly for socially disadvantaged families – to promote science and technology. It was passed after the Soviet Union launched a satellite, the famous Sputnik, into orbit in 1957 – the first country in the world to do so, ahead of the United States.

You profited from "Sputnik shock"!

Indeed, I became an economist thanks to a Russian satellite (laughing). To come back to your question about the best instruments for promoting upward mobility. I'm convinced that education is what makes the difference. Countries need to see to it that children are offered equal educational opportunities, regardless of the socioeconomic status of their parents. □

* McKinsey Global Institute, *Global flows in a digital age: How trade, finance, people, and data connect the world economy*, April 2014

A Box on the Move

A steel box has revolutionized trade. Thanks to the shipping container, bilateral trade in the northern hemisphere has increased nearly nine-fold in 20 years.

By Tim Sprissler

There's a lot of cargo on the move in boxes. Since the middle of the last century, a revolution has been underway, one that was necessary for the current global nature of the economy: the introduction in 1956 of the shipping container, known in the industry as a "box."

The revolution, to put it simply, lies in the ability to move a container between truck, train and ship during the transportation of goods rather than loading a lot of individual boxes, bottles and bags. As a result, it is no longer necessary to handle the goods themselves. This saves time and money, which, in addition to other developments such as abolishing customs and excise, has driven global trade and the global division of labor since the 1960s. According to estimates, the introduction of the box alone increased the volume of trade in the northern hemisphere nearly nine-fold in 20 years.

An Unreasonable Idea

The productivity of port workers rose sharply because it was no longer necessary to handle pieces individually. For example, British ports could now handle 30 metric tons of goods per hour – over 15 times more than before. Thanks to direct loading from road and rail to ship, one of the bottlenecks that accounted for nearly half of transport costs as late as 1960 was eliminated. As a result, larger ships with greater capacity could be used. Previously, such ships were not very practical, as they only increased the waiting times in clogged harbors. The global division of the value chain was thus greatly simplified. In this process, specialized producers manufacture goods in high quantities, which reduces the fixed cost per unit.

The use of containers also changed financing. Unproductive time was decreased starting from preproduction, and with it the amount of tied-up capital, as the precursors arrived at the processing location more quickly. Insurance costs went down as well, as the goods were "sealed" in containers and better protected against loss and theft. Finally, the number of parties and contracts involved in transportation fell. The process became simpler and more reliable. The use of containers in the US

Cargo for the Vietnam War was often shipped in containers.

was also a response to increasing wage costs and strikes promoted by powerful unions.

From today's perspective, the introduction of containers may appear logical, even obvious. At the time, however, they seemed anything but practical, as a number of expensive adjustments were necessary. When US transportation entrepreneur Malcom McLean used containers for a shipment from Port Newark to Houston for the first time in 1956, he used a converted tanker from World War II and the existing port infrastructure to load his 58 boxes. The price for standard usage and complete utilization of the advantages was extremely high. Container ships cost nearly four times as much per cubic foot of cargo space compared to traditional shipping. A container crane cost 1.75 million US dollars, and the container itself was 3,500 US dollars. In the first decade fol-

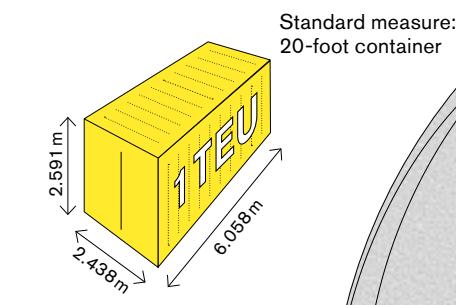
lowing their introduction, Australia was the only country to use containers besides the US, also initially for domestic transportation only.

The US Army on the Forefront

The first international usage occurred in 1966 with the transportation of boxes between the eastern coast of the US and Europe. Following the standardization of the container size at 2.6 meters high, 2.4 meters wide, and 6.1 meters long the next year, the simple transfer of goods between different modes of transport became a reality. The first companies started leasing these standardized containers, which reduced the fixed costs of transport companies. By the mid-1970s, more than 40 countries had built port infrastructure for containers, including the Netherlands and the UK in 1966, followed by Switzerland, France, Germany, Italy and Japan two years later. Yet there was still very little freight actually being transported in containers.

Broad usage was bolstered initially by the US military, which by the end of the 1960s often shipped cargo for the Vietnam War and the Cold War in containers. This removed one obstacle to their wider use, as providers of partial containers emerged. Smaller companies could now use the box as well, even if they did not want to ship an entire container. Thus, between 1984 and 2008 just under two-thirds of all goods that could be transported in containers were actually transported in this manner. Although today just under 15 percent of the total volume of maritime trade is shipped in containers, this represents more than half of such trade in terms of value, as electronic devices transported >

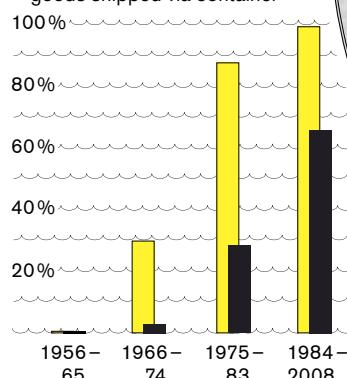
The Container System



Global Access

By 2008, all but three countries with water access had a container port.

- Proportion of countries with container ports
- Proportion of containerizable goods shipped via container



Flow of Goods & Port Handling (in million TEU)

More than half the value of maritime trade is shipped in containers. 22 million boxes between Asia and North America alone.
(as of 2012)

Los Angeles

New York

Panama Canal

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in boxes, for example, are more valuable than, say, wheat, oil and other commodities, which are not transported in containers. By 2008, all but three countries with access to water transport had created the infrastructure for containers.

By the beginning of the new millennium the center of container trade had shifted to Asia. With just under 22 million standard containers transported (2012), the connection between Asia and North America is the most important trading route in the world, followed by the route between Asia and northern Europe, with just over 13 million containers. Nine of the ten largest ports are in Asia, with seven in China alone. Quick economic growth, trade integration and the geographic distribution of the production facilities of multinational groups resulted in one-third of global container trade occurring within Asia in 2013. However, Europe is still home to the three largest shipping companies in the world: French company CMA CGM, the Mediterranean Shipping Company (MSC), based in Geneva, and Danish company Maersk Line.

Falling Prices

Global container handling grew by an average of 10 percent per year between 1990 and 2008, but the sector was not spared by the financial and economic crisis of 2008. In 2009, container trade fell for the first time in history, declining by 9 percent. Since then, the sector has struggled with overcapacity and falling prices. While the transportation of a standard container from southern China to northern Europe in May 2008 cost 4,000 US dollars, it cost less than half of that by the end of 2008. Since then, prices have fluctuated sharply and even dropped to 400 US dollars in mid-2013 – about one-third of the price needed to cover costs. Cargo specialists continue to expect greater capacity than growth in demand in the near future. While many container ships were ordered before the crisis, long production times meant that they were not launched until 2008.

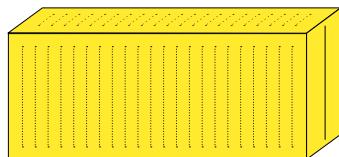
Paradoxically, despite the overcapacity, the largest ships ever built are currently being launched, with space for more

than 18,000 standard containers. This can be explained by greater cost efficiency, represented by the three E's: economies of scale, energy efficiency and environment. Providers can transport a box on a ship with space for 10,000 standard containers for half the cost of transporting on a ship with capacity for 2,500 units.

Thanks to slower trips (slow steaming), modern ships can further reduce fuel costs without damaging their engines. This more than compensates for the higher costs of longer trips and can improve timeliness, as the freighters can travel at a more constant speed, even in storms. Environmental sustainability – particularly compared to air cargo – continues to improve. In addition, modern ships can be maneu-

goal of squeezing out smaller competitors. In addition, they would also be better able to tailor their coordinated offering to demand on the respective routes. This could halt the price decline caused by overcapacity. Whether these changes will result in the same success as the introduction of containers, however, remains to be seen.

The next major change may be imminent, but its outcome is highly uncertain. The success of the introduction of standard containers itself was not inevitable, of course. And yet the steel box has revolutionized global trade. □



Slower trips allow modern ships to reduce fuel costs.

vered by just 13 crew members. Older cargo ships that are half the size require 23 people. Therefore, older ships are increasingly being taken out of service and replaced.

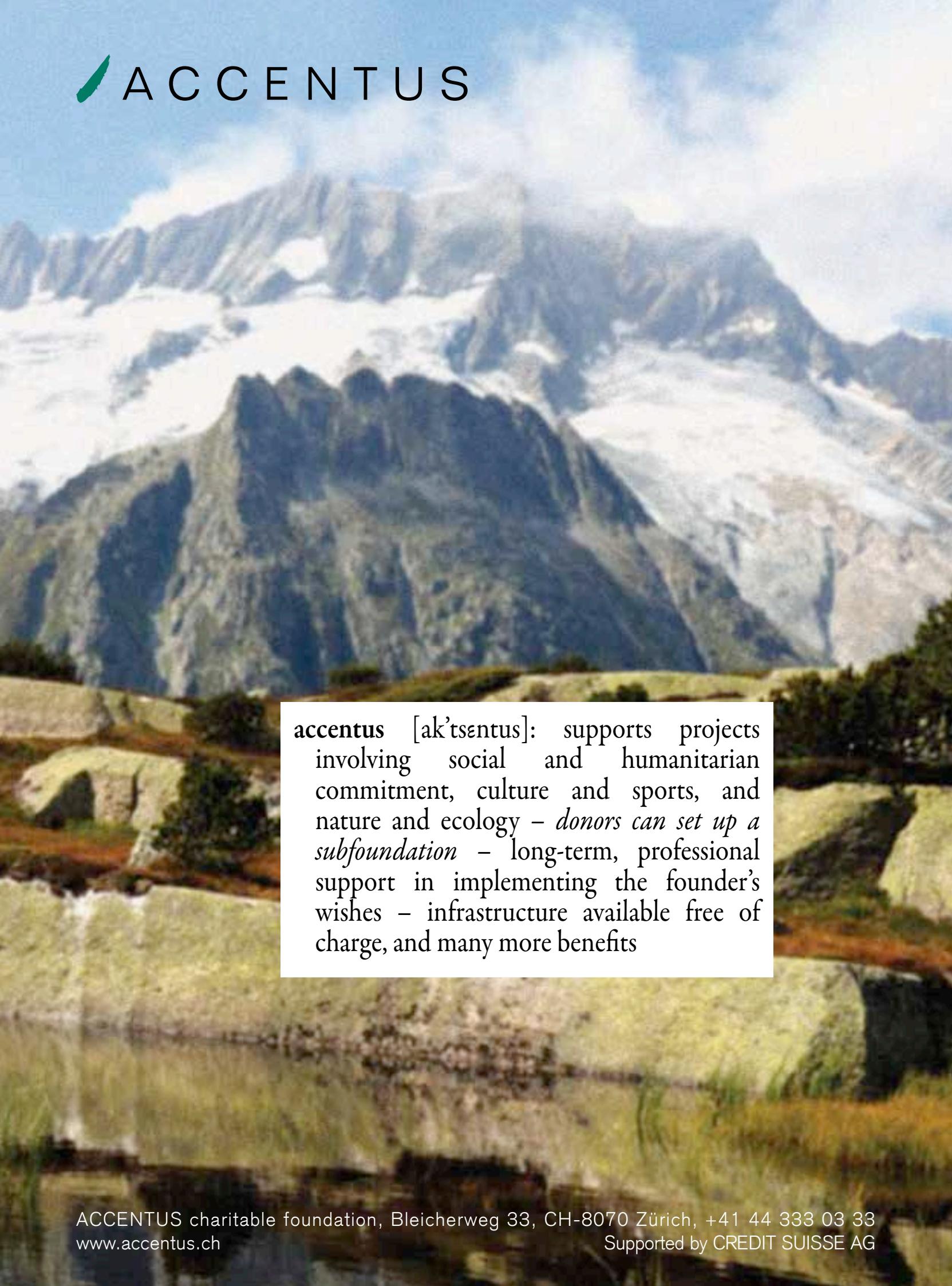
Competition is thus intensifying, particularly on the main routes. The three dominant European providers plan to join forces in an alliance to divide up shipping. However, regulators have yet to give their approval. Smaller competitors are likewise in negotiations concerning an alliance.

The Next Big Change

As a result, the range of routes and services offered to customers could increase. Because the consolidated volumes would be higher, some connections and offers would be profitable. This, in turn, could further bolster trade integration. The impact on prices is clear. First, the partners would be able to offer lower rates as a result of efficiency improvements, with the additional

Tim Sprissler works in Credit Suisse's Fundamental Macroeconomic Research department.

Sources: Daniel Bernhofen, Zouheir El-Sahli and Richard Kneller (2013), *Estimating the Effects of the Container Revolution on World Trade*, working paper 2013:4, Lund University. Gisela Rua (2012), *Fixed Costs, Network Effects, and the International Diffusion of Containerization*. Board of Governors of the Federal Reserve System.



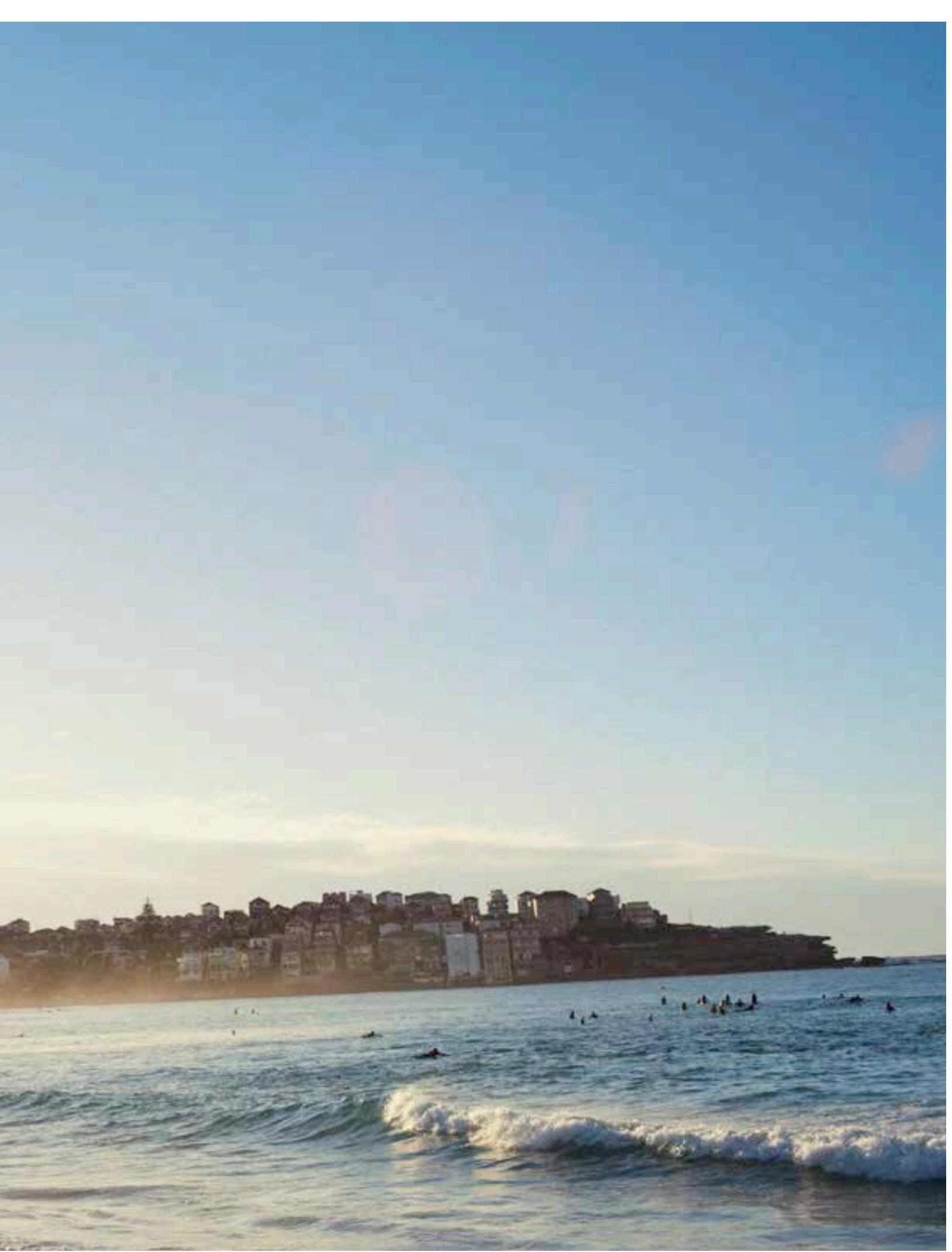
accentus [ak'tsəntus]: supports projects involving social and humanitarian commitment, culture and sports, and nature and ecology – *donors can set up a subfoundation* – long-term, professional support in implementing the founder's wishes – infrastructure available free of charge, and many more benefits

Where There's a Will, There's a Way

In no other country is wealth so evenly distributed, and social mobility so high, as in Australia. There is a reason for that: The deeply rooted principle of “fair go,” which makes social advancement a reality rather than just a dream.

By Julica Jungehülsing (text) and Tim Georgeson (photography)

Not everyone is equal, but everyone gets a chance (photo: the legendary Bondi Beach near Sydney).



Not only are they sun-kissed, but richer and more equal as well. With an average wealth of 402,600 US dollars, Australia ranks second after Switzerland among the world's wealthiest countries. At the same time, wealth in Australia is distributed better than anywhere else. At 219,500 dollars, Australia has the highest median in the world, marking the midpoint between the richest and poorest people (in the US, it is a mere 45,000 dollars). According to figures from the Australian Trade Commission, the continent in the Southern Hemisphere has enjoyed unabated growth for 22 years.

People in Australia have greater social mobility than in many other OECD countries. There are several reasons for this: universal health care through the state medicare system, a solid social safety net with a relatively high minimum wage (16.37 dollars per hour or around 600 dollars a week) and laws against racial discrimination. But above all, Australians are distinguished by a strong desire for education. And the quiet driver behind all of that: "fair go" – the unofficial religion of this continent. Fair go means that anyone who wants a chance gets one. Anyone who tries hard can count on support. "Fair go does not mean that everyone is equal," says Professor Peter Shergold, Chancellor of the University of Western Sydney (UWS), "but that everyone gets the best opportunities."

Multiculturalism Is the Norm

A mixture of languages accompanies the morning rush hour. Young people whose parents come from Korea or India, who have immigrated from China or Africa stream onto the UWS campus, as do students with Anglo-Saxon and European backgrounds. Many come from humble circumstances, large families, rural areas or are children of working-class parents – the first generation to attend university. "Almost one-quarter of our Australian students come from the lower income levels, one-third do not speak English at home. Many are the first in their family with a higher education." Professor Shergold is proud of that, because the university and



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1 — People who receive support are more successful later:
University of Sydney.

2 — Waiter, tailor,
salesperson: Dr. Pol
McCann worked hard
and is now a lecturer
at the Australian
College of Applied
Psychology.

3 — The city's
landmark: Sydney
Opera House by Jørn
Utzon.



government work hard together to remove barriers at every level.

"Fast Forward" is one program that offers practical help to young people starting in the ninth grade. Students talk to professors at information fairs, and mentors help them handle the stress of exams. The tutors reach 53 schools in up-and-coming Western Sydney through workshops and presentations. Compared with other students, 80 percent of the students who receive support from the start are

"My God, the government is paying me to think!"

more successful in their studies, notes Shergold. And knowledge is the key to social mobility. "The number of doors that open with a degree is infinitely higher. The heart of Australia's legendary fair go is a good education."

"The Next Step up the Ladder"

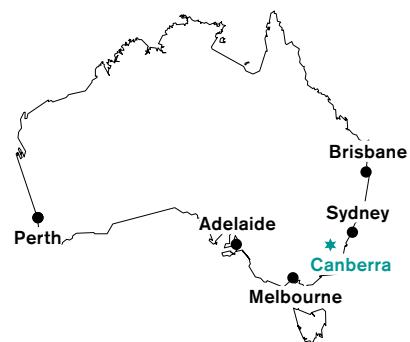
Learning was also important for Dr. Pol McCann. "But I wouldn't be here today

without the unselfish support of others," says the 49-year-old lecturer at the Australian College of Applied Psychology. McCann was the youngest of eight children growing up in Dunedin, New Zealand. His father left school at 14 to work in a factory. Pol quit school in the 12th grade, struggled along as a waiter, tailor and salesperson, then moved to Sydney and became a hairdresser.

In Melbourne he drove streetcars through the inner city, which he really enjoyed. "But after a while, I thought: Do I want to spend the rest of my life chauffeuring people to places where they do more interesting things than I do?" He finished the 12th grade at age 25, founded a company and ended up counseling at-risk teenagers as a social worker. At first these were part-time jobs, but he did them so well that he kept being offered better jobs – but they required a college degree. "Just the incentive I needed," says McCann. He did so well in Introduction to Psychology that he was admitted to the University of Sydney, but he continued to work. "My boss at the youth shelter set the work schedule according to my classes. Suddenly meetings were on Mondays, be-

Australia

The name Australia comes from "Terra australis," Latin for southern land. The country covers almost 8 million square kilometers and is nearly as large as all of Europe (10 million km²). All major cities are close to the coast, and most are in the country's southeast.



Population: 23.2 million

Average wealth: 402,600 US dollars

Unemployment rate: 5.6%

The most important sectors: (percentage of GDP) financial services (9.7%), manufacturing (8.2%), construction (7.8%), mining (7.3%)

GDP growth: Since 1960, the gross domestic product has grown on average by 3.5% (2.5% since 2007). No recessions have occurred for 22 years.

Source: Credit Suisse Global Wealth Report, OECD, Australian Bureau of Statistics



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1 — From refugee to successful businesswoman: Nahji Chu on her boat.



2

2 — Career in the first world: misschu brochure with a passport photo from her immigration visa in 1975.

3 — 25 million Australian dollars in revenues per year: The first misschu restaurant in Sydney.

cause I was at the university on Fridays.” Personal commitment and assistance like this embody Australia’s fair go principle for him.

McCann graduated *summa cum laude* with a degree in sociology and psychology, and at age 36 received a scholarship for graduate studies in Armidale, 800 km north of Sydney. “Out of the blue, a tutor offered me an office including a library, colleagues, administrative office – without the university getting anything from me.” The kind of support and motivation that he received because he invested effort was perhaps even more important than the financial aid, says McCann. “At times I sat among my books and said to myself, ‘My God, the government is paying me to think!’”

“The Best Loan of their Life”

McCann paid back the 16,000 dollars in tuition and fees from his first salary. Since then, his income has more than tripled; he has two homes, likes to travel and lives well. “Of course, it would be nice if attending university were free. On the other hand, perhaps we study harder and are better focused when we pay for classes,”

“Commitment and hard work are what’s important, not background.”

says the psychologist. In addition, Australians do not pay tuition in advance, but instead with a “fee help” loan. New professionals start repaying their loans when they earn 50,000 dollars a year. “The best loan that many receive in their entire life,” says Professor Shergold.

One indicator for social mobility is when parents’ status has little influence on their children. This factor is smaller in Australia than anywhere else: 12 percent of people from the bottom 20 percent of the population manage to climb to the top 20 percent. Forty-one percent of all children whose parents did not complete secondary school earned a degree from a uni-

versity or comparable institution (see box below). This places Australia far ahead of all other OECD countries (Switzerland: 17, Germany: 10, US: 14 percent).

Australians Are Happy

Not only does a more level playing field put people in a better mood – Australia is one of the world's three happiest countries according to the OECD Better Life

Index – it's also good for the economy. Economists believe that social mobility and growth have a positive impact on each other. If children from poor families are not given opportunities, the country also loses out on their potential talent. Australia's relatively low unemployment rate of 5.6 percent (OECD average is 7.9 percent) also speaks for greater equilibrium.

"Even if the gap between rich and poor gets wider, Australia's poor are comparatively better off," says Benjamin Herscovitch, author of the study "A Fair Go – Fact or Fiction?" The number of Australians who possess 100,000 dollars or more is eight times greater than the global average. However, for political scientists the high rate of people who start out with little and still succeed is key. "We don't punish the disadvantaged. Commitment and hard work are what's important, not background," says Herscovitch.

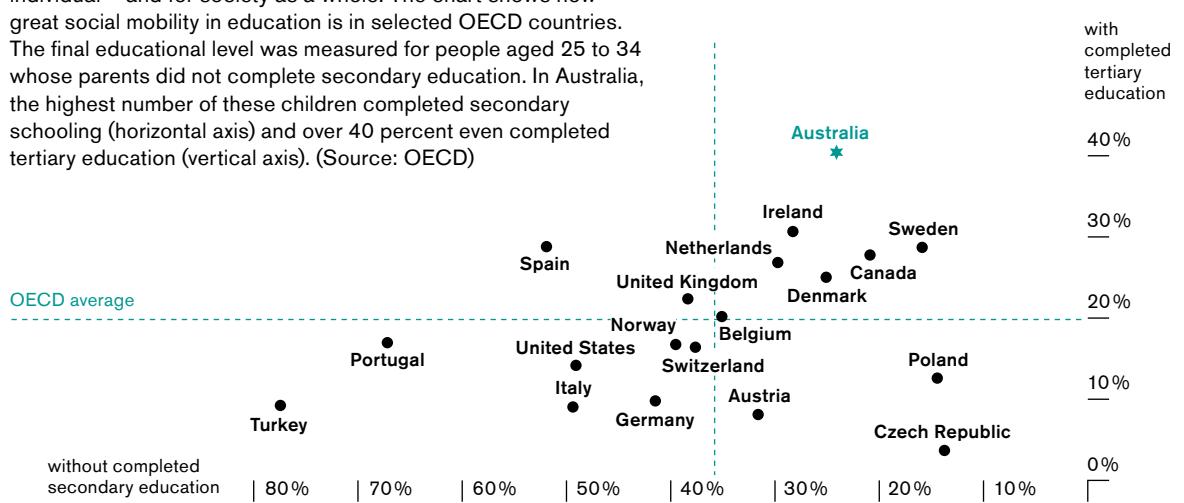
Nahji Chu is a fascinating example of this theory. She sits at the end of a long wooden table in her office and reviews a booklet in passport format: "A Culinary Tour of Vietnam with misschu" – the 44-year-old's latest project. She arrived in Sydney as a refugee in 1978, and today the founder of Australia's most successful Asian fast food chain sees 25 million dollars in earnings a year.

She has not forgotten her past. On the contrary, large posters of her immigration visa decorate the walls of the "misschu" bistros as a connection between the hungry refugee child and her career in the first world. "Today refugees are sent back by boat or transported to Papua New Guinea. If they were treated like we were back then, many would be successful" >



Where Parents' Lack of Education Has Little Influence

A university degree brings great economic advantages for the individual – and for society as a whole. The chart shows how great social mobility in education is in selected OECD countries. The final educational level was measured for people aged 25 to 34 whose parents did not complete secondary education. In Australia, the highest number of these children completed secondary schooling (horizontal axis) and over 40 percent even completed tertiary education (vertical axis). (Source: OECD)





2

1 — 1.12 million
Australians are
millionaires: exclusive
location at Bondi Beach.

2 — Fair go works:
Leah Fricke in Sydney's
business district; her
father was a farmer, she
is a professional board
member.



1

3 — Rise of a nation:
In the mid-1970s, only
three Australians out
of 100 had a university
degree. Today nearly one in
four do (photo: Sydney
central business district).



3



like me," says Chu, who found the Australia of the 1970s somewhat racist, but fair.

The Chu family had to flee Laos in 1975 and endured three years in a camp in Thailand before Australia granted them asylum. "We stayed for six months in Villawood Hostel, which is now an immigration detention center. Children were allowed to attend school in the neighborhood," notes Nahji Chu.

Queen of Rice Paper Rolls

Social and church groups helped the family of eight find their bearings. The Chus worked for a year at a chicken farm. "Of course we were cheap labor. But everyone has to start somewhere, and we were happy for the opportunity." They moved to Melbourne, Nahji finished secondary school and tried different things: waitressing and journalism, a semester at a university. She opened four stores for a fast food chain – without benefiting from the profits. "I was completely fed up with the restaurant business." She worked her way up from a bank call center to the investment department and earned a degree in financial advising. "Stocks fascinated me, but in the end I wasn't clever enough to become a stockbroker."

Chu's motto was "all or nothing." She quit her job and started her own business. "I started out in my tiny kitchen in

2007 with recipes and ideas I'd had in my head for ages. When the first snacks were ready, I brought a tray filled with rice paper rolls to the opera house. When the chef heard that I was working from home, he said, 'I'd keep that to myself...' He ordered 30 meals as a trial. Three months later she had 17,000 orders.

What began as a one-woman operation has grown into a brand that employs 280 people. Seven misschu restaurants serve Sydney and Melbourne, and she opened one in London in 2013. Eight more bistros are planned in Australia, Hong Kong, Dubai and Los Angeles. The "Queen of Rice Paper Rolls" invests profits in art, humanitarian projects and new ideas. She works with enthusiasm seven days a week. "I'm lucky, my job is to be myself. What could be better? I have a company that makes money, gives people jobs, supports the disadvantaged and helps Australia grow."

Millionaires on the Beach

At the beachfront end of Sydney, Leah Fricke is just coming from training with young lifeguards. All around her home on the famous Bondi Beach, two-room con-

**"I'm lucky,
my job is to be myself."**

dos can easily cost one million dollars, and a penthouse even twenty times as much. At this exclusive location between the sand and waves, only half an hour away from the city, it seems plausible that 1.76 million Australians belong to the top one percent of the world's wealthiest people. They account for 3.8 percent of the world's superrich, although the 23 million Australians comprise only 0.4 percent of the global population (source: Credit Suisse Wealth Report) – a result of the longtime commodities boom that made many mine owners, transportation entrepreneurs and investors rich.

At age 44, Fricke scarcely has millions. Yet she moves with confidence through Sydney's top management levels. But the contrast couldn't be greater. Her mailing address as a child was simple:

"Leah, Corop, 3559 Victoria." Only four families lived in the village three hours north of Melbourne; her father was the elementary school teacher, although he was actually a grain farmer. Fair go was a top priority in the Fricke family. When Leah received a scholarship for private school, her parents saved until they could afford to send her two sisters there as well. "They never would have sent only me to a better school," she says.

Fricke was accepted into Melbourne's most prestigious law school. She waitressed to earn money for books, gas and copies, her shoes had holes, and one pair of jeans saw her through five years of school. "Fortunately fashion was never that important to me," she says today. After graduation she got a job with Allen, one of Melbourne's most renowned law firms.

"My Background Never Held Me Back"

"Maybe some of my classmates had it easier because their parents were academics or came from better-known schools. But my background never held me back. Many Australians of my generation have achieved more than their parents," states Fricke. In the mid-1970s, only three percent of Australians had a university education. At the beginning of the 1990s, it was eight percent, and by 2011 almost one-quarter had successfully completed a degree from a university or similar institution. By 2025, according to a 2009 government target, 40 percent of all young Australians should have a university qualification.

Fricke left the law office for the business world and specialized in merger and acquisition law. She worked in Melbourne, China and Perth, learning about mining and the world of finance. In 1997 a job with a technology company brought her to Sydney and she completed an MBA at the same time. She gave up her well-paying job as a lawyer in 2012 to concentrate on strategy, risk management and business management. She finds her work as a non-executive director – comparable to the role of a supervisory board member – creative and exciting. Fricke now works at six different companies. Three of those positions are paid; the rest are for the experience and to build her image. >



1

1 & 2 — “Like a domino effect”: Garry Taulu (right) came with his mother from Sulawesi and is now a successful software designer

3 — Plenty of stumbling blocks. The St. Clair District in Western Sydney is not the place where dream careers are normally launched.



2

The Taulu Example

Of course it doesn't hurt to come from a well-educated family, but this offers fewer advantages in Australia than elsewhere. The likelihood of graduating is only twice as high for children of academics as for those whose parents only completed mandatory schooling. For Americans, the likelihood is 3.3 times greater, meaning that it is significantly harder to break out of the family pattern.

“One opportunity led me to the next, like a domino effect: youth assistance, trade school and then finally university,” says Garry Taulu, straightening his thin

glasses. And there were plenty of stumbling blocks in the 26-year-old's path. Taulu grew up in Western Sydney in an area better known for youth unemployment than dream careers. Taulu's young single mother had emigrated from Sulawesi to Australia. She couldn't find work and suffered from depression. Programs designed to help her actually helped her son more. He was already interested in computers as a teenager, but making a career out of that seemed impossible. In the 12th grade he spent more time caring for his mother than his grades and didn't achieve university admission levels. He

spent a year learning the guitar and computer tricks. “Just to keep myself busy – boredom is risky in the suburbs,” says Taulu.

Because he was receiving youth financial assistance, a digital media course at a trade school (TAFE) was almost free of charge. He put up with the four-hour daily commute by train. “I needed a different environment. Seeing how the rich part of the city ticked inspired me.” Money was still a problem. “I was overqualified to stack boxes, but I lacked the experience for other things.” He received an unpaid internship at a music station and went door-

Where Parents' Income Has Little Influence

The chart shows how strongly the income of sons correlates with that of their fathers. The smaller the bar, the greater the social mobility between generations.

(Source: OECD/D'Addio)



to-door as a credit card salesman. At 21 he was old enough to apply as a senior student where a portfolio and admission interview were more important than good grades. For him, getting the "Accepted for Bachelor of Design Computing" letter was "the best moment of my life."

He felt at home at the University of Sydney, received awards for his work and met his current girlfriend. He caught the eye of a software developer during a semester presentation. "He gave me his card and invited me to his company," notes Taulu. An hour later, he had a job that he finds exciting to this day. The young software designer earns enough to support his mother and grandparents.

Taulu says, "Getting a chance even after a rough start – that's just so valuable." He is skeptical of the rigid savings plan in the government's new budget. "Young people from poor circumstances often need a little extra help," he states from experience. However, Prime Minister Tony Abbott's conservative government is seeking to severely curb this aid, and the government is planning comprehensive cuts to reduce Australia's budget deficit. Cutbacks will include unemployment benefits for young people and state subsidies for universities. Higher tuition fees seem unavoidable. The government defends its plan by promising stronger support for

private colleges and trade schools to create more competition for the universities.

Like many Australians, Taulu considers Australia's "founding values" at risk if a good education becomes a privilege for the rich in the future. Many also feel that the soon-to-be introduced co-payment for doctor visits is not for the social good, and the same goes for the retirement age being raised from 65 to 70. As head of the conservative government, Abbott's stricter approach to immigration issues – where refugees are sent back to Indonesia by boat or shipped off to Papua New Guinea – further erodes the image of the fair-go state.

"Seeing how the rich part of the city ticked inspired me."

The government says that the budget deficit urgently needs to be consolidated. Compared to other countries, Australia has a relatively small debt problem. A net debt of only 12 percent of the GDP lies significantly below that of other industrialized nations.

Credit Cards instead of Food

In her late 20s, Christina Hobbs was the youngest head of a completely different type of rescue operation. She had been working for the United Nations World Food Programme (WFP) in Nepal for almost three years when the Syria conflict began. She was promoted by the UN and flew to Turkey where hundreds of thousands of refugees were fleeing over the border every day. "It was difficult. Many of the exiles in camps were businesspeople, students and teachers. Even Syrians who had worked for the UN came and asked me about jobs. For the first time, we managed to push through credit cards for the refugees instead of food," recounts the young Australian. "That saved the UN and governments money, while giving people who needed to fill endless days something to do. They could shop and take care of themselves." Christina Hobbs knew that she was unusually young to >



be leading at an important coordinating point. But she always moved quickly.

Business Student and Ski Instructor

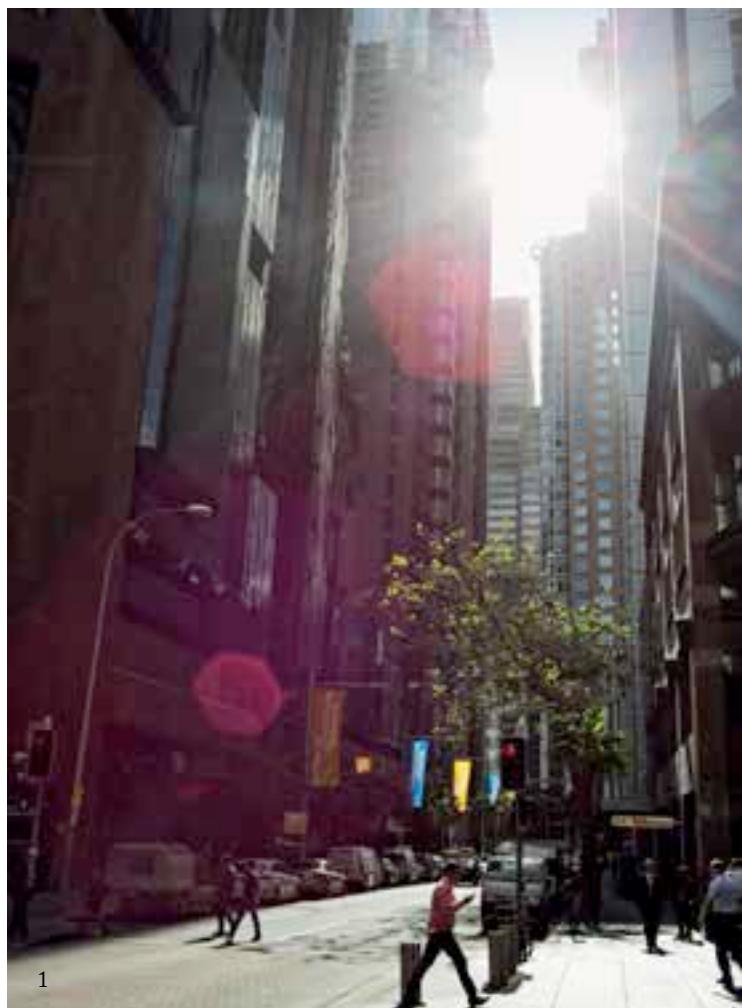
As the second of four children, Christina Hobbs grew up in Canberra in modest conditions. Before school she delivered the Canberra Chronicle; in the evenings she sold fish and chips. While studying business and psychology at the Australian National University, she worked as a ski instructor and trained politicians at the parliament fitness center every morning at 5:00 a.m. “I didn’t suffer just because I didn’t get everything handed to me on a plate. Aside from money, the jobs gave me security and experience. I got to know myself better,” says the 31-year-old. “Maybe I wouldn’t have developed such a strong work ethic otherwise. People who come from a wealthy background perhaps run a greater risk of taking many things for granted.”

She quickly paid back her 10,000-dollar student loan and then learned at the UN that things can also go differently. “I met quite a few young Americans in Rome who came from Harvard or other expensive private universities and had amassed student loans of 120,000 dollars. With that kind of burden on my shoulders, I probably wouldn’t have volunteered for a year with the WFP,” says Hobbs, whose first year in Nepal was financed by the Australian government’s Youth Ambassadors for Development program. At the end of the year, the UN offered her a job.

Even while still working at her well-paid job with Deloitte Consulting in Sydney, her civic engagement was often more important than money. Hobbs was recognized by Deloitte as the “New South Wales’ Young Businesswoman of the Year” while also heading up Unifem, a UN fund for young women, and developing strategies for the Make Poverty History campaign.

Hobbs’ passion for unpaid engagement is typical. According to the OECD Better Life Index, Australians spend six minutes a day on volunteering, two minutes more than the OECD average. Hobbs still considers her society egalitarian.

“Traditionally we don’t like people who only get somewhere because of their connections. Naturally, good contacts or a rich family can help, but only up to a certain point and less than in other places. To us, fair go is more important than a name, title or postcode.” □



1



2

Julica Jungehülsing has lived in Sydney as a freelance journalist since 2001. Her reports from Australia, New Zealand and other countries in the South Pacific have appeared in publications including *Stern*, *GEO Saison* and *Die Zeit*.

Currency: One Australian dollar is equal to around 0.8 Swiss francs.



1 — Australia as a model of success: 22 years of growth (photo: downtown Sydney).

2 — Witness to history: Statue of Captain Arthur Phillip (1738–1814), discoverer of Sydney Harbor.

3 — Engagement instead of paycheck: Christina Hobbs was “Businesswoman of the Year” and volunteers for the UN.

Measuring the World

Navigation software has become a centerpiece of modern communication. For users, it means walking a tightrope between convenience and being constantly monitored.

By Steffan Heuer

Anyone interested in the future of route planning should check out a prototype called "Predictive User Experience" from Mercedes-Benz. This new system "observes" drivers and passengers and begins to think independently the moment a driver is behind the wheel. The car knows the day of the week, the weather and traffic situation and where the driver is most likely to go depending on the time of day. The navigation system displays the current and best route because it has learned, for example, that Friday afternoon at 5 p.m. this driver heads to the grocery store, then to his favorite restaurant and then home.

And the system can do even more. Daimler engineers have created an app for Google Glass wearable technology that can navigate right down to the last meter. As soon as the driver exits the car, the rest of the route is transferred to Google Glass. "An awareness of where and how I move today is part of the driving experience," says research director of Daimler North America Johann Jungwirth.

It is only a question of time until these infotainment features are ready for standard production. Navigation is already available in this "Age of Context" as separate components. Smartphones know where their owners live and work and can warn the driver without being asked that the trip to the next destination will take longer than usual. City administrators use location data generated non-stop by navigation systems and mobile phones to learn

about traffic patterns. They then plan and even allocate their funds accordingly.

Developers of early navigation systems could never have imagined how this constant position pinpointing would evolve into functions that relieve humans and machines of so many daily tasks. For position data to really conquer the market, several trends had to come together, including satellite-driven GPS systems and smartphones.

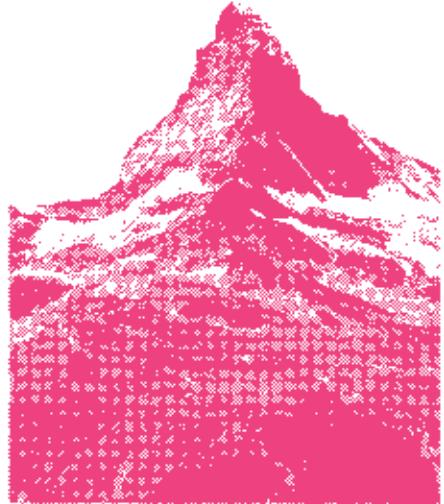
Navigation systems expand reality

Early developers would barely recognize today's navigation software landscape. Major suppliers, such as the Dutch company TomTom or the American company Navteq, which has been part of Nokia since 2007, are feeling the pressure from technology giants like Google and Apple, or have now been relegated to the status of suppliers. California-based technology companies understood that simple maps would have to come with more and more information to attract drivers and pedestrians to the expanded reality on their display screens.

Navigation has become a standard no-cost feature that customers expect; they only notice it when it doesn't work. They do, however, pay for it in a different way – by disclosing their comings and goings, which advertisers, government security agencies and city planners want to analyze.

According to the most recent Mobility Report from network equipment supplier Ericsson, there were 6.8 billion >

A Short History of Navigation



Landmarks — Humans have always used landmarks (mountains, rivers, vegetation) to orient themselves.



Wind and waves — An understanding of the currents can aid in navigation. People have been using this knowledge since the 4th century B.C.



Lighthouses and buoys — Thanks to electricity and gas, illuminated navigation aids became standard at the beginning of the 20th century.



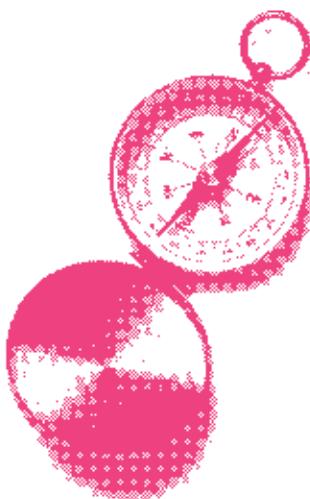
Looking at the heavens — The ancient Greeks used the constellations such as the Little Dipper or Orion to navigate.



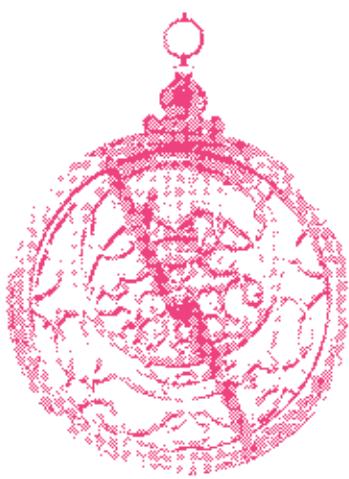
Ocean and land maps — Often brilliantly illustrated, but inaccurate, maps have been in use since the 6th century B.C.



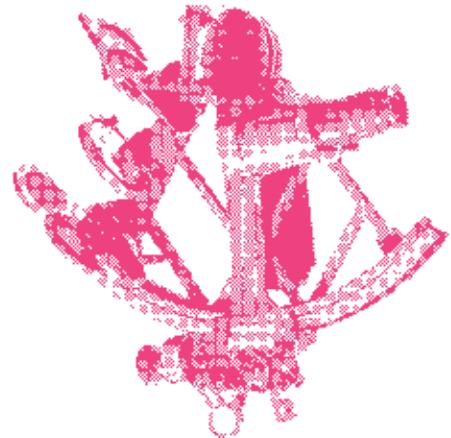
Plumb line — A metal bell smeared with suet helped the Phoenicians and Carthaginians measure water depth in the 5th century B.C.



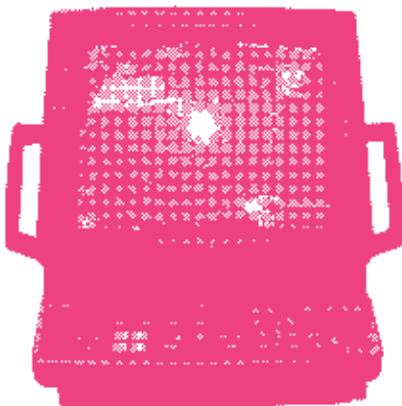
Compass — Navigation using magnetic force was developed in the 11th century in China and spread throughout the Middle and Far East.



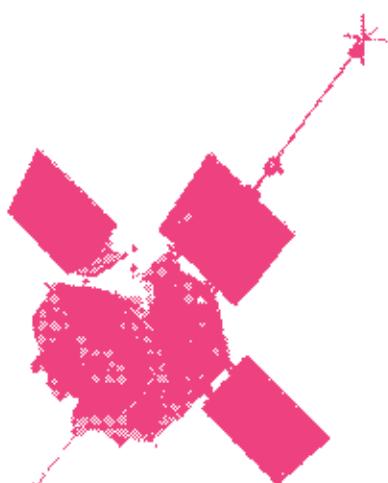
Astrolabe — The first astronomical computer dated back to the 13th century.



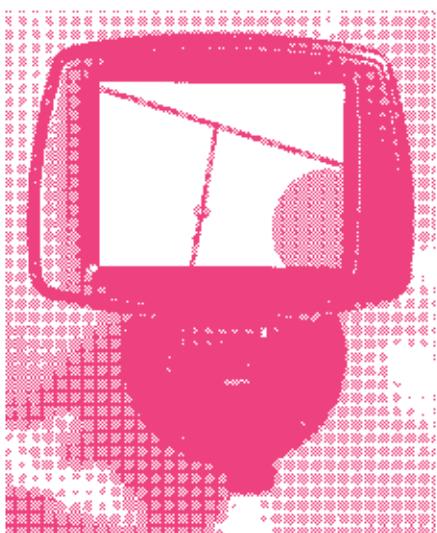
Sextant — Thanks to Greenwich Mean Time, sailors have been able to determine longitude since Isaac Newton's invention in 1700.



Ship's radar — The first radar device was installed in a US Navy ship in 1937.



GPS — The navigation standard that hundreds of millions of devices rely on has been in operation since 1985, but it is prone to disruption.



Auto navigation — The first prototype was introduced in Hanover in 1985. Commercial models were ready for production in 1990.

mobile devices on the market at the end of March 2014. Using a GPS chip, these devices are constantly comparing users' positions with mobile network radio towers. Over a period of time, these pieces of the puzzle create an image of the movement of millions of people that helps Google, for example, calculate traffic flow and estimated travel times in its map services.

Recording Beaches and Mountain Trails

Nowadays, two recording methods support professional navigation. First, teams of experts around the world take to the road in their cars to drive and update their maps. Every construction site and every street name has to be entered. According to Michael Halbherr, CEO of Nokia's newly created spin-off HERE, a reasonable location service needs "four sixes": six years, 6000 people, 6 billion dollars in start-up capital and another 600 million dollars annually to keep its maps up to date.

Google cars have already become a bone of contention in some countries because it is no longer possible to separate the useful map information from the comprehensive photographing of private homes, including recording individual WLAN networks. In the meantime, Google is even gathering info on beaches and hiking trails using cameras mounted on backpacks.

The second method mapping services use is the input they get from end customers. For example, Nokia uses its user activity data to generate traffic forecasts. In 2013, Google purchased Israeli company Waze, which relies on crowdsourcing for navigation. Like a PacMan game, the Waze app gobbles up any already recorded or completely new routes, thus building successive and very up-to-date maps. This app can also import real-time information about road obstacles, accidents and gas stations. But the system only works when there is a critical mass of users in the country to supply a sufficient volume of data. By the middle of last year, this app had about 50 million users in 13 countries.

City planners are aware of the value of continuous incoming data from hundreds of millions of users. Carlo Ratti, a researcher who heads the SENSEable

City Lab at MIT, talks about the heartbeat of a city. "We produce as much data every few days as humans have produced since the beginning of time. When we can gather, analyze and share this information, it makes it easier to improve the quality of life in cities," he says. Ratti believes mobile phones are the most important sensor and building block of these communities. "The telephone has opened up our environment. We are finally building a city operating system, because modern cities are nothing more than huge open-air computers."

Harold Goddijn, CEO of TomTom, shares this view. "We know a lot about road networks, in many cases, even more

"Modern cities are nothing more than huge open-air computers."

than government agencies," he said in an interview. TomTom is one of several companies that loan their anonymized data records to third parties. "This makes it easier to plan, identify traffic jams and to determine whether we should put in a new street," adds Goddijn.

Is Big Brother Watching You?

So the biggest problems of modern navigation services have to do with the possibility, theoretically, of Big Brother looking over the shoulder of everyone on the road. Even if every supplier – including the major mobile network operators – assures us that they make their data available to third parties only in anonymized form, routes can be associated with individual people relatively quickly.

Two new studies prove this. Columbia University computer scientist Steven Bellovin figured out that it takes only one week to identify a person based on positioning data. Bundled with commutes to work, route queries for medical practices, retailers or private addresses over a period of several days, this information provides an unforeseen view into a user's private life. In the eyes of this researcher, this is

the equivalent of an illegal remote search of someone's home.

Border patrols are using mobile phone data to identify suspicious vehicles on the eastern borders of the EU. Anyone driving over the legal 130 km/h speed limit will find themselves in an automatic dragnet investigation and will be checked.

Even if start and end destinations are not recorded, navigational data is revealing. This is what researchers at Rutgers University in New Jersey discovered when they closely examined auto insurers who are calculating personal car insurance policies using trackers installed in vehicles. Anyone who simply analyses the starting point of a car trip with time-coded speed measurements has a high probability of determining the precise route due to the fact that cars drive straight and turn right or left at a certain speed. So an insurance company would be able to obtain a significant movement profile without any access to a GPS or mobile phone data.

Even before these questions concerning data protection and privacy rights have been clarified, navigation software is already steering toward new challenges. There is a new major growth market called indoor navigation, which refers to precise measuring and tracking of pedestrians inside buildings down to the last meter. Here, too, navigation is immediately touching off a debate. Those who want the convenience of a fascinating high-tech tool to help them find their way around an airport terminal or shopping mall must accept the fact that retailers, mobile phone suppliers and technology companies are going to follow them every step of the way. As navigation becomes more and more sophisticated it can do more and more. The question remains, how much more do we really want. □

Steffan Heuer is the US correspondent for the German business magazine "brand eins" and is a published author.

Out of Africa

Seven long years by foot, approximately 34,000 kilometers, across three continents – from Ethiopia to Tierra del Fuego. A reporter follows the trail of modern humans, as they migrated from Africa 60,000 years ago and settled the world.

By Paul Salopek



"I am on a journey." The author Paul Salopek (with hat) in the Afar Desert in northeastern Ethiopia.

Walking is falling forward. Each step we take is an arrested plunge, a collapse averted, a disaster braked. In this way, to walk becomes an act of faith. We perform it daily: a two-beat miracle – a holding on and letting go. For the next seven years, I will plummet across the world.

I am on a journey. I am in pursuit of an idea, a story, a chimera, perhaps a folly. I am chasing ghosts. Starting in humanity's birthplace in the Great Rift Valley of East Africa, I am retracing, on foot, the pathways of the ancestors who first discovered the Earth at least 60,000 years ago.

This remains by far our greatest voyage. Because the early Homo sapiens who first roamed beyond the mother continent – these pioneer nomads numbered, in total, as few as a couple of hundred people – also bequeathed us the subtlest qualities we now associate with being fully human: complex language, abstract thinking, a compulsion to make art, a genius for technological innovation, and the continuum of today's many races. We know so little about them. They straddled the strait called Bab el Mandeb – the "gate of grief" that cleaves Africa from Arabia – and then

exploded, in just 2,500 generations, a geological heartbeat, to the remotest habitable fringe of the globe.

Millennia behind, I follow.

At Five Kilometers an Hour

Using fossil evidence and the burgeoning science of "genography" – a field that sifts the DNA of living populations for mutations useful in tracking ancient diasporas – I will walk north from Africa into the Middle East. From there my antique route leads eastward across the vast gravel plains of Asia to China, then north again into >

the mint blue shadows of Siberia. From Russia I will hop on a ship to Alaska and inch down the western coast of the New World to wind-smeared Tierra del Fuego, our species' last new continental horizon. I will walk 33,800 kilometers.

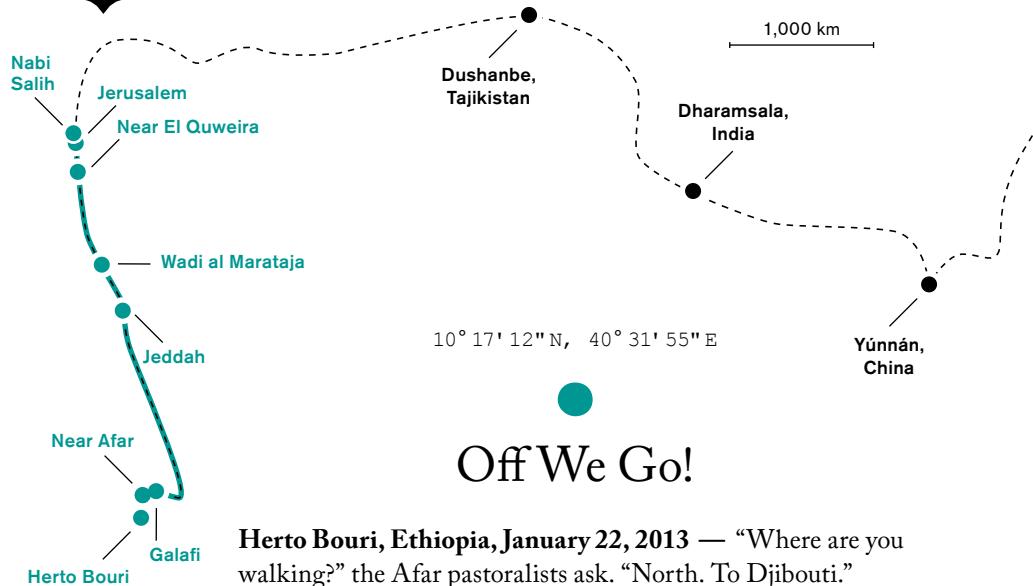
If you ask, I will tell you that I have embarked on this project, which I'm calling the Out of Eden Walk, for many reasons. To relearn the contours of our planet at the human pace of five kilometers an hour. To slow down. To think. To write. To render current events as a form of pilgrimage. I walk to remember.

The trails scuffed through the Ethiopian desert are possibly the oldest human marks in the world. People walk them still – the hungry, the poor, the climate stricken, men and women sleepwalking away from war. Nearly a billion people are on the move today across the Earth.

We are living through the greatest mass migration our species has ever known. In Djibouti, the African migrants stood waving cell phones on trash-strewn beaches at night. They were trying to get a cheap signal from neighboring Somalia. I heard them murmur: Oslo, Melbourne, Minnesota. After 600 centuries, we were still seeking guidance, even rescue, from those who had walked before.

The contours
of the planet:
33,800 km
at the
human pace
of five
kilometers an
hour.

Out of Eden Walk



Off We Go!

Herto Bouri, Ethiopia, January 22, 2013 — “Where are you walking?” the Afar pastoralists ask. “North. To Djibouti.” (We do not say Tierra del Fuego. It is much too far away – it is meaningless.) “Are you crazy? Are you sick?” In reply, Mohamed Elema Hessian – wiry and energetic, a charming rogue, my guide and protector through the blistering Afar Triangle – doubles over and laughs. He leads our micro-caravan: two skinny camels. I have listened to his guffaw many times already. This project is, to him, a punch line – a cosmic joke. To walk for seven years! Across three continents! He enjoys the absurdity of it. It’s fitting. Especially given our ridiculous launch.



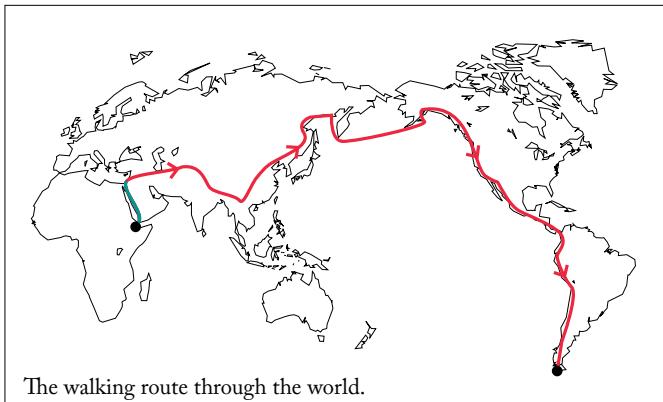
“Where are you going?” In the Afar Triangle.

The Afar Triangle in north-east Ethiopia is dreaded as

a waterless moonscape. Temperatures of 50°C. Salt pans so bright they burn out the eyes. Yet today it rained. Elema and I have no waterproof tents. We have an Ethiopian flag, which Elema wraps himself in as he walks. We have found and rented two camels. We plod across an acacia plain darkened to the color of chocolate by the warm raindrops.

After 20 kilometers, Elema already asks to turn back.

He forgot his new walking shoes from America. And his flashlight. And his hat and the cell phone. So he hitched a ride from our first camp to his village to retrieve these vital items. And now he has jogged all the way back to catch up. He complains, laughing, of crotch rash.



The walking route through the world.

The route leads across the vast gravel plains of Asia to China, and then into Siberia.

Amur River between Russia and China

11° 36' 17"N, 41° 13' 35"E

Africa and the AK-47

Near Afar, Ethiopia, February 15, 2013 — Africa and the AK-47 were synonyms for decades for many outsiders: a chaotic continent, armed to the teeth, sunken in anarchy or enchainment by police states. And one weapon made that possible — the Kalashnikov.

What is the story of this weapon in Africa? The AK-47, an automatic rifle, is a crude but effective killing machine that (depending on the model) consists of a few dozen moving parts. It weighs just under 5 kilos. It's easy to operate (hence the child soldiers). At least 70 million of the weapons have been sold worldwide — with several million of these in Africa.

In the desolate Afar Triangle of Ethiopia, where warrior traditions of cattle raiding endure, the Russian-designed rifle is everywhere. It is a brutal symbol of power, independence and control in a very tough neighborhood. Walking through the arid region, I have seen it in the hands of census takers, county administrators, prepubescent goat herders, and milky-eyed old men.

Most recently, near the village of Det Behari, a teenage boy, a child of 15 or 16, stepped in front of our camel caravan. He toted an AK with a fixed bayonet. But he meant no harm. He simply wished to alert us of the presence of rival Issa nomads. "Bad people," he warned, pointing his gun to the south, across the green thread of the Awash River, where I imagined a young Issa boy standing similarly armed, rendering the same unthinking verdict on the Afar.

Africa is on the ascendant. It is home to six of the ten fastest-growing economies in the world. Its people are just beginning to savor the benefits of the digital and green revolutions. Despite its old and shallow stereotype of instability, the continent is more peaceful today than any time since decolonization. And yet... its demon gun persists.

Why?
Reinfection.

East and West funneled countless AKs into the continent during the Cold War. Countries such as China and Ukraine continue to hawk their stockpiles here even today. (The biggest arms salesman on the globe, by a long shot, is the United States — but not to Africa.) And because the

rifle is nearly indestructible, it continues to resurface, to sicken, to enfeeble the rule of law. In Mozambique many of these guns were collected and melted down at extraordinary costs. (Some were shaped by artisans into monuments.) In Sierra Leone, peacekeepers wished to dump them into the sea — but environmentalists objected. So they laboriously blew them up and buried the fragments.

Even so, some people dug up the AK shards and re-used them.

Africa grows stronger. But it can still relapse from the pox of the gun.



A simple killing machine: the Kalashnikov.

11° 42' 51"N, 41° 50' 37"E

Eternity at Walking Speed

Galafi, Djibouti, March 30, 2013 — Walking the world means learning to read the landscape with your whole body, and with your skin not merely your eyes — sensing feed for the camels in a thorn patch, the dust in the scent of the wind and, of course precious water in the folds of the land: a limbic memory of great power. It means watching eternity pass by at walking pace and vaguely understanding that you're still moving too fast, even at five kilometers per hour.

21° 28' 9"N, 39° 10' 11"E

The First 100,000 Steps

Jeddah, Saudi Arabia, July 9, 2013 — Sailing on a camel boat from Africa to Jeddah, Saudi Arabia's biggest commercial port, I plunge into a delirium of contrasts — from rural to urban, from poor to rich, from slow to fast, from landscapes gripped by human feet to ones subdued by the wheel.

Jeddah is the world walk's first urban traverse. Back in Djibouti, I arrived in the capital by ferryboat and navigated that city's warren of streets by foot and minibus. In Jeddah, a world-class metropolis of three million, I plod straight through: more than 90 kilometers of sidewalks before reaching desert sand. Unexpectedly, stretches of this booming, simmering metropolis recall the loneliest stretches of the >

Anchorage,
Alaska

29° 42' 56"N, 35° 17' 14"E

Danakil Depression.

Fill your water bottles.
Look both ways. The bearing
is due north – into the
scalding heart of the Hejaz.

From Alaska,
the route leads
along the west
coast of the new
world to Tier-
ra del Fuego,
the destination
of the trip.

Columbus,
New Mexico

24° 38' 36"N, 37° 35' 26"E

Arabian Coffee

Wadi al Marataja, Saudi Arabia, October 25, 2013 —

"They drank coffee every Monday and Friday eve, putting it in a large vessel made of red clay. Their leader ladled it out with a small dipper and gave it to them to drink, passing it to the right, while they recited one of their usual formulas, mostly "La illaha il'Allah ..." — *Ibn Abd al-Ghaffar, 16th-century Arab writer.*

You walk down the wadi 20 kilometers pulling a camel on a rope. Under a sun that carves a slot in your head.

You see white tents pitched under a kopje. You see women running to hide inside the tents. They are Bedouins, the women and their families, diehards who resist the comfort of towns. Up in the burning rimrock lurk a few wolves. They, too, are the last of their kind.



Coffee by the fire with the Bedouins.

This is what you will remember:

Not the operatic space. Not the heat. Not the sharp peaks chiseled like barren Matterhorns, mountains like fangs, beacons that pilgrims once used to guide them toward Mecca. No. It is the tiny

white porcelain cups couched in the men's palms. Polite, watchful men. Hands thickened with calluses. And the hot disc of liquid within the cups – a decoction the Arab mystics invented seven centuries ago: pale green, the improbable color of sea ice. A liquid's softness amid so much that is hard. How it pulls you up from the rug. How it re-laces your boots. How it takes you by the hand and leads you out into the desert to walk again.

Tomatoes

Near El Quweira, Jordan, January 9, 2014 — We walk out of the desert and come to where the Earth rises and falls beneath our footsteps in long, regular waves, like corduroy – fields of plowed sand. The hills of Wadi Rum fade in iron-colored light. Dusk is falling. It grows colder by the minute. A path leads through the thickening dark to tents that glow yellowly from within, like belled medusas adrift in a sunless sea. We tether our two cargo mules to large stones. We approach the first tent.

"Sala'am aleukum," calls Hamoudi Enwaje' al Bedul, my guide. The tent, which had been noisy with voices, falls silent. A man throws back the flap, and after an exchange in Arabic that lasts no longer than 30 seconds, he waves us in. Fifteen people sit inside atop foam mattresses. A sad-faced woman layered in sweaters – blue tribal tattoos dot each of her wrinkled cheeks, dot her chin – loads more sticks into a small woodstove. She beckons us to sit near the heat, in a circle of staring, wild-haired children. She pours us glasses of syrupy tea. She serves us a platter of fresh tomatoes, pickled green tomatoes, fried broccoli.



Young tomato picker from Syria.

"There is no meat," the man apologizes. "Here, we only dream of chicken." Everyone in the tent laughs. They are tomato pickers. They are Bedouins from Syria. All of the tomato pickers came from the same Syrian province, from villages near the ancient city of Hamāh. In 1982, the country's then dictator – Al-Bashar's father – leveled the city during a previous uprising. Hamāh fell to Tamerlane in 1400. It fell to Crusaders in 1108 and before that to Muslim armies in the seventh century. Almost 3,000 years ago, an Assyrian conqueror named Sargon II captured Hamāh and flayed alive its king. We walk on.

31° 46' 03"N, 35° 13' 39"E

Jerusalem

Checkpoint Bethlehem, West Bank, May 20, 2014 — The structure can be seen by satellite. It rises eight meters high. It is

Destination
Tierra del Fuego,
Chile

made of concrete. Its surface is crusted with graffiti – with signs and curses, with poems and taunts, with cries – with portents. To see its top, while you stand at its foot, you must crane your neck and squint up at the sky. It runs crookedly through the city – perhaps it rolls on forever.

"They put up the wall here in one single day in 2003," Claire Anastas tells me. She is a lifelong resident of Bethlehem. "The children went to school in the morning, and when they came back they found the house surrounded."

Anastas refers to the famous "Separation Barrier" erected by Israel to contain the violence of the Second Intifada. Government surveyors plotted its construction right through Anastas's living room. Anastas, a Christian shopkeeper, refused to budge. So the engineers built the barrier around her. Her home is now encircled on three sides by towering slabs of concrete. Her shop, which is nestled on the first floor of her house, sells small, hand-carved Christmas mangers. Each contains a carved Mary and Joseph. They lean over a baby Jesus. A toy Separation Barrier runs through the manger. Unlike the real thing, in the souvenirs the wall is easily removable.

My guide Bassam Almohor and I walk through the Bethlehem checkpoint.

"You!"

The voice buzzes over an intercom. I am standing next to a metal detector. No human being is visible. Puzzled, I look around.

"Yes, you!"

"Where are you?" I say. "I can't see you."

"Behind you! Behind the glass! What is in the pack?"

"Laptop, video camera, audio recorder, satellite phone ..."

"Where do you come from?"

"Ethiopia."

"No! Where do you come from?"

"United States."

"Welcome to Israel."

Two friends meet us on the other side. Evan and Christa: a language student and a journalist. They walk us into Jerusalem.

We dodge traffic on a wide boulevard. We climb urban hills, past an old kibbutz that has evolved into a resort. We photograph ourselves at the Promenade that overlooks the Old City. Domed. Steeped. Walled. A city of hills. Its pale stones the color of early morning clouds. It glows and glows. A city that conjures birds, flight.

Alone later that afternoon, I drop my pack inside an empty, borrowed apartment. I stand in its dim spaces. I blink in silence at its books, at its potted plants, at the electric kettle. I splay my sunburned hands on the cold kitchen counter. Elema Hessian. Mohamad Banounah. Ali al Harbi. Awad Omran. Hamoudi Enwaje' al Bedul. And now,

Bassam Almohor. Guides and pilgrims. I think of sanctuary. I think of the crossroads of the world. Jerusalem. Yerushalayim. Al Quds. We've all been there.

32° 01' 0" N, 35° 7' 29" E

Bang!

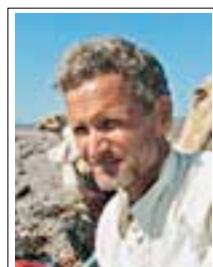
Nabi Salih, West Bank, July 7, 2014 — We turn the corner of the road when the first round whips in. It kicks up dust one yard in front of Bassam Almohor. He stops walking. "We're being shot at," my guide says. His voice is aggrieved. "That was a bullet."

It was, to be precise, a rubber bullet. Or, more exactly still: a rubber-coated bullet, a slug of steel dipped in hard plastic. The term "rubber bullet" connotes non-lethality, harmlessness, a comical form of deterrence – a bouncing ball, a children's toy, a pea-shooter. Yet anyone who has been struck by these projectiles knows differently. Rubber-coated, metal-cored bullets can flatten people with the force of a swung baseball bat. They can kill at close range. The source of this particular rubber bullet: the Israel Defense Force, the IDF.

Nabi Salih: a clutch of stucco houses clinging to a sun-hammered hill in the West Bank. Clashes between local Palestinians and the Israeli army are common here. In fact, they are predictable. Every Friday, like clockwork, a ritual begins. After midday prayers, scores of civilians – men and women, old and young – march, chanting, out of the village mosque. The Israeli army is waiting. Platoons of soldiers block the crowd's progress. A provocation occurs. A slur. A shove. And the dance of violence starts. From the Palestinian side: a hail of rocks flung by boys and young men armed with slingshots. From the Israelis: rubber bullets, teargas canisters, stun grenades and, sometimes, a high-pressure stream of "skunk water," a stinking chemical brew sprayed from a police truck. □



The wall in Jerusalem.



Paul Salopek is a reporter and two-time Pulitzer Prize winner, as well as winner of other highly-regarded journalism awards. Salopek was born in 1962 in California and grew up in Mexico. He worked as a foreign correspondent for the Chicago Tribune and National Geographic in Africa, the Middle East, Central Asia and Latin America. The biologist has been walking the trail of

modern humans since January 2013 and reporting on his journey in his blog at outofedenwalk.nationalgeographic.com. His first book about the journey, "A Walk through Time," will be published in 2016. Partners for the project include National Geographic, the Knight Foundation, the Pulitzer Center and the Nieman Foundation (Harvard). Photographer John Stanmeyer, who is accompanying Salopek, is the winner of the Robert Capa Award and was named Photographer of the Year.

Better, Faster, Cheaper

In the last hundred years, global mobility has risen sharply and economic growth has accelerated. A three-minute telephone call to the US, for example, once would have cost 1,200 Swiss francs (1931), today it costs 40 centimes. Here are 15 graphics to illustrate how quickly today's world turns.

By Ole Häntzschel (infographics)
and Simon Brunner (content)

Getting There Cheaper: Freight

Shipping goods is becoming ever more affordable, as indicated by airline revenue per transported ton and kilometer (index = 100 in the year 2000).

International Air Transport Association, World Air Transport Statistics



Getting There Faster

150 years ago, a package traveling from New York to San Francisco took over a month to arrive, with a detour through Panama – today an express delivery goes by plane and travels coast to coast in a matter of hours.

The United States Postal Service

1849 — 1 month or more
Steamship and transport over the Isthmus of Panama

1858 — 30 to 35 days
Railroad and stagecoach

1860 — 13 to 14 days
Railroad and Pony Express (a mail delivery service using courier riders on horseback)

1869 — 7 days, 2 hours
Transcontinental railroad

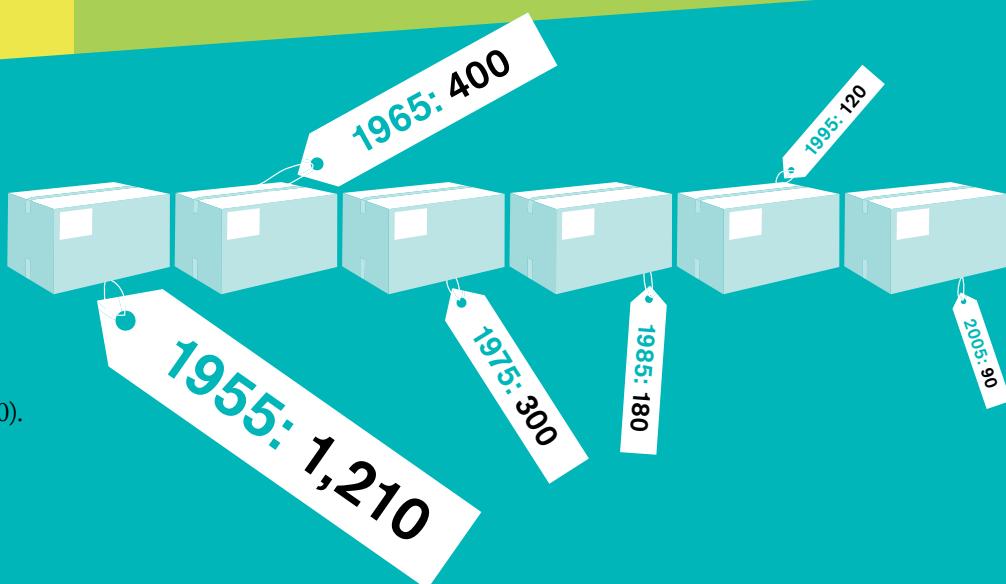
1900 — 4 days, 10 hours
Transcontinental railroad

1906 — 3 days, 18 hours
Direct, transcontinental railroad

1921 — 3 days, 11 hours
Airplane and railroad

1924 — 1 day, 10 hours, 20 minutes
Transcontinental air mail

2006 — 6 to 7 hours
Airplane



Getting There Cheaper: Passengers

Flight costs plummeted in the middle of the last century. A round trip flight from Zurich to New York was five times cheaper in 1990 than in 1950 (real prices).

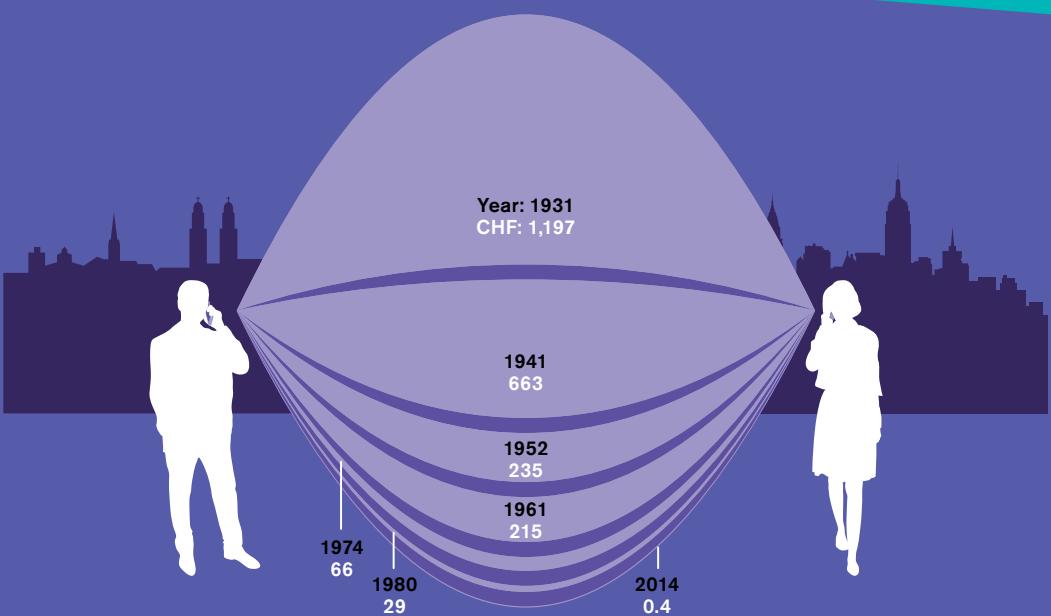
Swissair – “1950s Syndrome: The Path to a Consumerist Society” by Christian Pfister (editor)



Telephone Calls Become Affordable

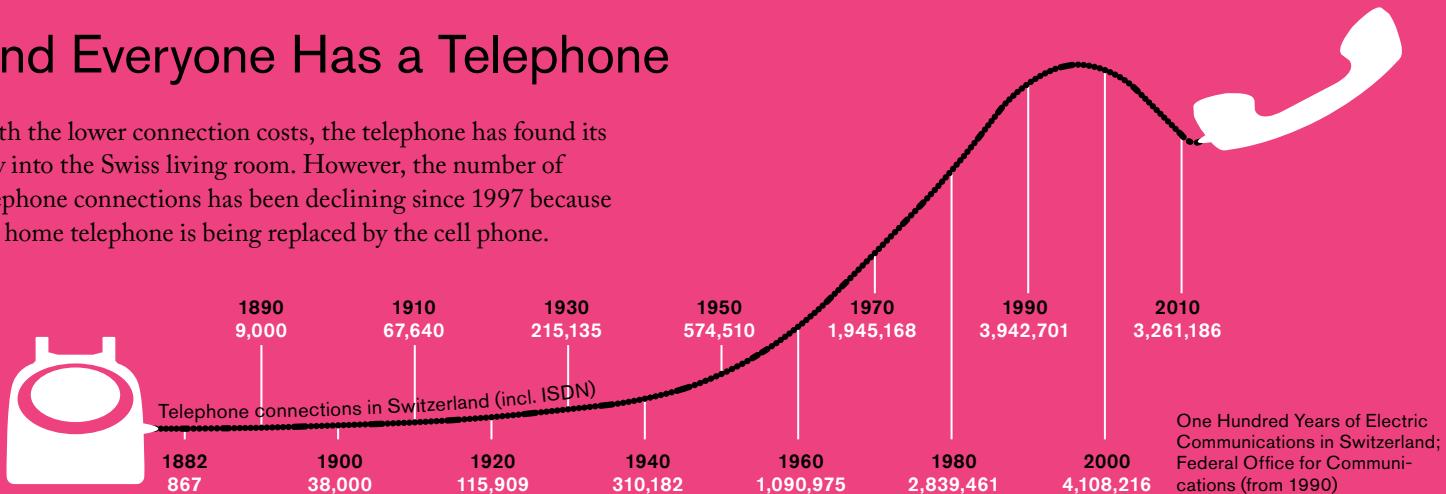
While a long-distance call in the 1980s was still considered a luxury, today it makes almost no difference whether you have New York on the line, or Locarno. Here are the real prices for a three-minute telephone call from Switzerland to the US.

PTT Archive; Swisscom; One Hundred Years of Electric Communications in Switzerland 1852–1952, GD PTT (editor); adjusted for inflation using the CPI inflation calculator



And Everyone Has a Telephone

With the lower connection costs, the telephone has found its way into the Swiss living room. However, the number of telephone connections has been declining since 1997 because the home telephone is being replaced by the cell phone.

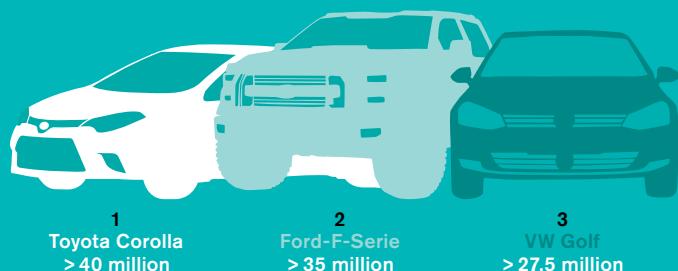


What We Drive

We travel more kilometers by car than by any other mode of transportation – which cars have been global bestsellers so far? And which ones are the current bestsellers in Switzerland?

Global: Toyota, 247wallst.com / Switzerland: ASTRA/MOFIS/auto-schweiz

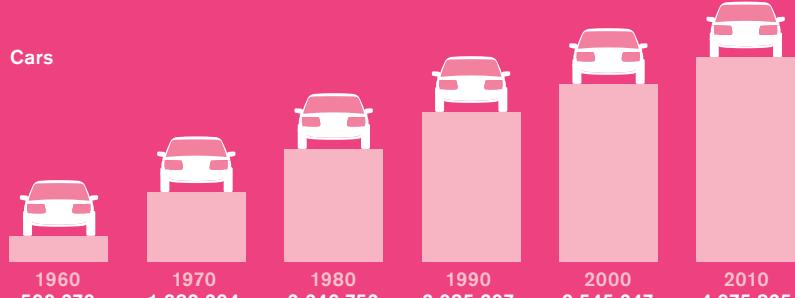
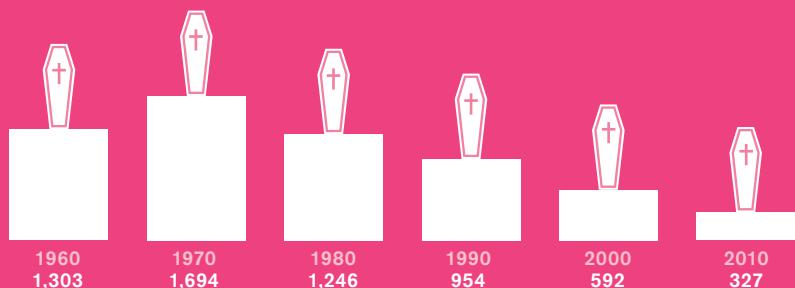
The most globally popular cars of all time



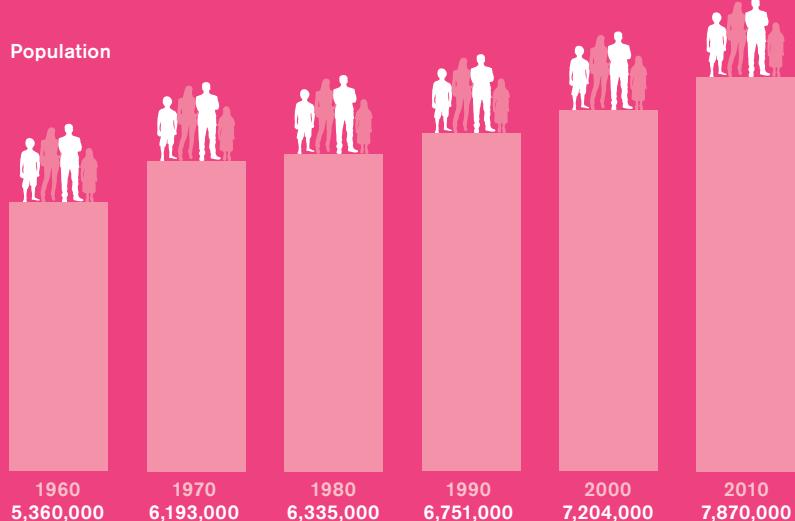
The most popular cars in Switzerland, 2014 (January–May)



Traffic fatalities in Switzerland



Population



More Cars, Fewer Casualties

Fatal traffic accidents have declined sharply – although more and more cars are on the road in Switzerland and the population is growing steadily.

Swiss Federal Statistical Office

Your Own Four Wheels

The car dominates the commute; most Swiss use it as their main method of transportation to get to work.

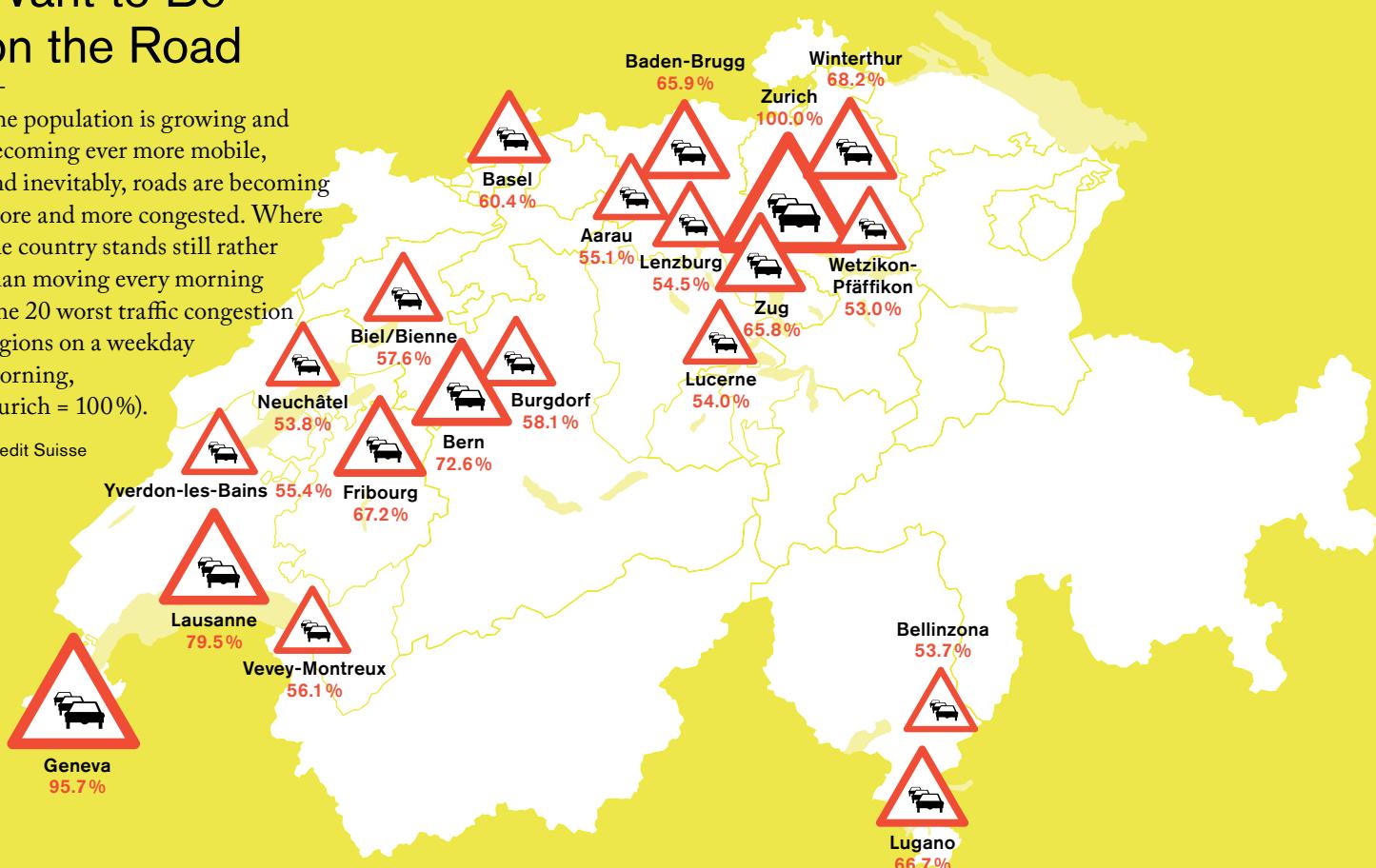
Swiss Federal Statistical Office



Where We Don't Want to Be on the Road

The population is growing and becoming ever more mobile, and inevitably, roads are becoming more and more congested. Where the country stands still rather than moving every morning (the 20 worst traffic congestion regions on a weekday morning, Zurich = 100%).

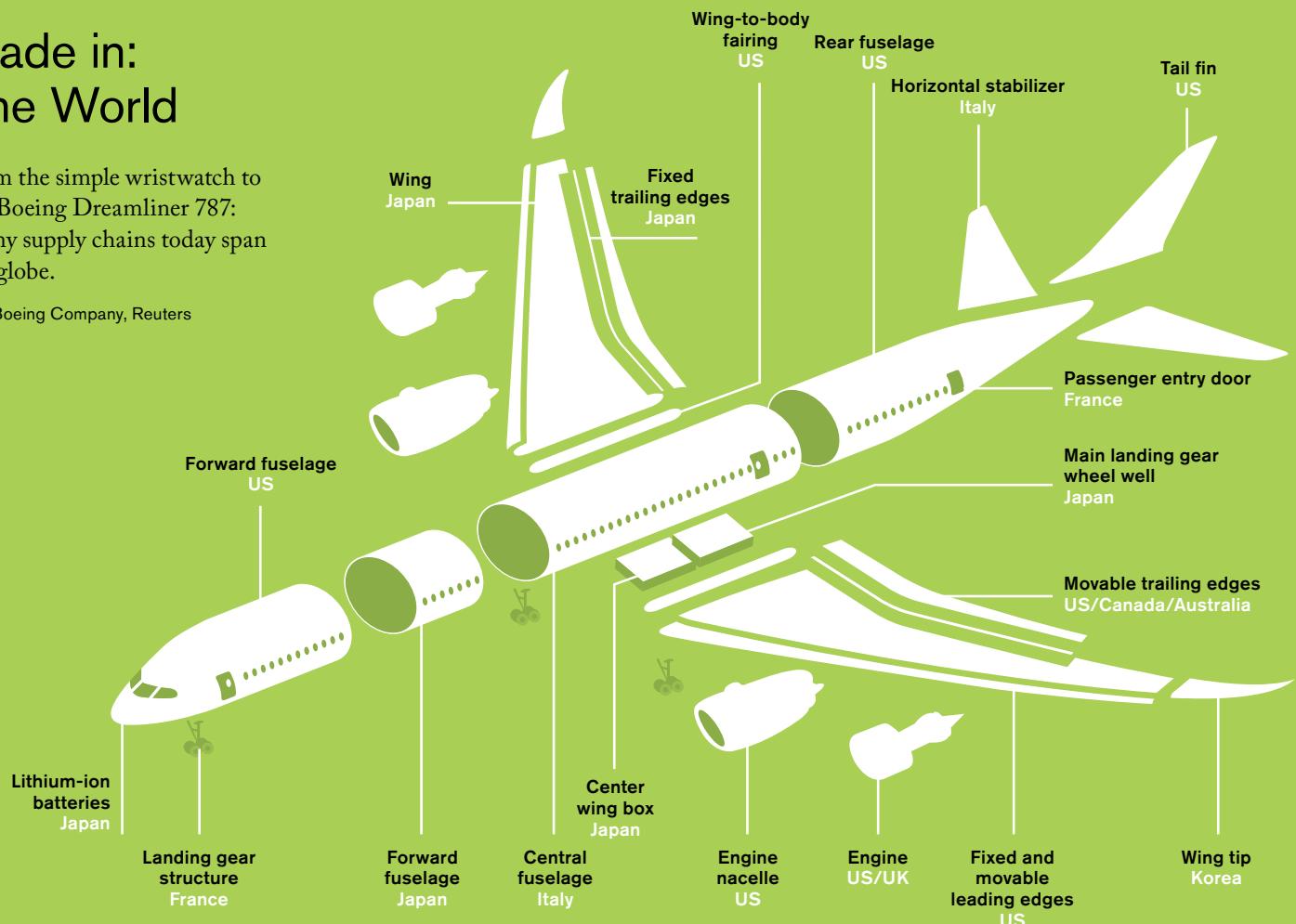
Credit Suisse



Made in: The World

From the simple wristwatch to the Boeing Dreamliner 787: Many supply chains today span the globe.

The Boeing Company, Reuters



Who Does What, Where

Value chains are also becoming more international, as they follow the costs of the production locations. Shrimp are caught in the North Sea, peeled in Morocco, packed in the Netherlands and sold in Germany.

ZDF, Bild



Quiz

Which train network belongs to which country?

SBB, DB, russia.rail.com, Wikipedia, Federal Agency for Cartography and Geodesy, seat61 (in each case, the major train lines)



1



2



3

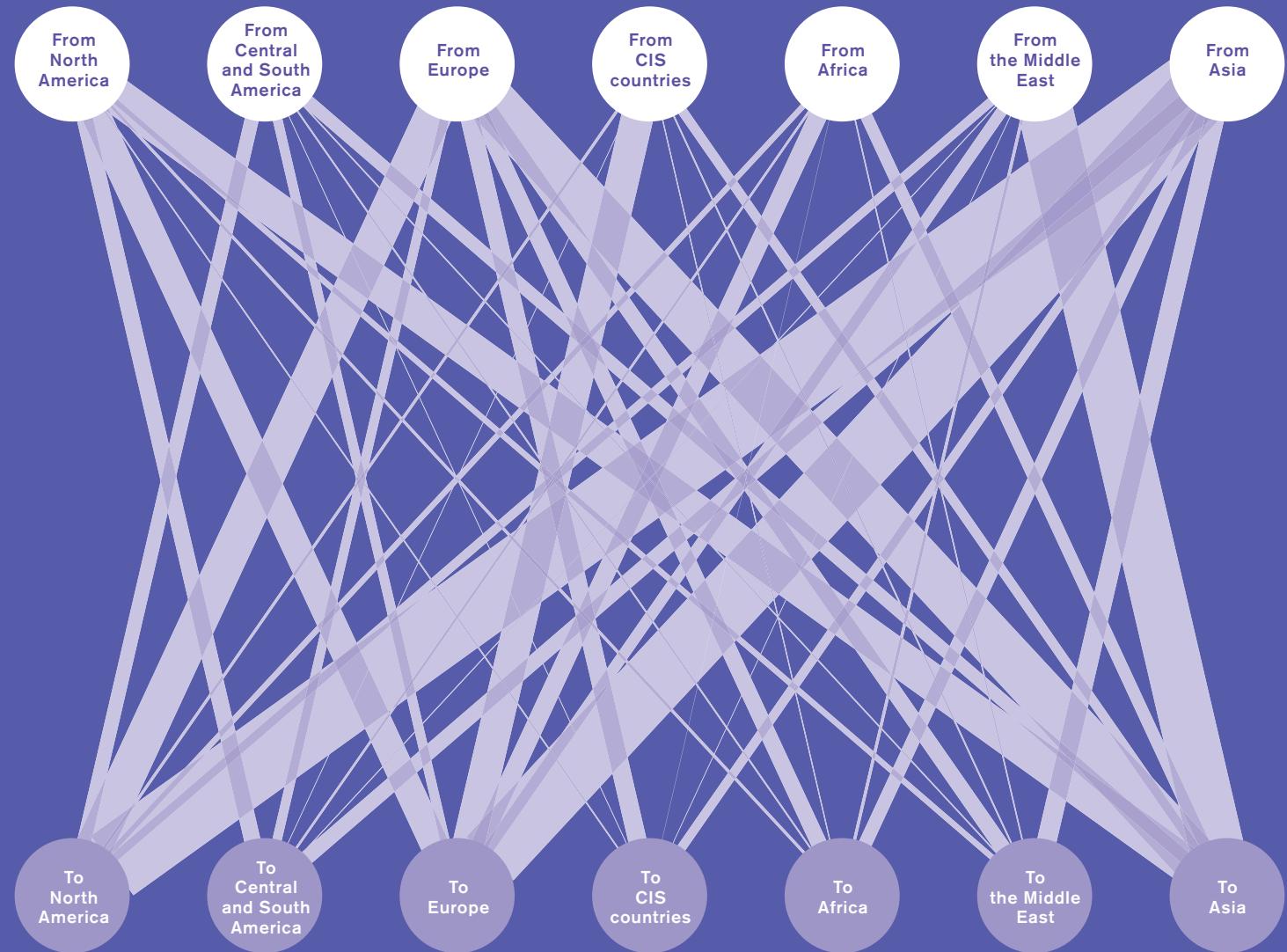


4

In and out

Global trade in goods is bigger than ever before. Asia, Europe and the US are the world's leading import and export regions, while Africa and Latin America take a back seat (for now).

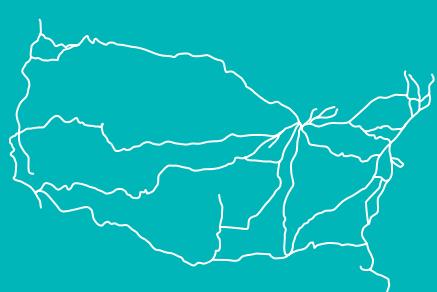
World Trade Organization, International Trade Statistics 2013



5



6



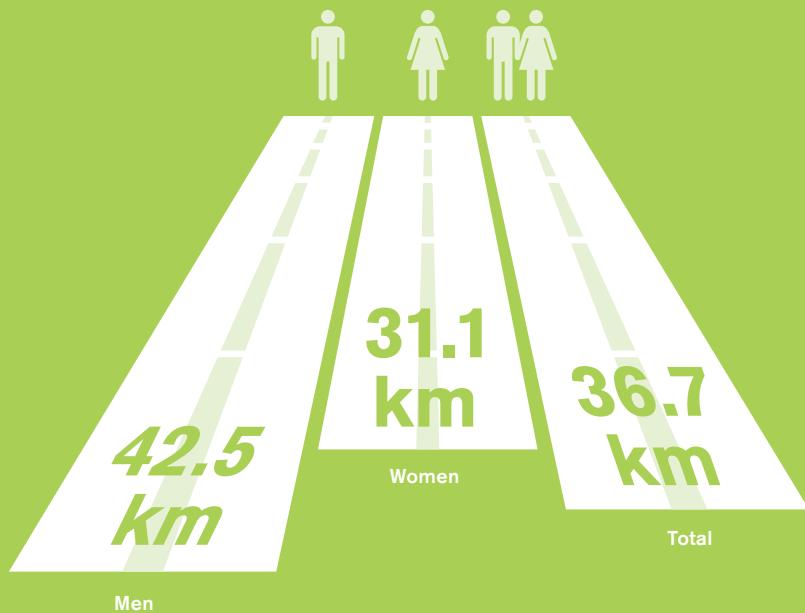
7

1. Australia, 2. Germany, 3. France, 4. Japan, 5. Russia, 6. Switzerland, 7. US

How Much Ground We Cover

On average, each person in Switzerland covers over 35 kilometers per day, with men being more mobile than women (domestic travel only). A resident of Switzerland travels a total of 20,500 kilometers per year, somewhat further than the distance between Switzerland and New Zealand (domestic and foreign travel).

Swiss Federal Statistical Office



Why We Travel

We travel further in our free time than we do for work (domestic trips only – reasons for travel as a percentage of the daily distance traveled).

Swiss Federal Statistical Office



Employment and income open up pathways out of poverty and real opportunities for the future.

For more than 50 years Swisscontact has been creating ideal conditions for entrepreneurship in structurally-challenged regions.

Thanks to the support from Credit Suisse and by promoting a competitive private sector committed to social and environmentally-friendly principles, Swisscontact is opening up pathways out of poverty for millions of disadvantaged people.

Swisscontact works in 27 countries implementing over 100 projects in the areas of skills development, SME promotion, financial services, and resource efficiency in order to promote economic stability in developing countries.

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Support people with entrepreneurial spirit.

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for Technical Cooperation

www.swisscontact.org

Working Hard to Save the World

He revolutionized payment processes on the internet with PayPal, now his electric Tesla car is revolutionizing the way we drive. Next, he wants to send people to Mars. Who is Elon Musk?

By Alix Sharkey

During his ten-second cameo role in the Hollywood film "Iron Man 2," Elon Musk says: "I've got an idea for an electric jet." Tony Stark – Iron Man's alter ego – answers: "You do? We'll make it happen."

According to director and screen-play writer Jon Favreau, the character of Tony Stark, company owner, inventor and playboy, played by Robert Downey Jr., is loosely based on Elon Musk. The real billionaire and industrialist likes to play down this comparison ("I have five kids and spend my weekends at Disneyland."), yet the concept of an electric jet is no Hollywood fantasy. In answer to the question of what he would create if he did not already own two multi-billion-dollar companies, the CEO of Tesla Motors and SpaceX says, "A supersonic electric jet with vertical takeoff and landing capability. It would be the ultimate form of transport: faster, quieter, and environmentally friendlier than today's planes. It would be able to land in the city, rather than an airport in the suburbs."

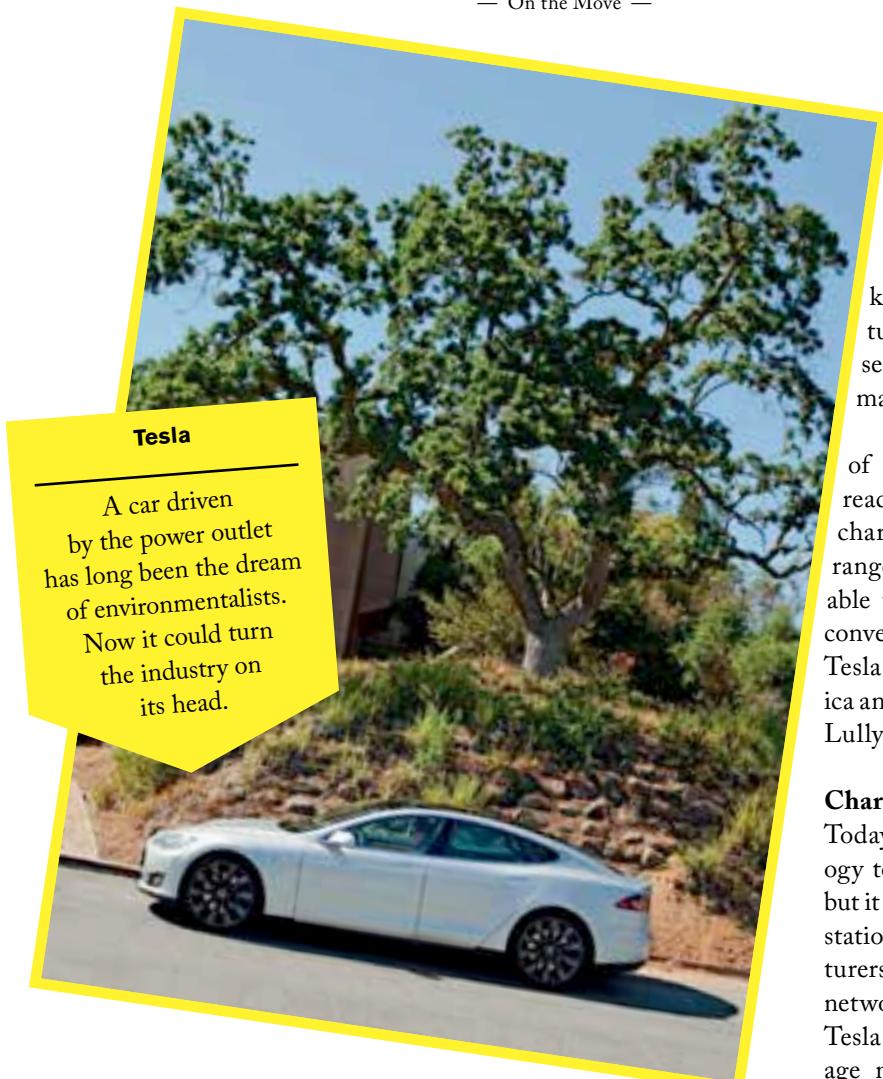
One of Musk's other dreams is the Hyperloop – a 1,200 kph, electricity-driven transport system between Los Angeles and San Francisco that he wants to build for a tenth of the 60 billion dollars that a high-speed rail link, which has been under negotiation in California for years, would cost. But his most ambitious goal is to send people to Mars – and to do it before 2035.

It is this wild and visionary imagination, in addition to his willingness to take risks with his own money and his enormous entrepreneurial spirit, which makes Elon Musk such a fascinating figure. At the turn of the millennium,

Elon Musk

The 42-year old billionaire and industrialist is sharp and direct, a mixture of audacity, madness and vision.





Tesla

A car driven by the power outlet has long been the dream of environmentalists. Now it could turn the industry on its head.

Musk revived the idea of space exploration and, with Tesla Motors, ushered in the era of the electric car.

Elegance through Electricity

A car driven by power from the outlet has long been the dream of environmentalists. Now it is about to become part of our everyday experience. Tesla is among the pioneers in this field. Its cars are cleaner, more elegant, more efficient and sexier than gasoline-driven cars – and they often accelerate faster.

Review and ratings magazine Consumer Reports has named the Tesla Model S the “best car that we have ever tested” and given it 99 points out of 100. “With its blistering acceleration, razor-sharp handling, versatile cabin and its ultra-quiet, zero-emission driving experience, the Tesla Model S is a glimpse into a future where cars and computers coexist in seamless harmony.” Automobile magazine named the Tesla Model S its car of the year, calling it “an absolute game changer.”

Less enthusiastic test reports criticized the car’s weight due to its almost 500 kilogram batteries. It also requires up

to 36 hours to charge using a normal power outlet. Yet even the negative reports on the Tesla, which has been known to catch fire after a crash, could not dampen the euphoria concerning the electric car.

Over 31,500 units have been sold since it was launched on the market last year. The Tesla Model S holds 24 percent of the still-nascent electric car market and is the second most successful model in Europe after the Nissan Leaf. Between January and May 2014, 191 Tesla S models were sold in Switzerland, more than twice as many as the Porsche Panamera S (86) and Audi A7 (84). Not bad for a luxury car that, depending on the model, costs between 72,000 and 120,000 Swiss francs. Tesla has also already unveiled a prototype of the next model, the Tesla X, a seven-seater SUV with falcon-wing doors.

Yet the company’s most decisive step is scheduled for next year, when the third generation of the Tesla model will be launched – a vehicle of the lower mid-size class that should cost about CHF 23,000. If Tesla is able to take the lead in this mar-

ket, the automobile industry will be turned on its head with electric drives set to become more available to the masses.

Along the highways and byways of Europe and America, Tesla is already busy building a network of superchargers in order to increase driving range. These supercharging stations are able to charge the batteries faster than conventional power outlets. Currently, Tesla operates 94 superchargers in America and 20 in Europe – with one located in Lully, in the Swiss canton of Fribourg.

Charitable, or Just Egotistical?

Today, Tesla supplies powertrain technology to its investors Toyota and Daimler, but it also wants to share its supercharging stations with rival electric car manufacturers, as long as they help expand the network. Musk recently announced that Tesla will forego filing patents to encourage more electric cars on the market. “With annual new vehicle production approaching 100 million per year and the global fleet at some two billion cars,” says Musk, “our true competition is the enormous flood of gasoline cars. It is impossible for Tesla to build electric cars fast enough to address the carbon crisis. We believe that applying open-source philosophy to our patents will strengthen rather than diminish Tesla’s position.”

“Applying open-source philosophy to our patents will strengthen Tesla’s position.”

Critics, however, suggest that this impressive move, which has garnered so much media attention around the world, is nothing more than sheer business interest. Tesla needs more extensive funding for its research and development, so it is relying on cooperation partners.

With a lack of humility typical of Musk, Tesla has announced projected annual sales of 500,000 cars by the year >

2020, which means Tesla's demand for lithium-ion batteries will soon exceed the capacities of its supplier Panasonic. So, in February, Musk announced that he intends to build a five-billion-dollar battery factory that will create 6,500 jobs. And he expects to build two hundred more such plants in the next decade. Lithium-ion batteries are also an important component of solar technology. As chairman of SolarCity, now one of the largest US producers of photovoltaic solar systems, Musk is optimizing the synergies between his various interests. "We must move to 100 percent renewable energy," says Musk. "We could power all of the US with solar panels covering just a corner of Arizona."

Next Stop: Mars

Nowhere is his determination to shape history more apparent, however, than when you look at his space exploration company SpaceX, which he founded in 2002. SpaceX has already sent three supply capsules to the International Space Station and transported three telecommunications satellites into space, with another 16 launches scheduled into late 2016.

In the end, he wants to achieve his ultimate goal – to take people to Mars and establish a colony there. Musk believes that this should be possible within 10 to 12 years. Indeed, he believes that this could be the beginning of new forms of life. "I think we'll bioengineer new organisms that are better suited to life on Mars, synthetically modified organisms." Musk sees in the Mars idea the opportunity to make human life interplanetary and to create an alternative in case of catastrophes on Earth.

Musk's ambition to constantly challenge the limits of what is considered possible has made him rich. According to Forbes, his fortune tripled last year to 2.7 billion dollars. In the same period, Tesla shares rose by 625 percent and those of SolarCity by 340 percent. The value of SpaceX is now estimated at over four billion dollars.

How Green is the Electric Car?

Not everyone is applauding his big ideas, however. The experts say that his Hyperloop is anything but a mature infrastructure project. Years of development and tests are necessary, making the originally estimated costs far too optimistic.

The National Automobile Dealers Association (NADA), which wants to stop his direct-to-consumer sales model, has successfully taken Tesla to court. In NADA's view, consumers will benefit if Tesla is forced to market and sell its products through dealers. Musk says that direct sales make its products more affordable to consumers.

But the sharpest criticism has come in the form of a recent study conducted by the US Environmental Protection Agency and the US Department of Energy. The report had little positive to say about the lithium-ion batteries used by Tesla. It alleges that the production of these batteries contributes considerably to global warming, and is damaging both to human health and the environment.

Cobalt, which is used for the batteries, is a toxic metal, and lithium is extracted

from brine in a process that contaminates soil and water and releases toxic chemicals into the atmosphere. Undoubtedly, the lithium-ion battery is the Achilles heel of Musk's competitiveness, and as long as this problem remains unsolved, Tesla will not be nearly as environmentally friendly as Musk would have people believe.

Superheroes for the World

Yet Musk marches on with seemingly unshakable self-confidence – uninhibited by any and all objections. With his boyish looks, a slight overbite and his soft-spoken, halting speech pattern, Musk does not exactly fit the image of an industrial magnate. He wears plain polo shirts, and his slender hands look like they could belong to a mathematics professor. Yet behind his apparent shyness, there hides an impressive ego. People who know him say that he does not tolerate intellectual limitations. He can be sharp and direct and he expects his employees to be as passionate about success as he is. Naturally, his visions of success are not measured simply by financial gain, but rather by whether he has been successful in shaping the world according to his vision and altering how we live in it.

Elon Musk was born in 1971 in Pretoria, South Africa. His father Errol was





an engineer and entrepreneur, his Canadian mother Maye, a former model, worked as a dietitian. Elon was a loner who loved superhero comics and science. He experimented with explosives and built small rockets. "I'm lucky to still have all my fingers," he once said. As a twelve-year old, he wrote a computer game called Blastar, which he sold for five hundred dollars. At sixteen, he wanted to open his own video arcade, but the city wouldn't give him a license.

When he turned seventeen, he emigrated to Canada (he held Canadian citizenship through his mother), lived with relatives and studied in Kingston, Ontario. When he was 22, he moved to the US to study at the University of Pennsylvania. His PhD studies in applied physics at Stanford lasted exactly two days. Excited about the dot-com boom, he decided to go into business for himself. With his younger brother Kimbal, he founded the online information service Zip2, which they sold to Compaq four

years later for over 300 million dollars. He invested the money in X.com, which was developing an online payment model. In 2000 the company X.com merged with Confinity, which had a similar system to PayPal. When PayPal was sold to eBay in

"I'm lucky to still have all my fingers."

2002 for 1.5 billion dollars, Musk held an 11.7 percent stake in the company. He was 31.

Later that year, he founded SpaceX with Tom Mueller. Then, in 2004, he became a major investor in the Californian start-up company Tesla Motors. After rushing from success to success, he came close to bankruptcy in 2008 when SpaceX's first three rocket launches failed. "We were just too stupid to put a rocket into orbit," he explains. Luckily, NASA invested enough money in the company

for the fourth rocket launch, which was successful.

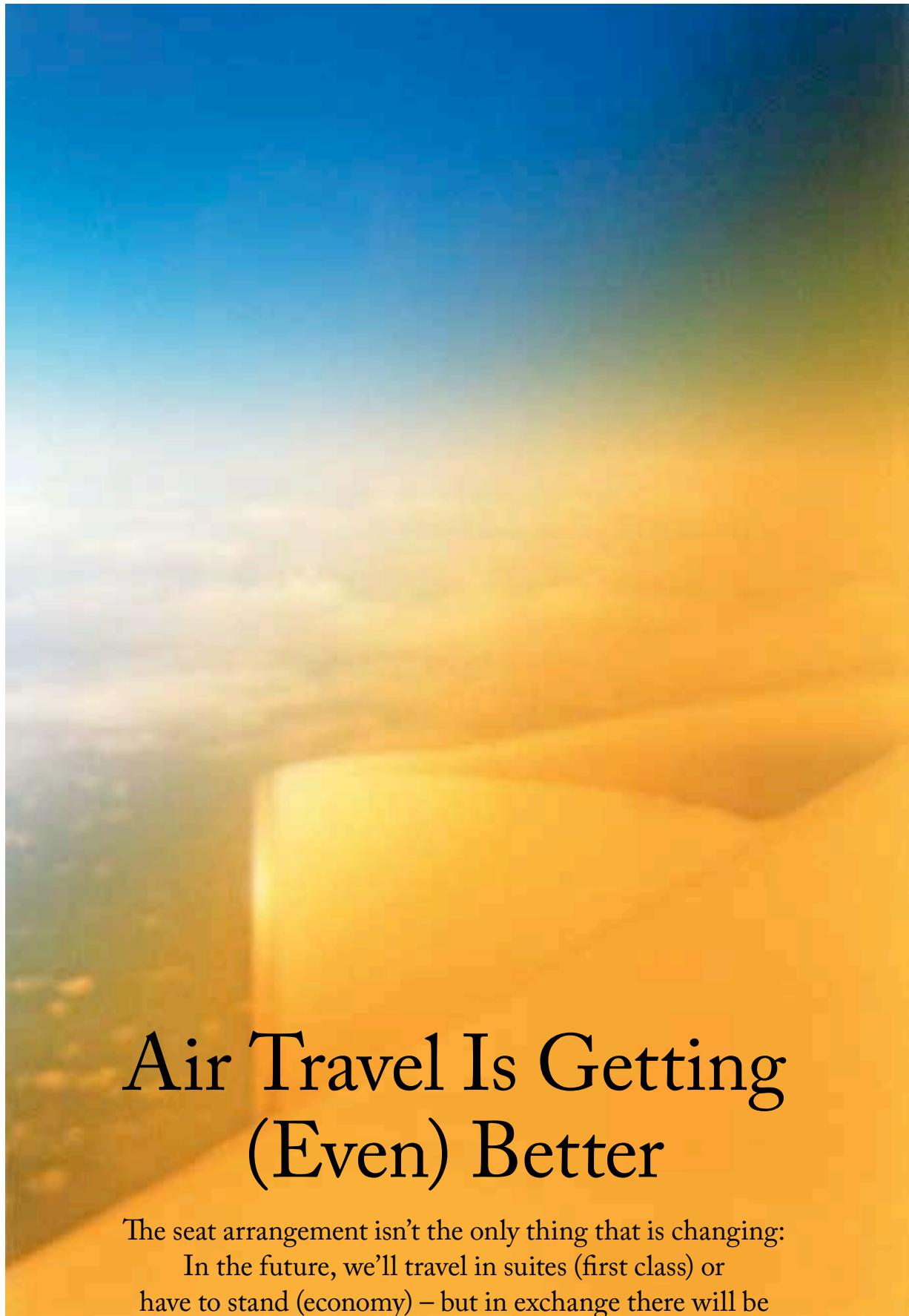
Tesla Almost Goes Bankrupt

While the global economy was sliding into a crisis, Tesla Motors was just barely able to stave off bankruptcy. Musk, who had invested his entire fortune in the company, fired founder and company CEO Martin Eberhard, appointed an interim CEO and then took on this role himself in 2009.

The crisis and his work mania led to the collapse of his marriage with novelist Justine Wilson, with whom he shares custody of their five sons (his first son died of Sudden Infant Death Syndrome at ten weeks old). In 2012, Musk announced that his second marriage to British actress Talulah Riley was over. At the beginning of this year, however, they re-united and currently live with his children in a large mansion in Bel Air, which is said to have cost 17 million dollars.

Aside from short trips to Disneyland, Musk spends most of his time in Tesla's headquarters in Palo Alto and at SpaceX in Hawthorne, near Los Angeles airport. About once a month, he checks in at SolarCity, but Tesla Motors and SpaceX are the places where he forges his plans for the future. He says, "An engineer is the closest thing to a magician that exists in the real world." □

Alix Sharkey writes for various newspapers and magazines. He lives in California.



Air Travel Is Getting (Even) Better

The seat arrangement isn't the only thing that is changing:

In the future, we'll travel in suites (first class) or have to stand (economy) – but in exchange there will be fewer children screaming and better entertainment choices.

An overview of the innovations in the airplane cabin.

By Adam Gavine

Traveling first class – this used to mean a luxurious seat at the front of the plane, flowing champagne, and a few additional amenities. It was a great way to travel. In recent years, this experience has been expanded steadily. When airlines such as Asiana, Emirates and Air France introduced private suites where passengers could shut out the rest of world with doors or curtains, the first-class experience seemed to be perfect.

But then Etihad, the Abu Dhabi-based airline, raised the bar even further with “The Residence,” a private suite (starting in December on the new Airbus 380). A personal butler guides passengers through the double doors to their chambers. Waiting for them there are two luxurious seats and a sofa made of fine leather by Poltrona Frau – like the ones you’d find in a Ferrari or Maserati. There’s a 32-inch television and a dining table with exquisite inlay. And that’s just the living room. Go through another door and you enter the bedroom, with a 205 x 120-centimeter bed, a 27-inch television and a shower in the ensuite bathroom.

“The Residence” is 11.5 square metres of exclusivity and comfort for the price of about 20,000 US dollars for a one-way ticket. It will be interesting to see how its competitors respond in the near future – although it takes around five years to develop this type of product.

Luxury Meets High-Tech

High-tech could be one response. US company Zodiac Aerospace – one of the world’s largest companies specializing in aircraft cabin interiors – recently presented its new “Halo” concept. Halo conveys the feeling of being in a room in a luxury hotel; this means that passengers can arrange the two chairs and a sofa, which becomes a double bed, as they wish.

Just want to eat and then go to sleep? A member of the cabin crew will fold out the dining table, serve an exquisite meal and then make the bed. LEDs on the wall make falling asleep easier by mimicking a starry night sky. The air conditioning in the suite can be adjusted

to suit the passenger’s body temperature, and the system monitors passengers’ eye movements to ensure that the simulated sunrise only wakes them after a restful sleep. If they’re in a more celebratory mood, passengers can close the doors, open the mini-bar and turn up the music. The sound-proof suite offers enough space for five people to have a party.

Passengers may want to freshen up after the party. At the press of a button, the large-screen television slides to the side and reveals a mini spa area. Zodiac thinks that Halo is five to seven years from becoming a reality.

Business Class Is the New First Class

There have been some astounding developments in first class, but the latest innovations in business class are no less impressive. In fact, today’s business class is at least as comfortable as first class was just a few years ago. For example, a seat

A personal butler guides passengers to their chambers.

that converts into a flat bed has already become standard on long-haul flights.

In order to generate additional profits, airlines have to accommodate as many passengers as possible in business class. This is where things are getting interesting. A simple forward-facing seat can take up a lot of space in the cabin. Therefore, a number of complex designs have been devised to optimize comfort and passenger count; ultimately, an aircraft cabin represents some of the most expensive square footage in the world. From a fishbone layout and a reverse fishbone layout to a staggered arrangement, a staggered fishbone layout, a yin-yang pattern or dovetail formation – aircraft cabin designers have long sought the ultimate solution for optimal comfort and profit.

Amazingly today’s long-haul business class experience doesn’t end at a comfortable bed, gourmet dining with

an extensive wine list, a large LED TV and attentive service. Many airlines are expanding their service to include a driver picking you up from your home and dropping you off at a VIP entrance at the airport, where ground staff will greet you and attend to your baggage, before taking you through security and into a lounge. Therefore, it is no wonder that some airlines are considering reducing their first-class area or even getting rid of it altogether in order to expand business class. This better meets the needs of their market.

Affordable for Everyone: Economy

Economy class lets people travel the globe at reasonable prices. However, airlines are on the hunt for opportunities for more seating here, too – both because more room is needed for luxury suites up in business and first class on the one hand, and to keep ticket prices low and cover the high cost of fuel on the other. That was the bad news. The good news is that things might get a little more interesting soon for the economy passenger, though not necessarily more spacious.

Among the boldest seating concepts is the SkyRider, developed by Italian cabin outfitter Aviointeriors. With this saddle-like seat, passengers sit in almost a standing position. Each seat therefore uses less space, allowing for more seats to be added. This is only suitable for short-haul flights – and bold airlines.

Another concept that was recently introduced by Zodiac is the folding seat, like the ones that are found in cinemas, which are arranged in a “yin-yang” formation so that passengers sit in a row, alternately facing forward and backward. This, too, allows more seats to be added, although there is still a surprising amount of comfort and leg room.

Or how about a vertical arrangement? Industry designers are looking for opportunities for more space and greater comfort in economy class with tiered seating, in which passengers sit in seats set at varying heights – this solution offers a great amount of shoulder room, more personal space and somewhat enhances a large economy class cabin >



More entertainment, less space: Thales entertainment system, Zodiac folding seat.

visually. The concept isn't yet fully developed, but some airlines are already taking a serious look at it.

Entertainment at the Blink of an Eye

In addition to upgrading and modifying various classes, airlines are working on new entertainment systems in particular. Currently, there are two options for operating an on-board entertainment system – by remote control or by touch-screen. Because the seats in business class now take up more room, however, the screen is often uncomfortably far away and a hard-wired remote control hardly seems modern.

The problem is being tackled in the labs at Thales and Panasonic Avionics, two of the world's largest companies for on-board entertainment technologies. One possibility is eye tracking, in which the movement of the passenger's eyes is tracked by a camera. By looking up or down and right or left, the passenger can navigate through the menu, and a long look at a particular point confirms the passenger's selection. Gesture controls are another option, where passengers navigate through the menu with a swiping motion, and confirm their selection by motioning forward with an open palm.

Thales introduced these technologies in its "immersive seat," which boasts a complete home cinema. In addition to ambient sound and a vibrating seat (for example, when there is an explosion in the film), the system also monitors eye movement; if the passenger falls asleep or gets up to go to the bathroom, the film stops until the passenger is ready to start watching again.

Even with all the Hollywood films, TV shows and games that are available via the on-board entertainment system, the moving map remains a favorite. Maybe this is because we never outgrow

the age when our most frequently asked question while traveling is: "Are we there yet?"

Even when the ground speed is around 965 km/h, the map doesn't move often enough to offer real entertainment and it conveys very little information about the regions and countries over which passengers are currently flying.

Map providers are therefore working on "geotainment," in which passengers can immerse themselves in the maps interactively. If a passenger sees some-

Things might be getting more interesting in economy, but not roomier.

thing interesting when looking out the window or at the map, that part of the map can be expanded to see more details. Text, images and videos provide information about the history of the particular place, its culture and food. Passengers can book a flight or hotel from their seats; they can even reserve a car, make a dinner reservation or buy concert tickets. These technologies are already available for use, and many airlines are interested in them.

Flight Attendants Can Do it All

Comfortable seats are essential on every flight, but ultimately it's the flight attendant who really makes passengers feel comfortable. For example, Singapore Airlines created the famous "Singapore girl" in order to promote its service. Its iconic image of a flight attendant wearing a traditional sarong has been around since 1972, and it's been very successful. The airline won the title of "World's Best Cabin Crew Service" (presented by Busi-

ness Traveller Asia-Pacific) 17 times in a row. The iconic Singapore girl even occasionally makes an appearance at Madame Tussaud's wax museum in London.

Flight attendants are characterized by patience, facility with languages, diplomacy and the ability to keep a cool head under pressure. Some airlines are adding to this list. For example, the cabin crew of South Korean airline Asiana can plan a spontaneous birthday party (including face painting and balloon animals) or organize a fashion show, draw caricatures, mix cocktails and demonstrate how to brew the perfect cup of coffee.

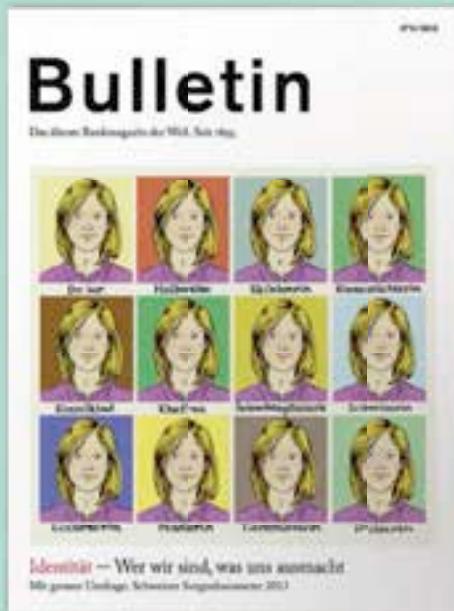
Finally, there are "sky nannies" who ensure that passengers feel completely at ease while on the plane. Companies like Gulf Air and Etihad offer nannies. They can calm, divert, entertain or – whatever it takes – bribe a child so that the youngest passengers on-board are calm and happy. Because when they're happy, the entire plane is happy. □

Adam Gavine is the editor at Aircraft Interiors International, the leading publication for airline interiors.

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“As long as it gets good mileage”

Drivers start small, too. In the 1960s and 1970s, Matchbox model cars were the stars of every child’s room. And today? Are the little metal toys just keepsakes, or more popular than you would think?

By Lars Jensen

Long ago, before the world’s most popular toy was a high-tech robotic plush animal named Furby that boasted a thousand-word vocabulary, nothing inspired as many children’s dreams as the automobile. Could a child imagine anything more exciting than someday speeding down the highway the way grown-ups did? Until that day came, Matchbox model cars kept the dream alive.

The British manufacturer Lesney has gladdened young hearts in untold numbers since introducing its best-known brand in 1953. It all began when a steel manufacturer crafted a die-cast toy car for his daughter at a scale of 1:72, which fit inside a matchbox – an idea that charmed her friends and eventually the whole world. In 2007, Matchbox announced that it had sold three billion cars in more than 130 countries. The 1:72 scale was determined by the machinery available to Lesney at the time. It proved ideal for production. Later, Matchbox cars were also made in other sizes. In the brand’s heyday, the 1960s and 1970s, “playing cars” was a favorite pastime of youngsters everywhere, with dramatic rollovers and crashes aided by vocal sound effects – and Matchbox cars.

And Today?

Kids and cars is still a winning formula. Disney made ten million dollars on merchandising alone with its blockbuster film “Cars.” But the manufacturers of traditional toys are battling competition from electronic playthings, known as youth electronics. This poses a dilemma for companies like Matchbox. Should the company adapt and produce talking



A winning formula worldwide: Matchbox cars from an advertising campaign (2003).

Matchbox cars, or even video games and movies, or hold fast to tradition?

In 1997, Matchbox was acquired by the US toy conglomerate Mattel. And though there is no talk of strategizing a cult following for the brand, the Matchbox multipacks of five to 20 cars remain bestsellers at Amazon and toysrus.com.

The cars don't break"

To find out what customers think, we turned to a small focus group: Ruby, 4, New York; Pablo, 7, Amsterdam; Nick, 6, Hamburg; Carlo, 6, London; and Jacob, 4, New York. Question: "Do you have Matchbox cars, and how often do you

play with them?" The responses should please the strategists at Mattel. Four boys and one girl each own at least three cars. They play with them every day, and they like them just the way they are. None of these children has a favorite. "I make the sounds myself," says Jacob. And Carlos points out one advantage over electronic toys: "The cars don't break."

In Berlin, perhaps the world's most knowledgeable expert in this field runs a business dedicated to everything Matchbox. Carsten Oettler owns more than 10,000 models of all eras and types, from the hovercraft boat to a three-wheeled milk cart. Customers come from as far

away as Asia and the Americas to his shop. Matchbox fans who travel to Berlin wouldn't miss a visit to Cars & Boxes.

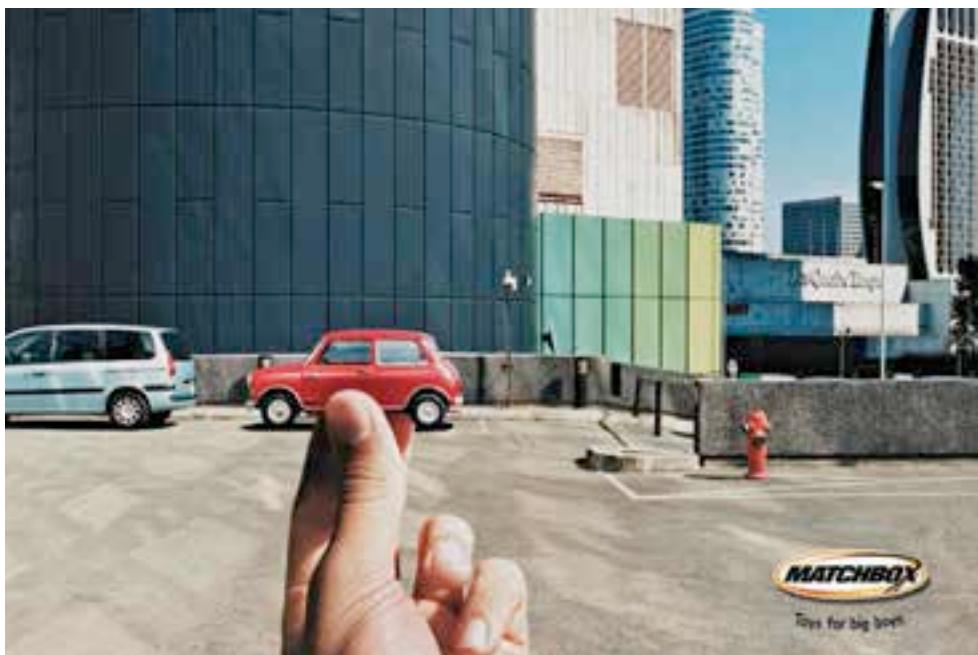
Business is good; Matchbox celebrated its 60th anniversary last year, and Oettler drew a good deal of attention. The company issued a collector's edition of the Superfast series, which was popular in the 1970s – classics such as the Citroën DS, the Mercedes 450 SEL and an American ambulance, as well as modern models such as the Toyota Prius, Fisker Karma and Porsche Cayenne.

"There are two types of Matchbox enthusiasts," Oettler notes. "The children who get inexpensive multipacks as gifts, and the collectors who pay a lot of money for limited special editions. It seems to me that children are less excited about cars – on the street and in their rooms – nowadays. Meanwhile, more and more adults are indulging in nostalgia."

A Car Just Like Daddy's

Children don't care much about what kinds of cars they use to simulate crashes. Matchbox assembles its multipacks on a random basis. In the 1950s, Matchbox began with British cars, such as the MG Midget or the Vauxhall Cresta. It soon became clear that the children had other preferences – VW and Citroën were the first foreign cars in the Matchbox line, and sales were brisk.

One thing hasn't changed over all the years. Children's choices in toy cars reflect what their parents say and do. Take Pablo from Amsterdam, for example. His mother works for a company that sells solar panels and doesn't own a car. Her son says, "I like any kind of Matchbox car – as long as it gets good mileage." □



Lars Jensen lives in New York and writes for the Frankfurter Allgemeine Zeitung, Die Zeit, the Süddeutsche Zeitung, Der Spiegel and other publications.

Where Does the Journey Lead?

Cruises are popular, adventure vacations are a growth market. Two successful vacation providers discuss the trends on land and sea and the changing needs of adventurous clientele.

By Simon Brunner



Cruises enjoy above-average popularity in landlocked Switzerland.



The backpacking spirit
of exploration has taken
hold.

1 — Christian Schneider

“The melting of arctic ice is opening up new travel routes”

Christian Schneider is the CEO of MCCM Master Cruises. The vacation professional lets us in on what's important for ship passengers and why the landlocked Swiss can't get enough of cruises.



Mr. Schneider, where did you go on your summer vacation?

I have a passion for nature and expedition trips. For example, in the summer I went climbing in the Swiss Alps and this fall I'll visit the Galapagos Islands on an expedition cruise.

The cruise industry is one of the largest growth markets – not only in the vacation sector, but in the leisure market as a whole. Since 1990, there has been a 7.2 percent increase in the number of tourists vacationing on a ship each year. Why are people so crazy about cruises?

There is no other branch of tourism that has changed so rapidly over the past few years. The product has been adapted to suit customers' desire for flexibility and individuality. Customers are now able to define for themselves what their stay onboard will be like.

The American writer David Foster Wallace wrote in a much-quoted essay about a cruise that it was “a supposedly fun thing I'll never do again.”

Cruises still have a rather dull image. Is this fair?

No – you can travel around the world and only unpack once, you just can't beat that and it also attracts an active and cosmopolitan clientele. In addition, the services on board cruise ships nowadays focus on the widest possible range of customer preferences, and the level of comfort is not inferior to that of hotels on land – quite the contrary.

Are cruises popular with young people?

For one thing, increasingly large megaliners are making cruises available to a wide, price-conscious audience. And at the same time, the luxury cruise lines are offering more short trips that enable younger people with more time constraints to take high-end cruises. Expedition cruises are also in demand among younger customers.

What are the predominant features of the local market?

Cruises enjoy above-average popularity in landlocked Switzerland. The market has grown by 10 to 20 percent over the past few years. Demand for high-end products and luxury cabins are typical features of the Swiss market. The top destinations in summer are the northern routes, the Mediterranean and the Arctic. In winter, destinations in Asia, the Pacific, South America and the Antarctic are in demand. The special global travel routes such as the Panama Canal, Alaska and trips around Cape Horn are also popular.

With regard to destinations: for years, cruising has been all about the Caribbean; it is a destination for over 37 percent of all cruises. Why?

There is a strong link between the cruise region and the ship category. The large cruise lines in the budget segment prefer mass vacation destinations such as the Mediterranean or the Caribbean. The first class/luxury segment offers a wider range of global destinations. New routes for ex-

pedition cruises are opening up as a result of climate change, such as the melting of ice in the Arctic.

Huge ships versus niche trips on smaller ships: Which direction are we heading in?

We have noticed that demand is tending in the direction of smaller, higher-end ships, with suites costing around 3,500 Swiss francs per week.

And aboard the ship: What about themed cruises? What are the latest things to do and what will be possible in the future?

The themes of time, peace, space and relaxation are becoming increasingly important in a hectic world. Passengers want to be able to fill up their days in their own way. The trend in luxury cruises is therefore toward providing a casual, individualized offering onboard when it comes to dining, cultural and activities programs.

For first-time cruisers: what is your go-to seasickness remedy?

My main recommendation is book a cabin as close to the middle of the ship as you can. Modern ships also have stabilizers. If that doesn't work, then Stugeron or Itinerol usually help .

Christian Schneider, 47, is the CEO of MCCM Master Cruises Christian Möhr AG, Switzerland's leading provider of first-class/luxury cruises and expeditions. Cruises are extremely popular, with the number of Swiss passengers increasing by 100 percent over the past six years.

2 — André Lüthi

“Adventure? I’m sick of hearing that word”



André Lüthi is a pioneer in custom tours. The co-owner of Globetrotter explains how backpacking has become socially acceptable, why Australia has become a dream location for the Swiss and what unknown vacation spots are still waiting to be discovered.

Mr. Lüthi, how did you spend your summer vacation?

I went on a trip around the world with my 13-year-old son, which he has wanted to do for a long time. We traveled mainly in Asia, but also stopped off in Hawaii.

Does someone that young really need to be travelling the world already?

It's not really a question of whether a 13-year-old should be travelling around the world. Our children have been traveling with us since they were very small, because travel is a major part of our life. The round-the-world trip was just a logical consequence of the places that we wanted to visit. And by the way, I would highly recommend that every busy father take a trip alone with the kids now and then. You get to spend 24 hours a day together, and share and experience so much; it creates a great bond.

You are on trend: The number of round-the-world trips has increased by 27 percent since 2009 – a lot more than beach vacations, for example (12 percent).

These figures are driven by the world's largest growth market. Asian tourists love travelling to a lot of places within a short time. Here too, there is a trend towards multiple-destination vacation concepts. I've been saying it for twenty years – you don't learn anything on a sun lounger.

How do you explain the change in travel behavior?

Thanks to the internet and Lonely Planet travel guides, people know a lot more

about the world nowadays. And travel has become safer and more comfortable. There's no longer anything very daring about a trip to China. Furthermore, people have been infected by the spirit of exploration. Not every traveler has a backpack and a tiny budget, but they often take a similar approach to travel, really getting out there, exploring, experiencing. And recently, the dividing lines between the segments have started to break down. The same couple that goes to a five-star resort in Mauritius one year might decide to take a trip on an old motorcycle across Cambodia the following year.

How does age affect the vacations people take? It might surprise you to hear that a lot of customers taking these customized trips are a little older. They've lost count of how many times they have been to Mallorca, and now they want to actually experience something. They book a simple round trip such as taking a camper van across the US. If that works out, they gradually experiment with more exotic locations.

What are usually the most popular destinations?

Australia generates 20 percent of our revenue. The Swiss are fascinated by the country. It is easy to travel around, and for people who are used to package tourism, it offers plenty of adventure. There is a lot of growth in Southeast Asia, in particular Vietnam, Burma, Cambodia and Laos. South Africa seems to be slowly losing its appeal, but Namibia and Botswana are

very popular – although Botswana is currently rather expensive. Overall, South America has the highest growth rates – Chile is almost easier to get around than Australia.

For travel pros: Are there any adventures left? Adventure! That word has been so overused I'm almost sick of hearing it. And it doesn't fit in with our times. Nowadays travelers definitely want an experience, but it has to be a safe one. Is there really such a thing as a true adventure with a safety net? I don't think so.

Let's put it another way. Is there anything left to be discovered?

Yes, a lot! The remote valleys between Bhutan and Tibet, or some places in central and east Africa. And Siberia is fantastically beautiful, especially the part east of Irkutsk.

You take travel groups to North Korea – why? There are people who are cynical about this kind of tourism. You should never underestimate the role that tourism can play, however. Take Burma, for example. Tourism helped to weaken the regime there. Tourists bring information into the country and then report on what they saw when they get home. I hope that tourism will also have a positive influence in North Korea, by weakening the system.

How do you travel yourself? How do you choose a hotel and restaurant in a new city? I definitely don't look online or read a travel guide, I prefer the old-fashioned way: ask the taxi driver. □

André Lüthi, 54, is the chairman of the board and co-owner of the Globetrotter Group, Switzerland's fourth-largest travel company (revenue: CHF 255 million). Lüthi converted the provider of low-cost backpack trips into a company offering customized trips in all segments. The father of two is married and lives in Bern. In 2012, Ernst & Young chose him as Entrepreneur of the Year in the service/commerce sector.



It Just Keeps on Flying

Migratory birds use their abilities to escape the winter cold and find abundant food. The common swift (*Apus apus*), a highly aerial migrant, spends an amazing portion of its life on the wing.

By Herbert Cerutti

The wandering albatross (*Diomedea exulans*) soars majestically above the waves around Antarctica, swooping low to pluck squid and fish from the icy waters. The red knot (*Calidris canutus*), a sandpiper the size of a blackbird, flies in autumn from its breeding grounds in the high Arctic tundra to southern climes half a world away, crossing oceans and deserts on a nonstop journey without food or water. But the migratory bird that leads them all in frequent flyer miles is almost certainly the common swift (*Apus apus*).

Born in early June, six weeks later the young swift pokes its beak out of the entrance to its nest high under the eaves – and plummets off its perch. In that instant, the fledgling begins its life on the wing. It flies day and night, high above mountains, deserts, and oceans, traveling 10,000 kilometers in a few weeks to the flock's winter quarters in southern Africa. The following June, the young return, joining their parents' colony back at the same nesting grounds. Young swifts are

said to spend that entire time aloft – the winter in Africa, the summer in Europe, and another winter in Africa – 21 months in all, before they must touch down in the third summer, landing at random to nest and hatch their own brood.

Night Flight in Warm Upper Winds

Emil Weitnauer, a teacher from Oltingen in the Basel region, wanted to determine the facts of this life of permanent flight. Even as a child, he was fascinated by the "Spyr," as the bird is called in Swiss German. He admired the way they flitted about the eaves on their long, sickle-shaped wings; he squeezed into the belfry below the church steeple to get a close look at the nesting birds, blackish-brown with a pale-gray chin patch. In 1951, the amateur ornithologist took to the skies himself in a small plane. From above, he could watch whole groups of young swifts at dusk, as other birds were going to roost – wheeling higher and higher, reaching 2,000 meters and more

before they disappeared into the night sky. And at dawn, as the birds in the tree-tops began to twitter, the night flyers glided down from high in the sky to lower levels, still on the wing.

To document what the birds did at night, out of human sight, Weitnauer eventually used Kloten Airport's surveillance radar. Night after long summer night, he monitored the radar echoes of the swifts in the warm upper winds. In 1960, using military fire control radar, their flight behavior was recorded in detail. Each bird flaps its wings for half a dozen beats per second, then glides for a brief moment before resuming its wing strokes. Presumably the bird catches a mini-nap during each few seconds of gliding.

Bed and Board in the Sky

Swifts also take their food on the wing. Its beak wide open, the bird speeds through the air at up to 200 kilometers per hour, gathering mosquitos, beetles, and spiders in its throat. To feed their



Living and loving
on the wing:
The common swift can
stay aloft for months.

nestlings on a fine July day, the parents hunt from three in the morning until eight at night, forming the catch with saliva into food balls (boluses) that they place in the hungry young's beak – up to 40 a day, each containing 200 to 1,500 insects, reaching a daily total of some 60,000 gathered during 1,000 kilometers of flight. And the swift is quite a selective hunter. One beekeeper who shot swifts near his hives found that their stomachs contained no worker bees, but only the stingless drones – evidence of their exceptional ability to perceive and react to prey during the high-speed hunt.

To drink, swifts swoop low and scoop up water into their beaks like a firefighting tanker aircraft. This maneuver can occasionally go awry. One observer saw a swift catch a wingtip on a wave, spin around and plunge into the water. Unable to lift off despite repeated attempts, it eventually drowned. The bird's scientific name, *Apus apus*, derives from the Greek *apous* (footless) and refers to its short, weak legs; this consummate flyer can barely hop along the ground. But it's not true that a swift, having landed on the ground, cannot take off again. On level terrain with just ten meters of clearance, the bird will hold its wings high, give one vigorous flap, and rise to flutter away like a bat.

A Couples Cruise – on the Wing

While swifts sometimes mate in their nest, they also copulate high in the air. In

fine weather, their dance can be seen ten to eighty meters above the ground. The female, soaring in a straight line, suddenly trembles, loses speed, and glides on outspread wings. The hovering male floats down at an angle, making a V with

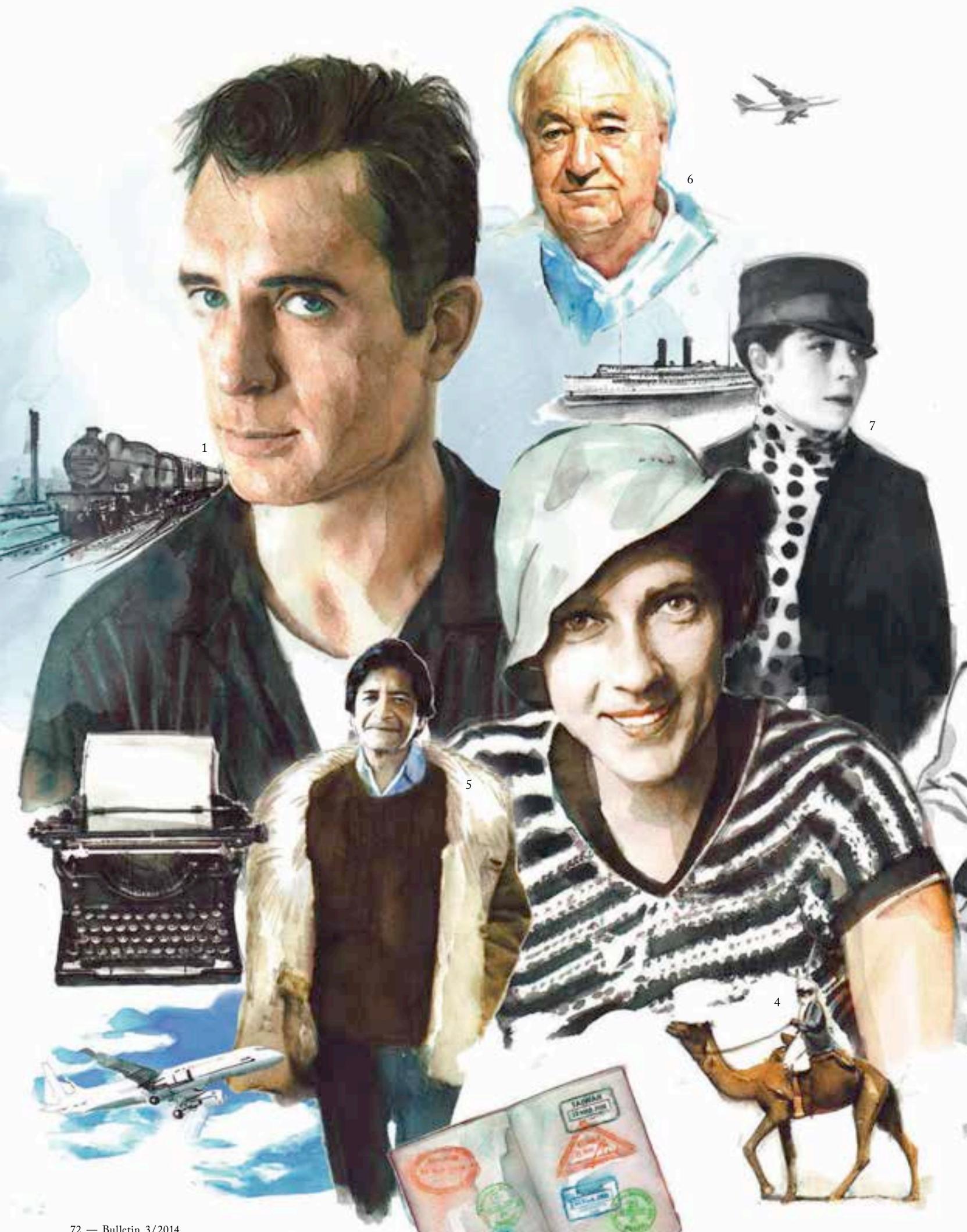
Swooping low, the bird scoops up water like a firefighting tanker aircraft.

his wings, and grips her feathered back with his claws. As they couple, the pair steadily loses altitude. They part after a few seconds, often perilously close to the ground.

Swifts form pairs that endure for years, returning directly from the south to the same nesting site. Often, however, sparrows and starlings have already moved in. The swifts are ruthless in battling for their nest. Stubbornly, they claw at the intruders, flail at them with their wings, hold their ground for hours – until the competition, totally unnerved, flies away. Now the swifts gather new nest material: feathers, petals, seed fibers, scraps of paper – all caught in flight, of course. Gluing the loose bits together with saliva that drips from their beaks and turns hard as rubber when exposed to air, the birds form the material into a compact trough. Any eggs or dead chicks left by the departing birds become part of the nest.

In 1939, Emil Weitnauer banded a newly hatched swift with number 605 769. Three years later, he found the same bird, a male, sitting on a nest on the church steeple. Nine summers in a row, the bird and his partner returned to their nest and hatched their brood. Then a new female appeared, probably because his longtime mate had come to grief on the winter safari. In 1960, Weitnauer recorded number 605 769 on the nest for the last time. During those 21 years, the male swift must have flown nearly four million kilometers – enough to journey to the moon and back five times over. □

Herbert Cerutti, an experimental physicist, has won a number of awards for scientific journalism. He lives in Wolfhausen in the canton of Zurich.

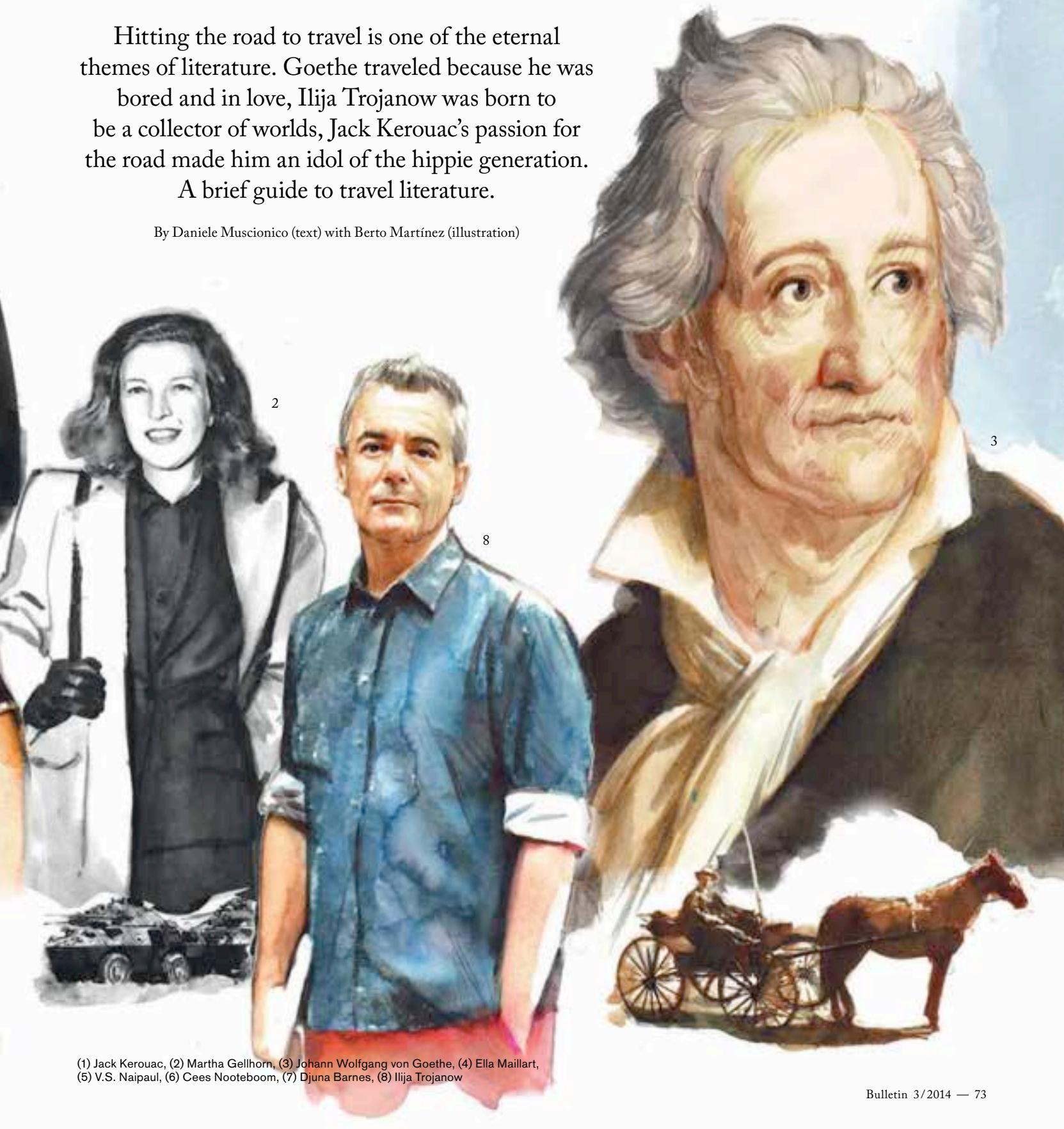


The Journey Is the Reward

Hitting the road to travel is one of the eternal themes of literature. Goethe traveled because he was bored and in love, Ilija Trojanow was born to be a collector of worlds, Jack Kerouac's passion for the road made him an idol of the hippie generation.

A brief guide to travel literature.

By Daniele Muscionico (text) with Berto Martínez (illustration)



(1) Jack Kerouac, (2) Martha Gellhorn, (3) Johann Wolfgang von Goethe, (4) Ella Maillart,
(5) V.S. Naipaul, (6) Cees Nooteboom, (7) Djuna Barnes, (8) Ilija Trojanow

W

e do much of what we do without knowing why we do it. And it's fine that way. It would be much too difficult – and no doubt too disappointing – to always understand our actions. When it comes to travel, however, different rules apply. Life on the road requires some form of justification. Even if only for oneself. That was certainly the case for a genius like Goethe. The celebrated poet and intellectual giant was a minister at the Weimar court and the closest friend and adviser to the duke. Yet did he really understand why he wanted to give up everything to travel, including his social position and the security it afforded him? Perhaps he did not. For the wordsmith found himself at a loss for words – and stole away secretly at night in a fog. Where to? The open road!

The literary theme of traveling or the journey often provides a mirror to an inner conflict. Whether the writer travels by foot over Swiss glaciers or rides a bumpy carriage across the countryside; whether he hitchhikes with his protagonists from the US into Mexico; whether the author, playing the smug American, wants to save her compatriots in France from the French; whether the author per-

sonally accepts the hardships and adventures or saddles his hero with them and weaves them into their lives – being on the road is an eternal theme in literature. It cannot be killed off, it cannot be writ small, it cannot be captured at a national border. It has to be risked anew in every era – and this past century both sexes were finally able to embark on this venture. Yes, women are also writers and they travel! And no longer just vicariously around the kitchen table at home.

Whether the author is driving or is driven to travel, the trope of “being on the road” in literature is never an end in itself. There is no tourism here, so to speak. There is the search. But is there a goal? There is the journey, and the reward is to write about traveling it. It’s about movement, it’s about development, metamorphosis and change. All in the spirit of adventure? Well, that too. Let’s leave that to the male writers, the men of letters. Odysseus, Sinbad, Jules Verne’s classic English gentleman Phileas Fogg, Homo Faber, the hero, who travels, fights, triumphs, and journeys through strange and unknown countries into dream worlds, into alternate universes, experiencing affairs, adventures – and finally returns home with self-awareness as his prize.

Traveling in language, traveling in literature. As the saying goes, isn’t life also a journey, a gathering of experience along the way? In literature, there is the

dead knowledge of books and the living knowledge of those who write the book of the world.

1 —

Jack Kerouac *The beat of a generation (1922–1969)*

Where to go? What to do? Why? These three unholy questions stand behind the legendary hitchhiker’s bible “On the Road.” The novel forever immortalized Jack Kerouac, and there are some four million copies on bookshelves around the world, worn and tattered, but great literature, world literature. The background: dust bowl, the Depression and war. America, migrants, Groucho Marx and “the dark and wild problem children of America, a new troubled generation.” Written over just three weeks in April 1951 and typed single-spaced and without paragraph breaks on a 40-meter long roll of glued-together sheets of drawing paper (or so we thought), the novel has a delirious, feverish effect, like one of the endless roads that Kerouac brought to life. The rhythmic narration of the highway; a drug haze underpinned by a beat. But the legend has lost some of its luster



since the original roll was found in 2010. Kerouac's drug trip to paradise was apparently not the result of a three-week, amphetamine-fueled frenzy of productivity. Rather it involved years of preparation, agonizing, sometimes conflicting ideas about literary theory, and countless notes and fragmented starts. The intoxicating haze has dissipated, sobriety remains.

2 —

Martha Gellhorn *The battlefield of life* (1908–1998)

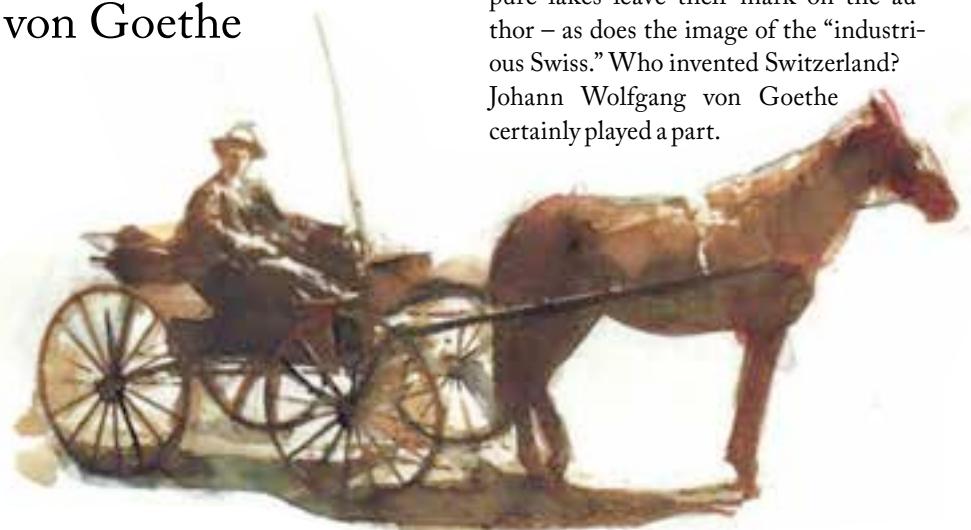


She even toured the continent of Hemingway in 1940, on his way to world fame and alcoholism. Martha Gellhorn was married to the writer for four years. Those four years were a disaster, and Gellhorn no longer wanted to hear his name later in life. (Nevertheless, he dedicated his novel about the Spanish Civil War, "For Whom the Bell Tolls," to her.) Gellhorn sought war, not only in her private life, which is at least as famous or infamous, but also in her professional work: war reportage as an American correspondent. She experienced nine wars first-hand, including in Europe, just before and after World War II. Martha Gellhorn was in Israel and Vietnam, and she wrote about Dachau shortly after its liberation – a source of memories that haunted her until her death. She traveled in 53 different countries, experiencing

these as a "basis for re-education." The New Yorker magazine developed a new genre with Gellhorn's reports – war journalism that eschewed descriptions of troop movements to focus instead on the suffering of the civilian population. Gellhorn's style is a blend of intimate close observation, meticulously collected information and personal opinion. After all, she "never believed in that objectivity shit."

3 —

Johann Wolfgang von Goethe



Refugee with a passion for Switzerland (1749–1832)

He is the godfather of travelers who write and writers who travel. His most popular destinations were: Italy ("Do you know the country where lemon trees bloom...") and Switzerland, where the Gotthard Massif and the Rhine Falls fascinated him, and he dedicated an entire day to observing and describing the latter. Goethe's trips are getaways. He travels because he is bored with his work as a lawyer in Frank-

furt or wishes to escape the confines of the court in Weimar. An identity crisis or what we would now call burnout spurs him to travel to unknown countries, seeking new focus and inspiration. He travels in disguise to Italy, where he is well known as the author of "Werther." Using a pseudonym, he makes botanical as well as erotic studies, and he continues to write. And Switzerland? He visited the country three times in search of great experiences in nature and the feeling of being overwhelmed by the landscape. The impression of an Alpine country, the high mountains, deep gorges, wild waterfalls, pure lakes leave their mark on the author – as does the image of the "industrious Swiss." Who invented Switzerland?

Johann Wolfgang von Goethe certainly played a part.

4 —

Ella Maillart *A classic from Switzerland* (1903–1997)

She competed on the Swiss Olympic sailing team in 1924, co-founded the Swiss ladies' ski club, she skied in the world championships. The Geneva >



native continually reinvented herself and her profession: as a secretary, artist model or stunt woman for the Ufa studio in Berlin. Indeed, the venture that she started and which made her world-famous in 1935 was truly a breakneck enterprise – a “forbidden journey,” six thousand weary kilometers on horses, camels and on foot, through salt flats, sandy deserts, marsh plateaus across the Pamir and Karakoram mountain ranges. Ella Maillart traveled from the coast of China into Mongolian India, from Beijing to Kashmir through forbidden, embattled regions of Central Asia. Her book about this trip is among the classics of travel literature.



5 —

V.S. Naipaul *Nobel Prize for the traveling post- colonialist (1932)*

Some see him as a cynic, a traitor and an arrogant imperialist because he writes

about the third world with a cool detachment. And since V.S. Naipaul won the Nobel Prize for Literature (2001), the critics have not grown quieter. Vidiadhar Surajprasad Naipaul was born in 1932 in Chaguanas near Port of Spain on Trinidad. Although part of the British cultural establishment, he is also in a certain sense driven, constantly looking for the roots of modern man. Naipaul has not only traveled the world in his short stories and novels, he has traveled the globe from the time he was 18 years old. His travels have taken him to the Indian homeland of his parents, to Africa, South America, the West Indies and Asia. Naipaul began, in the words of the Stockholm jury, as “a portrayer of street life.” Praised by the jury as a “masterpiece,” Naipaul’s novel “The Enigma of Arrival” provides “an unrelenting image of the placid collapse of the old colonial ruling culture and the decline of European neighborhoods.” In 1981, he compiled his intensive travel reports in the book “An Islamic Journey.”

However, criticism of the acclaimed writer con-

tinues. The writer Hanif Kureishi recently por- trayed Nai- paul in his new novel as an aging boor and/or delu- sional egomaniac.

6 —

Cees Nooteboom *The strolling soul (1933)*

Being on the road, watching and strolling through places, eras, and souls is a mode of being for Nooteboom. For quite a

while, since 1953 in fact, this unusual author has been traveling – first to Paris, on the Côte d’Azur, and later in Spain and Portugal. It was not until long after that he began writing the works that established his reputation as the patient, discreet, economical storyteller, or “flaneur of the soul.” Nooteboom was originally a



Dutch reporter. Not so much a roving reporter as an irritated one, he saw himself confronted by world history: 1956, the revolt in Hungary. The reader may not always understand what he has written since then, about traveling to remember, about unrequited love – and death, which might be the greatest of all journeys. But that is the plan. Perhaps the point of reading Nooteboom is for the reader to remember through travel, remembering, about unrequited love and about death. “Memory is like a dog that lies down where he wants,” says Cees Nooteboom – and he leads this dog by his side through the world on a leash woven from words.

7 —

Djuna Barnes

The woman who traveled to forget (1892–1982)

She traveled in the 1920s, mainly because of her profession as a freelance writer for magazines in the US such as *The New Yorker*. She wrote stories about traveling women and about travel, at the time an expression of the highest freedom for avant-garde artists and writers – and an activity that women were beginning to do independently for the first time. In Paris, the attractive, lesbian American Djuna Barnes held court as Lydia Tiptoe with Igor Stravinsky at the *Café du Dôme*... What is truth? What is invention? Only one thing is certain: Barnes is the peak of literary perfection. In Paris, she meets Marcel Duchamp, Berenice Abbott, Man Ray, James Joyce and Gertrude Stein – all people she knows from New York. She plays the haughty American dame and devotes herself to providing her compatriots with “French etiquette for foreigners.” Paris is her center, the “only place in the world that I know of, except maybe parts of Africa, where one can live if one has no friends or love.” In her literary self-parodies, the Balearic Islands are rain-drenched and the traveling writer is a comic figure. Beyond geographical and

biographical reality, she rules out a conversation with Hitler in Germany, writing that “the interview did not take place, he wanted ten dollars a word.” But she lets her protagonist, Elvira van Winkel, languish in Berlin under the lime trees, in the arms of Baron Schildkraut... because at night you cannot tell whether it’s a man or a woman that you’re taking up with. Djuna Barnes, the passionate traveler, invents the elegant, parodic tourist pose, and is adept at continental chic and old world sophistication.

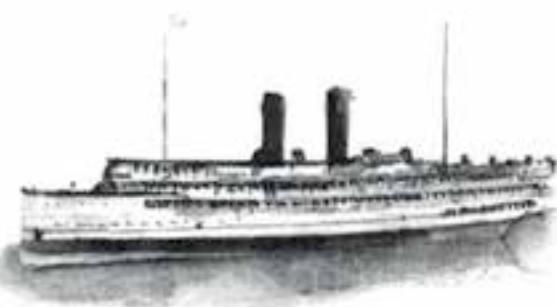
8 —

Ilija Trojanow

The collector of worlds (1965)

Maybe he was born to be a traveler. Or it might be the influence of his role models, the journalists Egon Erwin Kisch and Ryszard Kapuscinski. In any case, he prefers life on the road. The writer Ilija Trojanow fled with his family as a child from Bulgaria and moved to Kenya. He has since become a world traveler, a collector of worlds. Travel as a form of life, the critical and self-critical look into one’s own baggage, the writer’s eye turned on one’s own country, but also on the networks of the powerful, here as well as abroad; in fact, his anti-Americanism and critique of NSA surveillance resulted in his being barred entry to the US in 2013.

Trojanow writes short stories, novels and reportage, he invents and finds historical adventurers, or he is on the road and reports on the “inner shore of India” during his travels along the Ganges. He is a great traveler and strong advocate for “our globe unleashed.” □



Daniele Muscionico is an award-winning arts and culture journalist; she is winner of the Zurich Journalism Award and recipient of a fellowship from the Landis & Gyr Cultural Foundation.



"It just never happened": Heidi Bohl at home in Toggenburg.

“I don’t need to go anywhere”

Heidi Bohl, 60, owns a restaurant in Toggenburg and has only left Switzerland twice in her life. In her mind, there’s no need to go anywhere when it’s so beautiful here, and she’s happy. Although it would really be something to swim in the ocean, just once.

Transcript: Simon Brunner

The most beautiful place in the world is the Fronalpstock, above Brunnen. There, our little world lies at your feet. You can see five lakes and far out into the countryside. It’s wonderful! But maybe I’m the wrong person to say that. I’ve only been outside Switzerland twice, three days in Vienna and once briefly in Alsace. It just never happened, traveling like that.

Earlier, we ran our own farm, and we wanted to be back at the barn in the evening to milk. Four years ago, our son took over the farm. My husband and I didn’t want to be in the way, so we moved out. We bought a restaurant in the area; the former owner hadn’t had much luck with it and wanted to sell. We had no idea how to run a restaurant, but I’ve always been a good cook. Our guests especially like my desserts: Black Forest cherry cake, strawberry tart and Cremeschnitte (layers of puff pastry and custard cream).

Now we take four or five weeks of vacation every year. We go hiking and visit our children. Of course, we could afford to travel abroad – the parking garage at the airport costs more nowadays than the flight itself. A lot of people from our village go to Thailand. I’m afraid it would be too hot for me there, and too muggy. On the other hand, I would enjoy the food. There’s a Thai takeout place in Wattwil, and they make an excellent curry.

Canada is also popular; my son was just there, but he thought the countryside was too flat. Some farmers from Toggenburg sold up to move to Canada, but they’ve been homesick ever since. They can’t come back because they don’t have the money to buy something here, and they can’t manage to sell their farms over there.

I’ll Miss Something If I Go Away

Our oldest daughter is a globetrotter. She’s a chef, and she traveled a lot even during her training. Since then, she’s been to Australia, New Zealand, India, Nepal, England,

Malta, Hawaii, Alaska and many other places. Something about it just draws her. When she comes back, we look at the pictures she took. I love doing that, but I’m not tempted to go see it all for myself. My daughter has many more opportunities than we ever had. She should enjoy it!

My childhood and teenage years were wonderful. We had many animals on the farm, and we often played in the river Thur. As a child, I had the feeling that I would miss something if I left, and not if I stayed home.

On top of that, we don’t like to stay in hotels. What’s the point? The rooms are small, and the place is full of people. We once thought a river cruise would be nice. But it’s terribly crowded on a cruise ship; you live like battery hens. I would like to see the ocean, though. I think I’d like it –

“On top of that, we don’t like to stay in hotels. What’s the point?”

the surf, the sunset. I’d like to swim in the ocean, as long as there weren’t any waves. And as long as I didn’t sit on a starfish!

Vienna was an experience! For my father’s 65th birthday, my brother-in-law, who works for Swissair, organized the three-day trip. It was 1984, and it was the first and only time I ever set foot on an airplane. I enjoyed the flight, especially the takeoff, the feeling of being pulled back in your seat. In Vienna, we visited the Spanish Riding School, which was lovely. But I felt sorry for the horses, the way their heads are held in during the dressage. And my father’s hands got swollen from all the walking – he wasn’t used to that, and he was glad to get home again.

I don’t know Zurich very well. My daughter once took me to a Rudolf Koller

exhibition at the Kunsthaus. His paintings of the Gotthard Post are just magnificent. On the way home, I went to the Sprüngli confectionery store and bought a pound of their Luxemburgerli macaroons. The saleswoman looked horrified – so I told her I was taking a Luxemburgerli cure. For our latest class reunion, we visited a former classmate who works in a restaurant on the Langstrasse. I was eager to get a glimpse of the famous Zurich nightlife. It was interesting to see the hustle and bustle. What a wild time we had! We drank and danced until the benches were groaning, and we didn’t get home until three in the morning.

No Reception Means Peace and Quiet

Switzerland has changed since I was a child. It has become more hectic. People don’t have time any more. Actually, they would have time – they work fewer hours than we used to on the farm – but they feel stressed. Maybe they also have their priorities wrong. Our restaurant is in a cell phone dead zone. Guests come in, sit down and pull out their phone. At first they’re flabbergasted that they can’t play around with it. But when they leave, they tell me how much they enjoyed the peace and quiet.

In the evenings I like to sit in the garden with a glass of Amarone and a good book. Reading is my greatest hobby. I have a vivid imagination, and I see what I read in my mind’s eye. The brook babbles in the background, and I’m happy. If you’re happy, then there’s no need to go anywhere. □

Heidi Bohl, 60, and her husband run the Speer restaurant in Ebnet-Kappel, Canton St. Gallen. They have four grown children.

Wind and Ways: Life Is Constant Movement



Jörn Kaspahl is an illustrator in Hamburg.
His work appears in such publications as *The New Yorker*,
Monocle, *GQ*, *Wired* and *Der Spiegel*.



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