



Can a human being reach the age of 120, or even 150? There's no reason it shouldn't be possible. "Life expectancies are rising steeply," says Professor Friedhelm Beyersdorf, Medical Director of the Cardiovascular Surgery Department at the Freiburg University Hospital and one of the leading heart surgeons in Germany. Although the current life expectancy in Germany lies at around 80 years, life insurance companies already anticipate that every second girl born today will reach the age of 100 at least, and that every second boy will reach at least 93. "It's clear that people can become much older than they are today—and that is good news," says the professor, adding that he himself would like to live to 150.

Contrary to widespread opinion among his profession, Beyersdorf doesn't ascribe the rise in life expectancies to medical advances alone. He sees a major role in factors such as higher educational levels and awareness of health risks, as well as preventive measures such as exercise and healthy eating habits. But of course medical advances are important as well, including better operating techniques and advances in transplants and artificial organs that can extend lives at a time when organ donation rates are declining.

Artificial kidneys have long been routine; a patient at the hospital in Freiburg lived for seven and a half years—a world record—with an artificial heart, and work is currently being done on artificial livers. In parallel to that, medical researchers are devoting intense efforts to "growing entire organs." This field of science is still at a rudimentary stage, but ever the optimist, Professor Beyersdorf is sure that success is only a matter of time. "The first pacemaker was the size of a refrigerator and the operation was a worldwide sensation," he recalls. "But now it's hardly worth mentioning. Patients arrive at the hospital, have pacemakers implanted that are only twice the size of a USB stick, and then go home in the evening." At 56 years old, Beyersdorf has consid-

erable confidence in medical progress. As far as he is concerned, the amount of machinery people can handle in their bodies is solely a matter of the extent of the side effects caused by artificial elements in the human organism.

Yet for all his fascination with the science, Beyersdorf is anything other than an uncritical advocate of device-based medicine and of extending life under all conditions. "Our job doesn't just consist of enabling people to get older, we also have to ensure that they can enjoy life as they age," he says. And that con-

The Future of Life

Cardiac surgeon Friedhelm Beyersdorf tackles the question of how to enjoy ageing as life expectancies rise.

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licts in part with our experience. According to forecasts by the World Health Organization, cardiovascular conditions will head the list of diseases worldwide by 2020, "but depression will also enter the group of most common conditions." Only if we succeed in reversing this development "does it make sense for people to keep getting older."

While Beyersdorf doesn't have easy solutions for how to age actively and happily—assuming the absence of fateful diseases—he does have examples. A study in the USA, for instance, shows that "Oscar award winners live significantly longer than actors who don't receive this prize," although the two groups

are absolutely comparable in other parameters. "Take a look at Clint Eastwood. At 80, he's making one good movie after the next, he switched from acting to directing, and he believes that he can keep improving even at 80 years old—and he wants to. For him, the road is the destination." The conclusion that Beyersdorf draws is that what enables people to age happily is self-determination. He is utterly convinced that self-determination is crucial for good health and a sense of satisfaction. And he thinks that it starts in the mind. "Nobody has to do what they do. Everyone is free to choose to do something else," he insists. Only a very few individuals are aware of this, though. For most people, fear of the negative consequences of a change wins out.

Satisfaction arises above all from success. And for that, a will and absolute readiness to practice are essential. "Success" doesn't come before "diligence," not even in the dictionary. Studies of pianists have shown that top performers only differ from their average counterparts in that they have practiced more throughout all stages of their lives. Similar studies of top athletes show that they rise above the average by spending 50 to 60 percent of their training sessions working on things they can't do, whereas amateurs stick to that which they can do. "Most of the latter are the type who shy from frustration," he emphasizes. Precisely that is what

stands in the way of superior achievement, and thus of success and happiness.

Talent? "It's overrated," insists the professor. And stress? It's also overrated, because it's often a question of individual assessment, says the surgeon whose departments in Freiburg and Bad Krozingen performed around 3,600 operations in 2009 alone—from bypass, valve, and aorta procedures to heart transplants and artificial heart treatments. What matters is not the "individual" situation as such, but rather "how I view it for myself." At the same time, he considers negative stress to be part of the reason why women live longer than men—or why "men live shorter" as he prefers to →



As a heart surgeon, he works to save and lengthen lives. But the question of what makes life worth living is just as important to Prof. Beyersdorf

“When it comes to searching for the secret of life, we all have to start at square one. And that has to change”

formulate it, i.e. “don’t reach their potential” because “they are usually under more pressure professionally” and have less healthy lifestyles. “There aren’t any genetic reasons for the difference,” says the professor, and as a scientist can immediately list research that supports this conclusion. Studies of monasteries and convents have shown that nuns and monks have similarly high life expectancies. The reason for this is that they have the same conditions of life—and the men, especially, experience less negative stress than they would in normal professional contexts.

It’s all a matter of attitude, according to Beyersdorf. And for that reason he doesn’t want to accept a situation in which we study many areas intensively “except for how people tick.” While physics, medicine, and engineering have developed rapidly, every individual has to start at square one when it comes to searching for “the secret of life,” or the basis for content-

ment and agility. “We don’t know enough about why there are 98-year-olds who work in innovative ways on future-oriented projects, whereas there are also 50-year-olds who are mired in internal passivity,” he notes. But if people live to the age of 100, 120, or more, that will become a crucial question in how to shape the future. And it’s far from a matter of everything being genetically programmed. “New research in biology and medicine on the role of proteins, for example, will lead to major changes in our understanding of how to lead our lives.”

Beyersdorf believes that this research is every bit as important as solving the systemic problems in medicine. Germany is one of only a few countries in the world that still ascribes to the principle that “every patient is entitled to every treatment.” But with fewer people paying into the healthcare system combined with rising demand and costs, he observes that this

principle is at risk. He doesn’t see the solution in the British or Swedish models, which do not authorize dialysis or new hip joints for patients over 70, for example, or which tend to impose very long waiting periods. Instead, he has a more innovative approach. He proposes exporting the German healthcare system—“top-notch in the world”—which will generate more revenue. This can be done by establishing German hospitals abroad or by treating foreign patients in Germany. “Why shouldn’t we succeed in this area,” asks the successful professor, “like we do with machinery or cars?” ←

Friedhelm Beyersdorf Vita



Professor Dr. Dr. h.c. Friedhelm Beyersdorf was born in Bochum in 1954. He left an apprenticeship as an orthopedic mechanic shortly before the final exam in order to start medical studies at the Goethe University in Frankfurt. After receiving his medical degree, he also earned a doctorate with summa cum laude honors and completed postdoctoral work (habilitation). His research during this time took him to various leading institutes of higher learning in the USA, including Johns Hopkins University in Baltimore and Thomas Jefferson Medical College in Philadelphia. He also successfully passed the medical boards in these two states. In 1994 he moved to Freiburg where he has since served as Medical Director of the Cardiovascular Surgery Department at the city's university hospital. Professor Beyersdorf and his team have been performing heart transplants since 1994. Since 2006, he has also headed the cardiovascular surgery department at the neighboring Cardiac Center in Bad Krozingen. In addition, he serves as president of the German Society for Thoracic and Cardiovascular Surgery.

ELIMINATION OF WASTE—REDUCTION IN COSTS

In the spring of 2005, the Cardiovascular Surgery Department directed by Professor Beyersdorf at the Freiburg Hospital was Porsche Consulting's first client in the healthcare sector. Since that time, more than 50 other hospitals have called upon the consultants' expertise to help eliminate non-productive time and waste in their everyday work. First, the potential for optimization was determined through analyses. The results revealed, for instance, that attending physicians spent only one fourth of their time productively, i.e. performing examinations and consulting with patients. Much of the day was swallowed up by administrative tasks—and nearly a third was lost thanks to complex documentation, searching, and waiting. Squandered expertise and time is hard on staff and patients—both in terms of nerves and expense.

The Porsche experts also analyzed the entire hospital process in Freiburg, finding weak and non-productive points, and developing measures to rectify them. Patient examinations were better coordinated, all processes were better integrated, and the position of patient manager was introduced as the central control axis for coordinating admission and discharge dates as well as assigning beds and operating rooms. With great success. The average time patients spend at the hospital decreased from 11.2 to 9.6 days, and productivity rose by 30 percent.

ATTENDING PHYSICIAN'S WORKING HOURS (as a percentage)

