



LONGEVITY: CHANGING THE NARRATIVE

The Aquatic Academy at the Aquarium of the Pacific in conjunction with Halbert Hargrove Global Advisors

INTRODUCTION TO THE AQUATIC ACADEMY

Jerry R. Schubel, President
Aquarium of the Pacific

Each year the Aquarium of the Pacific offers two short courses through its Aquatic Academy. Each is designed to give the general public an overview of an important issue by experts in the relevant field(s). Usually these courses deal with environmental issues, but the Fall 2019 course took a different tack. It explored opportunities and challenges of living longer, healthier lives. The theme was suggested by Russ Hill, Chairman and CEO of Halbert Hargrove Global Advisors, who works closely with the Stanford Center on Longevity. The Spring 2020 session of the Aquatic Academy will deal with how an Earth with a temperature affects human health.

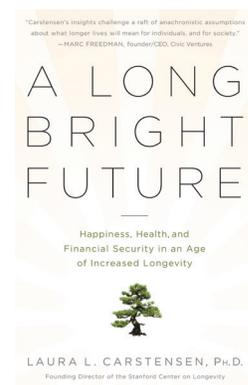
INTRODUCTION TO THE FALL 2019 SESSION OF THE AQUATIC ACADEMY

Russ Hill, Chairman and CEO
Halbert Hargrove Global Advisors

Increasing longevity globally has been one of the great stories of human achievement over the last 100+ years. For many people, though, longevity is confused with aging. Longer lives create greater opportunities and a greater need for planning our course through life so as to not waste those very opportunities. This is why we've named this series: Longevity: Changing the Narrative. The Aquarium of the Pacific's Fall 2019 Aquatic Academy shared four compelling perspectives in talks on tackling challenges, creating a personal vision, and achieving financial security for a longer, healthier life.

DR. LAURA CARSTENSEN:

Longevity in the 21st Century



Dr. Laura Carstensen is founding Director of Stanford Center on Longevity and author of *A Long Bright Future*. Her groundbreaking research has been supported continuously by the National Institute on Aging for more than a quarter century.

Laura began her presentation by telling everyone in the room that most of them would likely live to age 100 or beyond. What's

shocking about this is that for most of human evolution, a very short life expectancy has been the norm. Five thousand years ago, life expectancy was just 18; by 1900, it had risen to age 47. Between 1900 and the end of the 20th century, life expectancy rose again, from 47 to 77—nearly doubling. In the same span of time, fertility rates dropped by half and age was redistributed within the population.

This redistribution of age means younger individuals with short life expectancies no longer dominate populations. This has taken place rapidly and for a variety of reasons. We invested in science: medical science created vaccinations and cures to diseases that once killed off significant numbers of people. In addition, in the U.S. and Europe, the systematic disposal of waste helped limit the spread of diseases, and purified water and the food fortification helped us to eliminate nutritional disorders within about 20 years. One result was that childhood mortality dropped dramatically.

Education is a strong predictor of longevity

Most important to our aging populations and longevity was the creation of public education for children. At some point in adulthood, education is a better predictor of longevity than age. There is now little difference in the education levels of those in their 50s and 60s versus those in their 30s and 40s, which is different from 50 years ago. Education is also a factor in predicting how long people will engage in the workforce.

Laura pointed out that when we focus on health, in addition to the number of diagnoses a person has, we should consider functional health. Functional health helps determine whether a person can still work. Changing this focus shifts the dynamics of how older populations are viewed. A number of diagnoses are specific to aging populations. Yet, depending on the diagnosis, people can still be functionally healthy. She emphasized, “When you are concerned about what might go wrong, you lose sight of what might go right.”

Tapping the human capital of older people

As a society, we need to work on how to successfully engage multiple age cohorts in the workforce. For the first time in history there will be six or more birth cohorts in the workforce at the same time. Our culture needs to understand the value of each – and how they can contribute. Older, more seasoned workers are needed in the workforce and can offer a lot to younger colleagues. Older people are more emotionally stable than younger people; older workers do well with available resources as they age. Studies have shown that age diversity within teams increases productivity, with fewer mistakes made. Other studies reveal that people get happier as they get older because they are more emotionally stable, more grateful, and more appreciative. And their marriages get better.

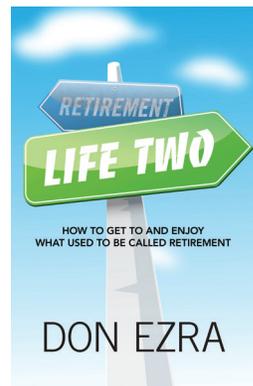
Laura believes that we have the opportunity to redesign what life looks like in terms of education, work, and leisure. It was once thought that these were pursued in strict order, but with people living longer, it doesn't necessarily look that way any longer. Some people are going back to school after they have worked in a career for a number of years. They want to start a new career, maybe in their 40s or even 50s.

Looking back to 1900, this was rarely an option: Life expectancy then was just 47.

We can change the nature of human aging and develop new ways to tap the human capital of those on the older end of the spectrum. People work for two reasons: Money and meaning. Money is a solvable problem, but meaning may be more difficult to solve unless we can redefine work or find a way to work differently.

Laura's conclusion: “The greatest risk of failure is setting the bar too low.”

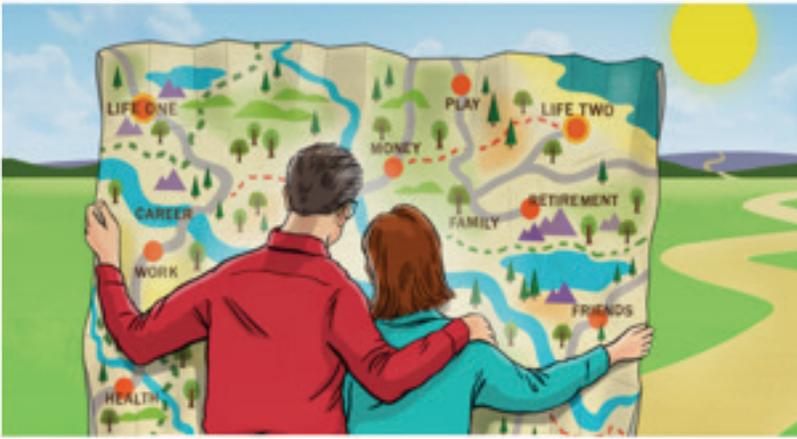
DON EZRA: Happiness, Self-Knowledge and Financial Security in “Life Two”



Don Ezra is the author of several books, most recently, *Life Two: How to Get to and Enjoy What Used to be Called Retirement*. A former Co-Chairman of Global Consulting at Russell Investments, he's now retired from the corporate world. Among many other awards and recognitions, Don is the recipient of the Lillywhite Award (from the Employee Benefits Research Institute, 2004) for extraordinary lifetime

Laura's conclusion:
“The greatest risk of failure is setting the bar too low.”





Thanks to Dan Mitchell and The Financial Times, London

Don's discussion made it clear that creating yourself is an integral ingredient for a successful and enjoyable Life Two (What Used to be Called Retirement)

contributions to Americans' economic security.

A quote from George Bernard Shaw was shared as a lead-in to Don's talk: "Life isn't about finding yourself. Life is about creating yourself." Don's discussion made it clear that creating yourself is an integral ingredient for a successful and enjoyable Life Two (What Used to be Called Retirement). In fact, the title of Don's book underscores his belief that the label retirement itself merits retirement: "It's so negative!"

Starting a New Life: A time of freedom, enjoyment, and happiness

As with any new adventure, one should begin with data gathering to acquire knowledge: surveying the landscape, looking for potential pitfalls, identifying contingencies, etc. As Don noted, we begin and prepare for Life One (our working career) with education, but most of us fail to realize how important education is for Life Two. Don proposes a solution for this through the "walks" he takes the reader on in his book. The aim is to help arm the reader with the tools necessary to answer three fundamental questions/issues that abound in Life Two – discussed in the next section.

Life Two, according to Don, affords many of us the opportunity to relish the best years of our lives. That's not just conjecture. He shared some interesting facts about happiness, including the U-Shaped Curve of Happiness. Studies show the arc of happiness resembles a U-Shape, with happiness significantly increasing as we get older. There are several explanations for this phenomenon, one being that in youth we are full of anticipation for what life will bring, but as we get older we are more emotionally mature and grateful for life as it is. As Don eloquently put it, "wisdom, experience, perspective bring more happiness than anticipation of excitement."

The role of time plays a big role in the happiness equation. Don provided a matrix for stages of life relative to time and money. In youth we typically have time but no money.

During Life One, we tend to have money but no time. But, "it all comes together in Life Two!" – if we planned and saved adequately, we get the gift of both time and money. Putting the U-Shaped Curve of Happiness together with the time and money matrix, it appears time is a greater factor in happiness than money.

Preparing for Life Two: Where do I start?

These are the three fundamental questions to be asked as part of Don's suggested preparations for Life Two:

1) *Who am I?* This is the psychological question. Many of us are defined by our work (I am a doctor, I am an engineer, etc.), we've run a business, we've managed people, we have a purpose. Once that is gone, the struggle to redefine ourselves can be daunting.

2) *How do I fill my time?* This is the practical question. Quite literally, what do you do with all your time? How do you make it meaningful – or at least interesting? Don pointed out a mutually beneficial opportunity for the individual and society: volunteering. Volunteering is an overlooked aspect of Life Two, which can add fulfillment not just for the individual, but society as well. A true win-win.

3) *Will I outlive my money?* This is the financial question. We need something to live for, but we also need something to live on. In general, our culture places a heavy focus on the financial side of Life Two. As a result, we're often unprepared for the emotional side. Both sides of the coin are important. Typically, around the age of 50, anxiety sets in about finances, and we tend to experience regret over not having started saving earlier – or saved more. This anxiety continues into Life Two. Because of this, there's a tendency to underspend in Life Two; many retirees fear they'll outlive their money. Having a trusted and capable advisor can help calibrate to safely maximize the funds saved, while enabling retirees to enjoy the Life Two they'd planned.

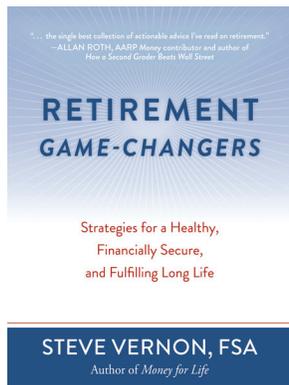
The answers are uniquely personal

The beauty of these fundamental questions, as Don pointed out, is that the answers are uniquely personal. Each person's circumstances are different – and will yield different answers. What can be shared and experienced by all is the process of deriving the answers. Don provides a framework of input and internalization through the “walks” he takes in his book. The reader is given teachings and stories from interviews paired with questions to respond to, to facilitate the internalization of the teachings in a personal way. This allows the highly personal Life Two map to unfold through active engagement in the process.

As we know from research, walking is a wonderful form of physical exercise that can have a significant impact on our preparedness for a longer, healthier life. It makes perfect sense that taking these mental “walks” can serve to prepare us for a longer, healthier and more enjoyable Life Two.

STEVE VERNON:

Strategies for a Healthy, Financially Secure, and Fulfilling Long Life



Steve Vernon is the author of *Retirement Game-Changers: Strategies for a Healthy, Financially Secure, and Fulfilling Long Life*. He is a Consulting Research Scholar in the Financial Security Division at the Stanford Center on Longevity and writes *Money for Life*, a regular blog column for CBS MoneyWatch.

Steve began his presentation by discussing the longevity issues our population faces. Average life expectancy has increased dramatically over time, dating back to ancient Rome. However, it has stalled out among those in the U.S. population who are below the median in terms of income and education. In addition, most workers have not saved enough money to be able to maintain their current standard of living if they retire at age 65 – regardless of these socio-economic factors. Steve's presentation focused on the series of decisions we face as we prepare for retirement.

Reframing life's stages – and our planning horizon

One major theme he discussed is the need to reframe our planning horizon as it pertains to our own life and well being. Generally, we think of three main stages in life: 1) childhood and early adulthood; 2) career and family; and 3) retirement. The introduction of increased longevity

forces us to rethink this framework. We cannot simply add more years into the retirement stage without consequences. Instead, Steve proposes a new framework in which he re-categorizes the career stage into two separate stages – middle age (with a focus on career and family) and second middle age (characterized by freedom and independence).

This change in the way we view the stages of life may be subtle, but can have a profound impact. By lengthening the planning horizon and redefining what retirement truly is, we gain the freedom to modify our behaviors and goals to more appropriately align them with our increased life expectancy.

The majority of the conversation, Steve posed, should center around the idea that there is no “magic number” in a portfolio or bank account that guarantees enough money to support a successful and happy retirement. But there is a “magic formula” for achieving this goal: $I > E$. Income must exceed expenses. After all, a relatively modest income can offer the ability to facilitate positive outcomes such as freedom and lack of stress – common goals for one's wealth – when expenses are lower by comparison.

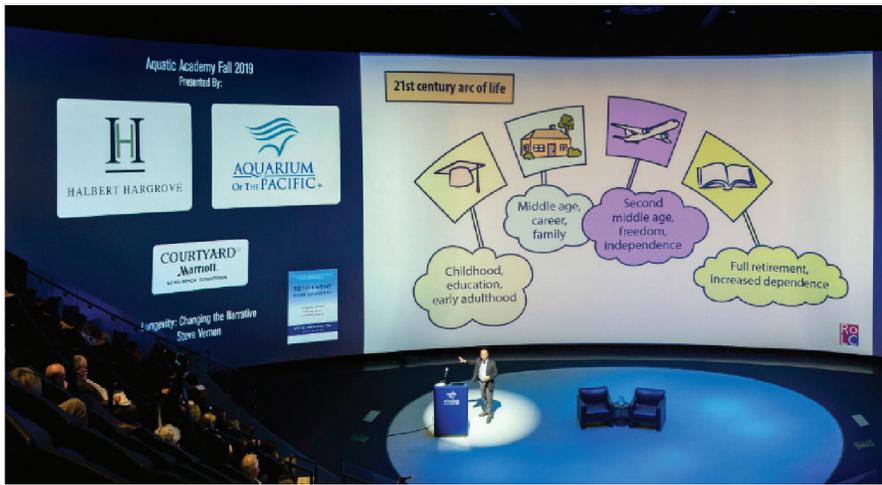
Canine wisdom: Your favorite dog may be modeling great life strategies

Steve believes that dogs' behaviors and attitudes have plenty to teach us about finance and retirement. He made the following observations about developing positive practices:

Tip #1: Downsize When dogs get a smaller house, they're still happy. Expenses can be difficult to rein in: For the average American, approximately 75% of the budget is dedicated to housing, health/medical care, food, transportation, and entertainment. Reducing spending in areas such as housing is a powerful way to bring your income and expenses back into the correct balance.

Tip #2: Be patient Dogs can learn to wait for their rewards. We can practice this kind of patience as well, especially when it comes to our investment portfolios. One major reason why people make emotional decisions to sell a losing investment or choose not to invest at all is fear. Market downturns can be scary. But looking back, we can see that the stock market has, on average and over the long run, gone up – achieving positive calendar year returns more often than negative ones. The key to capturing these returns is maintaining an appropriate time horizon and practicing patience.

There are also ways to build a retirement portfolio to help take unnecessary risk off the table. This is where a prudent financial advisor can add immense value to long-term planning. One important strategy is to create “retirement paychecks” using stable sources of income such as Social Security, pensions, annuities, and reverse mortgages to cover



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necessary expenses. This allows investments to bear a higher risk, as they are not required to cover day-to-day outflows.

Tip #3: Work while you can Dogs do what their aging bodies allow them to do – they guard the house, act as service dogs, and play with their families. People should also continue to be active in deploying their own human capital to earn income as they grow older. This means we shouldn’t necessarily stop working simply because we reach a certain age or because our peers have stopped working.

Continuing to work accomplishes more than simply adding years of income: It allows people to defer Social Security so that they can collect a higher benefit when they start taking benefits. This also gives them the freedom to potentially take on more risk with their investments, because their portfolio will be tasked with producing a smaller portion of income needs. Furthermore, studies show a causal relationship between working longer and lower death rates.

But life is about more than just managing a portfolio and making sure our expenses don’t outweigh our income. Steve discussed the process of building a “life portfolio,” which includes the areas of health, hobbies, people, and community.

Tip #4: Stay active Some dogs like to run, swim, and play sports, while others simply enjoy going for walks. Steve’s advice: Do the things you love that are right for you. When it comes to our health, exercise has been shown to be the most important factor, and even modest exercise has tremendous benefits.

Tip #5: Eat healthy Most dogs will eat whatever they can get and will do almost anything to get more. This is one case in which our canine friends demonstrate what NOT to do! Poor diet is the number-one cause of premature deaths and the number-one cause of disability. Establishing a more

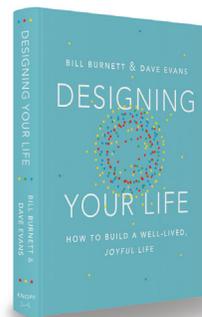
healthy, thoughtful diet can have immense health benefits and contribute to a longer life.

Stay motivated – and continue to adjust as you go

So, what’s the secret to achieving a healthy, financially secure, and fulfilling long life? It’s a lot of work! The best thing we can do is motivate ourselves to take steps now. Using information we have available to us, we should make the best decisions we can and then anticipate that we will need to make necessary changes along the way. Summed up in one statement: Plan and be prepared to adjust your plan.

BILL BURNETT:

Designing Your Life to live it more fully



Bill Burnett is co-author of *Designing Your Life: How to Build a Well-Lived Joyful Life*. The holder of a number of mechanical and design patents, he is Executive Director of the Design Program at Stanford University and has worked on a wide range of projects during his career, from Apple PowerBooks to the original Hasbro Star Wars action figures.

Bill gave a compelling presentation that challenged people of all ages to determine what truly matters to them when charting a new direction for their lives. He believes we should be constantly considering our options for approaching work, play, love, and health that will make us more fulfilled, and in the process, help other people in our lives.

Designing Your Life lays out a prototype, creative process that can be used by anyone – from college students, to mid-career executives who are contemplating a change, to those already in retirement – who wants to build a well-lived joyful life. This is particularly relevant in preparing ourselves for, and getting the most out of, the increasingly longer, healthier lives projected for our society.

How many people do you meet who say they love their job? Gallup polls over the years consistently reveal that the majority of Americans are not engaged with their work and workplace. In Bill's perspective, people stay at unrewarding jobs because of dysfunctional beliefs, such as 'your college degree determines your career,' or 'it's too late to make a change.' These dysfunctional beliefs hold us back.

It's time to think differently

In designing our lives, we should:

- Reframe what's not working, looking at all aspects from multiple angles
- Create radical collaboration with people to understand alternatives
- Have a bias toward action
- Be mindful of process. This includes accepting the problem – empathizing, defining, ideating, prototyping, and testing – and then continuing to ideate and create different prototypes. Then testing again, continuing this process to create more ideas.

In his book, Bill suggests that readers explore and write out their Work View and Life View to help them build a compass for what is important in their lives. What is consistent between these two perspectives? What areas are not consistent?

Weekly Activity – Good Time Journal

Bill recommended that people track their activities and rate them in terms of engagements and energy. He shared his own past efforts in improving the activities that he didn't enjoy as much, exploring why and whether he could make changes for the better. For example, he moved his open office hours at Stanford University away from his office to an open, less formal meeting for coffee with his students, which created better conversations. And he switched his

calendar to include an activity on Fridays that he enjoyed to end the week on a high note.

Work, Play, Love, Health

Most people talk about their work-life balance. In Bill's view, people need to expand the categories and evaluate where they are in each to see if improving one category might elevate everything. He gave a great example: After rating his Work, Play, Love, Health categories, his Play category was low, so he and his wife started taking tango classes together. This broke up the week with a pursuit that was fun, interesting, and personally challenging. This dance class also increased his Love category – for obvious reasons.

Career Scenarios – “Odyssey Plans”

For those intent on a career change, Bill suggested exploring three totally separate possible careers:

1. Current Career – How can you excel in your current career? Who might be a good resource for guidance or inspiration?
2. Imagine that AI and robots have wiped out your profession – what would be your backup career?
3. What is your “wild card” career if money was not of concern and you didn't care what people thought?

The most important part of this process is to talk to people about these scenarios to determine how to be successful in each. Someone has done what you are thinking about doing. Find those people and learn from their experiences and mistakes. Rate each scenario based on your resources, how you would like the new career, and how much confidence you have in the plan. And don't neglect coherence: Does this plan make sense in terms of your Work View and Life View?

Small Achievable Changes

Last, but probably most important, people should aim for small, achievable changes during this process. Bill offered great advice: Don't set a goal to run a marathon if you're currently not running. Instead, the goal should be to jog a few times a week and build on that success. In creating a vision for the future, break up that vision into smaller incremental parts and create achievable goals to set yourself up for success.





JERRY R. SCHUBEL has been president and CEO of the Aquarium of the Pacific since 2002. He is president Emeritus of the New England Aquarium. From 1974-1994 he was Dean of Stony Brook University's Marine Sciences Research Center, and for three years was the University's

provost. He is Distinguished Service Professor emeritus. He works at the science-management-policy interfaces on ocean issues. He is widely published and has served on and chaired numerous advisory panels including: NOAA Science Advisory Board; National Sea Grant Review Panel; National Research Council's Marine Board; NRC's Committee on the St. Lawrence Seaway; Ocean Research and Resources Advisory Panel, and the NRC Committee on the Value and Sustainability of Field Stations in 21st Century. He is a member of California's Ocean Science Trust. He created the Aquarium of the Pacific's Aquatic Forum, Marine Conservation Research Institute and the Aquatic Academy—all designed to bring to the public the best and most current science.

Dr. Schubel holds a Ph.D. in oceanography from Johns Hopkins University. He received an honorary doctorate from the Massachusetts Maritime Academy in 1998.



RUSS HILL, CFP®, AIFA®, Chairman/CEO of Halbert Hargrove Global Advisors LLC

Russ has led Long Beach-headquartered Halbert Hargrove Global Advisors for more than four decades. Currently, he is Chairman & CEO—and has

happily handed off most of the firm's day-to-day responsibilities to the next generation.

Russ serves on the Advisory Council for Stanford University's Center on Longevity. He initiated the Center's Design Challenge series in 2014 and provided the impetus for their multi-year longevity and well-being project, Sightlines. In 2018, along with the Provost of Stanford University, he funded the kickoff for the Center's New Map of Life program.

He also serves as Chair of ICWAE, an international think tank focusing on longevity and the RIA community, and he participated as one of twenty-three delegates to the Rockefeller Foundation's Global New Map of Life project in Bellagio, Italy.

He has served as President of Stanford Business School Alumni Association, President of Family Services of Long

Beach, and six-time Chairman of SCAN Healthplan, a Social HMO demonstration project which morphed into the U.S.'s Medicare Advantage program. He has also served as a founding and continuing board member for the Aquarium of the Pacific for 25 years with multiple terms as Vice-Chair/Treasurer and Chair of the Board.

He received his BA in Economics from Stanford University and his MBA from the Stanford Graduate School of Business.

Russ and his wife, Avalon reside (mostly) in Long Beach, CA and partly (not enough) in Cortona, Italy.



LAURA L. CARSTENSEN is a Professor of Psychology and the Fairleigh S. Dickinson Jr. Professor in Public Policy at Stanford University where she serves as founding director of the Stanford Center on Longevity. Her research has been supported continuously

by the National Institute on Aging for more than 25 years and she is currently supported through a prestigious MERIT Award. In 2011, she authored the book, *A Long Bright Future: Happiness, Health, and Financial Security in an Age of Increased Longevity*. Dr. Carstensen has served on the National Advisory Council on Aging and the MacArthur Foundation's Research Network on an Aging Society. In 2016 she was inducted into the National Academy of Medicine. She has won numerous awards, including the Kleemeier Award from the Gerontological Society of America, a Guggenheim fellowship, and the Master Mentor Award from the American Psychological Association. She received a BS from the University of Rochester and PhD in clinical psychology from West Virginia University.



DON EZRA (now happily retired) is a consultant and widely published author. In addition to numerous articles and papers, his books include *Pension Fund Excellence: Creating Value for Stakeholders*, *The Retirement Plan Solution: The Reinvention of Defined Contribution*, *Happiness: the*

Best is Yet to Come, and most recently, *Life Two: How to Get to and Enjoy What Used to be Called Retirement*.

He graduated from full-time work nine years ago, which included being co-chair, global consulting for Russell Investments worldwide. In his post-graduate career, Don



focuses on adapting institutional ideas to individual retirement planning. He is on the advisory boards of the World Pension Summit and other organizations related to pensions and investments. He was born in Calcutta (now Kolkata), India, received a B.Sc., Mathematics, Calcutta University, M.A., Mathematics and Economics, Cambridge University, and is a former Fellow of the Institute of Actuaries.



STEVE VERNON, F.S.A., is a research scholar for the Stanford Center on Longevity and is president of Rest-of-Life Communications. In both roles, Steve is active with research, writing, and speaking on the most challenging issues facing retirees today, including finance, health, and lifestyle. Previously, he worked for over 35 years as a consulting actuary, helping Fortune 1000 companies design, manage and communicate their retirement programs. Steve currently writes an online column on retirement topics for Forbes.com. His latest book, *Retirement Game-Changers: Strategies for a Healthy, Financially Secure, and Fulfilling Long Life*, addresses the series of critical decisions that older workers face as they transition into retirement.

His previously published books include: *Money for Life: Turn Your IRA and 401(k) Into a Lifetime Retirement Paycheck*, *Recession-Proof Your Retirement Years: Simple Retirement Planning Strategies That Work Through Thick*

or Thin, The Quest: For Long Life, Health and Prosperity, Live Long & Prosper! Invest in Your Happiness, Health and Wealth for Retirement and Beyond and *Don't Work Forever! Simple Steps Baby Boomers Must Take To Ever Retire.*

Steve is a Fellow in the Society of Actuaries, and graduated Summa Cum Laude from the University of California, Irvine, with a double major in mathematics and social science. He splits his time between the Bay Area and Ventura County in Southern California



BILL BURNETT is an award-winning Silicon Valley designer and the Executive Director of the renowned Design Program at Stanford University. He is co-author (with Dave Evans) of *Designing Your Life: How to Build a Well-Lived, Joyful Life* an empowering book that shows people of any age

how to design a life in which they can thrive. He received a BS and MS in Product Design at Stanford and has worked professionally on a wide variety of projects ranging from award-winning Apple PowerBooks to the original Hasbro Star Wars action figures. He holds a number of mechanical and design patents, and design awards for a variety of products including the first “slate” computer. He also advises several Internet start-up companies.

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