

October 14, 2014

Hernando de Soto says terrorists can be defeated with market economies. For more, here's de Soto's Wikipedia entry.

As the U.S. moves into a new theater of the war on terror, it will miss its best chance to beat back Islamic State and other radical groups in the Middle East if it doesn't deploy a crucial but little-used weapon: an aggressive agenda for economic empowerment. Right now, all we hear about are airstrikes and military maneuvers—which is to be expected when facing down thugs bent on mayhem and destruction.

But if the goal is not only to degrade what President Barack Obama rightly calls Islamic State's "network of death" but to make it impossible for radical leaders to recruit terrorists in the first place, the West must learn a simple lesson: Economic hope is the only way to win the battle for the constituencies on which terrorist groups feed.

I know something about this. A generation ago, much of Latin America was in turmoil. By 1990, a Marxist-Leninist terrorist organization called Sendero Luminoso, or Shining Path, had seized control of most of my home country, Peru, where I served as the president's principal adviser. Fashionable opinion held that the people rebelling were the impoverished or underemployed wage slaves of Latin America, that capitalism couldn't work outside the West and that Latin cultures didn't really understand market economics.

The conventional wisdom proved to be wrong, however. Reforms in Peru gave indigenous entrepreneurs and farmers control over their assets and a new, more accessible legal framework in which to run businesses, make contracts and borrow—spurring an unprecedented rise in living standards. ...

...It is widely known that the Arab Spring was sparked by the self-immolation in 2011 of Mohamed Bouazizi, a 26-year-old Tunisian street merchant. But few have asked why Bouazizi felt driven to kill himself—or why, within 60 days, at least 63 more men and women in Tunisia, Algeria, Morocco, Yemen, Saudi Arabia and Egypt also set themselves on fire, sending millions into the streets, toppling four regimes and leading us to today's turmoil in the Arab world.

To understand why, my institute joined with Utica, Tunisia's largest business organization, to put together a research team of some 30 Arabs and Peruvians, who fanned out across the region. Over the course of two years, we interviewed the victims' families and associates, as well as a dozen other self-immolators who had survived their burns.

These suicides, we found, weren't pleas for political or religious rights or for higher wage subsidies, as some have argued. Bouazizi and the others who burned themselves were extralegal entrepreneurs: builders, contractors, caterers, small vendors and the like. In their dying statements, none referred to religion or politics. Most of those who survived their burns and agreed to be interviewed spoke to us of "economic exclusion." Their great objective was "ras el mel" (Arabic for "capital"), and their despair and indignation sprang from the arbitrary expropriation of what little capital they had.

Bouazizi's plight as a small entrepreneur could stand in for the frustrations that millions of Arabs still face. The Tunisian wasn't a simple laborer. He was a trader from age 12. By the time he was

19, he was keeping the books at the local market. At 26, he was selling fruits and vegetables from different carts and sites.

His mother told us that he was on his way to forming a company of his own and dreamed of buying a pickup truck to take produce to other retail outlets to expand his business. But to get a loan to buy the truck, he needed collateral—and since the assets he held weren't legally recorded or had murky titles, he didn't qualify.

Meanwhile, government inspectors made Bouazizi's life miserable, shaking him down for bribes when he couldn't produce licenses that were (by design) virtually unobtainable. He tired of the abuse. The day he killed himself, inspectors had come to seize his merchandise and his electronic scale for weighing goods. A tussle began. One municipal inspector, a woman, slapped Bouazizi across the face. That humiliation, along with the confiscation of just \$225 worth of his wares, is said to have led the young man to take his own life.

P. J. O'Rourke says we need a Nobel War Prize.

... Wars produce heroes widely recognized by the public. Nobel War Prizes could have been given to Marshal Foch for the Battle of the Marne, Spanish Civil War combatant George Orwell, Winston Churchill, the French Resistance, the U.S. Marine Corps, the Tuskegee Airmen, Charles de Gaulle, FDR, Ike. This is an improvement on the Permanent International Peace Bureau, Charles Albert Gobat, and Ludwig Quidde. The Nobel Foundation's P.R. profile would be considerably raised.

Then there's what often comes after a war, which is usually less silly than what comes after a Nobel Peace Prize. Look at the U.S. and Great Britain. Once we got past that 1776 thing we've been—with a brief time-out for the War of 1812—road dawgs.

The Southern States and the Northern States after the Civil War? We're so close that we date-swapped the political parties that had been screwing us.

The Europeans were at daggers drawn for more than 30 years. But look at them after 1945, brothers from other mothers, living in each other's pockets, Germany lending to France to pay Greece to repay Germany, friends with benefits.

And ever since we started passing notes on the deck of the battleship Missouri in Tokyo Bay, America and Japan have been Batman and Robin.

If you want peace, have a war. Just make sure to have a good, prize-winning one.

New Scientist says the best anti-aging pill might be exercise.

IT COULD be the biggest killer you've never heard of: the weakening and loss of muscle that happens as we get older.

Muscle loss is no longer seen as just a side effect of disease and frailty – it's also a prime cause. As well as contributing to falls, muscle loss has serious knock-on effects on metabolism (see "Life-saving muscle"). In future, muscle-boosting drugs could aid those unable to maintain muscle mass through exercise such as weight training. Although researchers stress this isn't about bodybuilding, but keeping muscles in your limbs at a healthy level.

Muscle loss, also known as sarcopenia, is increasingly being seen as an important facet of ageing

...

... What's more, muscle is the only place the body can store amino acids – the building blocks of proteins – so when someone with little muscle becomes ill they have few reserves to call on.

Healthy muscle tissue is also a major consumer of glucose, so lack of muscle means the body can't cope well with the surge of blood glucose after meals, which slowly nudges people down the road to diabetes. "People think of muscle as the body's mover, but it's really a huge metabolic organ," says Daniel Moore of the University of Toronto, Canada.

WSJ

The Capitalist Cure for Terrorism

Military might alone won't defeat Islamic State and its ilk. The U.S. needs to promote economic empowerment

by Hernando de Soto

As anyone who's walked the streets of Lima, Tunis and Cairo knows, capital isn't the problem—it is the solution. Edel Rodriguez

As the U.S. moves into a new theater of the war on terror, it will miss its best chance to beat back Islamic State and other radical groups in the Middle East if it doesn't deploy a crucial but little-used weapon: an aggressive agenda for economic empowerment. Right now, all we hear about are airstrikes and military maneuvers—which is to be expected when facing down thugs bent on mayhem and destruction.

But if the goal is not only to degrade what President [Barack Obama](#) rightly calls Islamic State's "network of death" but to make it impossible for radical leaders to recruit terrorists in the first place, the West must learn a simple lesson: Economic hope is the only way to win the battle for the constituencies on which terrorist groups feed.

I know something about this. A generation ago, much of Latin America was in turmoil. By 1990, a Marxist-Leninist terrorist organization called *Sendero Luminoso*, or Shining Path, had seized control of most of my home country, Peru, where I served as the president's principal adviser. Fashionable opinion held that the people rebelling were the impoverished or underemployed wage slaves of Latin America, that capitalism couldn't work outside the West and that Latin cultures didn't really understand market economics.

The conventional wisdom proved to be wrong, however. Reforms in Peru gave indigenous entrepreneurs and farmers control over their assets and a new, more accessible legal framework in which to run businesses, make contracts and borrow—spurring an unprecedented rise in living standards.



In Tunisia, members of the main labor union body staged a protest calling for the government led by the Islamist Ennahda party to step down in Tunis, Dec. 4, 2013.

Between 1980 and 1993, Peru won the only victory against a terrorist movement since the fall of communism without the intervention of foreign troops or significant outside financial support for its military. Over the next two decades, Peru's gross national product per capita grew twice as fast as the average in the rest of Latin America, with its middle class growing four times faster.

Today we hear the same economic and cultural pessimism about the Arab world that we did about Peru in the 1980s. But we know better. Just as Shining Path was beaten in Peru, so can terrorists be defeated by reforms that create an unstoppable constituency for rising living standards in the Middle East and North Africa.

To make this agenda a reality, the only requirements are a little imagination, a hefty dose of capital (injected from the bottom up) and government leadership to build, streamline and fortify the laws and structures that let capitalism flourish. As anyone who's walked the streets of Lima, Tunis and Cairo knows, capital isn't the problem—it is the solution.

Here's the Peru story in brief: Shining Path, led by a former professor named Abimael Guzmán, attempted to overthrow the Peruvian government in the 1980s. The group initially appealed to some desperately poor farmers in the countryside, who shared their profound distrust of Peru's elites. Mr. Guzmán cast himself as the savior of proletarians who had languished for too long under Peru's abusive capitalists.

What changed the debate, and ultimately the government's response, was proof that the poor in Peru weren't unemployed or underemployed laborers or farmers, as the conventional wisdom held at the time. Instead, most of them were small entrepreneurs, operating off the books in Peru's "informal" economy. They accounted for 62% of Peru's population and generated 34% of its gross domestic product—and they had accumulated some \$70 billion worth of real-estate assets.

This new way of seeing economic reality led to major constitutional and legal reforms. Peru reduced by 75% the red tape blocking access to economic activity, provided ombudsmen and

mechanisms for filing complaints against government agencies and recognized the property rights of the majority. One legislative package alone gave official recognition to 380,000 informal businesses, thus bringing above board, from 1990 to 1994, some 500,000 jobs and \$8 billion in tax revenue.

These steps left Peru's terrorists without a solid constituency in the cities. In the countryside, however, they were relentless: By 1990, they had killed 30,000 farmers who had resisted being herded into mass communes. According to a Rand Corp. report, Shining Path controlled 60% of Peru and was poised to take over the country within two years.

Peru's army knew that the farmers could help them to identify and defeat the enemy. But the government resisted making an alliance with the informal defense organizations that the farmers set up to fight back. We got a lucky break in 1991 when then-U.S. Vice President Dan Quayle, who had been following our efforts, arranged a meeting with President George H.W. Bush at the White House. "What you're telling me," the president said, "is that these little guys are really on our side." He got it.



A dye stall in the Sunday market in the village of Pisac, Peru, in the Sacred Valley of the Incas. Reforms in Peru gave entrepreneurs and farmers control over their assets and a new, more accessible legal framework in which to run businesses, spurring a rise in living standards.

This led to a treaty with the U.S. that encouraged Peru to mount a popular armed defense against Shining Path while also committing the U.S. to support economic reform as an alternative to the terrorist group's agenda. Peru rapidly fielded a much larger, mixed-class volunteer army—four times the army's previous size—and won the war in short order. As Mr. Guzmán wrote at the time in a document published by Peru's Communist Party, "We have been displaced by a plan designed and implemented by de Soto and Yankee imperialism."

Looking back, what was crucial to this effort was our success in persuading U.S. leaders and policy makers, as well as key figures at the United Nations, to see Peru's countryside differently: as a breeding ground not for Marxist revolution but for a new, modern capitalist economy. These new habits of mind helped us to beat back terror in Peru and can do the same, I believe, in the Middle

East and North Africa. The stakes couldn't be higher. The Arab world's informal economy includes vast numbers of potential Islamic State recruits—and where they go, so goes the region.

It is widely known that the Arab Spring was sparked by the self-immolation in 2011 of Mohamed Bouazizi, a 26-year-old Tunisian street merchant. But few have asked why Bouazizi felt driven to kill himself—or why, within 60 days, at least 63 more men and women in Tunisia, Algeria, Morocco, Yemen, Saudi Arabia and Egypt also set themselves on fire, sending millions into the streets, toppling four regimes and leading us to today's turmoil in the Arab world.

To understand why, my institute joined with Utica, Tunisia's largest business organization, to put together a research team of some 30 Arabs and Peruvians, who fanned out across the region. Over the course of two years, we interviewed the victims' families and associates, as well as a dozen other self-immolators who had survived their burns.

These suicides, we found, weren't pleas for political or religious rights or for higher wage subsidies, as some have argued. Bouazizi and the others who burned themselves were extralegal entrepreneurs: builders, contractors, caterers, small vendors and the like. In their dying statements, none referred to religion or politics. Most of those who survived their burns and agreed to be interviewed spoke to us of "economic exclusion." Their great objective was "*ras el mel*" (Arabic for "capital"), and their despair and indignation sprang from the arbitrary expropriation of what little capital they had.

Bouazizi's plight as a small entrepreneur could stand in for the frustrations that millions of Arabs still face. The Tunisian wasn't a simple laborer. He was a trader from age 12. By the time he was 19, he was keeping the books at the local market. At 26, he was selling fruits and vegetables from different carts and sites.

His mother told us that he was on his way to forming a company of his own and dreamed of buying a pickup truck to take produce to other retail outlets to expand his business. But to get a loan to buy the truck, he needed collateral—and since the assets he held weren't legally recorded or had murky titles, he didn't qualify.

Meanwhile, government inspectors made Bouazizi's life miserable, shaking him down for bribes when he couldn't produce licenses that were (by design) virtually unobtainable. He tired of the abuse. The day he killed himself, inspectors had come to seize his merchandise and his electronic scale for weighing goods. A tussle began. One municipal inspector, a woman, slapped Bouazizi across the face. That humiliation, along with the confiscation of just \$225 worth of his wares, is said to have led the young man to take his own life.

Tunisia's system of cronyism, which demanded payoffs for official protection at every turn, had withdrawn its support from Bouazizi and ruined him. He could no longer generate profits or repay the loans he had taken to buy the confiscated merchandise. He was bankrupt, and the truck that he dreamed of purchasing was now also out of reach. He couldn't sell and relocate because he had no legal title to his business to pass on. So he died in flames—wearing Western-style sneakers, jeans, a T-shirt and a zippered jacket, demanding the right to work in a legal market economy.

I asked Bouazizi's brother Salem if he thought that his late sibling had left a legacy. "Of course," he said. "He believed the poor had the right to buy and sell." As Mehdi Belli, a university information-technology graduate working as a merchant at a market in Tunis, told us, "We are all Mohamed Bouazizi."

The people of the “Arab street” want to find a place in the modern capitalist economy. But hundreds of millions of them have been unable to do so because of legal constraints to which both local leaders and Western elites are often blind. They have ended up as economic refugees in their own countries.

To survive, they have cobbled together hundreds of discrete, anarchic arrangements, often called the “informal economy.” Unfortunately, that sector is viewed with contempt by many Arabs and by Western development experts, who prefer well-intended charity projects like providing mosquito nets and nutritional supplements.

But policy makers are missing the real stakes: If ordinary people in the Middle East and North Africa cannot play the game legally—despite their heroic sacrifices—they will be far less able to resist a terrorist offensive, and the most desperate among them may even be recruited to the jihadist cause.

Western experts may fail to see these economic realities, but they are increasingly understood in the Arab world itself, as I’ve learned from spending time there. At conferences throughout the region over the past year, I have presented our findings to business leaders, public officials and the press, showing how the millions of small, extralegal entrepreneurs like Bouazizi can change national economies.

For example, when the new president of Egypt, Abdel Fattah Al Sisi, asked us to update our numbers for his country, we discovered that the poor in Egypt get as much income from returns on capital as they do from salaries. In 2013, Egypt had about 24 million salaried citizens categorized as “workers.” They earned a total of some \$21 billion a year but also owned about \$360 billion of “dead” capital—that is, capital that couldn’t be used effectively because it exists in the shadows, beyond legal recognition.

For perspective: That amounts to roughly a hundred times more than what the West is going to give to Egypt this year in financial, military and development assistance—and eight times more than the value of all foreign direct investment in Egypt since Napoleon invaded more than 200 years ago.

Of course, Arab states even now have laws allowing assets to be leveraged or converted into capital that can be invested and saved. But the procedures for doing so are impenetrably cumbersome, especially for those who lack education and connections. For the poor in many Arab states, it can take years to do something as simple as validating a title to real estate.

At a recent conference in Tunisia, I told leaders, “You don’t have the legal infrastructure for poor people to come into the system.”

“You don’t need to tell us this,” said one businessman. “We’ve always been for entrepreneurs. Your prophet chased the merchants from the temple. Our prophet was a merchant!”

Many Arab business groups are keen for a new era of legal reform. In his much-discussed 2009 speech in Cairo, President Obama spoke of the deep American commitment to “the rule of law and the equal administration of justice.” But the U.S. has yet to get behind the agenda of legal and constitutional reform in the Arab world, and if the U.S. hesitates, lesser powers will too.



In Peru, residents and members of Huanta's self-defense force gathered on April 27, 1992, to celebrate the creation of the forces by President Alberto Fujimori's government to combat Shining Path insurgents. Over the next two decades, Peru's gross national product per capita grew twice as fast as the average in the rest of Latin America.

Washington should support Arab leaders who not only resist the extremism of the jihadists but also heed the call of Bouazizi and all the others who gave their lives to protest the theft of their capital. Bouazizi and those like him aren't marginal people in the region's drama. They are the central actors.

All too often, the way that Westerners think about the world's poor closes their eyes to reality on the ground. In the Middle East and North Africa, it turns out, legions of aspiring entrepreneurs are doing everything they can, against long odds, to claw their way into the middle class. And that is true across all of the world's regions, peoples and faiths. Economic aspirations trump the overhyped "cultural gaps" so often invoked to rationalize inaction.

As countries from China to Peru to Botswana have proved in recent years, poor people can adapt quickly when given a framework of modern rules for property and capital. The trick is to start. We must remember that, throughout history, capitalism has been created by those who were once poor.

I can tell you firsthand that terrorist leaders are very different from their recruits. The radical leaders whom I encountered in Peru were generally murderous, coldblooded, tactical planners with unwavering ambitions to seize control of the government. Most of their sympathizers and would-be recruits, by contrast, would rather have been legal economic agents, creating better lives for themselves and their families.

The best way to end terrorist violence is to make sure that the twisted calls of terrorist leaders fall on deaf ears.

Mr. de Soto is the founder of the Institute for Liberty and Democracy in Lima, Peru, the author of "The Mystery of Capital" and the host of the documentary "Unlikely Heroes of the Arab Spring."

Daily Beast

Up To A Point: What We Really Need Is a Nobel War Prize

by P. J. O'Rourke

Sure, Malala is totally worthy. But most of them haven't been, because peace is elusive. War, however, is clarifying.

At least this year's Nobel Peace Prize wasn't a howler like the 1973 award to Henry Kissinger and Le Duc Tho for making love, not war in Vietnam. Or the 1919 award to Woodrow Wilson for chopping Central Europe into an angry hash, helping put the "vs." in the Versailles Treaty and screwing the pooch on U.S. membership in the League of Nations.

Then there was the 1978 Prize given to Mohamed Anwar Al-Sadat and Menachem Begin for making sure everything was okey-dokey between the Arabs and the Jews. And the 1994 Prize to Yasser Arafat, Yitzhak Rabin, and Shimon Peres for making double sure.



In 2001 the United Nations and Kofi Annan got the NPP "for their work for a better organized and more peaceful world." And what a quiet, tidy planet it's been since then.

In 2002 it went to Jimmy Carter, presumably for his effort to end the Cold War by losing it. In 1990 the winner was Mikhail Gorbachev, who actually did what Carter had merely tried to do.

The 2005 Prize was bestowed upon the International Atomic Energy Agency and its chief Mohamed ElBaradei, doubtless for their providing proof positive that Saddam Hussein had no weapons of mass destruction and thereby preventing the 2003 Iraq War.

The European Union was the 2012 recipient thanks to its “advancement of peace and reconciliation, democracy and human rights in Europe,” just in time for the coup in Kiev, Russian annexation of Crimea, and Ukrainian civil war.

Medaling in 2007 were the International Panel on Climate Change and Al Gore. Al Gore? Yep, Al Gore. Everybody talks about the weather, but nobody does anything about it. Al Gore, however, sold his Current TV channel to Al Jazeera, which is funded by the royal family of famously carbon neutral Qatar.

And what, exactly, do the International Panel on Climate Change and Al Gore have to do with peace? About as much as the 2009 Nobel Peace Prize presented to Barack Obama for showing up.

Not that there is anything to be said against the 2014 Nobel Prize committee honoring Malala Yousafzai and Kailash Satyarthi.

Ms. Yousafzai is a stalwart Pakistani 17-year-old who, two years ago, was shot in the head by a Taliban villain for the offence of being a girl attending school. She recovered and put herself further in harm's way by publicly campaigning for the education of Muslim women.

Mr. Satyarthi is a brave-hearted 60-year-old Indian who gave up his career as a college professor to battle the scourge of indentured child labor in the rat hole factories of Southeast Asia.

But if the purpose of the Nobel Peace Prize is to celebrate and assist courageous and resilient victims of brutality and valiant advocates of righteous but unpopular causes, then the 1946 prize should have gone to survivors of Nazi concentration camps instead of to Emily Greene Balch and John Raleigh Mott—presidents, respectively, of The Women's International League for Peace and Freedom and the YMCA World Alliance. Free swim! And the 1905 prize should have gone to Susan B. Anthony, not Bertha von Suttner, Austro-Hungarian author of the war-is-naughty screed *Lay Down Your Arms*.

Sometimes the Nobel Peace Prize is awarded as if encouraging courage were its purpose. Elie Wiesel, who was involved with the Irgun Zionist underground, is a 1986 Peace Laureate. Lech Walesa won in 1983. So did Martin Luther King, Jr. in 1964. More power to them.

But the *stated* purpose of the Nobel Peace Prize, per Alfred Nobel's will, is that it be awarded to the person who in the preceding year “shall have done the most or the best work for fraternity between nations, for the abolition or reduction of standing armies and for the holding and promotion of peace congresses.”

I'm afraid Wiesel, Walesa, and King would have to say, as Jesus did, presumably with a deep and resigned sigh, “I came not to bring peace but a sword.”

Of the 128 gold medals for peace that have been handed out since 1901, maybe six or seven have gone to people who actually made peace.

President Theodore Roosevelt negotiated an end to the 1904-1905 Russo-Japanese War in 1906 after Japan won. Argentina's Foreign Minister Carlos Saavedra Lamas did the same in the 1932-1935 Chaco War between Bolivia and Paraguay after Paraguay won.

President of Costa Rica Oscar Arias laid a calming hand on 1980s El Salvador, Guatemala, Nicaragua, and Panama. There isn't much armed conflict in Central America any more, if you don't count constant massive narco gang slaughter.

Nelson Mandela and Frederik Willem de Klerk ended apartheid in South Africa nonviolently when de Klerk bent over and the nation kicked him in the butt.

Northern Irish pols, papist John Hume and prod David Trimble, did in fact get Ulster's Micks to quit shooting and bombing each other any more than absolutely necessary, but it took them 500 years.

At least 65 Peace Prizes have been awarded for wishful thinking. Sometimes the wishful thinking was done by institutions—Permanent International Peace Bureau (1910), International Physicians for the Prevention of Nuclear War (1985), Pugwash Conferences on Science and World Affairs (really, 1995). The United Nations and its leadership have received ten gold medals, more than Mark Spitz or Carl Lewis, and won with considerably less speed and effort.

Sometimes the wishful thinking was done by well-known individuals—the Dalai Lama and Ralph Bunche. More often it was done by individuals who have been well-forgotten—Charles Albert Gobat, Tobias Asser, Ludwig Quidde, Lord Boyd-Orr.

Then there are the Prizes given for patching up people during the absence of peace—the American Friends Service Committee, Doctors Without Borders, the Red Cross four times. All highly deserved, but none would have been awarded if it hadn't been for war.

I propose a Nobel Prize for just that. The Nobel War Prize. There are, after all, worthy and decent wars. What was America supposed to do after Pearl Harbor, put the keys to the Golden Gate in an airmail envelope and send them to Tojo?

Peace creeps to the contrary, you can usually tell who's right and who's wrong in a war. Which is more than can be said during peace, witness peacetime politics.

There are always lots of wars going on so the Nobel Committee would never have to skip a year the way it did with its Peace Prize in 1914, 1915, 1916, 1918, 1923, 1924, 1928, 1932, 1939, 1940, 1941, 1942, 1943, 1948, 1955, 1956, 1966, 1967, and 1972.

Wars produce heroes widely recognized by the public. Nobel War Prizes could have been given to Marshal Foch for the Battle of the Marne, Spanish Civil War combatant George Orwell, Winston Churchill, the French Resistance, the U.S. Marine Corps, the Tuskegee Airmen, Charles de Gaulle, FDR, Ike. This is an improvement on the Permanent International Peace Bureau, Charles Albert Gobat, and Ludwig Quidde. The Nobel Foundation's P.R. profile would be considerably raised.

Then there's what often comes after a war, which is usually less silly than what comes after a Nobel Peace Prize. Look at the U.S. and Great Britain. Once we got past that 1776 thing we've been—with a brief time-out for the War of 1812—road dawgs.

The Southern States and the Northern States after the Civil War? We're so close that we date-swapped the political parties that had been screwing us.

The Europeans were at daggers drawn for more than 30 years. But look at them after 1945, brothers from other mothers, living in each other's pockets, Germany lending to France to pay Greece to repay Germany, friends with benefits.

And ever since we started passing notes on the deck of the battleship Missouri in Tokyo Bay, America and Japan have been Batman and Robin.

If you want peace, have a war. Just make sure to have a good, prize-winning one.

New Scientist

[Exercise may be the best anti-ageing pill](#)

by Clare Wilson

IT COULD be the biggest killer you've never heard of: the weakening and loss of muscle that happens as we get older.

Muscle loss is no longer seen as just a side effect of disease and frailty – it's also a prime cause. As well as contributing to falls, muscle loss has serious knock-on effects on metabolism (see "[Life-saving muscle](#)"). In future, muscle-boosting drugs could aid those unable to maintain muscle mass through exercise such as weight training. Although researchers stress this isn't about bodybuilding, but keeping muscles in your limbs at a healthy level.

Muscle loss, also known as sarcopenia, is increasingly being seen as an important facet of ageing, according to several speakers at a [conference on longevity drugs](#) held in Basel, Switzerland, last month. "Treatments will eventually get into the market," said Dan Perry of the patient lobby group [Alliance for Aging Research](#).

However, the mechanisms behind muscle ageing are still poorly understood – although new research suggests it involves damage from free radicals.

Mice that have been genetically modified to produce fewer free radicals in their mitochondria are known to [live about 20 per cent longer than normal mice](#). So a team led by Andrew Marks at Columbia University in New York investigated how this affected the ageing of their muscle tissue.

They found that a key player is calcium, the release of which triggers our muscles to contract. The molecule responsible for this release – ryanodine receptor 1 – is damaged by free radicals, and as the rodents age, calcium begins to leak out when it shouldn't, weakening muscle fibres.

The modified mice experienced less free radical damage to the ryanodine receptor 1. They also had stronger muscles, and, in old age, chose to run on their exercise wheels more than unmodified mice – by about an extra kilometre a day ([PNAS, doi.org/v64](#)).

"It helps point to the role that mitochondria play in the muscle ageing process," says Daniel Moore of the University of Toronto, Canada.

Marks has founded a firm called [Armgo](#) to develop several compounds aimed at preventing calcium leakage, which are in early-stage clinical trials.

Other drugs are in development that combat sarcopenia in different ways. Muscle fibres are in a constant state of turnover, being simultaneously broken down and regrown, so any compound that tips the balance towards growth could help build muscle mass.

One class of drug includes the compound [bimagrumab](#), which works by blocking a signalling pathway targeted by an inhibitor of muscle growth called myostatin. Others work by [mimicking the effects of testosterone in a safer way than existing steroid drugs](#).

"There's a lot of interest in trying to come up with something for sarcopenia because at the moment there's no treatment," says Marks.

Indeed, it's only within the last six months that US researchers have even agreed on how to define the condition – essential before a drug treatment can be approved. The US National Institutes of Health [published its results in May](#).

"We have come a long way in how to approach this," says [Jack Guralnik](#) of the University of Maryland, who was involved in the defining process.

In the meantime, there is already a natural way to boost muscle: exercise. "The mitochondrial function of lifelong exercisers is like that of someone half their age," says Moore. "One of the best anti-ageing pills is to stay active."

This article appeared in print under the headline "Beefing up can keep you healthy"

Life-saving muscle

While a six-pack is seen as the preserve of body builders or athletes, muscularity should be a concern for anyone who plans on living a long time (see main story).

As we age, our muscle fibres start to perform less well and we lose muscle mass – with serious consequences. Older people with weaker grip strength, for instance, are more likely to die in the next few years – [even when compared with people apparently in similar health](#) (*BMJ*, doi.org/dzn7wm).

One explanation is that as people's strength decreases they are more likely to fall, and if an older person breaks a bone and is bed-ridden for several weeks they lose further muscle and bone mass. This may help to explain why 1 in 3 people who fracture their hip in the UK die within 12 months, [according to National Health Service figures](#). "It's a vicious circle," says [Avan Aihie Sayer](#) at the University of Southampton, UK.

What's more, muscle is the only place the body can store amino acids – the building blocks of proteins – so when someone with little muscle becomes ill they have few reserves to call on.

Healthy muscle tissue is also a major consumer of glucose, so lack of muscle means the body can't cope well with the surge of blood glucose after meals, which slowly nudges people down the road to diabetes. "People think of muscle as the body's mover, but it's really a huge metabolic organ," says [Daniel Moore](#) of the University of Toronto, Canada



