



Age

2/2017

WHERE DO PEOPLE LIVE LONGEST? HOW DO WE ACHIEVE INTERGENERATIONAL EQUITY? HOW DO OTHER COUNTRIES MANAGE IT? WHAT WILL LIFE EXPECTANCY BE IN THE FUTURE? WHO WILL CARE FOR THE SENIORS THEN?

NOW READ US ONLINE!

Evonik Magazine contains many articles about digitalization and is itself an example of this process. The magazine is now also published online, where it appears with additional photos and features. You can read the digital edition wherever you like: on a computer, a tablet, or a smartphone. At magazine.evonik.com you can subscribe to our newsletter, which contains a link to every new issue of the magazine. If you would like to continue to receive the printed edition, we ask that you please enter your address at magazine.evonik.com as well

Do you want to continue to receive the printed magazine? Register here: magazine.evonik.com



The online edition of Evonik Magazine: current and previous issues, additional photos, and other features

Find lots more at [magazine.evonik.com!](http://magazine.evonik.com)

“Old age and prosperity are closely related”



Retirees from the northern hemisphere are happily aging in southern countries such as Namibia

Dear readers,



At first glance, these are merely two numbers: The average life expectancy of women in Japan is 86 years, whereas the average woman in Sierra Leone only lives to be 44 years old. But this is a huge difference, and it demonstrates the close relationship between old age and prosperity. To put it in more drastic terms, people from poor countries die sooner.

In Germany, the proportion of people over the age of 60 was about 17 percent in 1960. In 2020 that figure will be about 30 percent—and it will continue to increase. This development faces internationally operating companies such as Evonik with considerable challenges. How long should our employees work in the future? How can we optimally structure their working environment? And where can we find talented and well-qualified employees in the future?

The social challenges we face are obvious: Our social welfare systems must care for increasing numbers of elderly people, and the need for well-trained and sensitive caregivers can hardly be met as it is. In Japan, this caregiving is increasingly being carried out by robots (page 16). Some people are fascinated by this technology, but others are repelled. For example, the homes for seniors in Namibia are doing very well without any robots. The people we visited for our article “Retirement in Africa” told us they are now experiencing something they had missed in their countries of origin: respect and appreciation for the elderly (page 32).

Henning Scherf, a former mayor of Bremen, is 78, but he doesn’t seem the least bit elderly and is a splendid debate partner. He has some very definite ideas about the role that older people ought to play in our society and about the public policies that must be implemented in order to create the right framework for this role. Scherf doesn’t care whether his positions contradict those of his political party or of labor unions. His arguments refer only to active aging itself, rather than dealing with current policies (page 36).

Even though today many people are enjoying a much healthier old age than was the case in the past, the biological limits of old age cannot be pushed back arbitrarily. The gerontologist Karl Lenhard Rudolph estimates that this limit is 120 years at the most. The Frankfurt-based photographer Karsten Thormaelen has created a photo series of people who have already celebrated their 100th birthdays. His sensitive portraits reveal the dignity and beauty of old age (page 28). These faces reflect an entire century, and they should encourage us to reconsider the idea that our lives consist mainly of a struggle against the march of time. After all, a zest for life does not depend on an individual’s age.

Christof Endruweit, Editor in Chief

Age

MASTHEAD

Publisher

Evonik Industries AG
Christian Schmid
Rellinghauser Straße 1–11
45128 Essen, Germany

Publication Manager

Matthias Ruch

Consulting and Concept

Manfred Bissinger

Editor in Chief

Christof Endruweit
(responsible for editorial
content)

Editorial Team

Adrian Geiges (Head)
Nicolas Garz, Marcus
Müntefering, Stephan
Siebenbaum,
Sven Stillich (poster),
Jörg Wagner

Managing Editor

Inga Borg

Authors

Marion Genetti, Steffan
Heuer, Finn Mayer-
Kuckuk, Beatriz Miranda,
Usha Munshi, Klaus Rathje,
Andrzej Rybak, Britta
Scholz, Hajo Schumacher,
Zhu Yinghao

Picture Editing and Layout

C3 Creative Code and
Content GmbH Berlin

Translation

TransForm GmbH,
Cologne

Agency and editorial address

BISSINGER[+] GmbH
Medien und
Kommunikation
An der Alster 1
20099 Hamburg,
Germany
info@bissingerplus.de

Printing

Neef+Stumme
premium printing
Wittingen

Copyright

© 2017 by Evonik
Industries AG, Essen.
Reprinting only with the
permission of the agency.
The content does not
necessarily reflect the
opinion of the publisher.

Questions about Evonik Magazine

Tel.:
+49 201 177-3152
e-mail: evonik-magazin@
evonik.com
Fax:
+49 201 177-703152

Evonik Magazine is
distributed free of charge.
You can cancel your future
receipt of this magazine at
any time.

ORIGIN The word “age” is derived from the Old French “aage” or “eage” via the Anglo-Norman “age”

TYPICAL ASSOCIATIONS Age group, under age, middle age, old age, retirement age

SYNONYMS Seniority, senescence, maturity, longevity

ANTONYMS Childhood, youth

USAGE

GENERAL: The length of time something has existed

BIOLOGY: Living for a large number of years, the final stage of life

HISTORY: Era, period

COLLOQUIAL USE: Any long period of time



“The seniors spend a lot of time with the robots and their interaction re-energizes them”

Koya Ishikawa, founder of the Silver Wing retirement home
Because there is too little nursing staff, robots have to take care of elderly people in Japan. Observations in a country where new technologies are widely accepted. Page 16

Standards

- 03 Editorial
- 04 Definition / Masthead
- 06 Facts+Figures: People and Values
- 28 Facts+Figures: Business and Society
- 42 Facts+Figures: Research and Technology
- 54 Point of Contact

PEOPLE AND VALUES

8 Portraits

They include fashion models, entrepreneurs, and a queen—and are top performers despite their advanced ages



14 Essay

Seeing the world in a positive light—bestselling author Hajo Schumacher would like people to adopt a new attitude toward life

16 Cover Story

The Japanese have the world’s longest life expectancy. Our report shows how the country is coming to terms with this fact

22 Photo Gallery

The older, the better. Many things become more valuable with age, causing them to be admired and appreciated

28 Photography Project

Karsten Thormaehlen visited 52 centenarians around the world. His book featuring their photographs and stories is now available

BUSINESS AND SOCIETY

32 Report

Many Germans emigrate to countries such as Namibia, where nursing care is more affordable and the weather is better

36 Debate

Are seniors stealing young people’s future? Former Bremen mayor Henning Scherf, who is still young at heart, disagrees

39 Country Comparison

How demographic change is being handled around the world, using the USA, Sweden, India, Germany, and Brazil as examples

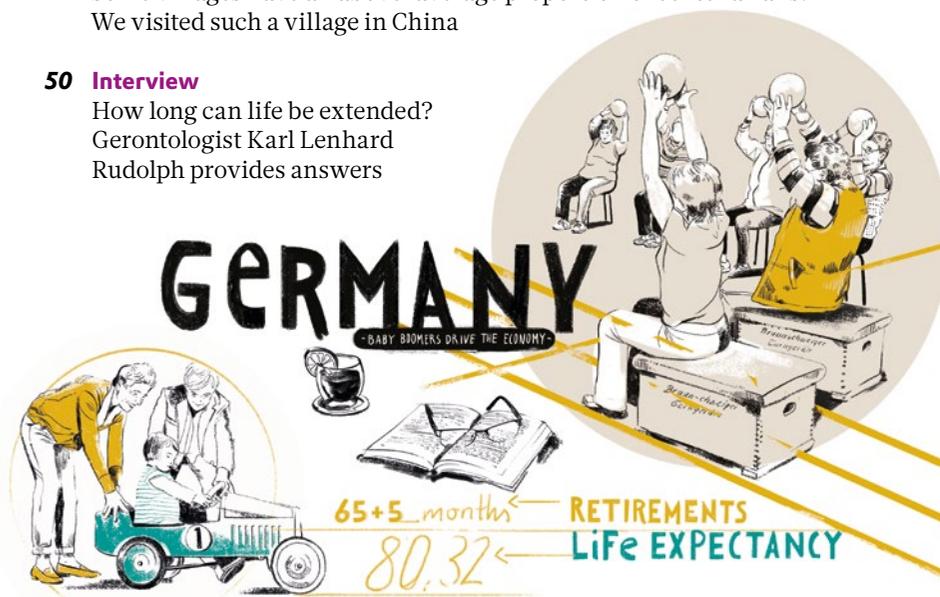
RESEARCH AND TECHNOLOGY

46 Report

Some villages have an above-average proportion of centenarians. We visited such a village in China

50 Interview

How long can life be extended? Gerontologist Karl Lenhard Rudolph provides answers



Facts + Figures

3 QUESTIONS FOR

Christiane Feuerstein
 “Good architecture is integrative”



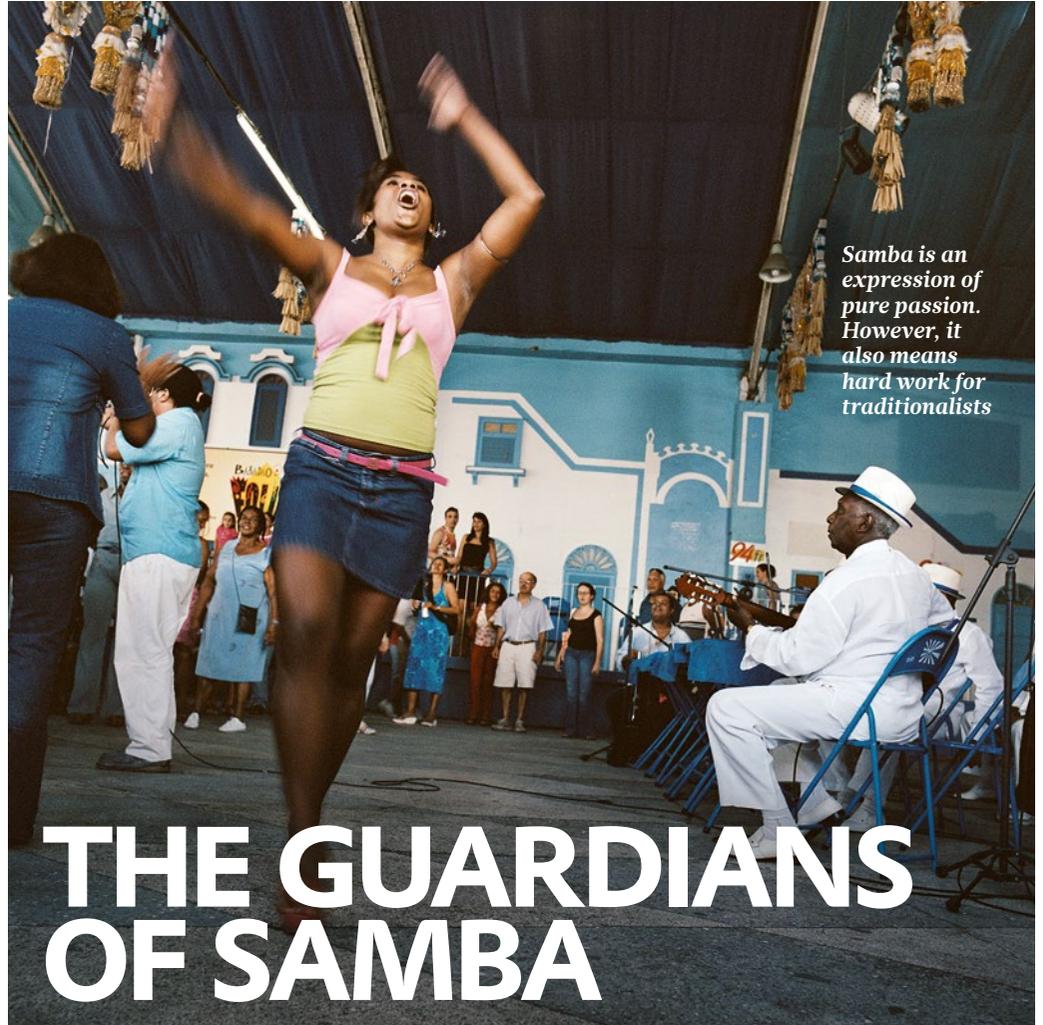
1 Our society is getting older and older. What implications does this have for architecture? Good architecture is integrative, promotes social inclusion, and creates spaces that have sensual qualities and that can be effectively used by everybody, no matter what their age. Short paths and easily accessible surroundings enable even people with impaired mobility to move about on their own.

2 What’s new about intergenerational concepts? They combine the various facilities that are available in a person’s immediate neighborhood: cafés and shops as well as infrastructure such as adult daycare centers and kindergartens—all of them embedded within a neighborly environment. Community

initiatives, neighborhood networks, and shared households enable residents to give as well as to receive.

3 How can this be implemented in practice? This can be done in the planning phase by developing models that make it easier to network urban planners, architects, building societies, and healthcare providers with one another, and in the implementation phase by using appropriate operating and administrative concepts.

Christiane Feuerstein is an Austrian architect and author of the book *GenerationenWohnen* (Detail Verlag)



Samba is an expression of pure passion. However, it also means hard work for traditionalists

THE GUARDIANS OF SAMBA

Samba celebrated its centenary in November of last year. That the dance has managed to remain popular for so long is mainly due to the efforts of Velha Guarda

Samba has undergone many changes during its history and has been subject to a wide variety of influences. One of the reasons for its popularity is that there have always been some musicians who are inspired by its traditional roots. In the 1960s, for example, attitudes at the samba schools and carnival societies in Rio began to change so that tradition and experience were once again in demand.

This also increased the importance of the elderly members, because the old-timers obviously knew more

about samba than anyone else. That’s why the Velha Guarda (“Old Guard”) was established at the time in order to bring former samba dancers, musicians, and singers together so that the wealth of carnival traditions could be preserved. The aim was to preserve the roots of samba for the future and to transport its historically evolved values into the various communities.

Age plays a major role for the “Old Guard.” To join it, a person must be over 50 years old and must have been an active member

of a samba school for at least the last 25 years. In order to ensure the success of their tradition-focused mission, the elderly members actively take part in the schools’ administration and advise the various committees by drawing on their wealth of experience and expertise.

In recent times the Velha Guarda has become so well-known that some of its members also perform “old school” samba in front of international audiences in countries such as Austria and Germany.

35

percent of the people over 45 in Germany can imagine serving as **childminders** for other people’s children

Source: Institut für Demoskopie Allensbach



General information about the Carnival in Rio: <http://liesa.globo.com/hillautetur>

At the Wheel

Driver's license with expiry date Whereas elderly drivers in Spain can only renew their license after passing a medical, Germans have rejected such checks. By contrast, some states in the USA allow even 14-year-olds to drive a car, if accompanied by their parents.

Country	Supervised driving	Driver's license	Period of validity of driver's license	Medical checkup required for renewal
Germany	16 or older	18 or older	Before 2013: No limit Since 2013: 15 years	No
France	15 or older	18 or older	15 years	No
Spain	17 or older	18 or older	Under 65: 10 years 65 or older: 5 years	Yes
USA	According to state: 14–16	According to state: 16–18	According to state: 4–12 65 or older: 2 years	No

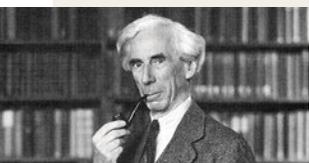
ACTIVE

Never at Rest



Annemarie Dose

She had no plans to retire at 65. Instead, she set up a food bank in 1994 to distribute meals to the needy



Bertrand Russell

No mellowing with age: The philosopher was arrested in 1961 for a sit-in—at the age of 89



Grandma Moses

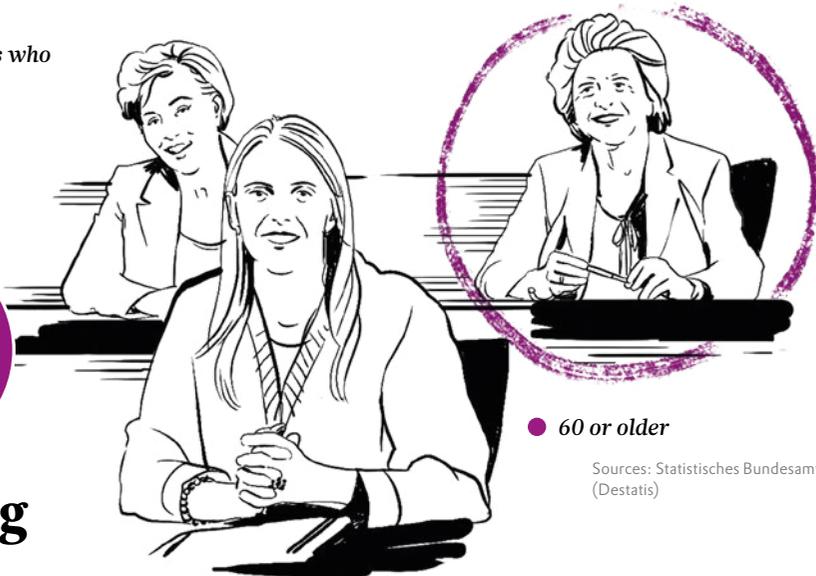
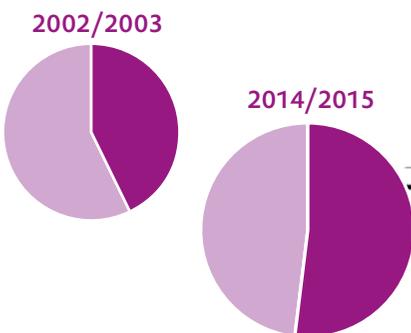
She discovered her talent late in life. She didn't begin to paint until household chores became too hard for her at the age of 75



Mieczyslaw Horzowski

A passionate pianist who still thrilled his fans with new recordings at the age of 98

The percentage of non-degree students who are 60 or older in Germany



● 60 or older

Sources: Statistisches Bundesamt (Destatis)

Lifelong Learning

Demographic change is beginning to affect German universities as well. The current course at the “Universität des 3. Lebensalters” (“University of the Third Phase of Life”) is devoted to aging in science and experience. This education center at Goethe University Frankfurt is geared toward elderly students. Thirty-five years ago, it became one of the first universities in Germany to open its lecture halls to knowledge-hungry senior citizens.

The range of courses on offer is now as diverse as the number of colleges and universities in the country. The easiest way to attend a university as an elderly person in Germany is

as a non-degree student. Such students attend selected lectures and seminars but are not eligible to take exams. All in all, around 34,800 non-degree students were enrolled at German colleges and universities in Winter Semester 2015/2016. More than half of these students were 60 years of age or older.

Popular topics of study among senior citizens are history, philosophy, and economics. Although anyone with an *abitur* diploma is eligible to study at a university in Germany to earn a degree that qualifies the holder for a job or profession, few elderly people

choose to do so. In Winter Semester 2014/2015, only 0.2 percent of the regular students had reached the retirement age.

Like Goethe University Frankfurt, several other German universities are offering a customized senior citizens' program in which participants receive a certificate upon completing a term paper after approximately four semesters of study. One reason why the universities want to separate old and young students is that the senior citizens might compete with the young students for seats in the lecture halls.

What Do You Expect from Old Age?



Johanna Uekermann, National Chairperson of the Young Socialists

I expect everyone to benefit from a just pension system by then: a system that doesn't pit young against old, but instead creates social equality and eliminates old-age poverty.



Tom Cridland, entrepreneur and fashion designer

I will simply look at my age as a number, because I doubt very much that my zest for life will diminish in any way. On the contrary, I look forward to growing old in the company of my family.



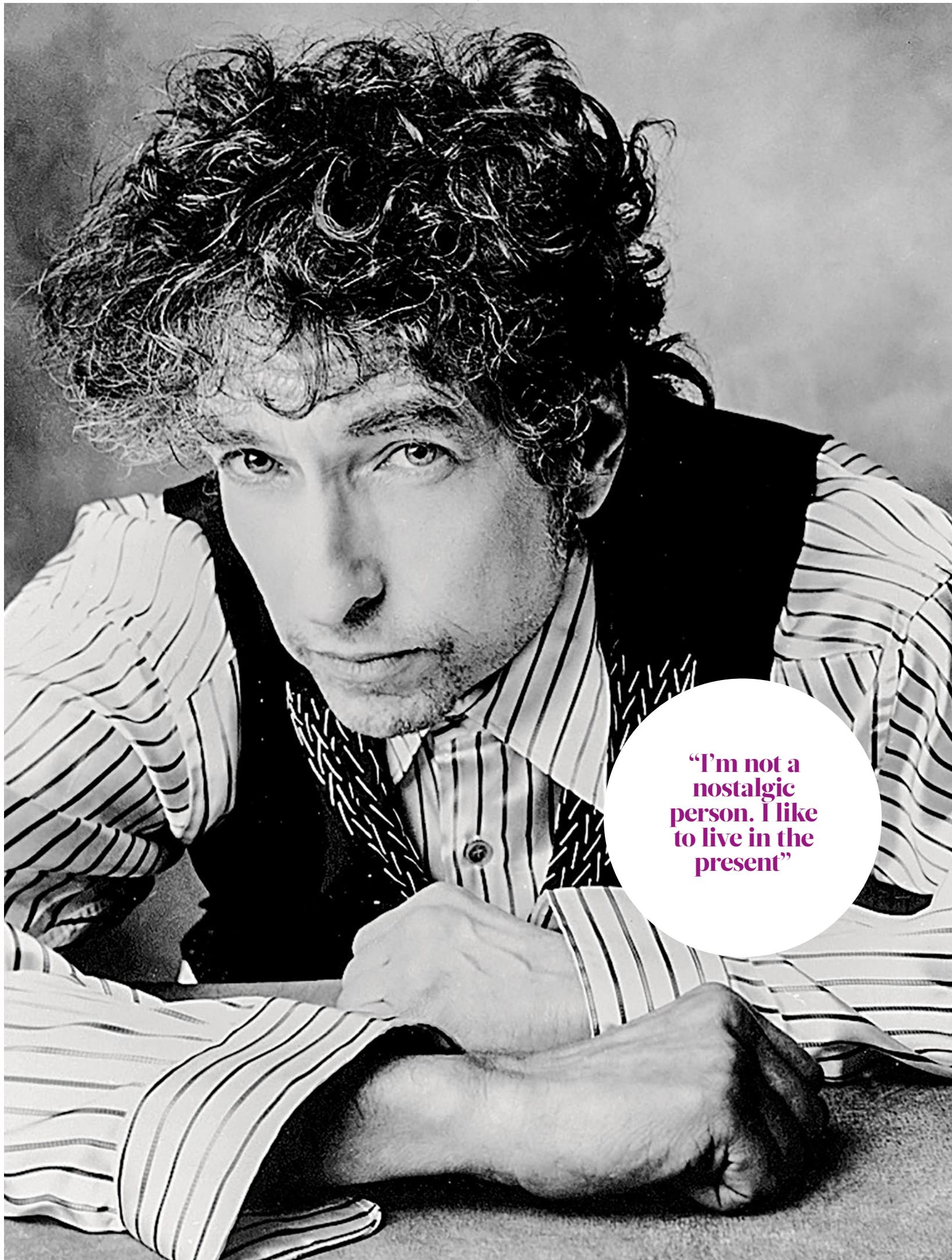
Shida Bazayr, author of the novel *Nachts ist es leise in Teheran*

I would love to be able to look back on these politically turbulent times and think: We warded everything off very well. My worry is that we won't be able to say that.



Sven Schmidt-Rohr, CEO of the startup ArtiMinds

Over the next 50 years, we will experience a technological and social revolution such as last occurred between 1870 and 1920. Our generation can't even imagine what life will be like when we are old.



**“I’m not a
nostalgic
person. I like
to live in the
present”**

THE TIMES THEY HAVE A-CHANGED

They're musicians, fashion designers, models, kings of finance and queens of countries—all of them are over 70 and all have experienced and learned a great deal throughout their lives. We can learn from them how to grow old without losing our curiosity and lust for life

Headstrong

→ He found his calling at an early age—and he followed his path without making compromises. That's one reason why Bob Dylan is the first musician to win the Nobel Prize in Literature.

One of Dylan's best-known songs is "The Times They Are A-Changin'." He wrote it in 1963, when he was in his early twenties. The times may have changed, but Bob Dylan still does what he wants, even at the age of 76. He started out as a folk musician playing

protest songs on an acoustic guitar. Later he switched to electric guitar, a change that put off a lot of his fans. However, he gained more and more new ones because he could tell a story about the human condition as eloquently as Shakespeare or Homer. Throughout

his career he has also written dozens of songs that together make up their own canon. It's therefore all the more astonishing that Dylan recently decided to reinterpret another canon—the Great American Songbook, classic standards immortalized by Frank Sinatra and

others. This was a headstrong idea, especially as Dylan's raspy voice doesn't seem to fit those mellow tunes. Still, it's the type of idea that makes people love Dylan, who continually sells out shows, despite the fact that he's been touring more or less non-stop since 1988

and plays around 100 dates a year. After his "Never Ending Tour" arrived in Stockholm in March 2017, Dylan dropped by to pick up the Nobel Prize he had been awarded a few months earlier. Stockholm wasn't on his itinerary up until then.



“Nature determines your age, but you determine your attitude”



In shape

→ Ever since he showcased his steeled body at a fashion show, 80-year-old Wang Deshun has been known as “China’s hottest grandpa.”

Is it ever too late to reinvent yourself and make your dreams come true? No, says Wang Deshun, who made his debut as a runway model in 2015 at the age of 79, causing a worldwide media sensation. Wang’s appeal had a lot to do with his age—but people were also impressed by the physique he showed off at a fashion show staged by the designer Hu Sheguang, particularly his ripped upper body, the result of three hours of training every day. Wang, who used to work in a factory and as an actor, began going to a gym regularly when he was 50 and started lifting weights seriously when he was 70. One of his nicknames in China is “laoxianrou,” which means “old fresh meat.” Wang recently said that one way to find out if a person is over the hill is to ask them if they’re still willing to try out things they’ve never done before. Wang’s latest project involves a plan to take his first-ever skydive. He may have trouble finding the time for this, however, as he’s now a much sought-after model who has recently done testimonials for brands such as Reebok and Ermenegildo Zegna.



“We shouldn’t take ourselves too seriously. No one has a monopoly on knowledge”

Eternal

→ Elizabeth II has ruled the United Kingdom for more than 60 years now, and she’s never been more popular.

When Queen Elizabeth celebrated her 90th birthday in April 2016, there was virtually no one in the UK who didn’t wish her well. Even the old punk rocker John Lydon admits that he would miss the Queen if she wasn’t around—and he launched his career and

that of his band, the Sex Pistols, 40 years ago with their controversial song “God Save the Queen.” The Queen hasn’t had it easy during her reign over an empire that was already in decline when she came to the throne in 1952 at the age of 27. She then faced

increasing criticism as the years went by. In the 1990s, she watched as her daughter-in-law Diana captured the hearts of people around the world, and it took a long time for many of Elizabeth’s subjects to forgive her for her cool reaction to Diana’s death in 1997.

However, as Elizabeth got older, she also seemed to lighten up, even taking part in a James Bond skit for the opening of the 2012 Summer Olympics. She has learned that true greatness comes from magnanimity. In 2012 she became the first head of state to preside

over the opening of two Olympics (she also opened the 1976 Summer Olympics in Montreal). Staying active seems to keep her young: In the pictures for the Diamond Jubilee celebrating her 60-year reign, she looked even better than she did in the 1990s.

Eccentric

→ He clothes pop stars and politicians alike—Paul Smith is still one of the most creative people in his industry, even at the age of 71.

Fashion is constantly changing, but style is timeless. Few people know that better than the British designer Paul Smith, who has been in the fashion business for nearly half

a century. He started out with a small shop in Nottingham; today he rules a fashion empire with dozens of outlets from London to Kuwait and Tokyo and annual revenues of more than

£200 million. This British eccentric is particularly popular in Japan because of his style, which Smith describes as “classics with a twist.” His trademarks are his sense of

humor and his colorful striped patterns, which adorn everything from boxer shorts to Mini Coopers. Quirky and a little flamboyant—the mixture has always been popular. For ex-

ample, Pink Floyd and Led Zeppelin used to be regular customers, and these days even British politicians love the suits designed by Smith.

“You can’t plan your life. But you should try to understand it”



Superman

→ With an estimated net worth of more than US\$30 billion, Li Ka-shing is one of the world's richest individuals.

He's old—but he's rich. According to *Forbes* magazine, Li Ka-shing has a net worth of more than US\$30 billion, and the 88-year-old, whose nickname is "Superman," isn't done yet. "No," Li replies brusquely when asked by an interviewer whether he plans to retire soon. The thing that drives Li is the poverty he grew up in. He once said that he was never able to get rid of the bitter taste of helplessness and isolation. Li moved to Hong Kong as a teenager. He established his first company when he was 19 and ended up earning a fortune with plastic flowers. Today he has holdings in companies all over the world and in all sectors. He was a big believer in Facebook from the beginning, and in 2007 he invested US\$60 million in the company, which was a startup at that time. He has a financial interest in ports from Rotterdam to Panama, and he owns 40 percent of the Rossmann drugstore chain in Germany. Despite his great success, Li is modest in his appearance—for example, he always wears cheap watches. There are more important things in life, after all—like remaining the richest man in Asia.

"The future may depend on many things, but it actually lies in the hearts and minds of people"



More portraits can be found at magazine.evonik.com

The bestselling author Hajo Schumacher would like people to adopt a new attitude toward life

The Urge to Act

Certain things are needed to make aging a pleasant experience—financial security, social relationships, spirituality, and mental health. Still, none of these things can make seniors happy if they have doubts about themselves. If they look at the world positively, the world does in fact get better

➔ We are living against the rules of nature. After all, propping up the useless half of a population has never been a part of evolution. A person's uselessness begins when his or her children are able to support themselves. After that you're deadwood and not worth repairing if you break down. An animal with hip joint problems will not survive for long. Our surgeons, on the other hand, are now testing procedures for replacing worn-out artificial hip joints after 20 years.

This is how we fool nature—and also stumble into unknown territory, in nearly all affluent post-industrial societies. I was born in 1964, along with 1.35 million other Germans. This was the year with the highest birthrate in Germany. When we baby boomers begin retiring around 2030, the social security system will start to creak under our weight. There'll be too many old people and not enough children—so who's going to pay for everything? This is a new and scary situation in the history of humankind.

The first thing we need to do is to abandon our deeply rooted, age-old Calvinist belief that human existence after one's working life is mainly a cost issue. An intense debate is currently under way in France about "successful aging," and Scandinavian societies are very accepting of senior citizens, even those with physical disabilities. One can learn to age well if one gets rid of the toxic stereotype of deterioration.

Bicycle paths and cultural festivals

Has Mick Jagger ever asked himself whether he should be jumping around a stage in his mid-70s? No, he just does it. It's not society that assigns the elderly the role they currently play; they do that themselves by acting as if they're somehow diminished, by failing to adapt, and by continually apologizing for the fact that they exist. Seniors are like volcanoes: Some are extinct, some are dormant, and some are very active.

The Harvard psychologist Ellen Langer has impressively demonstrated just how powerful an optimistic attitude can be. Her experiment involved inverting the vision tests everyone hates so much. In Langer's test, the small letters were on top, so it got easier and easier to read the letters as you moved toward the bottom. As it turned out, the senior citizen test subjects identified the letters much more accurately than before. In other words, their vision got better because they had more self-confidence—the likelihood of correctly identifying

a letter rose with each line read. "Hedonistic adaptation" is how scientists refer to the human talent for regaining a more or less normal mood after suffering a setback.

Researchers at the German Center of Gerontology are now studying how seniors "can change their negative attitudes," as the psychology professor Clemens Tesch-Römer puts it. Finally somebody's come out and said it: The image all of us have of retirees is disastrous. "Age needs to be detoxified," Frank Schirmmacher, the late publisher of the *Frankfurter Allgemeine Zeitung* newspaper, wrote in his bestseller *Das Methusalem-Komplott* (The Methuselah Conspiracy).

The views of gerontologists can help with this "detoxification." Gerontologists distinguish between the "third" and "fourth" ages. In the third age, the mind and body still function well enough to allow a person to ride a bike, go hiking, and attend cultural festivals. The fourth age begins at the point—usually around age 80—at which a person becomes increasingly frail and often requires assistance.

Rights and obligations in all phases of life

However, even this advanced age does not necessarily have to end in mass caregiving, as many examples in my book *Restlaufzeit* (The Time Remaining) illustrate. The simple fact is that loneliness is a brutal killer and companionship saves lives. The former television reporter Sven Kuntze, who evaluated several nursing homes from the inside as a resident, has the following to say on this subject: "The future belongs to the community, regardless of its size or type—communities where people lead independent lives and get help when they need it."

The time has also come to get the "young elderly" to do their part. The third age should not be a permanent vacation paid for by society for people with a grumpy attitude that it is somehow their right. Instead, older individuals must take on more responsibility for themselves and others. The great journalist and author Peter Scholl-Latour once said dryly, "I work every day. If I had retired at 65, I would be long dead by now—and if not dead then dumb."

Only around 15 percent of the working population is actually "burned out" by the age of 65. Most of the rest often abound with energy. Is it unreasonable to expect these fit elderly individuals to take on a few responsibilities—for example, keeping themselves more or less in shape physically, mentally, and spiritually? Doesn't a

"Loneliness is a brutal killer. Community saves lives"



Mirror, mirror...

Old people who live like young people are often ridiculed. That's a mistake, because how people see themselves is more than just an illusion

Everyone would benefit: There would be less loneliness, and the great gap between the idle and those who work would be bridged. There would be more appreciation and a better social climate. Is this utopian? Let's be serious: The principle that people should be both supported and challenged applies in every phase of life.

It sounds paradoxical but it's nevertheless true that greater respect for the elderly can only be attained if we start talking not only about rights but also about obligations. Aging must be viewed as a potential service to the community, which definitely needs strengthening in many ways. Those who want to be taken seriously should also take themselves seriously. We tell our children to get out of their comfort zones, and it's not too much to ask that we do the same. Like youth, the third age is both a learning and an experimental phase. Enough energy, creativity, and knowledge are available.

There's no question that a lot of issues need to be tackled and we are moving into uncharted waters. However, only after we learn to appreciate ourselves when we get old will we get the respect we deserve from the younger generations. Once liberated from the pressures of a career, children, and the time clock, there's plenty of room for more meaning in life than just television, shopping, and complaining. A little less money could help with this transformation of our view of old age.

There's too much talk about money in a debate that focuses on crumbs in the form of percentage points rather than on the major issues of meaning and dignity. Our language, our willingness to learn, our attitude, and our cooperation are like additional pensions and medications whose value is underestimated. A kind word or a positive experience have the power to reignite our entire neural system—for better or for worse. Progress, healing, and growth are possible at all levels and at all times.

Making the best of the time remaining

A long-term study conducted at University College London has shown that physical deterioration slows down in happy senior citizens. However, "happiness" means a lot more than the material security that the timid Germans in particular misinterpret as the mark of a satisfying life. For example, some sprightly 90-year-olds are in better form than gloomy people in their late 60s—not because the 90-year-old has better genes or a bigger pension but instead because he or she has a more healthy attitude toward life.

In other words, we ourselves have to take responsibility for our health, our brains, our social contacts, our finances, our awareness, and our spirit. The rule of thumb here is that our overall feeling of well-being will only be as positive as the weakest of these factors. Those who have a lot of money but see no meaning in life will not age successfully. However, those who have a share of everything have a good chance of leading a fulfilling life in the time remaining to them. ●

society that pays out pensions for decades have a right to expect some cooperation? Calm and experienced people are needed everywhere—in libraries, parks, schools, daycare centers, local government—and as caregivers for the elderly as well. Ten hours of community work per week—is that too much to ask from a 70-year-old? No, as such work can lend life new meaning. In their new roles, elderly individuals can act as purveyors of wisdom, as mediators, or as guardians of tradition, history, and great stories. Moreover, when life has meaning there's no room for boredom, loneliness, and desperation.

Alexander Künzel, Chairman of the Bremer Heimstiftung nursing home foundation, sums up the situation clearly: "Soon there will not only be more older people but also far fewer people in the workforce. Basically, we will run out of caregivers. More people will have to volunteer in the future, and I'm banking on our robust retirees. We offer courses in evening school that provide tips on how to get involved in the community in Bremen. The elderly are breaking down the doors for these courses. The potential is huge."



Hajo Schumacher is co-manager of the Berlin office of *Der Spiegel* magazine and editor-in-chief of the life-style magazine *Max*. He also hosts TV talk shows and has written numerous books (some under the pen name Achim Achilles). The subtitle of his book *Restlaufzeit* ("The Time Remaining," published in German by Eichborn-Verlag) is "How to enjoy a good, fun, and affordable life in old age"

“I’ll probably go right here from my counter straight to a nursing home”

Harumi Inagaki

At 75, she still runs a restaurant with her husband—continuing to work in old age is increasingly the norm in Japan

Their working day starts in the early morning and ends just before midnight, but they say they can handle it

**WELCOME
TO THE**

“Now we’re going to sing a song together. We’ll start on three. One, two...”

Pepper the robot talks to residents at the Silver Wing retirement home and keeps them entertained with games

Group sessions: The robot takes on the role of caregiver and encourages seniors to perform gymnastics

Japan has the world’s highest life expectancy—and the world’s lowest birth rate. With the population in decline, fewer and fewer young people are having to support more and more senior citizens. Japan thus offers a foretaste of the future of many developed countries

FUTURE



Mr. Inagaki cuts up fish while his wife prepares a stew

➔ A regular customer pulls open the sliding door and makes a slight bow as he enters the restaurant. The door rattles a little, and the wood at its edge has turned dark. Still, everything else here is sparkling clean. “Welcome, welcome,” Harumi Inagaki calls from inside. She points to a seat at the counter, brings over a hot towel for her customer to freshen up with, and sets down a little snack of cooked beans and boiled mushrooms without being asked to do so. She knows exactly what Mr. Kimura likes, because he’s been a regular in her restaurant in Chiba, a city located near Tokyo, for 43 years now. Harumi Inagaki is 75.

Her husband, who is also over 70, heaves a cast-iron pot with oil onto a gas range behind the counter, as he gets ready to cook up some fried vegetable tempura. He’s also grilling some eel and mackerel and chicken skewers. While everything is cooking, he quickly cuts up raw tuna to make sashimi. He does all of this more or less simultaneously, without losing track of anything.

Kimura actually worked in Inagaki’s restaurant when he was a student 40 years ago. After completing his studies, he remained loyal to the establishment. He frequently drops in for a chat and sometimes holds family celebrations here. The three—the Inagakis, the restaurant, and Kimura—have truly grown old together.

As far as Harumi Inagaki is concerned, they can continue to grow old together for some time to come. “I want to keep running this restaurant until I am physically no longer able to do so,” she says. She can’t imagine living an idle life as a retiree. “I’ll probably go right here from my counter straight to a nursing home,” she explains. Her working day starts early in the morning and ends just before midnight, but she says, “I can handle that without any problem!”

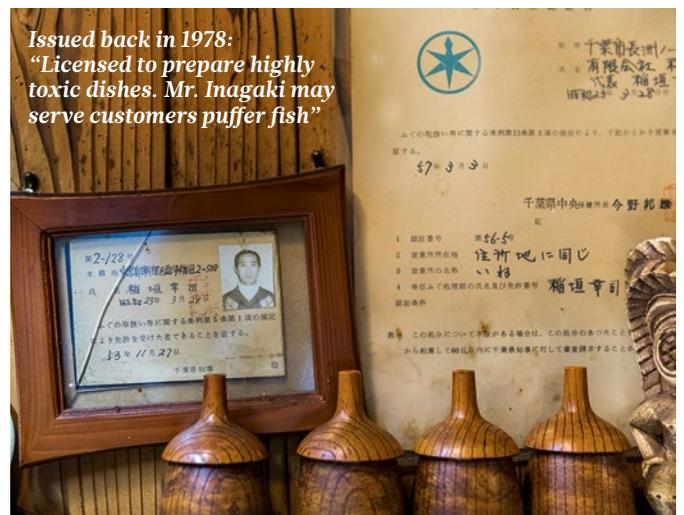
They run a typical Japanese “izakaya” (bar/restaurant)



Issued back in 1978:
“Licensed to prepare highly toxic dishes. Mr. Inagaki may serve customers puffer fish”

“I will run this restaurant for as long as my body allows it”

Harumi Inagaki
Her regulars have grown old with her



Like Inagaki, more and more Japanese now continue to work far beyond the traditional retirement age of 60. This is one of the consequences of the aging of Japanese society, which is proceeding at a faster pace than in Europe, for example. This trend of working after the retirement age has long since become visible in Japan, where gray-haired, stooped seniors pack groceries in supermarkets and elderly taxi drivers struggle to lift heavy luggage into their trunks in Tokyo. Surveys show that nearly half of all companies no longer place limits on the age of their employees, and that this percentage is increasing. The trend has also reached the top management level. For example, the editor-in-chief of the *Yomiuri Shimbun* newspaper, which has the highest circulation in the world, turned 91 in May. Shinsei Bank has an 88-year-old CEO, and he makes the bank's president look like a spring chicken at 69.

Whereas academics and managers enjoy working longer into old age, an additional job has become a bitter necessity for other seniors whose pensions simply aren't enough to live on. Many old people can be seen standing completely exhausted at underground garage exits, for example, where they direct traffic using light sticks.

Senior-friendly jails

Even in orderly Japan, more and more senior citizens now steal from supermarkets, because they don't have enough money. Seniors now account for 16 percent of all prison inmates in Japan—the highest percentage in the world. A new pilot project is now under way at the Onomichi jail near Hiroshima in southern Japan. Here, an entire floor has been converted into a nursing care wing for elderly prisoners.

Storage rooms in the Onomichi jail are packed with adult diapers, according to the *Japan Times*. In the wing's dining room, caregivers affectionately slap elderly inmates on the back when something goes down the wrong pipe. Seniors live separately from younger criminals, because the prison authorities think it would be too much for them to have to deal with the tough young inmates. The Japanese government will spend around €100 million this year to make prisons more senior-friendly. Old prisoners also cost the state double what younger prisoners cost.

Some of the older inmates even like it in prison a little bit. Indeed, as the *Japan Times* reports, there's little difference between a jail and a public nursing home. "The economy isn't doing very well—how am I supposed to find a job and survive?" a 70-year-old inmate was quoted as saying. The inmate added that he was already dreading the day of his release in three and a half years.

Crime is the last chance for a small minority only. In the meantime, the middle class has now joined the upper and lower classes by continuing to work longer as well. Some from the middle class want to supplement an already a solid pension, while others want to contribute to their grandchildren's college fund. However, many also simply want to remain useful and lead an active life. Japan has the highest life expectancy in the world. The average life expectancy of Japanese women will soon be 90, and Japanese senior citizens stay healthy much longer than their American and European counterparts. They want to belong and not be written off. Inagaki and her husband take wonderful trips to England and Egypt, for example, when they're not working in their restaurant. More than 20 percent of Japanese people over 65 have a job, and this percentage is increasing every year. A total of 75 percent of the current working population



expect to keep working even after they reach retirement age. This makes sense. After all, if Japanese people spend their first 25 years living life as a child and then going to college or learning a trade, and if they will soon live to be 100, they will have worked for only around 35 years—and then they're supposed to spend the rest of their lives living off of others?

The government is very pleased by the desire of seniors to keep working, especially as the number of working-age Japanese will decline by 40 percent between now and the middle of the century. There will be a shortage of 380,000 caregivers alone by 2025. Japan has always had a reputation for friendly and attentive service, but the quality of service in the country is deteriorating due to a lack of workers. One solution here would be to allow immigration from less prosperous Asian countries. The topic of immigration is taboo in Japan, however, and any politician who supports it will not get elected. The government nevertheless allows some immigrants to enter Japan via the "back door"—for example through internship programs. Politicians cannot talk about such things, however—especially not conservative politicians such as Premier Shinzo Abe, who has therefore told his fellow Japanese that "everyone has to tackle the problem now."

Abe is also focusing on another source of labor besides seniors: robots. In fact, Abe has had legal experts review existing legislation in order to find restrictions on the use of robots, some of which he has since eliminated. For example, it's now easier for physicians to test surgeon robots on patients, and the scope of a company's liability for errors made by its robots has been reduced. The government has also increased its funding of robot research at companies and universities.

Hotel reception robots

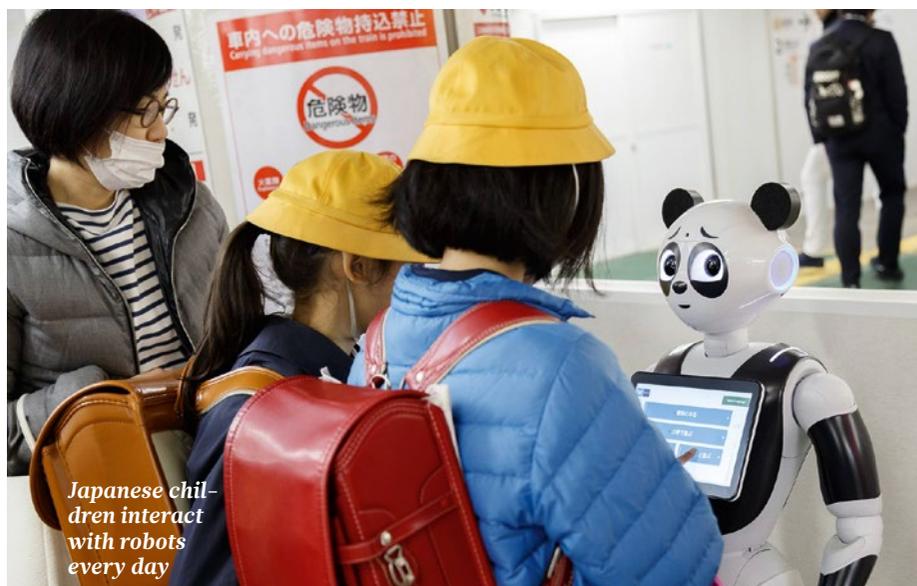
The trend toward the use of mechanical helpers is already clearly visible in Japanese society today. Stores and restaurants in the Ginza shopping district in Tokyo are now using Pepper—an information robot that understands spoken words, has a monitor installed in its chest, and makes gestures when it speaks. Restaurant patrons can order using the screen; the robot delivers the orders when they're ready. Guests at the "Strange Hotel," which is not far from Inagaki's restaurant in Chiba, never even see a human staff member: They deal solely with robots from check-in to check-out. →

Senior citizens already account for 16 percent of all prison inmates in Japan

40
percent—that will be the decrease of the working-age population in Japan between now and the middle of the century

380
thousand new caregivers will be needed between now and 2025. Because there are no plans to admit immigrants, Japan will try to replace human workers with robots

90
will soon be the average life expectancy for Japanese women. Japanese senior citizens stay healthy longer than their American and European counterparts



Japanese children interact with robots every day

→ Those who wish to experience the latest stage of cooperation between machines and humans can go a few hundred meters to the east, to the Shintomi district, where the Silver Wing senior citizens home is located. The facility is taking part in a pilot project sponsored by the city of Tokyo: “Eliminating the caregiver shortage through the use of technology.”

In the day room on the eighth floor, Junko Fukumura is playing with Paro, an electronic seal with soft fur and long eyelashes. Fukumura is only three years older than the spry restaurant operator Inagaki, but she’s not doing nearly as well as Inagaki either physically or mentally. She is often restless and sometimes confused. “Paro is so cute, and that helps me spend a few hours feeling very happy,” Fukumura says. The seal stretches underneath her hand, turns its head to her, and starts making baby noises and fluttering its eyelashes. Fukumura smiles back at it. Two other residents at a neighboring table play with Aibo, a robot dog built by Sony.

The pleasure the residents take in interacting with the machines is genuine. “They spend a lot of time with the robots and their interaction re-energizes them,” says Koya Ishikawa, who established the facility. Ishikawa, an enterprising lawyer and entrepreneur, recognized at the beginning of the 21st century that care for senior citizens was going to become a huge growth market at some point. Since then he has established several homes for care and rehabilitation, and he now plans to play a leading role in the technological transformation of the industry. The beds in Ishikawa’s facilities are already equipped with sensors that register the movements of seniors when they sleep. A computer issues a warning to staff members if a person is in danger of falling out of bed. Caregivers can also see on the computer how much deep sleep each of the elderly residents is getting. “Just one look at the monitor can explain why someone’s extremely tired and often nods off during the day,” says Ishikawa. Playing with Paro then helps seniors relax a little in the evening.

Silver Wing uses many other robots as well. Staff members also wear exoskeletons to prevent hip damage when lifting patients, which is the biggest occupational hazard for caregivers. The omnipresent Pepper sings songs to the seniors in the day room on the eighth floor and instructs them to raise and stretch their arms in time with the music. Those who haven’t nodded off in their

“The machines have to be absolutely safe”

Toshiharu Mukai
Robot expert at Meijo University in the central Japanese city of Nagoya

60

is the traditional retirement age in Japan. However, more than 20 percent of people over 65 now continue to work



Finn Mayer-Kuckuk has lived in East Asia for 11 years. He is the author of *Tokio Total* and writes for several well-known publications, including *Handelsblatt*, *Frankfurter Rundschau*, and *Stuttgarter Zeitung*

chairs happily join in with Pepper. On the floor below the common room, a robot is helping a stroke patient practice walking. The flat screen that serves as the robot’s head shows the patient how she should set down her foot—the machine is a mechanical physiotherapist.

This is the vision of the future shared by bureaucrats, technologists, and industry. Inagaki is horrified by all of this. “I know even without a computer whether or not I’ve slept well,” she says as she wipes down a table with disinfectant. Her last customers have left the restaurant and her husband is cleaning his worktops in the kitchen area with lots of water. “It would be very nice if a robot could help clean up here,” she admits—but to allow a machine to touch her body in a senior citizens home? She doesn’t trust machines enough for that: “I would let a robot take me to the bathroom if nobody else would, but it would not be an ideal situation.”

Inagaki took care of her own elderly mother for ten years. During that time, she had to hire someone to help out in the restaurant. “That was hard, but it was a point of honor for me to take care of my mother,” she explains.

Cute little machine people from the comics

Inagaki will also end up needing help from her family and human caregivers someday. Despite the futuristic approach employed in Silver Wing, the associated technology is still in its initial phase. “It will take at least a decade for us to get to the market-ready stage, and maybe even a lot longer than that,” says Toshiharu Mukai, a robot expert at Meijo University in Nagoya.

Mukai is a pioneer in the field of robot caregivers. He has also put together a set of principles for their use. A friendly appearance is one of these principles, as it helps ensure that even people who are unfamiliar with robots will accept them. Much more importantly, however, the “machines must be absolutely safe.” The prototype for this is Robear, a robot 1.5 meters tall with a face that looks like a bear from a comic. Robear is to be found in Mukai’s lab, where he greets all guests with a polite bow. The robot bear can carefully lift patients out of their beds or help them stand up. Mukai is currently developing new sensors and motors to make Robear’s grip gentler and softer in order to ensure it cannot injure seniors. Mukai is convinced that products like Robear will be indispensable in the future. “Who else is going to take care of our large elderly population?” he asks.

Robots are generally well accepted as caregiver assistants in Japan—even Inagaki loses some of her skepticism at some point and repeats a sentence that’s often heard: “Ultimately, people will get used to it and then it will probably be completely normal.” Most Japanese get excited about new technologies—and for decades now, the cute little machine people from the comics have gotten everyone used to the idea of coexisting with androids. Inagaki, on the other hand, would prefer to see more immigration in response to the rapidly aging society. As a restaurateur, she believes that ordering on a screen in a restaurant cheapens the experience. Besides, Inagaki says that she finds immigrant workers—from the Philippines, for example—to be friendly, hard-working, and helpful. “We should let a lot more of those people in; that would be smarter than simply trusting technology alone,” she says. Inagaki acknowledges that this would presumably change Japanese culture, with its countless little rules, its proper bowing, and its frequent apologies. “But at some point we need to make compromises if we keep on having fewer and fewer children,” she explains.



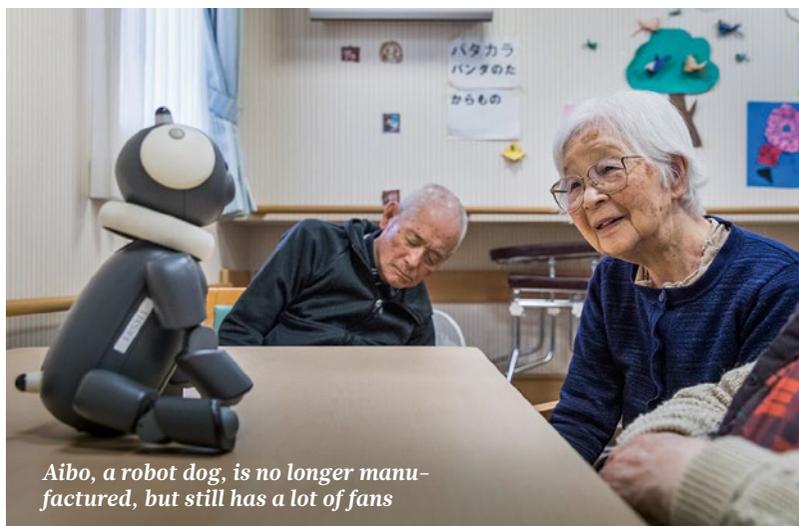
Retirement home residents follow the lead of the robot



Caregiver Takashi Sugimoto protects his hip with an exoskeleton while lifting a patient



Junko Fukumura often plays for hours with the robot seal Paro



Aibo, a robot dog, is no longer manufactured, but still has a lot of fans



The mature years

Does “new” really always indicate quality? Not at all. After all, the value of many things increases with age, and some things become almost priceless when they’re very old



Stradivarius violins are considered the best in the world. The fact that they're more than 300 years old only makes them more valuable for connoisseurs. In 2011, the "Lady Blunt" Stradivarius was auctioned off for around €11 million, making it the world's most expensive violin. Star violinist David Garrett also swears by his Stradivarius and its unique sound, which can be heard on his new album, Explosive



The moss green Yareta plant (photo) grows extremely slowly. It has all the time in the world, however, because the moss green domed Yareta, which can be found in the Atacama Desert in Chile, is one of the oldest plants on Earth (approx. 3,000 years old). This longevity—and the plant's extravagant appearance—attracts visitors from all over the world



Photography: Die ältesten Lebewesen der Erde / Bastei Lübbe AG



Photography: Rachel Sussmann, *The Oldest Living Things in the World* (University of Chicago Press)



These bottles of wine have been through some turbulent times. Stored in the gloomy catacombs of Chateau Lafite Rothschild in France, some of them date back to the time before Napoleon. These days the wine cellar is a veritable goldmine: In 2010, three bottles of Chateau Lafite from 1869 were auctioned off for approximately €170,400 at Sotheby's



Photography: Robert Harding/Alamy Stock Photo



More photos can be found at
magazine.evonik.com

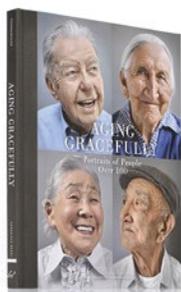
AGING GRACEFULLY

In a unique project, the award-winning photographer Karsten Thormaehlen visited 52 wise and joyful 100-year-olds all over the world to take their pictures and have them tell him what it's like to be this old

➔ Besides places such as Okinawa, the Andes, and Sardinia, where people often grow very old, Thormaehlen also talked to centenarians in Germany, Austria, and Switzerland. His restrained yet personal photographs make the dignity and beauty of old age visible. In short biographies and quotations, the centenarians share their wisdom about love, health, humor, and a fulfilling life. Karsten Thormaehlen's empathetic and frequently award-winning portrait series in publications ranging from *Stern* to *Vogue* have made him internationally known and inspired the World Health Organization (WHO) to launch a campaign against ageism.



Edward J. Palkot, 103
A former human resources director from the USA, Palkot still drives and plays golf. He wrote the foreword of the book



Karsten Thormaehlen, Constanze Kleis:
Aging Gracefully
Portraits of People Over 100

The book, which has 120 pages and 60 color illustrations, was published by Chronicle Books on March 7, 2017, \$29.95



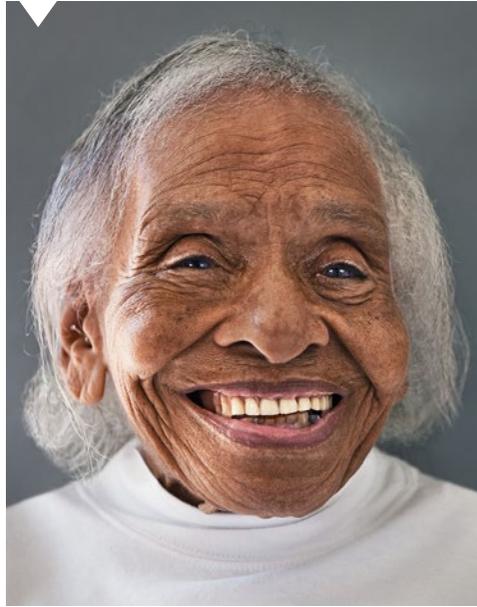
Berta Maria Frieda Preis, 105: A native of Germany, Preis ran a grocery store until the 1970s. Her recipe for a long life is not to overdo anything



Kiyo Aragai, 102
A native of Japan, Aragai says that she has never argued with her husband and is at peace with herself



Tonia Nola, 103
Nola has lived all her life in a Sardinian village in Italy. She never married and has no children

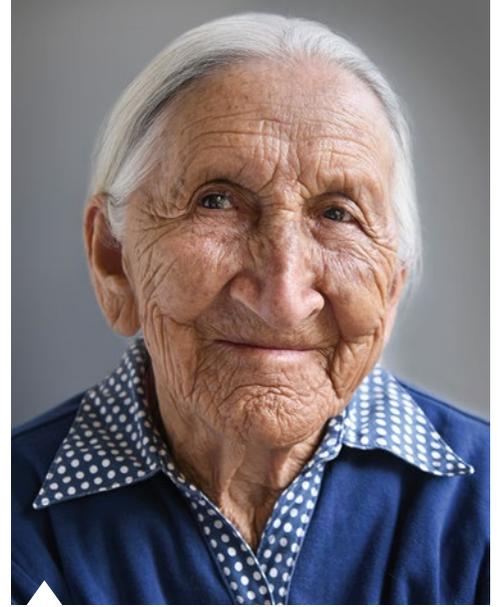


Olivia Hooker, 102: At the age of six, Ku Klux Klan members plundered her home. She later earned a doctorate in psychology

Tonaki Tsuru, 103
A former factory worker, Tsuru from the Japanese island of Okinawa continues to play folk music



Antonino Porcu, 106
A forester from Italy, Porcu was abandoned by his father and raised nine children of his own



Luz Pacifica Torres, 100: A farmer from Ecuador, Torres has 30 to 40 grandchildren and great-grandchildren—she has never bothered to count them



Kiichiero Nakajima, 103: This former fisherman and factory worker from Japan likes to read and is proud of his excellent memory



María Luisa Medina, 104: Medina from Ecuador recently had her first doctor's appointment. The physician told her she didn't need his care

Facts + Figures

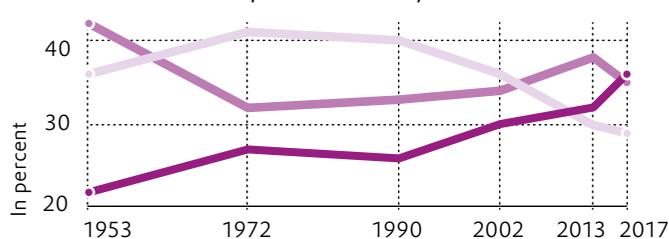


People over 60: As the biggest group of voters, they are a powerful force in German elections

- 18–39 years
- 40–59 years
- Over 60 years

Eligible voters by age

In the Federal Republic of Germany, 1953–2017



Source: Federal Returning Officer, www.gdv.de

It's Your Choice: The New Might of People Over 60

Never before were the over-60s as fit as they are now. People in retirement have become restless. Instead of relaxing, senior citizens are involved in social projects, run marathons, and continue to work even after they have retired. They will be a powerful force in Germany's upcoming parliamentary elections. That's because 36.1 percent of eligible voters will be over 60 when

Germany goes to the polls in September 2017. People aged from 40 to 59 will account for 34.7 percent of the eligible voters, while only 29.3 percent will be between 18 and 39.

As with the Brexit vote, the over-60s will play a vital role, especially since the elderly are traditionally much more likely to vote than the young. After the parliamentary

elections in 2013, the Federal Returning Officer said the over-70s, who used to vote less frequently than the population as a whole, now had a turnout of 74.8 percent, slightly above the average turnout. Does this mean that the political parties are more interested in pensions than in young people and the country's future? Find out more in the interview on page 36.

JOB PORTAL FOR SENIORS

High Potentials

"Restless spirits" is what Karl Wulfange, 72, calls his clients, retirees who still work or have restarted. Their numbers are steadily increasing—one in ten retired Germans now has a job, usually part-time. Some work because their pensions are too small, while others do so because they are bored. Since 2008, Wulfange has been running Die Silberfuchse, a job



portal in Duisburg which puts companies in touch with highly qualified people who

want to contribute their expertise. His one-man business is not alone, as there are now several

job exchanges for senior citizens in Germany, such as Erfahrung Deutschland and RentaRenter.

However, these portals don't specialize in managers. Meanwhile, large companies now have their own programs in order to retain high-potential retirees and their expertise. Wulfange isn't concerned about the competition, because his focus is on small and medium-size enterprises and he knows that he will benefit from the changing demographics. "Many of these companies will be looking for new personnel in the years ahead, because they will be losing their top performers," he says.

RECORD HOLDERS

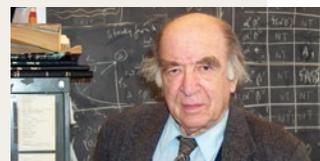
Late Winners



Jessica Tandy
In 1990, this UK actress became the oldest Oscar winner, at the age of 81, for her performance in *Driving Miss Daisy*



John Glenn
Glenn became the oldest person in space when he went on his second trip in 1998 at the age of 77



Leonid Hurwicz
The Russian-born US economist became the oldest Nobel Prize winner in 2007, when he was honored at the age of 90



Oscar Swahn
In 1912, this Swedish shooter became the oldest Olympia gold medalist ever at the age of 64

3 QUESTIONS FOR

Elke Laubach
“A Bridge between Generations”**1** In 2014 Evonik launched the GenerationenPakt in order to improve human resources planning. What does it involve?

The Generationen-Pakt serves as a bridge between generations. The older employees retire as scheduled, following a lengthy preparation period during which their successors are trained specifically for the positions that then become vacant. In this way, good human resources planning ensures the effective transfer of knowledge.

2 How does this work in practice?

We provide employees with comprehensive information so that they can decide how they would like to enter retirement. The employer-promoted long-term account is a tool that enables employees to influence how soon they can leave work before their actual retirement. The GenerationenPakt is an innovative application of this long-term account, which enables

the employer and the employee to jointly fund the latter's departure from the company.

3 How well has the GenerationenPakt been received?

The response is very good, and that's why it will be continued. At present, it covers non-exempt employees born in 1962. More than half of these employees have already received advice and must now decide whether to leave the company in accordance with the aforementioned model. Another reason why the GenerationenPakt is accepted is that it was drawn up in close cooperation with the works council.

Elke Laubach is a direct consultant at Evonik's HR Services Germany.

Best agers are won over by emotions and facts



They are a growing group of prosperous, consumption-oriented people: Best agers are being eagerly targeted by the advertising industry. Unfortunately, they are also very resistant to commercials...

Advertisers refer to this target group as “best agers” or “master consumers” and use “seniors marketing” (an infelicitous term for the over-50s) to get them to buy certain products. Advertisers have had moderate success to date. The Consumer Barometer 2016, which surveyed 10,500 people throughout Europe, showed that 61 percent of mature customers like to receive advice from salespeople, but only 43 percent are influenced in their purchasing decisions by adverts.

This is one reason why the “Katharina das Grosse” cell phone from the Mannheim-based manufacturer Fitage flopped. Although the phone won much praise and many awards, it caused the specialist for senior citizen cell phones

to go bankrupt. Perhaps the manufacturer shouldn't have referred to its customers as “old.” That is the main mistake that companies make when targeting older people, according to experts like Alexander Wild, a consultant for seniors marketing. After all, who wants to be considered old and feeble?

There is no typical senior citizen, as 65-year-olds are not only retiring, but also traveling around the world in RVs or fathering children. “For advertisers, the biggest difference between 20-year-old surfers and mature water sports enthusiasts is that the latter need to be addressed differently,” says Wild. Instead of being shrill and loud, advertising for older customers has to be informative and authentic. Due to their

age, such people are very experienced—and that also applies to how they respond to marketing. “To attract attention, advertising should also be emotionally appealing or humorous,” says Wild.

In this respect, Vodafone did everything right in Romania. A commercial in which two elderly ladies, the “Sunday grannies,” networked with hungry students via Facebook went viral worldwide. Now, two years later, the grannies have become YouTube stars, have their own cooking show, and are visited for lunch by local celebrities. Romanians over the age of 65 have increased their use of social media by 20 percent since the commercial was originally broadcast, while smartphones are now 78 percent more widespread.

1889

Introduction of statutory retirement insurance in Germany. This made the German Empire a pioneer with regard to social security. Denmark followed two years later and the UK in 1908. The USA did not introduce social security until 1935

RETIREMENT IN AFRICA

Whereas people from poor countries, many in the southern hemisphere, migrate to the rich nations in search of work, retirees move in the opposite direction—in search of sunny weather, a lower cost of living and, above all, better care when it's needed. Namibia offers all of these



→ The sun dips behind the Bismarck Mountains shortly after 7 p.m. The sky turns red and the blooming fields seem to light up. Hartebeests and springboks graze among acacia and camel thorn, birds can be heard tweeting, and the vast bush country of Namibia is cloaked in a glowing light. A group of senior citizens watches the spectacular scene from an observation platform in the shade of old stink shepherd's trees. "We keep coming back to this place," says Werner Renz, a retired teacher from Kirchheim, Germany. "Everyone brings whatever they happen to have at home—cold cuts, cheese, chips, crackers, and beer or gin and tonic." Last Christmas Eve, the seniors ate sausages and potato salad.

The retirees live in the Farm Residence Sonnleiten, which is located two kilometers from Sundowner Place, where an old windmill rises up into the sky. The dozens

of brown-yellow bungalows in Sonnleiten are surrounded by an electrified fence interrupted by a rolling gate. The facility features gardens with blooming sunflowers, chamomile, cactus, and agaves.

Warthogs and jackals

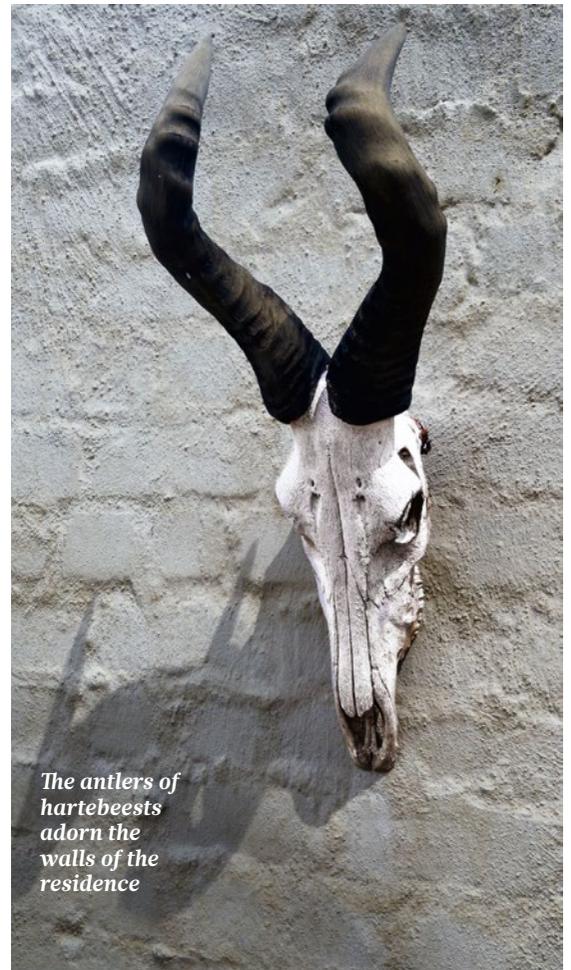
Lilo Renz enjoys life abroad. Every morning at 7:30 she grabs her walking stick and heads out to the bush. The brief intervals of rainfall over the last few weeks have transformed the landscape here into a Garden of Eden. The ground is full of blooming lilies, bluebells two meters high, and thorny scrub that just keeps growing. "Every day I see animals—kudu and oryx antelopes, jackals and warthogs," says Renz, a white-haired woman who used to work for a tax accountant. "It's like paradise here." Lilo Renz also likes to swim some laps in the heated swimming pool before breakfast. "I've always liked

"Every day we come across antelopes—it's like paradise here"

Lilo and Werner Renz
The couple moved from Kirchheim, Germany to southwest Africa. They visit Germany for four months every year



A picnic with a view of the bush: Time for the seniors to relax



The antlers of hartebeests adorn the walls of the residence



Lilo Renz swims while her husband, Werner, reads the paper

physical activity," she says, "but back in Germany it often rained or else it was simply too cold." Werner Renz, who is not similarly interested in physical activity, nods in agreement as he continues to read the AZ—the German-language *Allgemeine Zeitung*, which is published in the Namibian capital, Windhoek.

Lilo and Werner Renz, both 70, took their first vacation in Namibia 15 years ago. They visited Etosha National Park and fell in love with the country's vast landscape. They moved into Sonnleiten in 2009. The decision to move so far away from home wasn't easy, but their children and grandchildren were all grown up—and all of them had their own lives. "Before we left, we saw them maybe once a month," says Werner Renz. "Now we go to Germany for four months every year to see our family and friends." More than 70 senior citizens live in Sonnleiten, which is located around 35 kilometers from →



The "retirement immigrants" enjoy a round of boules in the afternoon



Gymnastics for seniors with Birte Burmeister (top). Ute and Günther Bräunig (bottom) from Ahrensburg have been here for a year



→ Windhoek. Most of the residents are white South Africans and German Namibians. A total of 22 residents are from Germany, three are from Austria, and two are from Switzerland. Americans and Brits have recently made inquiries as well, according to Sonnleiten's manager, Riaan van Heerden.

Currywurst and sauerkraut

The senior citizen residence has 53 houses plus a reception building, a restaurant, a library, a pool, a massage room, and a medical station. In its previous incarnation, Sonnleiten was a cattle farm established by the German immigrant Erich Rust in 1900. Rust was one of the pioneers who went on to establish the German colony of Southwest Africa. Germany's control over the colony ended with World War I, but the cultural influence of Germans has remained in Namibia to this day. There are German-language schools, German culinary specialties such as Swabian ravioli, currywurst, and sauerkraut, and German-language radio stations and newspapers. Beer in Namibia is also brewed in accordance with the German Purity Law.

"Sometimes it's nice to enjoy familiar things, and the opportunity to do so makes living abroad easier for some people," says Rainer Schwertfeger, an engineer who worked in many countries around the world when he was employed as a project manager for Siemens. Schwertfeger visited Namibia for the first time in 1980, shortly after he completed his studies. He's been in love with the country ever since, and that's why he decided to retire here.

He paid just under €100,000 for a 130-square-meter house, which he moved into at the end of 2012. "For that price I could have only gotten a room with a bathroom on Fuerteventura," says Schwertfeger, 62, who hails from Ludwigsburg, Germany and is actually lucky to be alive, as he was in both Kuwait and New York when terror attacks occurred in those places. "I breathed in the toxic dust from the World Trade Center after 9/11; we had our offices down there and I still suffer from shortness of breath today," Schwertfeger explains. "But I survived."

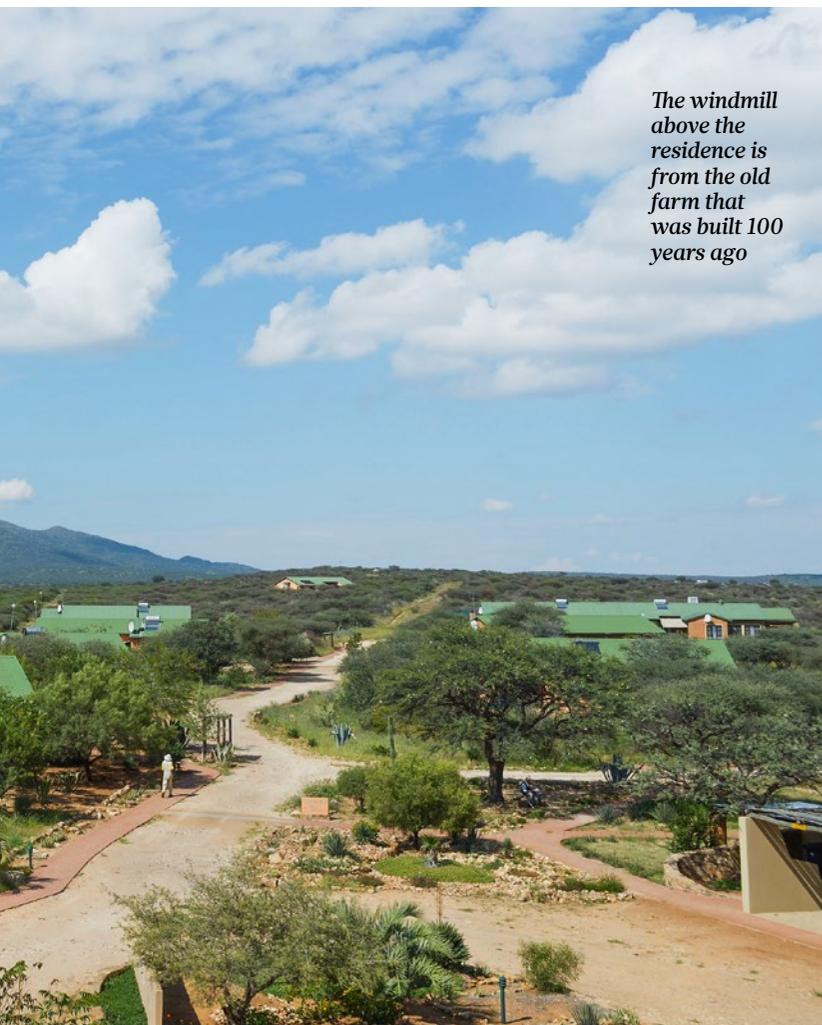
Anyone who has been frequently exposed to danger appreciates the safety and stability of Namibia. The crime rate is low here, the political system works well, the country has good infrastructure, and there's electricity and running water 24 hours a day. "Namibia offers all the advantages of Africa—but hardly any of the drawbacks," says Schwertfeger. "You don't need to get vaccinated, the clinics and hospitals are good, and most of the doctors even speak German. There's also no air pollution here, and the groundwater in Sonnleiten is so clean that it doesn't even need to be purified. Where else are you going to find all that?" Only one thing is missing to complete Schwertfeger's happiness: a woman.

A high and affordable standard of living

The seniors at Sonnleiten are a tight-knit community. They meet once a week to play boules in a small area between acacia and stink shepherd's trees. They also do gymnastics twice a week. The physiotherapist Birte Burmeister visits the residence from Windhoek to offer massages, physiotherapy, and muscle-training sessions.

"No air pollution—where else are you going to find that?"

Rainer Schwertfeger
He traveled the world as an engineer. He liked Namibia best, so he decided to stay



The windmill above the residence is from the old farm that was built 100 years ago



Hannes von Holtz and his dog, Reyka, found life in Germany to be too hectic

A hairdresser drops by occasionally, as does a cosmetician who offers medical pedicures. The seniors pay a lot of attention to their appearance, and most of them are in good shape. However, there are also a few who are in need of care. The residence therefore also houses a care unit staffed by two nurses 24 hours a day. Every house in Sonnleiten also has an emergency call button.

Sonnleiten has more than 20 employees who take care of the gardens, guard the facility, cook and serve meals, clean the houses, do laundry and iron clothes. “It’s virtually impossible to be able to afford such a standard of living in Germany,” says Schwertfeger. The fixed ancillary costs in Sonnleiten amount to €2.50 per square meter and month. A complete lunch, which often includes German specialties, can be had for less than four euros here—dessert included.

Respect and appreciation

Still, living in Namibia is about more than just money. “People are always complaining about seniors in Germany,” says Hannes von Holtz, 78. “In Namibia, seniors are treated with a great deal of respect, regardless of whether they’re black or white. Whenever I come upon a long line, everyone immediately waves me forward to the front.” What’s more, Super-Spar, the most popular supermarket among German seniors in Windhoek, offers retirees a five percent discount on all products every Wednesday, while Namibian banks offer seniors one percent higher interest on their savings accounts. “Things like that are simply nice,” says von Holtz. “It’s a sign of respect and appreciation.” Three of his four chil-

dren live in Germany. “They’ve wanted to take me back to Germany many times,” says von Holtz, a big man with snow-white hair. “But do they really expect me to live in a cramped retirement home there?”

Still some adventures to be lived

Von Holtz is wearing shorts and sandals. He’s sitting on a terrace and looking out at the Bismarck Mountains. His young dog, Reyka, has been keeping him company since his wife died two years ago. Von Holtz’ apartment is filled with large animal figures carved from African hardwood. “Everything’s much too hectic in Germany,” he says. “I’d rather stay here.”

After a lifetime of working in Germany, it takes some time to calm down, so to speak. After all, these seniors didn’t come to Africa to die; they simply want to enjoy their twilight years. They are agile—when they’re not visiting Germany they like to drive around Namibia. “You can do everything here that you like to do in Germany—you can read, listen to music, and even go to the theater,” says Ute Bräunig, 64, who moved into Sonnleiten last year with her husband, Günther, who is four years older. “However, you can experience some adventures as well.”

The Bräunigs had also considered retiring in Thailand. “The climate here in Namibia is better for my rheumatism, however,” says Ute Bräunig, who also likes the way everyone is helpful in Namibia: “Whether you’ve had a car breakdown or you need a job—people in Namibia are happy to help others without asking a bunch of questions.” What more could one ask for? ●



Andrzej Rybak has been traveling around Africa for 20 years. What he especially likes about Namibia are its vast countryside, its rich animal life, and its traditional tribal cultures

Henning Scherf served as Mayor of Bremen from 1995 to 2005 and is also a patron of the aid organization HelpAge Deutschland

Are the old stealing the future from the young? Are elections decided by those whose time will soon be up? **Henning Scherf, a young-at-heart proponent of senior citizens' rights, rejects these premises**

“I Appreciate the Anger of Older People”

➔ **Mr. Scherf, you will soon be 79 and you're constantly busy as an author and speaker. That doesn't sound like retirement.**

This topic really annoys me. The government makes political decisions about when we should retire. The government wants to decide what's good and not good for people. That's terrible, and it's also something that never works. And although my trade union friends and Social Democratic Party comrades criticize me for this, I still say that everyone should decide this for themselves. Those who want to work longer should be able to do so. I know 90-year-old architects and attorneys who still work. These people aren't incurable workaholics. On the contrary, their work keeps them active and in the midst of things.

That may be true for self-employed people such as architects or lawyers, but can that kind of flexibility also work with most employees?

Transitions out of the active workforce can be managed very intelligently. Successful models have in fact been developed and implemented by major German companies in cooperation with works councils. Union officials need to listen to works council members and understand that many employees now have a new and different attitude and would truly like to work longer.

Can you give us an example of this?

Groups of three employees were established at Deutsche Telekom, for example. Each group consisted of a young entry-level employee, a worker who is also a parent, and an employee who could actually retire. The three of them shared two full-time jobs. When the employee with a family needed to stay home with a sick child, the senior took over, for example. Such models fascinate me. They represent outstanding solutions based on close relationships, understanding, and good organization.

In the past, older employees were encouraged to take early retirement to make room for the next generation.

That was in the 1980s and 1990s. Those days are long gone. In the future, young people in Germany will have no problem finding a job. On the contrary, the number of skilled workers will be much too low to fill all available positions, so young people will be happy when older employees work longer. Ideally, older workers will serve as role models and expert advisors who will help prepare younger employees for future management tasks.

That sounds nice, but the demographic problem cannot be solved with encouragement and voluntary action alone. Won't we need some type of legal compulsion after all?

We need to do several different things. First of all, and here we've only gotten half the job done, women need to be fully integrated into employment structures that allow them to have children without having to worry about losing their job or forfeiting professional development opportunities. Secondly, we need large-scale immigration. There used to be a preconception here that only illiterate immigrants from poor regions of Turkey came to Germany. Today we know that a lot of educated people want to come here—and that offers us a huge opportunity. Germany has become a country that many people want to live in, and these people of-



ten take great risks to come here. We have to give these people work as soon as possible. The third aspect here involves keeping the elderly in the workforce.

Who is responsible for ensuring the successful integration of immigrants?

You can't just leave that to the government employment offices. The people who work there are nice enough, but it's the companies themselves that need to figure out how to integrate the many young immigrants who are coming here. The global labor market is somewhat lopsided. We would benefit greatly if we could carefully bring it into balance.

So you think companies need to do more?

Yes, definitely. It's up to them now. If they can't find enough people in Germany, then they need to get their employees from somewhere else. There are more than enough people in eastern and southern Europe, for example.

Are you saying German industry should lure skilled workers from other EU countries?

I know someone who runs a civil engineering company in Bremen who recruited skilled workers in Spain and brought them to Germany, where they were very quickly integrated. One of them now even wants to study in Germany.

Things like that won't be enough to save the state pension system. The number of retirees per worker keeps on rising.

What you're saying is just pure polemic! The state pension system isn't financed solely by worker contributions—more and more tax revenue is being pumped into the system. Whether or not the system continues to function properly in the future therefore depends heavily on future economic growth and productivity gains. If things go nearly as well as they have over the last few years, the pension system will be able to accumulate billions in reserves.

So it's all just scare tactics?

Some people act as if we're heading for disaster. That's not how I see it. In any event, most of the elderly are sensible people who can deal with pension cuts if necessary. That was the case in the 1990s, when pen-

Henning Scherf also believes in making use of alternatives in his own life. He and his wife, Luise, live together with other seniors in a house-sharing community

“Most of the elderly are sensible people who can deal with pension cuts if necessary”



Matthias Ruch (left) and Jörg Wagner in discussion with Henning Scherf

→ sions declined in real terms. There was a pensioner party back then that tried to organize a protest but was unable to do so. Retirees themselves know that we can only distribute what we have—but this distribution must be fair.

Why should retirees accept pension cuts?

Many retirees are parents and grandparents who worry about their children and grandchildren and want them to be well off. This type of concern has its own value—it's the basis of society.

The late newspaper publisher Frank Schirrmacher once warned about a "war between the generations."

I'm not in favor of playing generations off against one another, especially since such an approach has absolutely no relation to our social reality. I also don't see anyone out there today who believes the generations are about to go to war with one another

Older people have life experience, and some are even considered wise. At the same time, people in many countries now vote for young and relatively inexperienced politicians—like Barack Obama in the USA in 2008, Justin Trudeau in Canada in 2015, and, just recently, Emmanuel Macron in France. Christian Lindner from the Free Democratic Party in Germany is also under 40. What do you conclude from that?

I like Trudeau and Macron. Both are politicians you can really pin your hopes on. They stand for the future and for optimism, and they didn't just attract young voters. Both have also shown they are smart enough to pick experienced and competent individuals to join their cabinets.

Are older voters excited about young politicians?

It works the other way around as well. Do you know who the best-known person in the world is?

Who are you referring to?

Pope Francis. He's over 80 and he spreads hope around the world. I'm a Protestant, but I think he's great. Nelson Mandela had a similar effect before he died.

Mr. Scherf, you're doing a lot yourself. But some retirees simply want to enjoy their retirement after working for 30 or 40 years, rather than continue working. They want to relax, travel, maybe take a cruise...

Horrible! I once did a lecture on one of those music cruise ships, and I hope never to set foot on one again.

The political parties can't talk like that—after all, these people constitute a major voting bloc. In the future, it will be impossible to win an election with a program that runs counter to their interests.

There are already more than 20 million people who fall in the category of "elderly" in Germany today; in ten years there will be 30 million. However, not all of these people are the same—there are all different types in this age group. You have to offer them comprehensive political solutions. Most older people definitely have no desire to be bought off with something like "give me your vote and I'll increase your pension."

Many people become more conservative when they get older. They want to hold on to good things and are adverse to change and reforms.

Things aren't that simple. I myself got into politics when I was young and received a lot of votes from older people especially—as a "Social Democratic pied piper." As a child, I thought old people were eternal reactionaries who had marched with the Nazis and then pretended to have been against them. Today, I appreciate the anger of older people who want to have a voice and are therefore politically active and vote. Their social engagement offers great opportunities for society. And as far as reforms are concerned, Germany is a very stable and successful country. Sometimes change takes a little longer here, but that's a result of success, which tends to make things less dynamic.

Aren't there big differences between the political issues that interest the younger and older generations today?

I'm not so sure about that. I know a lot of old people who are more worried about the future than young people are. Take the issue of a military buildup, for example: The older generation, which experienced the war or the postwar era, still takes this danger very seriously. I've also noticed that many older people think in a very European way. This is extremely important these days because the most important issues that we will face in the future can no longer be addressed on the national level.

With regard to the interests of the next generation, the Social Democratic Party is thinking about lowering the voting age to 16—for federal elections as well. What's your position on this?

I'm skeptical. Experience with a voting age of 16 has shown that most of the younger people who vote choose the same parties or candidates that their parents vote for. Moreover, the voting participation rate for people that young is terrible. Anyone who can be tried as an adult here or, in the past, was eligible to be drafted should have the right to vote. However, they don't need to have that right before then, in my opinion.

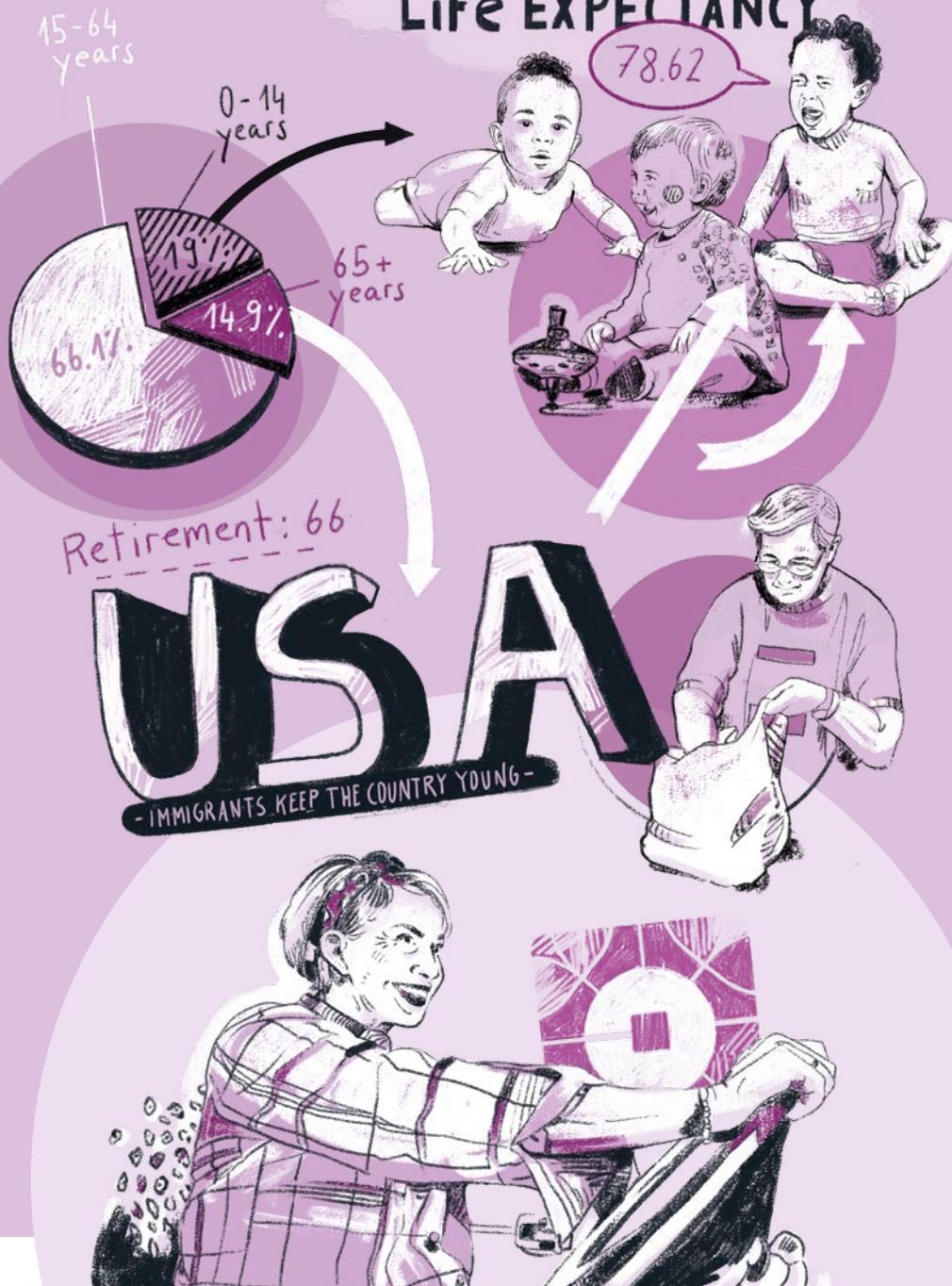
In order to protect the interests of the generation after the next, some scholars have developed a model that would give parents one additional vote per minor child. That would offset the power of the elderly in the election process in the future. Is such a suggestion realistic or is it more like academic nonsense?

It's academic nonsense.

RETIREMENT AROUND THE WORLD

Some countries age quickly, others more slowly. Retirement ages therefore vary around the world, and seniors in some countries continue working after retirement. What changes to retirement systems are being discussed? How are seniors treated in different countries—with respect, with special privileges? A comparison of the retirement systems in five countries

LIFE EXPECTANCY



USA: Staying active longer

Financial worries and fear of boredom keep seniors in America working past retirement

➔ Anyone who's ever been to a Costco warehouse club outlet in the USA is familiar with the friendly senior citizens who check member IDs at entrances and customer receipts on the way out. There's a simple reason why these elderly individuals still work: Most Americans have not made sufficient retirement provisions. The average US household has less than US\$100,000 in savings. Many seniors therefore continue working after the official retirement age in order to earn extra money and—more importantly—hold on to a good health insurance policy. Americans generally retire later these days than in the past, and even then they don't remain idle by any means but instead continue to work part-time—as Uber or Lyft drivers, for example.

Retirement in the USA is governed by the Social Security system, which was created in 1935 in response to the Great Depression. Everyone who works, even if they are self-employed, pays into the system on the basis of their income and later receives a monthly pension. Social Security pays the retirement pension for 42 percent of all US citizens. The age at which Americans become eligible to receive their full Social Security pension was recently raised from 65 to 66 and will increase further over the next few years. It's theoretically possible to retire at 62, but the Social Security Administration (SSA) will then reduce the retirement benefit by 26 percent. It therefore makes sense to wait. ➔

→ Company pensions have become rare in the USA. According to a survey conducted by the LIMRA Secure Retirement Institute in 2016, most people over 75 in the USA also receive a pension stemming from a company program. However, individuals who are 34 or younger can no longer count on such retirement benefits, in part because fewer and fewer people are entering into long-term employment relationships. American workers will thus continue to retire later in life. For example, the proportion of men and women who continue to work after 65 will increase from 23 to 27 percent (men) and from 15 to 20 percent (women) between 2014 and 2022, according to the Population Reference Bureau. A total of five percent of people in the USA actually fear that their financial situation will never allow them to retire completely.

The concept of the restless senior is also part of the American self-image of a nation of people who have the courage to start anew and don't want to be consigned to the scrap heap. "These days, retirement is not a clean break but instead a dynamic process in which people reinvent themselves and go through several phases," says Richard Wald, a Senior Financial Advisor at Merrill Lynch Wealth Management, who recently present-

ed a study on this topic. Harold Spielman, a former advertising manager, is a perfect example of how this process works. After his wife died, Spielman wrote a classic self-help book entitled *Suddenly Solo*, thus launching a movement for single senior citizens.

The USA doesn't need to worry about negative population developments. On the one hand, around 75 million baby boomers will have retired by 2030, thereby changing the face of America and making one out of every five Americans a senior citizen. On the other hand, the country's high birthrate (especially among the non-white population) and the continual immigration of young families mean the USA is in no danger of becoming a rapidly aging society.

Nevertheless, even millions of enterprising seniors who see themselves as "forever young"—and are viewed as such by advertisers—cannot change the fact that America will also face a nursing care problem as more and more people become chronically ill and need extensive caregiving services. Moreover, America's social welfare system is rather limited compared to that of other industrialized countries and is therefore not prepared to handle such extensive nursing care.

Steffan Heuer, San Francisco

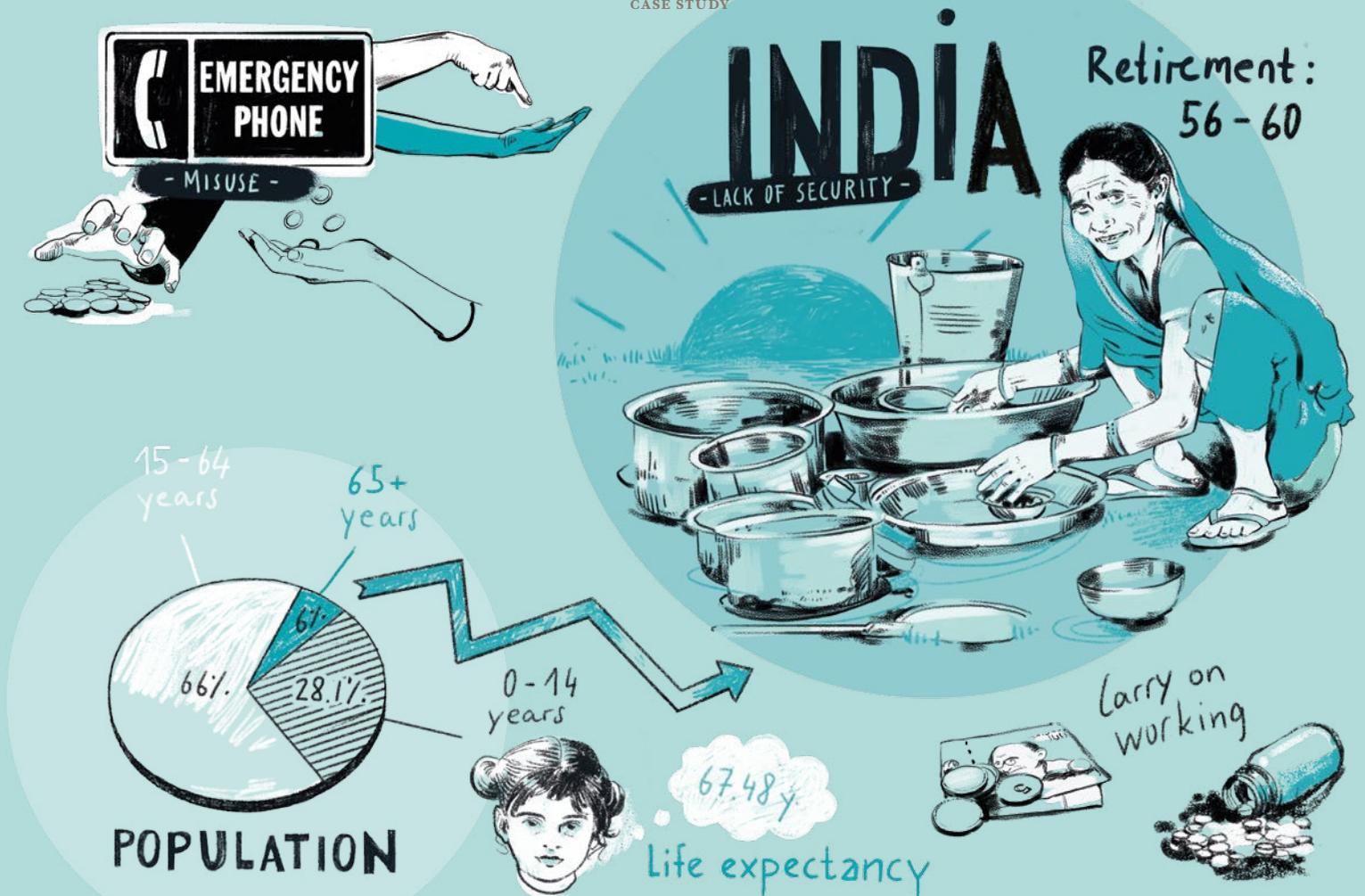
Sweden: I think I'll keep on working

Early retirement? Not in Sweden, which is number one in the EU when it comes to integrating older individuals into the labor market

→ Sweden, too, is struggling with an aging society—20 percent of its ten million residents are drawing a pension, and this figure is expected to double by 2050. The pension system can only remain viable over the long term if people stay in the workforce longer. Unlike most other industrialized countries, Sweden has a flexible retirement age that can range from 61 to 67. The average age at which Swedes say goodbye to the factory or the office for good is actually 65, which is a record within the European Union.

There are two main reasons for this. The first is that the government in Sweden uses tax incentives to try to keep people working for as long as possible. The second is that the government does everything it can to make things easier for the "golden agers," among other things by offering them further education programs past the age of 50. "Even though Sweden is being impacted by





aging, things seem much better there than in Germany, for example,” says Ole Wintermann from the Bertelsmann Stiftung. “For example, the number of employed people in Sweden will barely decline between now and 2060.”

People who retire in Sweden can generally look forward to an annual pension increase of seven to eight percent, as well as reasonably priced and relatively uncomplicated home care service if needed. Most Swedes traditionally remain in their apartments or homes until a very old age. Having several generations living under one roof is relatively rare, as Sweden is also one of the most sparsely populated countries on earth. There are 22 residents per square kilometer in Sweden; Germany’s population density is ten times higher than that. As a result, children in Sweden often have to move to another city when it comes time to study or go to work.

Not all Swedish seniors want to hold on to their homes or apartments for a long time; sometimes they stay because there’s a shortage of space in retirement homes. Sweden’s retirees also face a deterioration of their standing in society. In the World Values Survey of more than one hundred countries, Sweden was among the lowest-ranking nations in terms of its view of senior citizens. Only 0.7 of the Swedes who were surveyed reported that people over 70 enjoy a very high standing in Swedish society.

Nevertheless, the PricewaterhouseCoopers (PwC) consulting firm believes Sweden is a role model when it comes to integrating seniors. PwC’s Golden Age Index study compared the way older individuals are integrated into the labor market in different countries. Sweden ranked number one in the EU here, and only Iceland and New Zealand were ranked higher worldwide. “Higher employment rates for older workers tend to have a positive effect on the work climate and business performance,” the study concluded. And: “A higher proportion of older people in the workforce has a positive effect on gross domestic product.” In other words, the higher costs associated with an aging society can be offset in part by the contribution older workers make to economic growth.

Klaus Rathje, Berlin

India: Years of sunset

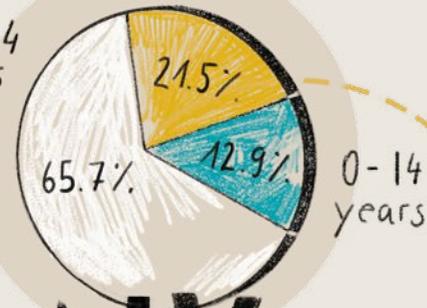
Some elderly Indians lead independent and secure lives, but most live in poverty and suffer abuse and neglect

➔ When he retired at the age of 65, Mani, who is now 80, had savings and investments and also owned real estate in a busy district in Mumbai, which is the business capital of India. Mani now lives with his wife in a senior citizens home. Jankabai, a 65-year-old domestic

worker, is at the other end of the retirement spectrum in India. She continues to work hard, despite the fact that her body sometimes can’t handle the strain. After she retires at some point, she will live off her scant savings, which will eventually dry up. She currently lives with her son and his family, of course, but having to rely on relatives when you’re old also has its drawbacks. “In India, the elderly depend heavily on the younger generation, especially in the poorest families,” says Sheilu Srinivasan, founder and president of the Dignity Foundation, which helps seniors live dignified lives. “Old people in slums and in poor rural areas receive virtually no government assistance and have no savings of their own.”

India’s cultural tradition stipulates that the elderly are to be treated with reverence. Family ties are strong and the provision of financial support from relatives is a given. However, these values are being weakened by increased urbanization. The fact that only 12 percent of the working population is eligible to claim a pension is therefore becoming a problem. In general, 1.2 billion people in India lack a comprehensive social security system.

Larger companies usually have pension programs for their employees. “Workers in unorganized sectors are not as well off,” says Vish Iyer, Vice President and Global Head of Legal and Corporate Affairs at Tata Consultancy Services. “Such workers are day la- ➔

15-64
years

GERMANY

-BABY BOOMERS DRIVE THE ECONOMY-



RETIREMENT → 65+5 months
Life EXPECTANCY → 80.32

→ borers and don't have the financial flexibility to save for retirement." The problem is that this "unorganized sector" consisting of casual workers and small entrepreneurs is larger in India than virtually anywhere else in the world.

This problem is offset somewhat by the fact that medical treatment at government hospitals is free, although patients do have to pay for medications. "India also has around 5,000 free retirement homes, most of which are run by religious groups," says Srinivasan. "However, the residents of these homes are often neglected and at the mercy of incompetent managers and staff." The proportion of old people among the population is much lower in India than in the rich industrialized countries. However, because of India's rapid population growth, the absolute number of people over 60 is expected to rise from 100 million today to 152 million in 2050. In any case, one out of eight people over the age of 60 worldwide lives in India.

The economic situation is better for India's middle class, whose members are able to obtain loans at favorable terms for purchasing apartments and homes, which can be used as retirement investments. However, older members of the middle class complain that their materialistic children often take advantage of them by forcing them to sign over ownership of their homes. "We've actually set up a hotline for such cases and offer affected seniors legal assistance," says Srinivasan.

India needs to implement a new political program for the elderly. It should focus not only on financial security but also on socio-psychological aspects, health, and housing.

Usha Munshi, Mumbai

Germany: Ages the best

Poverty among the elderly? Not a problem. Germany's seniors are financially well off and satisfied—and "younger" than ever before. The state pension system is still reliable



Germany is in its best years—the "golden years of a mature economy," as the population researcher Reiner Klingholz puts it. The country continues to benefit from the demographic dividend generated by the baby boomers from the 1960s who are still active members of the workforce, says Klingholz, who is also Managing Director of the Berlin Institute for Population and Development. The baby boomers continue to drive the economy. At the same time, public and private expenditure for the ever-shrinking post-baby-boomer generations is declining.

The boomers will soon be retiring, however; in 2026, the first of them will reach the legal retirement age, which, starting in 2012, is gradually being raised from 65 to

67 in Germany. However, in reality most of them don't wait that long. The average age of Germans who retired in 2013 was only 62—and statistically speaking, these people still had more than 20 years to live. Many seniors begin a new active phase in life after they retire. According to a study conducted by the Generali insurance company, seniors in Germany generally feel nearly ten years younger than their actual age. They engage in athletic activity, meet friends, do volunteer work, and take courses. These young-at-heart retirees stay independent for as long as they can: Nearly half live in their own homes or apartments—either alone or with their spouse/partner.

High life expectancy also means a longer period of time collecting retirement benefits. The statutory pension system, which directly transfers payments to pensioners, will soon face a herculean task. That's because whereas 100 people of working age currently finance around 35 retirees, this ratio will drop to 100/55 by 2045, at which time one third of the German population will be over 60. The financial expert Bernd Raffelhüschen from the University of Freiburg believes the retirement age should be aligned with increasing life expectancy in Germany—i.e. it should be raised further. Raffelhüschen believes this is a question of fairness. In an interview with the *Mannheimer Morgen* newspaper, he said the following: "Those who live longer can't possibly expect that they can spend every day of

this longer life in complete retirement.” Raffelhüschen says that changes first need to be made to human resources policies at many companies. For example, age discrimination is against the law in Germany, and yet Germany’s Federal Anti-Discrimination Agency reports that one out of five Germans has experienced such discrimination. Applications for credit cards or private health insurance are rejected starting at a certain age, university professors are forced to retire at 65 in many German states, and only individuals under 45 can attain civil servant status. Age discrimination particularly affects seniors looking for work, who have a much harder time finding a job than their younger counterparts. However, the majority of companies that have hired people over 50 say their experience with such employees has been positive, according to the Institute for Employment Research. These companies especially appreciate the professional experience older employees have.

Most of today’s German retirees don’t need to worry about money. Their average net monthly income is around €1,900. Things aren’t that favorable for those who had low incomes throughout their working life, or only paid into a pension fund for a short period of time: Their incomes are sometimes below the social welfare eligibility level. This has led to the suggestion that a minimum pension be introduced in Germany.

Britta Scholz, Bargteheide near Hamburg

Brazil: A young country grows older

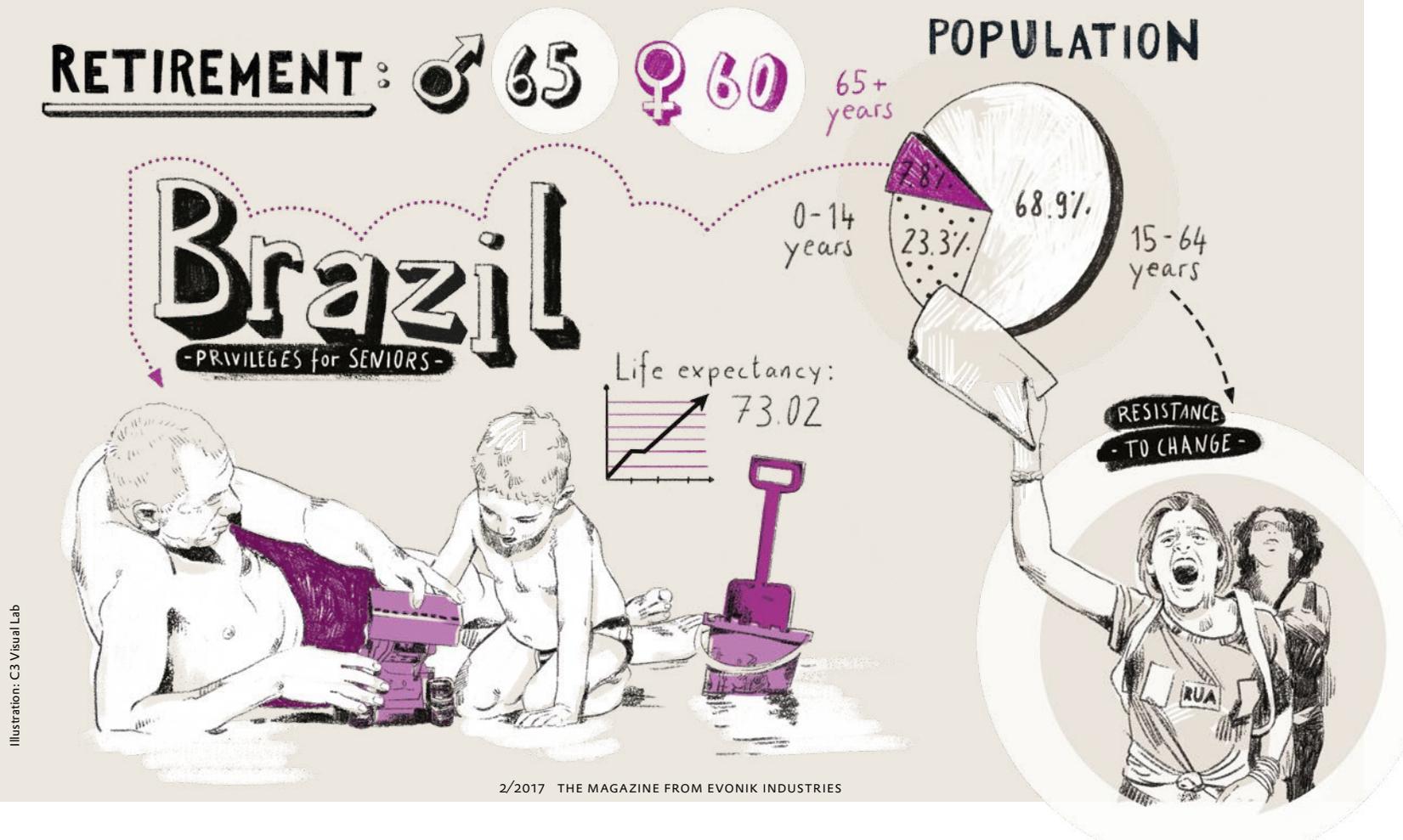
Retirement at 55 and half-price seats at soccer games—it sounds like a senior citizens’ paradise, but things are nevertheless changing in South America as well

➔ It’s actually positive developments that are changing Brazil. Families with ten or more children are becoming more of a rarity; the birth rate is declining and life expectancy is increasing. These developments are a result of the social reforms implemented in recent years. Despite the serious problems that remain in the country, the reforms have improved both health care and education. Seniors are still a minority in Brazil, but in 2055 there will be more people over 60 than under 29 in the country. Workers, employers, and the government pay into the Brazilian social security system, which currently operates two models: People can retire either at a certain age or after paying into the system for a certain number of years. The retirement age is 60 for women and 65 for men. Many women in rural areas are also allowed to retire at 55 (men: 60). The rule for everyone is that you have to work for at least 15 years in order to be eligible for retirement benefits. Brazilians can also stop working earlier on the basis of the number of years they have paid into the system, whereby the minimum is 30 years for women and 35 years for men. In other

words, Brazilians who start working early in life can retire at 50 or 55. On weekdays, Brazil’s beaches are crowded with pensioners who don’t look very old at all. Still, 42 percent of retirees are already continuing to work, at least part-time, in order to supplement their low pensions—this despite the fact that family is very important in Brazil and people don’t think twice about supporting relatives financially. However, if young people have low incomes or lose their jobs, they don’t have the means to help their parents when they grow old.

The government now plans to change the constitution and raise the retirement age to 65 with a minimum of 40 years of payments into the system. “This is a step backwards and it takes away rights that citizens have gained,” says Eduardo Fagnani, a professor of economics at the University of Campinas in the state of São Paulo. Tens of thousands of Brazilians have taken to the streets during the last few months to protest the proposed change. They want to defend the status quo, which until now has offered seniors many legally guaranteed benefits. For example, people over 60 don’t have to stand in the long lines for normal customers in supermarkets, post offices, and banks, as special check-outs and counters are available for them to use. They also generally pay only half price for movies and soccer games, for example. Moreover, public transport is free in Brazil for everyone 65 and older.

Beatriz Miranda, Rio de Janeiro



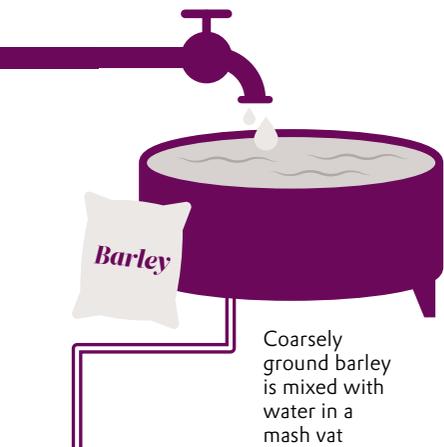
Facts + Figures

Malt whisky—a question of aging

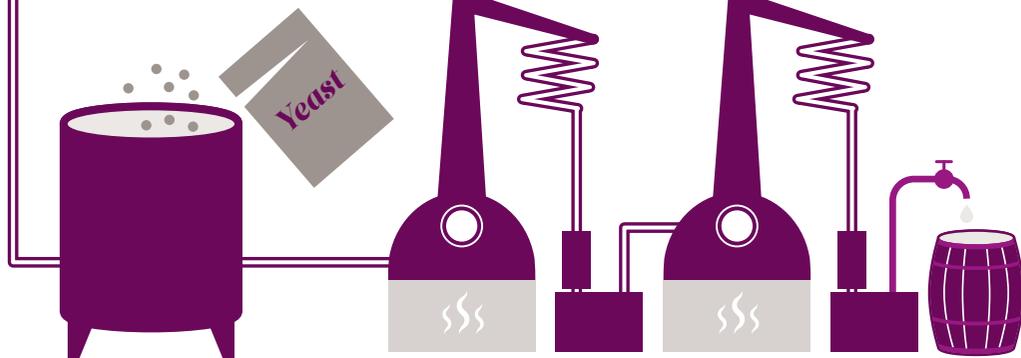
The recipe is simple:

Malt whisky is made with barley, yeast, and water. The grain is mashed, dried, and ground, after which it is distilled two to three times in copper pot stills and sealed in barrels as “new spirit.” The whisky is then aged in these barrels for at least three years, but usually longer. During this time, more than 800 chemical ingredients “go

to work” on the taste of the distillate inside the barrel. Countless chemical reactions occur between the whisky, wood, and ambient oxygen. The longer the whisky remains in the barrel, the higher will be the concentration of phenolic compounds (which give the whisky its flavor) and the more complex the whisky will be in terms of taste, aroma, and color.



The liquid that forms in the vat is mixed with yeast and begins to ferment



How the aging process in the barrel works:

Alcohol absorbs the flavoring sources from the wood

Whisky can thus taste like fruits, flowers, coconuts, or vanilla and can be peaty, salty, or sweet. A total of 60 to 80 percent of the substances that give whisky its flavor come from the wood. These substances include tannins and flavors from liquids previously aged in the barrels (e.g. red wine, sherry, rum), which is why special whiskies are often aged in used barrels. More than 300 volatile chemical substances are responsible for a variety of flavors.

Evaporation

Wood is porous: Every year, 0.5 to 2 percent of the whisky in barrels evaporates as the “angels’ share.” Among other things, the rate of evaporation depends on the surrounding environment. The more humid the climate, the lower the level of alcohol evaporation.

Sharp taste disappears

New spirit tastes sharp and metallic. This undesired taste gradually disappears as the whisky ages in the barrel. This change is brought about by a layer of charcoal inside the barrel that is created in a charring process.

Oxidation in the headspace

The headspace is the space between the barrel lid and the whisky. The more whisky that evaporates over time, the bigger will be the headspace and the more intense will be the oxidation process.

The older, the darker

The alcohol absorbs not only flavors from the wood but also pigments that cause whisky to get darker with time.



3,200,000

people on Earth will be more than 100 years old in 2050, according to the United Nations. In 2011 there were only 316,600 people that age.

3 QUESTIONS FOR

Elissa Epel
“Normal stress doesn’t age us”



1 What are telomeres, and what do they have to do with aging?

Telomeres are the protective caps at the ends of chromosomes. They shorten each time the cell divides, and when they get too short the cell becomes aged or dies.

2 What can I do to prevent my telomeres from getting shorter?

Eating and sleeping well are important, and so are positive social connections. Good social relationships, especially with your partner, also help. Couples who have been together for a long time have longer telomeres. It’s also helpful to do a mind-body activity on most days. Ten minutes of meditation or qigong can be enough.

3 What role does stress play in the aging process?

It’s not normal stress that ages us—it’s toxic stress. Our minds influence our rate of cell aging. People who are dissatisfied with their lives have shorter telomeres.

Elissa Epel
Elissa Epel holds a degree in psychology and is the co-author, together with Nobel Prize laureate Elizabeth Blackburn, of *The Telomere Effect: A Revolutionary Approach to Living Younger, Healthier, Longer* (Grand Central Publishing).

Icelandic scientists have unlocked the secret of young skin

FOREVER YOUNG?

Have Icelandic researchers discovered the secret of eternal youth? Unfortunately not, but a serum they've developed does promise to keep skin looking younger longer

The handwritten access code to the Fountain of Youth is displayed in the conference room at the headquarters of Sif Cosmetics in Iceland. Three molecular biologists worked meticulously for five years to develop the formula. Their work was based on the knowledge gained through the discovery of growth factors, which was honored with a Nobel Prize in Medicine in 1986. The scientists in Iceland used this knowledge to develop a procedure for producing epidermal growth factor (EGF) from barley. EGF is a messenger substance that stimulates cell regeneration. The scientists first downloaded the associated protein from the freely accessible gene database and continually converted it until it was understood, accepted, and

reproduced by the grain. The barley, which was placed in 3,000-year-old volcanic soil, thus began producing the messenger substances. Approximately 700 seeds are needed to fill a 15-milliliter bottle that retails for around €140. Only six other ingredients were added to the skin-firming EGF in the product; competing formulas often have more than a hundred.

No miracle cure—but effective

Studies have confirmed the effectiveness of the elixir, which is sold under the name Bioeffect EGF Serum. For example, Martina Kerscher, a professor of cosmetic science in Hamburg, tested the product in an independent study. She found that it increased skin thickness by more than 60 percent within eight weeks

and led skin density to rise by more than 30 percent. Ronald L. Moy, a dermatologist and a professor at UCLA, also observed such effects in a similar study. "The product yields the best results that I've ever achieved with an external treatment in the 30 years I've been studying such phenomena," says Moy. "The serum can definitely compete with other skin-firming methods, such as laser treatments." Still, Bioeffect EGF Serum is no miracle cure. As Christina Ili, a specialist physician in Karlsruhe, points out, "Anti-aging products can only help ensure that skin ages 'better'; they can't actually stop skin from aging." Nevertheless, the product is very popular among consumers—for example, it's the best-selling skin-care product in the high-end Colette retail outlet in Paris.

EGF Serum is made from barley

Photography: shutterstock (2), Alamy, istockphoto (3), dpa | Illustration: C3 Visual Lab

ANIMAL LIVES

Sooner or Later



Approx. 30 minutes
This fly, which is known as *Dolania americana*, is born at sunset, after which it mates—and dies



Approx. 12 years
The Golden Retriever is one of the most popular family dogs—some live as long as 15 years



Approx. 65 years
African elephants are part of the Big Five group; big game hunters pose a major threat to such animals



More than 100 years
Some Galápagos giant tortoises are even said to have lived far longer than 200 years



Approx. 10,000 years
The *Anoxycalyx joubini* giant sponge lives at the bottom of the Antarctic Ocean



plants for

young skin

1

Aloe vera is used in countless anti-aging products

2

Lady's mantle supposedly rejuvenates skin when drunk as a tea

3

The flower essence of the Golden Champa tree (Himalayas) is said to have a revitalizing effect

4

Angelica from China is used by many cosmetics companies

5

Saffron contains antioxidants, which are good for young skin



LONGEVITY VILLAGE

Many residents of the rural region of Bama in southern China live to be more than 100 years old. Now people from all over the world are moving there in order to try to lengthen their lives



Huang Majian, 105, is a tourist attraction. People take so many pictures of her that sometimes she just has to yawn



➔ Huang Majian, 105 years old, is holding a red envelope full of banknotes in her hand and giving the thumbs-up sign. She yawns and then smiles and says to us, “Let’s take a picture together!” The photographer standing nearby makes sure the bas-relief with the Chinese characters for “longevity” can be seen in the background. The photographer is actually Huang’s grandson. Tourists pay money to take pictures with Huang. They give her the money in the traditional Chinese way—in a *hongbao*, which is a red envelope.

Huang Majian is the youngest of the three individuals in the village of Bapan who are officially recognized to be older than 100. Bapan is part of the district of Bama in the southern Chinese province of Guangxi. For centuries now, the area has been famous for residents who live to a very old age. The local state-run media claims there are 81 people over 100 years of age in the district, which has a population of 300,000.

The King of Chinese Medicine

The last emperor of China had just been overthrown when Huang Majian was born. In the course of her life in this remote village, Huang has experienced the dissolution of China, the Japanese invasion, the Chinese Civil War, Mao’s Cultural Revolution, Deng Xiaoping’s economic reforms, China’s uninterrupted economic expansion since the 1990s, and the country’s return to the global stage. However, it wasn’t until her 100th birthday that her life turned dramatic. Since that day her name has been displayed on a red banner that hangs at the entrance to the village, where hordes of noisy tourists pass underneath.

“What’s your fondest memory of your life?” I ask the village’s oldest resident, 113-year-old Huang Makun, who lives in a part of the village so remote that tourists hardly ever see her. Huang’s eyes light up. “Singing folk songs with my beloved when I was young,” she softly replies in the local dialect, which is called Yao. Huang has never learned Mandarin.

On the 11th floor of a hotel that is fittingly called “Longevity” I am woken up in the morning by the sound of a crane at a nearby construction site, where the next hotel is being built. The universal desire to live forever has turned “Longevity Village” into a magnet for tourists, sick people, and senior citizens—all of whom hope their stay will somehow lengthen their life. In other words, longevity has become the village’s most important source of income. Indeed, the Chinese characters for “longevity” are cast into manhole covers, engraved into ceramic tiles on building facades, and mounted on streetlight poles.

Photos of people over 100 are everywhere to be seen. For example, an elegant old man with a white beard adorns a billboard advertisement for condominiums outside a construction site, and portrait photos of old residents line the walls of the recently opened “Longevity Museum.” Among these portraits hangs a painting of Sun Simiao, also known as the “King of Chinese Medicine,” who lived in the sixth and seventh centuries AD—to the age of 101, although some sources report that he died at the age of 141. Sun wrote a book called *Essential Formulas for Emergencies Worth a Thousand Pieces of Gold*, which contains recipes for healthy drinks and advice on sex, among other things.

Minerals in the water

Around ten years ago, the government in the Bama district began creating an industry out of the longevity ➔

The journey is its own reward: These retirees cycled to the "village of the centenarians"



Tradition: Family members bring the paper flowers and liquor for the dead



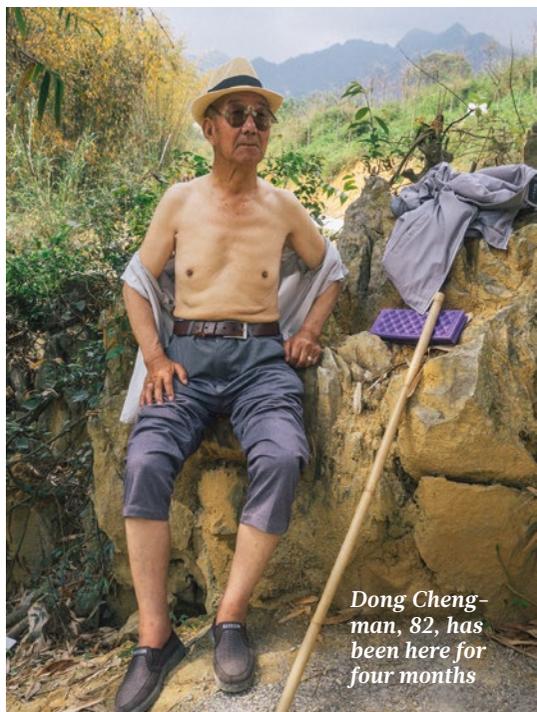
New residences for the newcomers who want to grow old here



Huang Majia, 99, sells food to tourists



Dong Cheng-man, 82, has been here for four months



Photos of centenarians in the Longevity Museum



→ in the region—and today several million “health tourists” visit Bama every year. Some of these tourists come in large groups. They quickly jump out of their buses, crowd into a house occupied by a centenarian, and then go to a souvenir shop to buy cannabis oil, a local delicacy that’s also supposedly a dietary staple of the centenarians. However, if you ask the over-100 crowd itself, they’ll tell you that they never use cannabis oil—it’s all just a sales promotion. Some visitors stay for months or even years in the hope that their second life will begin in Bapan. Most of these long-term visitors stay in Poyue, which used to be a village of a few hundred people but is now home to nearly 150,000 longevity migrants.

“Things start to quiet down in April, with some people from the northeast heading home because it’s warmer there,” says Dong Chengman, an 82-year-old farmer who’s wearing an old-fashioned pair of glasses. Dong has been here for four months. His friend Dong Haiyan, who recently underwent heart surgery for the second time, has decided to stay longer.

Both are from the northwestern province of Qinghai. I meet up with them at a cave called Baimo, which means “hundred devils.” “Every day we walk to this cave and sit down for a bit,” says Dong Chengman. “For me it’s like a vacation, but for him it’s a sanatorium.”

Those looking to lengthen their lives do different things on the 1.5-kilometer route from Poyue to the cave. Two people from Beijing are playing saxophone, for example. One is an IT entrepreneur who describes himself as a “smog refugee.” The other is a leading military officer who has already suffered several strokes. A woman dressed all in white calls into the mountains and listens for the echo, while a man from the city of Chongqing is busy fishing.

These days, visitors come not only from China but also from other countries around the world. Kingso Monago, for example, is a businessman from England who’s playing with his cell phone in a bamboo grove at the moment. Monago is spending his vacation here. He says he’s bewildered by the magical stories that he’s been told since he arrived.

An 89-year-old man from Singapore is walking along the street, his hands buried in the pockets of his denim overalls. “I could barely walk when I came here seven years ago,” he says, “but now my diabetes has disappeared and I’m healthy again.” Mr. Chen prefers not to give us his first name, the reason being that “I haven’t told my doctors in Singapore and Hong Kong that I live here—they’d laugh at me if they knew that.” Chen, however, claims that the minerals in the water and the “geomagnetic fields” in the region do in fact have an effect. “Every time I go to Singapore, I can feel the hundred devils calling me back,” he says in reference to the name of the cave.

Scientists are studying the phenomenon

Not all of the locals are happy about how popular their region has become. Huang Majia is 99 years old—yet another example of the long life expectancy here. She benefits directly from the tourists, because she sells them cucumbers and sweet potatoes at the entrance to the Hundred Devils cave. Nevertheless, she says that she used to live in “a quiet and unspoiled area; no one threw garbage on the ground and no one got sick.” Huang believes the new residents and tourists are destroying exactly the thing that brought them here in the first place. “There won’t be any more people over a 100 here in the next generation,” she says.



Zhu Yinghao works for *National Geographic* and *GQ*. He comes from a Chinese family of physicians. How to live a long life was a much discussed topic when he was growing up

She might very well turn out to be right. Yang Ze, Deputy Director of the Institute for Gerontology at Beijing Hospital, has been studying Bama for ten years. Yang has repeatedly visited the region with his team of researchers, who have conducted in-depth interviews with 212 people over 90 in order to gain information about their lifestyles, diet, and family history. Much to their surprise, they found that the main reason for the longevity in the region has to do with natural selection. The region is isolated and contains many mountains—it used to take three days to get here from beyond the hills.

“Conditions were rough and there was no medical care available, so the weak died off, while those with good genes survived,” Yang explains. He doesn’t dispute the importance of favorable natural conditions, such as the presence of forests, the ions in the air, the minerals in the water, and the sunshine with comparatively low levels of UV radiation. “Nevertheless, I believe that the role played by these factors has been exaggerated,” says Yang, who then comes to the same conclusion as 99-year-old Huang Majia: “If tourists keep coming here in droves, the whole phenomenon will soon disappear.”

The village authorities in Bapan have now posted signs prohibiting farmers from growing fruit, because the fields have been leased out as sites for the construction of luxury hotels. The hammering and drilling now under way has destroyed the tranquility of this once idyllic village. Five of the eight people over 100 in Bapan have died in the last year—a mortality rate that has never before been experienced in this age group.

Villages with Centenarians

The Bama district in China is one of several regions in the world with an above-average number of centenarians. All of these rural areas have some factors in common: They are very isolated and have had little to do with the outside world until recently

Vilcabamba, Ecuador:

This valley in southern Ecuador benefits from the following favorable factors: Drinking water from the Yamburara and Chamba rivers is rich in valuable minerals; and the villagers mostly eat food they have grown themselves, without the use of pesticides or other foreign substances.

Ogimi, Japan:

This village in the northern part of the Okinawa island group in southern Japan is far removed from the hustle and bustle of Japanese cities. Of the 3,200 residents of Ogimi, 13 are women over 100 years old. Their dietary habits follow the traditional principle of *hara hachi bu*, which means eating

until you are around 80 percent full.

Ikaria, Greece

The percentage of people over 90 on this barren Greek island is ten times higher than the European average. The canyons and mountains take their toll on residents physically but also keep them in shape even after they grow old. Locals like to relax by drinking a traditional tea made of herbs whose high antioxidant content is said to reduce stress.

Nicoya Peninsula, Costa Rica

Most of the people on this peninsula live to be more than 90 years old. The drinking water here contains very large amounts of calcium

and magnesium. This hard water is said to prevent heart disease and strengthen bone structure.

Campodimele, Italy

People in this small farming village in the low mountain range of the Latium region live 30 years longer than the average Italian. Of the village’s 800 residents, 42 are over 90 and some of them are also over a 100. The villagers grow their own food. They eat very little meat, but a lot of vegetables, as well as cornmeal bread that they bake themselves. In addition, they fry their food with olive oil, which is said to reduce the risk of cardiovascular disease.

“How Long Can Our Lives Be Extended?”

The gerontologist Karl Lenhard Rudolph talks about the consequences of evolution

➔ What happens to people when they age? Why do we get old and die?

Over the millions of years of evolution, most living organisms have been programmed to reach the pinnacle of their capabilities at the ages when they reproduce. Such organisms can be regarded as having completed their mission after they have reproduced and the next generation has reached maturity. The same is true of human beings. Our hard drive, by which I mean our genes and the way they are connected with one another, achieves optimal fitness between the ages of 25 and 40. Evolution doesn't concern itself with what happens after that (except for the low evolutionary utility of the grandparents helping to bring up the grandchildren). So aging begins after the reproductive years have passed. The nerve cells in the brain begin to lose their plasticity and stop forming synapses, stem cells stop dividing, and the ability of organs to regenerate themselves decreases. Simultaneously, the number of mutations and defects increases. In the meantime, proteins clump together and toxic substances lead to chronic inflammation in nearly all body tissues. Aging begins when this loss of cell and organ functioning sets in.

What happens to mental capabilities?

Mental development also follows this pattern, but not as clearly. The aging individual experiences a loss of creativity, but he or she also gains experience. There are some artists who didn't write their greatest works or compose their best music until they were relatively old. In general, it's true here as well that as people age, their ability to learn new things diminishes and their memory deteriorates.

Still, people keep living longer. At the beginning of April, an Italian woman named Emma Morano died at the age of 117. What are the limits of longevity?

I believe there's a biological limit to life expectancy that I would say could be 100 years, or 120 at the most. We shouldn't be fooled by the fact that the average life expectancy in Germany has doubled in the last 200 years from the mid-40s to the mid-80s and will likely increase to 90 by 2035. This increase is mostly due to illnesses being detected at an earlier stage of their development, improved treatments, and the fact that people live healthier lives. They have a better diet and enjoy better living and working conditions. All of this slows aging processes, but it doesn't stop aging as such. The ageing

process, which is launched by evolution to reduce the ability of all of our systems to function properly after our reproductive years are over, cannot be shut down that easily.

There are regions in which people live longer (see our report on page 46). Why is that? Can we learn anything from the people in those regions?

Good diets and lifestyles definitely play a role in healthy aging. The olive oil often used in Mediterranean countries and the consumption of fish in Japan can have a positive effect on life expectancy. We also know that stress and obesity accelerate biological aging, while sports and exercise have a positive effect. It's important to understand that although we can't do much about our genetic makeup, we can change our habits in order to live healthier lives.

Some say that those who go hungry live longer. Is that true?

Lower food intake lengthens the lifespan



Karl Lenhard Rudolph is a professor and the Scientific Director of the Leibniz Institute on Aging in Jena

“There’s a biological limit to life expectancy—100 years, or 120 at the most”

and improves the health of various organisms. This was first demonstrated with flies and worms, but these days we also know it to be true about mice and monkeys. It’s not just the metabolism decrease that slows the aging process here, as a large number of protective mechanisms—such as autophagy—are also triggered when caloric intake declines. Autophagy launches a process in which cells detect damaged proteins and disassemble them. This type of detoxification has a positive effect. However, lower food intake also inhibits the formation of immune cells. That increases an organism’s susceptibility to infection.

Japanese stem cell researcher Shinya Yamanaka has demonstrated in the laboratory that it is possible to reset the life clock of every cell in the body back to zero—the embryonic stage. In 2012 Yamanaka was awarded the Nobel Prize in Medicine for this reprogramming feat. Doesn’t his research point the way toward defeating the aging process?

Research conducted on mice has shown that it is in fact possible to rejuvenate tissue with cell reprogramming. The danger here is that you might end up not only reprogramming the cells you want →

“We’re searching not for the secret of immortality but rather for more-effective treatments for age-related illnesses”

→ to affect but also activating other cells that never come to rest—and can therefore turn cancerous.

In your research you have attempted to lengthen the period in which adult stem cells are able to divide and thus improve the regeneration potential of the body’s organs. Have you succeeded in doing this?

Studies with animals have shown that it is possible to keep organs functioning properly for a longer period of time, strengthen the immune system, and improve muscle power and blood formation in old age. This can delay the onset of certain age-related dysfunctions and diseases, or even eliminate them. I definitely believe that there are certain ways to improve the health of the elderly, but I don’t see any way to stop the aging process throughout the entire body. The organism that is our body, with all of its different cell types and organs, is simply not programmed for that.

So science will never be able to cheat death?

An unlimited lifespan is not possible; evolution has seen to that through certain provisions—such as the telomeres that are located at the ends of every chromosome and get shorter with each cell division. We can block certain signals and shut down control points, and in this manner lengthen the cell division process. However, there is a limit. When the telomeres get too short, the body descends into genetic chaos and its cells die.

If you link the circulation systems of an old and a young mouse in a lab, the old mouse gets stronger, cleverer, and healthier without the younger mouse being negatively affected in any way. Can young blood lengthen the life of a human being?

Cell aging is evidently caused not only by processes in the cells themselves but also by external factors in their surroundings.



Karl Lenhard Rudolph teaches courses on molecular aging research at Friedrich Schiller University Jena

Messenger substances and proteins in the blood help ensure that cells function properly. This is a very important insight, but we still don’t know enough about what exactly occurs during parabiosis—in other words, a linkage between two organisms—and which proteins or messenger substances cause the deterioration of cell functioning in an individual’s old age.

Still, some US companies in are making a lot of money selling young blood...

You can’t assume that the results achieved with mice in a lab are directly reproducible in humans. Research here is very much in its infancy.

Scientists at the Max Planck Institute for Biology of Ageing in Cologne have shown that older killifish live longer when they are fed the feces of younger killifish. Can feces transplantations lengthen the human lifespan?

The bacteria that live in and on us have a major influence on our physiology and on the aging process. They interact with our bodies and also send out messenger substances that enter our bodies. We know that the composition of the bacteria in human intestines changes throughout the course of a person’s life—and this is probably the reason why some organs lose their ability to regenerate. We are cur-



The research group headed by Karl Lenhard Rudolph examines the causes, processes, and effects of stem cell aging. The stem cells of an adult organism are indispensable to the lifelong maintenance and regeneration of the body's tissues and organs. The molecular mechanisms that cause the loss of functionality of stem cells are still largely unknown



Further information on the research group is available at:

www.leibniz-fli.de/de/forschung/forschungsgruppen/rudolph/



Andrzej Rybak used his sister-in-law as a research source for this interview: She is the director of The Laboratory of Molecular Bases of Aging at the Institute for Experimental Biology in Warsaw

rently putting together a research group that will try to identify which bacteria have a negative influence on aging and which ones have a positive effect.

Google's chief developer, Ray Kurzweil, believes that in 30 years it will be possible to download a human brain and digitalize the intelligence of each and every human being and his or her way of thinking. Would that be a form of immortality?

I can imagine that learning-enabled computers can make an important contribution to the development of humanity, and that they will also be used for aging

research. They could definitely come up with possible solutions that we as humans have perhaps overlooked. However, I cannot imagine that a human brain can be recreated on a computer. Humans are spontaneous; they have spontaneous ideas and inspirations that are strongly linked to interaction with their environment. Artificial intelligence will not make anyone immortal.

Will it someday be possible to reanimate people who are now having their bodies cryopreserved—that is, frozen—after they die?

I don't think it will be possible to re-

talize these bodies. It is possible today to freeze and thaw individual cells and small tissue segments without damaging them, but a lot of damage would definitely occur if this were done to highly complex organisms. In my opinion, the purpose of aging research is not to search for the secret to immortality but instead to search for knowledge that will enable more effective treatment of age-related illnesses and keep the elderly healthy longer. If average life expectancy then increases to 100 because people stay healthy for longer periods of time, then so much the better.

“Fleet of Foot”

Eveline Hall began several new careers at an age when most people retire. A former dancer and stage actress, she became a model at the age of 60, recorded an album a short time later, and then made her debut in a feature film last year. The top model, who is now 71, talks about her late-starting global career, iron discipline, and the pointlessness of using Botox

Your breakthrough as a model came at the age of 65. What happened?

It had to do with an old friend of mine, Ted Linow, a former roller-skating professional who now owns a model agency. We met by chance after many years, and he said to me: “You look the same as before—you belong on the catwalk.” Then he convinced the designer Michael Michalsky to book me as a model.

Were you thrilled by the idea of modeling alongside 16-year-olds during the Berlin Fashion Week?

No, not at all. My first reaction was “I can’t do that”—but Ted persuaded me. I got a stomachache two minutes before I was to go on, because I knew I wouldn’t be able to walk like a teenager. No matter how fit you are, the way you walk changes as you get older.

What did you do?

At the last second, I decided to walk my own way. I wasn’t stiff and emotionless; I was more like a fleet-footed dancer floating down the runway, and I flirted with the audience. The next day I was a big topic in many newspapers—and I received a lot of praise.

Your dress size is 34. How have you been able to maintain your figure?

Through discipline. I’ve been training and exercising for up to two hours every day for more than 40 years now. I developed a program for this that involves doing ballet exercises with two five-kilo dumbbells.

The exercises put every muscle to use, and I listen to an hour of French news and an hour of English news while I do them. I don’t want to forget those languages, and I also want to stay in shape mentally.

You had no way of knowing that you would begin a career as a model so late in life. So how did you stay motivated to keep training so hard during all those years?

To be honest, I was plain stingy. I wanted my wonderful clothes to keep fitting me; I had no desire to spend money on a new wardrobe.

Despite all the fitness, are there things that make you realize you’re no longer 20?

Of course. For example, when I look at my face I see my age.

How do you slow down the aging process? Do you use expensive anti-wrinkle creams?

I don’t believe in those. I do a facial peel with coffee grounds every day—it improves the blood flow. I also use a honey mask and a reasonably priced daily skincare cream—and that’s it.

Have you ever thought about using Botox?

No, I don’t see any need for that. Photographers love my face the way it is. I didn’t like my face when I was a kid; I thought it was too narrow. Today, it’s my pronounced features that ensure my success. I’m not

afraid of getting old. Instead, I make use of what I have to offer because of my age.

You prefer younger men. Does that also keep you full of life?

Maybe, but it’s not the reason. I’m a very physical woman; I wouldn’t know what to do with a really old man. Not all of them are like Sean Connery.

Have you ever lied about your age?

Yes, once. That was with a partner who was 15 years younger than me. After he told me he wanted to start a family, I had to confess that I was 48.

People always say that you’re only as old as you feel. How old do you feel?

Around 40. I never had as much energy as I do now, and that frightens me sometimes, because I know that at some point the time will come when I’m going to feel my age all at once.

What are your plans until then?

Right now I’m working on an album of German songs, and I also look forward to acting in more movies, preferably in international productions. I also want to start jogging, because I don’t want to run out of breath while I’m working. I’ll start by running up and down the street, and then I’ll go a little further every day.

Interview: Marion Genetti

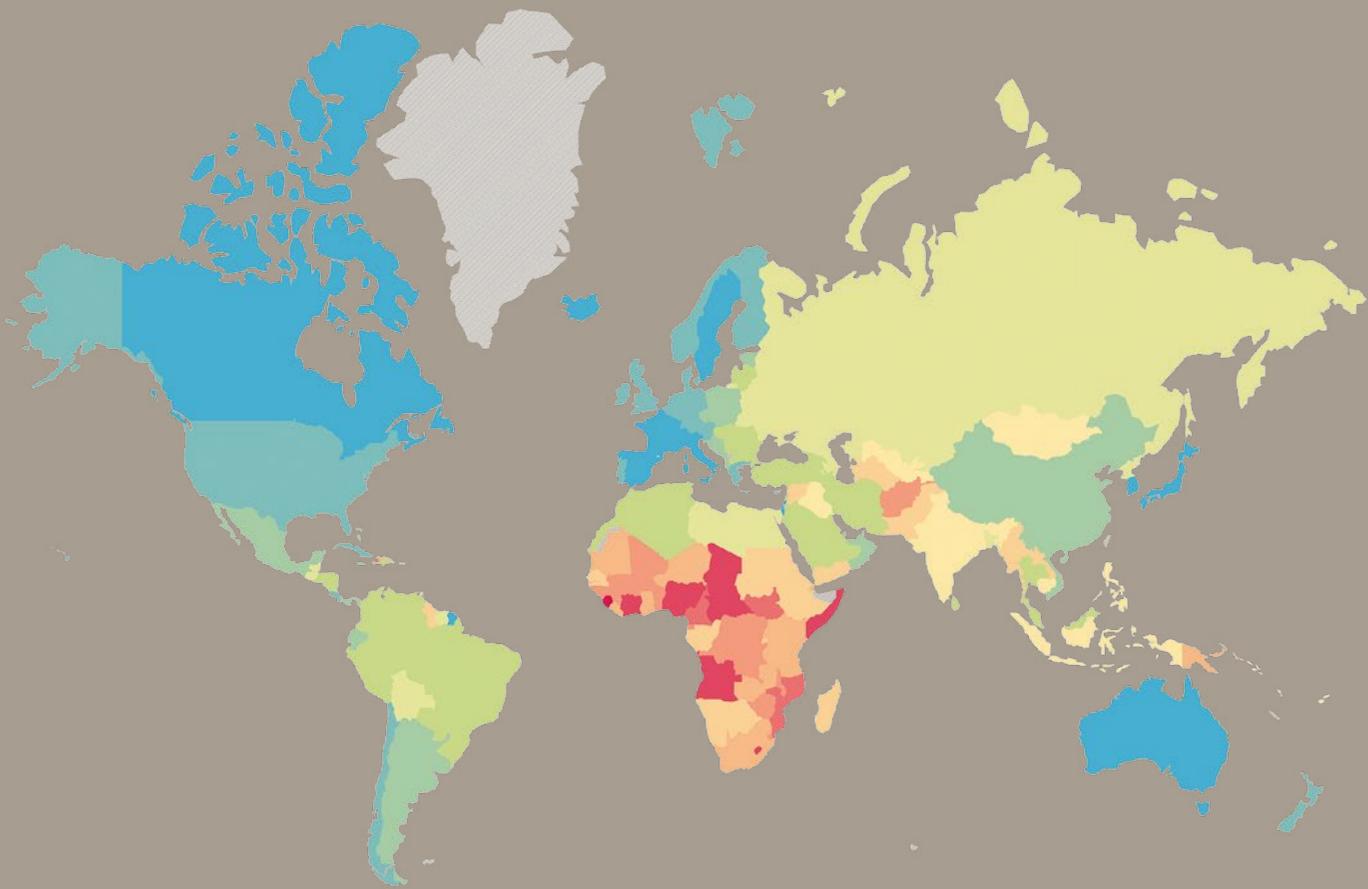


Eveline Hall’s website:
www.evelinehall.de

Eveline Hall doesn’t see age as a flaw; instead, she uses it to her advantage

**Edition
Knowledge
N°12**

The world as a whole is aging—but not the whole world over. This is because life expectancy varies by region. And while the population of some countries is shrinking, in other countries it continues to grow. This global map of aging reveals the differences and shows the factors that play a role



TO WHAT AGE DO PEOPLE LIVE WORLDWIDE?





**“As people get older, they
lose creativity but gain in
experience”**

Karl Lenhard Rudolph, Scientific Director of the Leibniz
Institute on Aging in Jena