

CELEBRATING STAN OVSHINSKY

• Mr. LEVIN. Over the August recess, I had the pleasure of attending a 90th birthday party for a remarkable Michiganiaan, Stan Ovshinsky. I would like to share with my colleagues some of my remarks from that event.

The word “visionary” is over used, but surely it applies to Stan Ovshinsky.

His vision for decades has been a world freed from its dependence on fossil fuels. One in which we create good jobs and a growing economy on the strength of green ideas. One in which science lights the way to a brighter future, and in which justice and fairness prevail.

He has worked for that vision every day of his 90 years, beginning in the machine shops of Akron, OH.

The science behind what Stan has accomplished might be incomprehensible to most of us, even though Webster's New World Dictionary tries to make it simple. Webster's defines the word “ovonic,” from the name Ovshinsky, as “designating, of, or utilizing various glassy, amorphous materials that undergo electronic or structural changes, act as semiconductors when subjected to voltage, light, etc., and are used in computer memory elements, electronic switches, etc.” That may still be pretty hard to understand for many of us.

But we certainly can understand the impact these innovations have had on the world. Through his work on advanced batteries, solar cells, hydrogen power and more, Stan is one of the people who has brought us closer to breaking our dependence on energy sources that endanger our environment, our economic well-being, and our national security.

We can also understand Stan's passion. Spend a few minutes talking to him about his vision, and you see the world as it could be, a world in which American innovators pioneer the technologies that power a new economy and create good jobs.

So his vision isn't just that of a scientist. It is the vision of a patriot.

Stan knows that the visionary's path is not an easy one. Those who seek to change the world embark on a lifetime of ups and downs.

He never attended college, but lack of formal education didn't stop him. As Edison showed us, humankind's creative juices aren't always meant for the more confined spaces of academia.

Two centuries ago, a Frenchman, Alexis de Tocqueville, toured our brandnew Nation, traveling from its major cities to the raw frontier of places such as Detroit and Saginaw.

Reflecting on the American character, de Tocqueville wrote that the average American was “above all an innovator. . . . Nothing prevents him from innovating. Everything leads him to innovate.”

Stan is proof positive that the American spirit of innovation de Tocqueville described is alive and well.

Many others joined me in celebrating Stan's accomplishments. I would like

to share with my colleagues the remarks of two distinguished guests: those of Hellmut Fritzsche, the former chairman of the Physics Department at the University of Chicago; and of Harley Shaiken, the chair of the Center for Latin American Studies at the University of California-Berkeley. I ask unanimous consent that their remarks be included in the RECORD. •

There being no objection, the material was ordered to be printed in the RECORD, as follows:

REMARKS OF HELLMUT FRITZSCHE

STAN'S 90TH BIRTHDAY

This is a very special occasion! We are getting together with love, admiration and gratitude to celebrate the 90th birthday of Stan. He has deeply touched and profoundly influenced each one of us and changed our lives. Let me tell you about myself.

Exactly 49 years ago began our most fruitful and exciting collaboration and a deeply enriching friendship that includes all our family members. Max Powel picked me up from the airport and I looked in vain for a sign saying Energy Conversion Devices at any of the big buildings we passed; Max said “they haven't put up a big sign yet”. Soon I was sitting across Stan at his storefront office and laboratory at W. McNichols Rd. Right away Stan showed me the completely symmetric switching characteristics of his new devices on his oscilloscope. I was flabbergasted, astonished, puzzled and curious about the materials covering the two crossing wires which formed his device. All this was new. I was hooked. This was the opening to a new science which started a fruitful phase of my research.

I was captivated by Stan's immense intellect, exuberance, and his personal warmth and that of his young wife Iris. Iris, Stan's soul, spirit and closest collaborator. Soon I was guest in their small house in Birmingham and played violin with their eight year old Steven.

I realized that Stan had discovered a huge unexplored field of material science. This happens very rarely. We were in uncharted territory. In Stan's disordered Ovonic materials we were confronted with phenomena of bewildering diversity and complexity which required for their explanation a new language and concepts. Stan's intuition and deep understanding of the roles of different elements in his materials were ingenious.

You would think that the scientific community welcomed with enthusiasm Stan's lead into an entirely new field of materials with promising device possibilities. What a disappointment! Stan's discoveries were contemptuously dismissed and attacked by mainstream physicists. Was it because Stan did not carry the union card of academic credentials? Stan who rightfully views science as the noblest endeavor was greatly disappointed by the pettiness, irrationality and lack of curiosity of a good fraction of scientists. Stan's reaction was admirable. He did not respond impatiently or in anger. Since he was absolutely convinced of the correctness of his ideas and the potential of his materials, he trusted that his opponents would be won over as soon as they understood his ideas and discoveries. However, since his enemies were from the established research institutions, they were able to block all federal research support. That brought out Stan's other talents, that of attracting and convincing like-minded people to help him accomplish his goals and realize his vision. These usually were likewise extraordinarily creative and imaginative personalities. Frequent visitors to Stan and Iris

and ECD were Sir Nevill Mott, Isidor Rabi, Robert Wilson, Ed and Haru Reishauer and Edward Teller.

Since I am name dropping, I have to tell you about a fascinating dream. I dreamed that Stan and Albert Einstein had become close friends, Stan was sitting at the desk and Einstein on his bed, there was no other furniture in Einstein's Spartan room—They were in the house near Berlin which Einstein designed and had built for himself after the city of Berlin rescinded on its promise to present a house to Einstein as a gift of the city to his 50th birthday. Stan and Einstein were in a deep discussion. Einstein had just said “Stan, we have much in common. We both feel that the greatest joy in life is to discover a new truth of nature, we both were fortunate to experience it a number of times.” Stan objected to equating their achievements but Einstein stopped him “No, my work was much easier. Both of us follow our intuition and are doggedly stubborn like mules, but I needed only pencil and paper and was kept on a safe track by the logical rules of mathematics. You, on the other hand, navigated in uncharted territories, gathering all knowledge by experiments of your design on new materials of your making and interpreting measurements of limited accuracy. Yet you succeeded many times in discovering new materials and new laws of material science. Not only that, you designed these materials to be of great value to society.”

“I know some of the difficulties you must have encountered. I did an experiment only once in my life, with the young De Haas. It was a complete flop. We made such an unforgivable mistake that our experiment is still quoted under the demeaning rubric ‘Pathological Science’ serving as an example of what experimentalists must avoid: ‘Never let your preconceived notion influence your experiment!’ We fell into that trap. We knew the value which we should find in our experiment because I had calculated it. We indeed measured it quite accurately. However, we were influenced and fooled by our prior knowledge. The true value turned out to be different by a factor two. My calculation, based on classical concepts, was wrong.”

“Now you see, Stan, how much I admire your successful forays into completely unknown territories with naysayers and enemies lurking around you. Who was this Oxford professor who claimed amorphous semiconductors cannot exist because he taught his students that their energy gap is formed by interference of the electron wave functions at the periodic lattice of crystals? We both had plenty of enemies, but for us they lived in a different universe because we knew we were right. I could easily disregard them, but for you they were serious, they tried to prevent your work from getting funded, experiments are expensive. So you had to play all the other roles: being an entrepreneur, fund raiser, inventor and engineer and machine builder, all in one person. Now you know why I consider you to be the one to be admired.”

Stan was speechless, so Einstein carried on and said “I learned to protect my solitude, uncombed and dressed in my ragged sweater—I protect my privacy. You notice there is no living room and no telephone in this house I designed, and my wife Elsa has a great talent shunning away visitors.”

I don't remember what Stan said, but Einstein continued: “People are in awe of me but no one loves me. I never had true friends, I failed in my marriage. I envy you and Iris for your talent to form deep friendships and to elicit love. People are drawn to you; you understand them and you care. Even more, you bring out their best, many working with you feel you changed their lives. You and

Iris created a unique ECD culture of innovation and collaboration. Enough said. So stop admiring me, you are great!"

"We share fundamental human values, I talked about them, but you practiced them; you were effective starting as a Union organizer and continued fighting against injustice and prejudice all your life. It is typical for you to be the only Fellow of the American Physical Society who, at the same time, is a union member of the International Association of Machinists."

Einstein then talked about his work in the patent office and how he enjoyed reading many of Stan's 400 or so patents. Their discussion became too technical for me to include in this talk. Getting up, Einstein finally said: "by the way Stan, I learned about your explanation of dark matter, the 26 percent of all matter in the universe, one of the great puzzles of modern Cosmology. You said it is not matter at all but pure gravitation without matter. It is space/time curvature produced by non-uniform expansion of the universe instead of by matter. I agree with you, the expansion cannot be uniform because mass, that is the galaxies and nebula fill space in clumps. That will cause wrinkles in space time and hence additional curvatures, which of course act gravitationally, just what dark matter does. The referee was wrong rejecting your paper on the grounds of my field equations. These were written for a stationary universe in order to keep the mathematics simple and tractable. Modern scientists must not take as a gospel what I wrote down more than 80 years ago."

Here our dog jumped on my bed waking me up—what a dream! I had to tell you about it. I hope you appreciate my effort to imitate Einstein's German accent.

You might be surprised to hear Stan thinking about cosmological problems. I always stayed with Stan and Iris when I visited ECD. When we got to his home after a grueling and strenuous day for Stan, we swam in the lake, had a martini and enjoyed Iris' delicious dinner. Then Stan said "Let us relax and talk about physics". Besides high temperature superconductivity, Bose Einstein condensation, non-silver photography, high remanence magnets, catalytic actions of nano-crystals, and of course the Ovonic switching and memory phenomena, we discussed current problems of cosmology. We sat in his basement study surrounded by thousands of his books, discussed and argued about scientific problems. Between my visits we exchanged letters summarizing and clarifying our thoughts in preparation of our next session. I found a bundle of our letters. These are the ones of 6 years between 1994 and 2000 dealing with cosmology. They awake fond memories.

I mentioned thousands of his books. They fill all rooms and the study, the guest room, the former gym and sauna in the basement. The books, most of them heavily annotated with colored markers, lead you through the history of the labor movement, biographies of all important and admirable people including some anarchists, books on Japanese Haiku, Chinese art, history of social movements and world history. With his incredible memory, Stan picks from the books piling up to the ceiling and finds the passage supporting his argument. Stan is a Renaissance man except for the important difference that in the Renaissance no one was at the same time a scientist, social activist, entrepreneur, machine builder, inventor, and manufacturer. We have to find a new name for a person with the incredible scope of knowledge and creativity of Stan. On the other hand, there is no other person, so let's just call him Stan Ovshinsky.

We wish you good health, success and a happy birthday.

STAN OVSHINSKY: CELEBRATING THE PAST AND ILLUMINATING THE FUTURE—HARLEY SHAKEN, UC-BERKELEY

It is an honor and a joy to be here today with Stan and Rosa, with their family and friends, to celebrate Stan's 90th birthday. I will take my cue from Stan who has always celebrated the past while looking to the future.

From a very young age Stan set out to change the world in a progressive—no, in a radical way—and the world is a far better place for his efforts. As impressive as his works have been, I believe they will prove defining for future generations.

Stan has combined brilliant science with a deep commitment to social justice and he has pursued both with exceptional vision and courage. They are fully intertwined in his mind and his heart. They are not separate sides of Stan, they are Stan.

If the term were not already used in physics, we might call the passionate combination of science and social justice: Ovonic.

His path has never been easy. When the times were toughest, when the night was darkest, Stan persevered. Since it's his birthday, let me begin with a verse by Ralph Chaplin, the IWW poet and troubadour, who at times wrote from a jail cell and who Stan reads in difficult times.

Chaplin wrote in "No Truce for Us":

"Stubborn we stood against the stars to span

The night with dreams, our faces to the gale".

Stan has spanned a lifetime with dreams, surmounted the fiercest gales, and turned those dreams into profound new realities.

Stan for me has been the dearest of friends, the most exceptional of mentors. There is no one with whom it is more exciting to share good news. When I met a beautiful young woman from Chile in 1973, who is the love of my life, I first brought her to meet Stan and Iris. And, there is no one who is more supportive when the sky appears to be falling. I wouldn't be who I am today without Stan.

Out of a lifetime of special moments I will speak briefly about two separated by decades and thousands of miles: the first was when I met Stan and Iris so many years ago in Detroit and, the second, when I stood with Stan and Rosa only a few years ago on an 8,000 foot mountain in the north of Chile.

I first met Stan and Iris when I was 15 in a basement community room in Northwest Detroit at a meeting to organize a chapter of the Congress of Racial Equality (CORE), a civil rights group. Their ideals and their love for each other flowed through the room. The 1960s were just beginning. The times were very heady and the times were deeply troubled. Stan and Iris's commitment to civil rights was inspiring. They supported students in the South who were being brutally beaten for sitting at lunch counters and they stood with African American families in Detroit who were threatened for wanting a decent home down the block.

I would soon learn that Stan had organized workers into unions in the 1930s and 1940s, on occasion being chased or beaten for his efforts, and I would see him stand proudly with labor throughout his life; I would see Stan champion human rights throughout the world whether in Russia or Chile; I would see his support of women in his life and in his company far ahead of the curve; and I would witness him oppose unjust wars guided by a moral compass whatever the personal cost.

In the weeks and months after we met a friendship bloomed. I would meet Stan and Iris after school in the storefront offices on Six Mile Road of a company they had just founded. At the time, the company had an oscilloscope or two and was about to hire its

first employee. It's name and its mission would prove prophetic: Energy Conversion Laboratories. What a name to choose in 1960!

In Stan's office, there was a periodic table of the elements on the wall and shelves of books from Albert Einstein to the Chilean poet Pablo Neruda, from the British philosopher Bertrand Russell to the American labor leader A. Philip Randolph.

As we talked, Stan would pull books off the shelves and put them into my hands, books that would change my life. George Orwell's *Homage to Catalonia*; John Reed's *Ten Days That Shook the World*; the Rev. Martin Luther King Jr's *Stride Toward Freedom*; and the German expressionist George Grosz's paintings and drawings, among many others.

Although Stan has honorary doctorates in physics from the University of Michigan and great universities throughout the world, he says he acquired his advanced degree at the Akron Public Library; I acquired mine in that Six Mile Road office.

In his office and in his living room, Stan spoke passionately about science, he spoke about energy and information as the pillars of a new age, and he spoke about building a better world with urgency.

As I would quickly learn, for Stan speaking was the prelude to action. Ideas led to new theories, new materials, new areas of science; they led to machines and factories; they laid the foundation for new industries.

Stan's path-breaking science harnessed the energy of the sun and his values sought to use science to create jobs, avoid wars over energy, and preserve the environment.

His vision was always international. He has traveled the world tirelessly I suspect with the words of Eugene Debs in mind "if there is a lower class I am in it, if there is a criminal element I am of it, if there is a soul in prison I am not free." And, his practice seemed to have added "if someone sits in darkness my world becomes dimmer." Among so many global achievements, forgotten villagers in Oaxaca, Mexico were able to light the night using his solar materials and illuminate a path to a better future.

Three years ago I came with Ricardo Lagos, the legendary former president of Chile, to Detroit to meet Stan and Rosa.

He was so impressed by the visit—Stan and he proved to be kindred spirits—that he organized a trip for them to Chile a few months later.

We were invited to spend a magical day at the Paranal Observatory on an 8,000-foot peak in the Atacama desert, the driest place on the planet. Under a sundrenched sky and during a night overflowing with stars, Stan expressed admiration for what democratic governments had achieved in Chile and spoke eloquently about solar possibilities for the future. Over an intense week, he added a vital, transforming voice to thinking about renewable energy in the country.

The magic continued at the home of President Michelle Bachelet, a remarkable woman and an exceptional president. Stan and her shared an instant rapport and a deep, personal connection on values and ideals. The commitment for a better world burned brightly for both of them.

These special moments made me realize that Stan has changed the world in ways that he and we may not yet fully recognize. We will look back and see that his science and his life defined our age in profound ways.

He has inspired far more deeply and far more widely than he may know. He has inspired because, as Senator CARL LEVIN so eloquently put it, "Stan has allowed us to see the world as it could be."

Those who worked with him at Energy Conversion Devices saw his ideals in practice. He created a culture that celebrated the worth and capacity of people—whatever

their formal qualifications, whoever they were—and inspired unparalleled innovation and achievement over five decades.

Along the way there have been setbacks and tough defeats. How could there not be given the powerful interests he has challenged and the profound ways in which he has upended the status quo? I am reminded about something his friend Norman Thomas once said, which is now enshrined on a plaque in the library at Princeton University. “I am not the champion of lost causes, but the champion of causes not yet won.”

Let me conclude with another poem. In a world spiraling toward nightmare in 1938 Bertolt Brecht wrote “To Posterity.”

He lamented “Alas, we who sought a world of human kindness could not ourselves be kind.”

Stan has rewritten the poem with the work of a lifetime. His version would read “we who sought a world of human kindness could only achieve it through kindness, generosity, and solidarity with our fellow human beings.”

Happy birthday, Stan!

REMEMBERING LEO R. SEGALLA, SR.

• Mr. VITTER. Mr. President, today I wish to honor the life, legacy, and contributions of Leo R. Segalla, Sr., who passed away on Monday, September 10, 2012. Mr. Segalla was a dedicated pro-life leader whose tireless efforts for many ministries and outreaches had a tremendous impact on the fight to defend the dignity of life.

In 2007, Leo approached Louisiana Right to Life with the vision of creating a pro-life leadership training program for high school students. He developed the Louisiana Camp Joshua program on behalf of the Knights of Columbus and Louisiana Right to Life. Under his leadership, Camp Joshua flourished and grew to two camps, the first in Baton Rouge and the second in Lake Charles. Over the past 5 years, this program has trained hundreds of teens to speak effectively on life issues and has inspired young adults to be pro-life leaders in their communities.

Leo also greatly contributed to the pro-life cause through his leadership in Baton Rouge Right to Life and as part of the Louisiana Life March Coalition. The pro-life community has lost a great friend and advocate, but his legacy will live on in the hundreds of young people who have been empowered to stand for the dignity and sanctity of all human life.

It is with great sadness but also great honor that I recognize, commend, and celebrate the life and legacy of Leo Segalla. Leo was a champion of life who was unwavering in his defense of those who cannot defend themselves. I extend my deepest condolences to his family and friends in Louisiana.●

MESSAGES FROM THE PRESIDENT

Messages from the President of the United States were communicated to the Senate by Mr. Pate, one of his secretaries.

EXECUTIVE MESSAGES REFERRED

As in executive session the PRESIDING OFFICER laid before the Sen-

ate messages from the President of the United States submitting sundry nominations which were referred to the appropriate committees.

(The messages received today are printed at the end of the Senate proceedings.)

REPORT ON THE CONTINUATION OF THE NATIONAL EMERGENCY WITH RESPECT TO PERSONS WHO COMMIT, THREATEN TO COMMIT, OR SUPPORT TERRORISM THAT WAS ESTABLISHED IN EXECUTIVE ORDER 13224 ON SEPTEMBER 23, 2001—PM 61

The PRESIDING OFFICER laid before the Senate the following message from the President of the United States, together with an accompanying report; which was referred to the Committee on Banking, Housing, and Urban Affairs:

To the Congress of the United States:

Section 202(d) of the National Emergencies Act (50 U.S.C. 1622(d)) provides for the automatic termination of a national emergency unless, within the 90-day period prior to the anniversary date of its declaration, the President publishes in the *Federal Register* and transmits to the Congress a notice stating that the emergency is to continue in effect beyond the anniversary date. In accordance with this provision, I have sent to the *Federal Register* for publication the enclosed notice, stating that the national emergency with respect to persons who commit, threaten to commit, or support terrorism is to continue in effect beyond September 23, 2012.

The crisis constituted by the grave acts of terrorism and threats of terrorism committed by foreign terrorists, including the terrorist attacks on September 11, 2001, in New York and Pennsylvania and against the Pentagon, and the continuing and immediate threat of further attacks on United States nationals or the United States that led to the declaration of a national emergency on September 23, 2001, has not been resolved. These actions pose a continuing unusual and extraordinary threat to the national security, foreign policy, and economy of the United States. For these reasons, I have determined that it is necessary to continue the national emergency declared with respect to persons who commit, threaten to commit, or support terrorism, and maintain in force the comprehensive sanctions to respond to this threat.

BARACK OBAMA.

THE WHITE HOUSE, September 11, 2012.

REPORT RELATIVE TO THE CONTINUATION OF THE NATIONAL EMERGENCY WITH RESPECT TO THE TERRORIST ATTACKS ON THE UNITED STATES OF SEPTEMBER 11, 2001—PM 62

The PRESIDING OFFICER laid before the Senate the following message

from the President of the United States, together with an accompanying report; which was referred to the Committee on Banking, Housing, and Urban Affairs:

To the Congress of the United States

Section 202(d) of the National Emergencies Act (50 U.S.C. 1622(d)) provides for the automatic termination of a national emergency unless, within the 90-day period prior to the anniversary date of its declaration, the President publishes in the *Federal Register* and transmits to the Congress a notice stating that the emergency is to continue in effect beyond the anniversary date. Consistent with this provision, I have sent to the *Federal Register* the enclosed notice, stating that the emergency declared with respect to the terrorist attacks on the United States of September 11, 2001, is to continue in effect for an additional year.

The terrorist threat that led to the declaration on September 14, 2001, of a national emergency continues. For this reason, I have determined that it is necessary to continue in effect after September 14, 2012, the national emergency with respect to the terrorist threat.

BARACK OBAMA.

THE WHITE HOUSE, September 11, 2012.

MESSAGE FROM THE HOUSE

At 2:15 p.m., a message from the House of Representatives, delivered by Mr. Novotny, one of its reading clerks, announced that the House has passed the following bills, in which it requests the concurrence of the Senate:

H.R. 406. An act to amend the Federal Election Campaign Act of 1971 to permit candidates for election for Federal office to designate an individual who will be authorized to disburse funds of the authorized campaign committees of the candidate in the event of the death of the candidate.

H.R. 2139. An act to require the Secretary of the Treasury to mint coins in commemoration of the centennial of the establishment of Lions Clubs International.

H.R. 2489. An act to authorize the acquisition and protection of nationally significant battlefields and associated sites of the Revolutionary War and the War of 1812 under the American Battlefield Protection Program.

H.R. 2706. An act to prohibit the sale of billfish.

H.R. 3397. An act to modify the Forest Service Recreation Residence Program by implementing a simple, equitable, and predictable procedure for determining cabin user fees, and for other purposes.

H.R. 6007. An act to exempt from the Lacey Act Amendments of 1981 certain water transfers by the North Texas Municipal Water District and the Greater Texoma Utility Authority.

H.R. 6122. An act to revise the authority of the Librarian of Congress to accept gifts and bequests on behalf of the Library, and for other purposes.

H.R. 6186. An act to require a study of voluntary community-based flood insurance options and how such options could be incorporated into the national flood insurance program, and for other purposes.

H.R. 6336. An act to direct the Joint Committee on the Library to accept a statue depicting Frederick Douglass from the District