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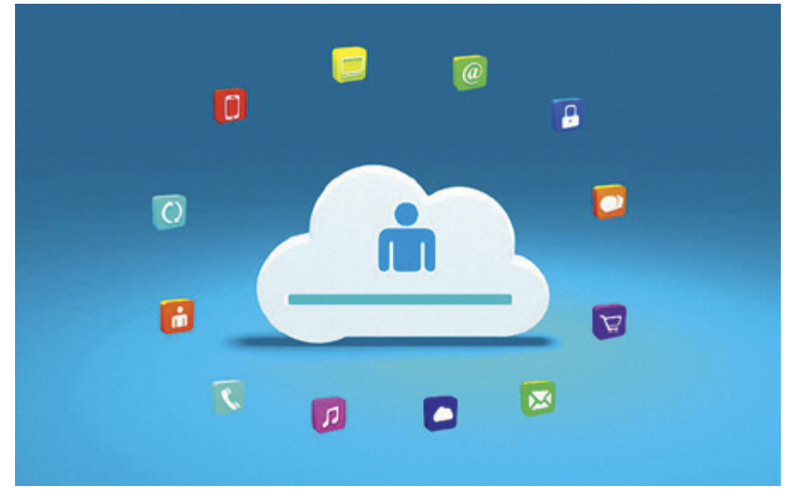
EDITOR'S LETTER

HIGH TECHNOLOGY



Our current issue is dedicated to high technology. Formerly this concept was associated with something complicated, scientific and intended for specialists. Today, we even ignore the fact that what we carry in our pocket or bag is an extremely high-powered aggregate which exceeds by its capabilities the most advanced and high-performance computers of ten years ago.

Today even an inexpensive smartphone is not merely a telephone or a means of communication with your nearest and dearest. It is a computer with a high-speed internet connection, radio and television simultaneously. And its headphones make it a durable Hi-Fi system. You can even listen to classical music with high quality of sound on it. You can find excellent performances of any piece of music and any masterpiece online. Do you want to listen to Richter? Do, please! Karajan? Here he is! Vishnevskaya or Rostropovich? No problem!

I, for instance, read Russian, French and American press on my smartphone and listen to Russian, American and French radio stations on it. For the older generation it is fantastic! For young people, it cannot be otherwise.

In terms of quantity, everything has been solved. There is no problem. But, in terms of quality, there are a whole bunch of problems. For, on the one hand, the internet is the greatest wonder of the technological world which gives us access to all that is intelligent and beautiful; but, on the other hand, it is an enormous 'rubbish dump' which provides free access to a bundle of the most foul and abominable things.

As ever, we face a choice between good and evil, beauty and ugliness, hatred and goodness.

Progress is progress, but our problems are everlasting.

Victor Loupan

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WHAT IS HIGH AND WHAT IS LOW?

The more we become educated, the more we realise how limited our knowledge is

VICTOR LOUPAN,
Head of the Editorial Board

Not only has 'high technology' changed our lives, it has also changed the way we perceive reality.

Over the centuries, even the millennia, cognition was associated with effort, diligence, devoting a lot of time to learning, remembering, and systematizing gained knowledge. An intelligent and well-educated person was characterised not only by his culture and erudition but also by his good memory. Once good memory and the swiftness of flight of thought made a person not only an intellectual or erudite but also an 'enricher' of the minds of those who communicated with him with knowledge.

In my view, the main difference between an intellectual and an erudite is in the following: an erudite is filled with encyclopedic knowledge but is often unable to interpret things independently, while an intellectual uses his erudition as a kind of a primary material. He interprets the past, present and future and (directly or indirectly) encourages those who communicate with him to think and judge – that is, to perceive reality actively and not passively.

High technology and the information revolution have steadily brought these concepts to naught. Now a school-pupil can question his teacher's words in one moment. For this he needs just to take his smartphone out of the pocket and check the veracity of the teacher's statements with the help of Google. Today any ignoramus is certain that a smartphone and 'knowledge' are the same thing.

Empty libraries, bookshops that are closing down all the time, and a terrible crisis of print media – all of this is indicative of a radical change in our attitude not only towards knowledge but also towards the essence of education.

Sociology, historiography and study of culture traditionally consider technical development as progress. The production of celluloid paper and the invention of printing press by Johannes Gutenberg led to the first mass production of books and contributed to an increase of general intelligence. The appearance of electricity, telephone communication, radio, television and, lastly, the computer and internet indicates an undisputed genius of mankind. The fantastic speed of cable and satellite communication made direct intercontinental communications possible. This can only be admired.

Thus 'the now factor' and 'availability' have become the underlying principles of modern times. But what do they mean? Are they good or bad? Pornography and violence are now available to everybody, including to children. True, you can argue that even these are part of the general principle of understanding. But understanding is a conceptually complex philosophical and metaphysical postulate which has nothing to do with technical progress. These are just different categories. The now factor is an unconditional quality when it comes to communication technologies, but it is stuff and nonsense in terms of understanding. People need time to understand, just as they need time to digest.

People invented the computer, the internet and smartphone. They are our auxiliary, robot-like assistants. Thanks to them we have become in some sense 'bionic' creatures. Today our pockets contain far more information than any traditional multivolume encyclopedia does. Even the USA Library of Congress and the central library of any great country of the world contain less information. And we have not only printed information, but also visual and sound information in our pockets. We can find not only all literature and thought there, but also all music and films in the world. Ten human lifetimes won't suffice to understand, let alone digest, this.

Whatever 'advanced' and 'intellectually complex' computers may be, humans are far more complicated. The reason is simple: nobody in the world knows for certain how human beings 'function', how our intellect is interwoven with our psychology, physiology and anatomy, our attitudes towards life and death.

Somebody with the highest IQ and extraordinary mental abilities can become a Nobel Prize laureate or ruin himself by drinking. It doesn't depend on his mental capacity, but it is influenced by the strength or weakness of his soul, his psycho-affective problems, his appearance, the way he is treated by people around him and so on.

The alleged exclusive importance of 'artificial intelligence', which is much talked about, is mysterious and quasi-religious by nature. For the rhetoric around this exaggerates the role of intelligence, disregarding the fact that its role is supplementary. The fact that you calculate, multiply and systematize with a superhuman speed doesn't mean that you understand the essence of what you do.

The more we become educated, the more we realise how limited our knowledge is. A seemingly strong person may turn out to be weak. And 'weakness' and meekness sometimes reveal themselves as the qualities that command admiration of the strong and powerful.

Human intuition and creativity are hard to comprehend. Talent is utterly unfathomable, let alone the human genius.

High informative technology (and I personally use it to the full) is the latest phase of thousands of years of the 'applied human genius'. In it the exact sciences, such as mathematics, physics and chemistry, are inextricably intertwined. This is what technical progress is like.

The German philosopher Martin Heidegger, one of the greatest thinkers of the twelfth century, dedicated his principal works to the idea of technical progress. For him technology is an inherent yet problematic aspect of modern culture and civilisation. Humanity is yet to think about all of this carefully.

DISSENTING OPINION

LORD, SAVE AMERICA FROM DEMOCRAZY!

Radical liberal circles are at the vanguard of the struggle against common sense

TEO GURIELI

The end of February was marked by a series of dramatic political events in the USA. Michael Cohen, personal attorney to Donald Trump, was first convicted and then appeared before the Committee on Oversight and Reform of the USA Congress's House of Representatives. The same House of Representatives also proposed Vladimir Putin Transparency Act. Thus liberals are firing in all directions, trying to ensure the impeachment of President Trump and demonise the Russian leader by every way possible simultaneously. But it appears that they have met with failure in both cases.

The questioning of Cohen (who had already been convicted) by congressmen, which some journalists have called 'grilling' and which the Democrats conducted in the hope of receiving evidence of Trump's 'collusion' with Russians, has not strengthened their position. In effect, the questioning was senseless because all possible information had already been wrung out of Cohen during the investigation. Moreover, there was violation of the law because attorneys have no right to divulge their clients' secrets. Nevertheless, the Democrats managed to compel Cohen to publicly admit that Trump is 'a racist, a conman, and a cheat'. But the following question arises: if an attorney characterises his client in this manner, why in the world did he work for him for as many as twelve years?

Special Counsel Robert Mueller

If he didn't refuse to work for him in the first place, then he is either a conman himself who believes that 'money has no smell' (not least big money) or a blooming idiot who is ready to risk his neck for the sake of this money. Though Cohen himself wants others to consider him as a fool so that his prison term may be reduced. When James Comer, a Republican and member of the House of Representatives, asked Cohen what he could call himself, he declared: 'a fool'. Journalists didn't fail to point out in their articles about the hearings that the former attorney (and he automatically lost his legal licence) told the truth in Congress at least once.

Meanwhile, a majority of Americans have the impression that not only is Cohen a fool, but that he is also an out-and-out scoundrel. After getting caught for illegal actions, he not only betrayed his client, but also allowed himself to slander and demonise him. Obeying the Democrats who arrested him, threatened him with a long term and promised to ease his lot, Cohen after appearing before the Committee on Oversight and Reform laid many accusations against President Trump which were absolutely groundless, albeit they caused the liberals to titter with joy.

And the Democrats from Congress knew about this perfectly well. After all, if any evidence of the so-called Trump's collusion with Russia had been found, Cohen's life would have taken a different turn. The investigation, taken over by the Special Counsel Robert Mueller, would have struck a bargain with Cohen. He would have got off cheaply, while the charges against Trump would have developed into an occasion for long, colourful celebrations of liberals. Now that the hearings in Congress are over, the American public knows what the United States Deputy Attorney General Rosenstein and Special Counsel Mueller knew from the very beginning: there is no evidence that Trump colluded with Russia to win in 2016 presidential election. All of this is nothing but a liberal inspired witch-hunt.

What does it mean? It means that Mueller and his team (who paid millions for this Russian Probe) are a fake organ. After spending two years in splendid offices and wasting over $25 million, they have fell short of their masters' expectations.

True, they have proved that Cohen is a liar, a cheat and a criminal, that the investigation into his case was worth the effort and he will be punished according to his deserts. However, they are bitterly disappointed: Cohen has been sentenced in federal prison for his own fraud and not because he helped Trump and his entourage 'collude with Russians'. Mueller himself admitted that there are no grounds to bring him to justice for the 'collusion'. And now the Republicans have a chance to declare that the accusations that Cohen laid out against Trump are not worth a tinker's curse. After all, even the House of Representatives has admitted that Cohen is an inveterate cheat and an incorrigible liar.

In addition to the allegations that Trump 'colluded with Putin' and he is 'Putin's puppet', the Democrats and media outlets under their control repeated over and over again throughout Donald Trump's tenure that he is a 'fascist', that he is trying to destroy the current constitutional order and that he is an enemy of American values. In other words, he is a disaster for America.

Michael Cohen, personal attorney to Donald Trump

Is that true? Centrist politicians, sober-minded observers, and journalists who refuse to sell their pens for a handful of money put special emphasis on the fact that it is liberals that are undermining the Constitution and legal system in the USA. It above all concerns the left-wing liberals, namely those who are called 'staunch fighters

for genuine democracy'. In our opinion, these are people who hold radical views and use the word 'democrat' only as camouflage.

There were pseudo-liberals in Russia in the 1980s and early 1990s too. They called for hanging political enemies and destroying the Soviet-era monuments. They were ultra-right, vociferous and furious, for which they were labelled 'demshiza' [an abbreviation for 'democratic schizophrenics']. In time they found themselves on the margins of society and became remnants of the transitional period. Though from time to time they attempt to draw public attention to themselves noisily, they still remain on the margins.

As for America, the situation is very different there. Pseudo-liberals in America are on the left: at least they are considered as such. Their ideology is rightly called 'democrazy' and not 'democracy'. These two words differ only by one letter, yet the difference is enormous! This militant cohort's principle of action is to make the whole of the American nation submissive to liberal values and the policies of the Democratic Party, to turn people, especially young people, into conformists who follow the liberal 'ideals' blindly and hate all that is at variance with these ideals. Supporters of 'democrazy' are very gullible: they are easily controlled by 'public organisations', founded by the Democratic Party or George Soros Foundation. And it is these champions of 'democrazy' that (whether consciously or unconsciously) are destroying real democracy and causing the loss of constitutional rights of most Americans.

Let us take, for example, the Bill of Rights, which is the cornerstone of the protection of rights and liberties in the USA. Thus, according to the American Constitution, the following basic liberties should above all be observed and protected: the freedom of speech, the freedom of religion, the freedom of assembly, and right to keep and bear arms. It would be absolutely absurd to accuse President Trump of challenging the basic liberties. But if we leaf through today's American newspapers, we will see very clearly who in reality jeopardizes these freedoms. This threat comes from left-wing liberals.

Judge for yourselves. One of the most essential elements of the Bill of Rights is the First Amendment. It reads that the USA Congress 'shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the government for a redress of grievances'.

But over the decades liberals tried their best to make freedom of speech just an empty phrase. They invented the term 'hate speech' and made numerous attempts to prohibit speeches and publications in which criticism allegedly takes the form of 'hate'. But since a majority of Americans didn't swallow this bait, the liberals found a new way of making people quiet. They turned to large corporations that belong to them and created conditions which, in effect, developed into prohibitive measures. People are forced to keep silence and refrain from publishing materials.

Millions of people in both the UK and the USA use the PayPal transfer service. If somebody makes purchases or sells online, it is extremely convenient and important to him. But the company's administration has begun to forbid some users, with whose speeches, articles and ideological stances it is not satisfied, to use the system any more. More than that, the company's director admitted that it received a guide for action from the organisations that are directly linked to the Democratic Party.

It is just one example of the activity of the Democrats. But indeed the left is working hard across the length and breadth of America to get all that prevents it from creating 'the liberal Paradise' out of its way. For many years they have been waging a large-scale campaign to do away with the National Rifle Association of the USA. This campaign includes not only articles, speeches and rallies; in mass media liberals assault all the companies and financial institutions that cooperate with the Rifle Association, including even advertisers. They want to ensure that people living in the states where a majority of residents voted for Trump people cannot defend themselves.

Similarly, they have been struggling to shut down the Fox News company, one of the few remaining media outlets that are able to expose the lies and insinuations of such media as CNN and the New York Times, which have been financed by the Democrats. There is direct evidence of an attempt to impose censorship all over America and make fools of Americans simultaneously. And sadly there are numerous examples when their fight for the minds and hearts of people proves to be effective. Among the intelligent and well-educated Americans I have been in touch with there are many fathers of families who have changed their views: formerly they supported Trump and now they support the Democrats.

Radical liberal circles – that is, leading representatives of 'democrazy', are at the vanguard of the struggle against common sense. It was they that impelled tens of thousands of people to take to the streets after Trump's victory in the presidential election, and there were even young students and school-children among the protesters. It was these crowds that screamed not only insults at Trump and his family but also rude verbal attacks on his electorate – honest-minded and hard-working patriots. It was at these 'protest rallies' that there were calls to 'blow up the White House' and 'to murder this racist Trump'. And these folks are now talking about 'hate speeches'!

The Bill of Rights is the cornerstone of the protection of rights and liberties in the USA

Like most other people who know the ABC of political science and follow international events, I cannot regard some of the steps of the American President as reasonable and balanced from the point of view of maintaining international peace and security. But, in my view, it is the legions of faithful supporters of 'democrazy' along with liberals in the USA political circles who encourage them that are largely responsible for the aggravation of the situation in some places of the globe, to say nothing of the split in American society. In its turn, this serves as a warning signal to peace-loving forces, first and foremost in America itself. A conclusion inevitably comes to mind: if the American advocates of 'democrazy' are treating their own people in this manner, then what harm they are capable of inflicting on other nations and the whole world!

We have no choice but to say: Lord, save America from 'democrazy lunatics' who are itching for power…

WHO ARE THE RUSSIAN GENIUSES OF TODAY?

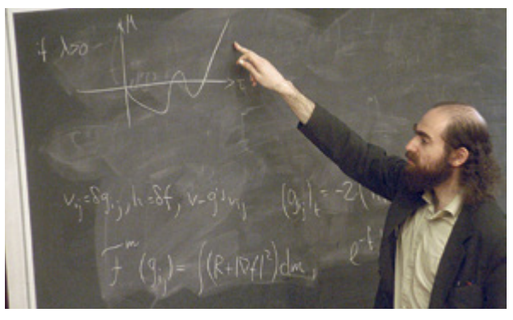
YEKATERINA SINELSCHIKOVA

Steve Wozniak, Mark Zuckerberg, Elon Musk… which Russians could rub shoulders with these guys without looking out of place? Here's a look at some of the country's finest minds living among us who have helped unravel the mysteries of the universe.

Grigori Perelman: A recluse who proved the Poincare conjecture

Imagine you're the most intelligent person on the planet and have solved one of the seven Millennium Prize Problems in mathematics. For this achievement the scientific community has awarded you a prize of one million dollars. Most people would be pretty happy, but not Grigori Perelman… he turned down the money, barricaded himself inside his home, and refused to answer telephone calls.

The brilliant mathematician rose to fame in 2010 after rejecting the huge cash prize for his proof of the Poincaré conjecture, which he published online back in 2002. Scientists took almost a decade to fully understand Perelman's proof of the super difficult conjecture because he omitted many details, saying they were "self-evident." Put simply, he proved the most astonishing theory of the last century – that our universe is shaped like a three-dimensional sphere. He worked on the solution for eight years and during this time his laboratory colleagues had no idea what the reticent scientist was up to.



Asked in a rare interview why he didn't take the money, the genius replied: "I know how to control the universe. So why would I chase a million, tell me?" Perelman said his American colleague Richard Hamilton should also take credit for the discovery.

Konstantin Novoselov and Andre Geim, who made a ground-breaking discovery with... Scotch tape

In 2010 the duo was awarded the Nobel Prize in Physics for discovering graphene, the strongest and thinnest material on Earth. However, it almost ended up on the rubbish tip.

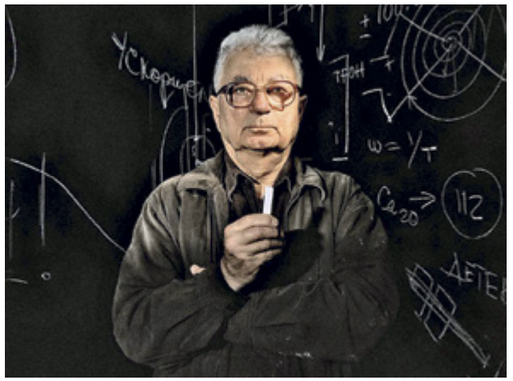
Graphene is just one atom thick and billions of such layers form graphite (what pencil lead is made of, for example). Previously nobody believed it was possible to separate just one layer of graphite but Novoselov and Geim enlisted the help of ordinary Scotch tape. They used it to peel off layers from a piece of graphite in order to study them under a microscope. It really is this simple – it turns out all that's needed is to stick Scotch tape to graphite and then repeatedly peel it off until a single-layer film is formed.

Now graphene is used in smartphones, cars, and the sports industry, even jackets are made from it. It's also used as hair dye and is being tested for cancer treatment. And this is just the tip of the iceberg.

Yuri Oganessian, the man who expanded the material world

Devoting more than 40 years to an experiment that has every chance of failure is very much the Russian way of doing things.

This is exactly what physicist Yuri Oganessian has spent more than half of his life doing in an attempt to expand the limits of the material world, without knowing whether major failure or resounding success awaited him. After all, it would appear that everything we can see and touch, and everything we are made of, was described in Dmitri Mendeleev's Periodic Table a long time ago.



The reason for thinking otherwise was provided by Mendelevium, a synthetic chemical element with the atomic number 101, which was synthesized in the U.S. in 1955. Physicists had a feeling that there could be many more elements. Moreover, it's possible that there are elements (much heavier than uranium) that do not decay and may have a life of hundreds of thousands and even millions of years. This is how the island of stability theory came about – it suggests there's a material world which we did not suspect, which exists according to different laws.

"We looked in the ground and in samples from the Moon, and in the U.S. nuclear explosions were conducted and big accelerators built, all to no avail," Oganessian recalled.

He only reached the shores of the first "island" in 2000. These were elements 114 and 116, synthesized using an accelerator (on Earth, these elements have never been found in a natural environment). By 2015 there were already six new superheavy elements. And this may not be the end of the story. Oganessian has been nominated for the Nobel Prize more than once, and in 2017 an island of stability was found even without an accelerator 370 light years away in the constellation of Centaurus.

Igor Mitrofanov, the man who found water on Mars

He's the only person in the world whose instruments (installed on spacecraft) have systematically been studying the planets and their moons in the Solar System in search of extraterrestrial life (for over a decade). Six of Mitrofanov's inventions have scanned space, the latest of which left for Mercury in 2018.

It is Mitrofanov to whom we owe the discovery of water on Mars and the Moon. His instrument equipped with a neutron detector is mounted on the American Curiosity rover which is roaming the surface of the Red Planet as we speak. He has also made an instrument that was sent to Jupiter.

But ultimately, all this is needed for just one thing, Mitrofanov explained: "It is quite possible that the water that we now have running from our taps was brought to Earth by comets from interplanetary space. By studying the evolution of Mercury and the other terrestrial planets, we will better understand the past and the future of our own planet."

Zhores Alferov, who propelled humanity to another level

Another Nobel laureate in physics, Zhores Alferov, was involved in the laser race that started between the U.S.S.R and U.S. in 1968. Scientists competed to develop a new technology – semiconductor lasers, which open the door to a fundamentally new world of electronics.

And he succeeded. Alferov was the first to invent the technology that later made it possible to produce optical CD players and discs, mobile phones, solar batteries, laser "scalpels," optic fiber (without which there would be no internet), and many space technologies.

In the same year (2000) an identical discovery was made by scientists from the U.S., so the Nobel Prize was divided among three people. But Alferov maintains in interviews that "We started the production of the electronic components earlier. Had it not been for the 1990s, it is we, and not the U.S., who would have been producing iPhones and iPads now."

5 TECHNOLOGIES THAT WERE PIONEERED IN RUSSIA

GEORGY MANAEV

Extinguishing fires, measuring blood pressure, powdered milk and even the welding of metals – these are just some of the many brilliant scientific advances and breakthroughs that were invented and first applied in Russia.

1. Welding

When Russian welding first appeared, there was a glass. But a metal one.

The first experiments that led to the discovery of welding (a process that joins metals by using high heat to melt parts together) were conducted in the early 19th century, simultaneously and independently, by Russian engineer Vasiliy Petrov, and English engineer Humphry Davy. They both discovered the electric arc, but while Davy's first arc was short-pulsed and lower in temperature, Petrov's one could hold longer and produce temperatures sufficient enough to melt metals.

In the early 19th century, Petrov's experiment was just pure science. However, in 1881, Russian engineer and inventor Nikolay Benardos, who worked under Pavel Yablochkov (inventor of the electric carbon arc lamp), discovered that an electric arc can be used for melting metals together – welding. In 1885, Benardos received a patent, and in 1888, the industrial use of the method began.

At the same time, another Russian engineer, Nikolay Slavyanov, suggested using metal electrodes instead of carbon ones, which allowed for the welding of metals with very high melting points. As an example, Slavyanov created his famous "glass", a cylinder comprised of eight metals with high melting points that were welded together.

2. Powdered milk

Powdered milk is an essential ingredient in baby foods, and we all ate/drank it when we were toddlers. Few, however, probably know that it originally comes from remote areas of Siberia.

In 1792, Ivan Erich, an interpreter from Mongolia, first wrote that in Dauria (Transbaikal region) the local Mongols froze milk in winter on plates, and then dried this ice in the sun, evaporating the water part, which resulted in "milk powder." Soon, a doctor working in the same area introduced this means of milk storage to the wider public.

Osip Krichevsky, the original inventor of powdered milk, worked as a doctor in the Nerchinsk silver smelting plant (Transbaikal region, over 5000 km from Moscow). He noted that the Yakut people, many of whom worked in the plant, were drying milk the same way. Krichevsky suggested powdered milk could be useful "in naval voyages, where fresh and nutritious food is necessary." He also noted that "Europeans don't yet know this Siberian product."

Krichevsky used the technology to store milk in Nerchinsk, where he died in 1832. Production of powdered milk also first started in St. Petersburg in 1832. However, the first patent for this technology was acquired by an Englishman, T. S. Grimwade, in 1855.

3. Extinguishing fire with foam

Putting out a fire with water is not as effective as it seems. And so, a Russian, however, decided to foam it all up.

Russian engineer Vasiliy Petrov

Alexander Loran, a Russian engineer of French descent, was looking for a way to create an effective fire extinguisher because he had seen a lot of fires. In the early 20th century, Loran, an engineer who studied chemistry in St. Petersburg and Paris, worked as a teacher in Baku, the largest city of Russian-controlled Azerbaijan, which at the time was the center of the empire's oil industry. Runaway oil fires were a major problem, and they couldn't be extinguished with water or powder extinguishers.

Legend has it that Loran was drinking beer with a pal when he shouted, "Eureka!" Soon, Loran conducted his first experiment, trying to put out a burning puddle of oil using foamed beer – and it worked! Loran then invented a foaming substance, and founded an extinguisher-producing brand, calling it "Eureka." He patented his system in Russia, and in the U.S. in 1907.

4. Gridshell

It's interesting how a technology devised in the 19th century found its full application in the 21st – Russian architect and engineer Vladimir Shukhov was a genius who was years ahead of his time.

Diagonal grid structure (also diagrid, gridshell) was first invented and patented by Shukhov in 1895–1899. Its advantages are low weight with the ability to withstand heavy stress because of the construction's elasticity; low corrosion, with little or no space for water to penetrate; and low cost and high durability. Today, most of Shukhov's towers and pavilions in Russia are still intact after more than 100 years of little or no maintenance.

His invention has helped to define 21st-century architecture to a significant extent: gridshell is now employed by world-renowned architects such as Richard Buckminster Fuller, Norman Foster, Nicholas Grimshaw, and many, many others.

Shukhov's tower in Nizhny Novgorod, Russia, 1896

It was not so popular during the 20th century, however, because its construction demands scrupulously precise calculations, which are much easier to complete on a computer. Even though he didn't have such computational technology at his fingertips, Shukhov himself, however, managed to do it – he created the first gridshell towers and industrial pavilions for the All-Russia Industrial and Art Exhibition of 1896 in Nizhny Novgorod.

5. Measuring blood pressure

This common medical method is one of the oldest in practice, and it's used even today because of its accuracy

Blood pressure is one of the most important measurements that can be made on the human body, and it helps to diagnose various diseases and conditions. While measuring blood pressure, doctors usually use two figures: systolic pressure (maximum during one heartbeat), and diastolic pressure (minimum between two heartbeats).

There had been many low-accuracy methods of blood pressure measurement before Italian pathologist Scipione Riva-Rocci invented an inflatable cuff that encircled the arm and was attached to a mercury sphygmomanometer. The cuff was placed on the arm, inflated, and then the doctor held his fingers on the patient's pulse. When no pulse was detected, that meant that the cuff completely blocked the blood flow and the internal cuff pressure was identical to systolic pressure. However, this method didn't allow to detect diastolic pressure.

Nikolay Korotkov was a Russian doctor who first worked as a field medic and then switched to vascular surgery. In 1904, he measured a patient's blood pressure using the Riva-Rocci cuff and accidentally used his stethoscope on the patient's brachial artery, when he heard thumping sounds that later were named after him. The artery, in this case, is similar to a pipe with fluid that is being pinched shut by the cuff. When the pressure in the cuff is above systolic, no sounds are heard. As soon as they are equal, some blood is able to pass below the cuff, and thumping sounds appear. When they end, that means the blood flows freely. So, the moment when the sounds end denotes the diastolic pressure.

Korotkov described this method in 1905 in a report that took half a page. In 1935, the World Health Organization approved this method as the only official non-invasive blood detection method, and it is standard to this day.

THINGS YOU SHOULD KNOW ABOUT CELEBRATING EASTER IN RUSSIA

DASHA FOMINA

April 28 is Orthodox Easter Day in Russia, a holiday so important people celebrated it even during the atheist Soviet era. To this day Russians observe many Easter traditions, just the way their ancestors did. Although there are no Easter bunnies or chocolate eggs, celebrations involve unique and beautiful customs – here are some of them.

Easter is known as Paskha

Easter in Russia is called Paskha (Пасха). The name presumably derives from the Jewish holiday of Pesach, which was dedicated to the release of Jews from Egyptian slavery. Another origin theory says it comes from the Greek phrase "I suffer". In accordance with Christian tradition, the word signifies transitioning with Christ from death to eternity and from earth to heaven.

It's a shifting holiday

Russian Easter shifts from year to year because it falls on the first Sunday after the first ecclesiastical full moon. Paskha is usually celebrated later than Catholic Easter, because the Russian Orthodox church follows the old Julian calendar, unlike the Roman Catholic and Protestant churches, which have been using the Gregorian calendar since the 16th century.

People fast before Easter

Paskha is preceded by 40 days of Great Lent, the most important event in the Orthodox church year. Those who observe it are not supposed to eat meat, dairy and, on some days,

even vegetable oils. On the last Friday before Easter (Good Friday), no food or drink should be consumed until the evening.

Easter requires preparation

Russians are supposed to do all their pre-Easter chores during the last week before the holiday, also known as the Holy Week. Houses should be thoroughly cleaned before "Clean Thursday", which is when Russians dye and decorate eggs. On Saturdays, everyone cooks traditional Easter food and those who fast are not allowed to taste it while cooking. It is also common to bless the food at church during the night service.

There's a church service at night

In Russia, the Easter church service starts on Saturday evening and lasts until dawn. This is usually an impressive ceremony with candle lights and liturgical chants, attended even by those who don't attend mass frequently. At midnight, the bells are rung to announce the resurrection of Christ; the priest says "Christ is risen!" and parishioners are supposed to respond with "He is truly risen!"

Eggs are more important than you think

Easter eggs are arguably the most important part of the holiday. Hard-boiled eggs are traditionally painted red using onion skins; they symbolize resurrection and new life. Exchanging eggs is one of the most popular Easter customs. Another less common practice is to keep the eggs until the following Easter, which supposedly helps protect the house from floods, fires and other natural disasters.

Traditional food is still popular

On Easter morning most families in Russia, no matter how religious they are, will probably enjoy a traditional breakfast of eggs, kulich (кулич) – a special kind of yeast bread, and paskha – a pyramid-shaped cake made of cottage cheese and raisins. Even though food stores offer ready-made kulichi and paskhas, many people prefer to make them using family recipes that have been passed down from generation to generation.

There's a special greeting

Russians rarely stay at home on Easter; this holiday is all about family gatherings and festive dinners. So, throughout the day people exchange Easter eggs, kiss each other on the cheek three times, and often say "Christ is risen!" to each other, responding with "He is truly risen!"

Easter has its own games

Russian Easter celebrations include various games, which unsurprisingly involve the use of Easter eggs. The most popular one is rolling the eggs along the floor or down a slope, and the one that reaches the base without breaking wins. People also try to crack each other's eggs and the one whose egg cracks last is the winner.

10 TYPES OF MOVIE TECHNOLOGY THAT CHANGED THE INDUSTRY FOREVER

NAT BERMAN

Since the introduction of the very first motion picture a little more than a century ago, the movie and television industry continues to impress when it comes to innovation. Can you imagine there was a time when the sight of a quiet moving train on a screen could literally send the audience diving for cover? But this only goes to show how cinema has inspired some of the most eye-catching technologies in visual arts.

From green screens and 3D viewing to CGI and iMax, the digital film and steadicam, the world of cinema has come a long way to modern technological advances. With the proliferation of computer-based discoveries, tech solutions, and digital platforms in the fields of filming and special effects, the innovations that await us in the future are no less exciting than those of the last one hundred plus years.

These are the top 10 types of movie technology that changed the industry forever (we have omitted obvious ones like sound and color).

1. Filming the Future — 2012

Originally, the industry standard for shooting a movie was 24 frames per second. Thanks to significant progress in filming technologies, movies such as The Hobbit boast a breathtaking 48fps, making it the first Hollywood movie to exceed the typical fps rate. Red One Digital cameras on movie sets across the globe are revolutionizing the filming process by discarding the standard 35mm-camera and going for a littler, lighter, and more portable alternative without compromising on the image quality.

The result: filmmakers don't have to deal with heavy equipment when exercising their craft, which can be rather cumbersome. Using digital backgrounds and virtual backlots, actors now have the ability to appear in far-flung destinations – which has helped strengthen domestic economies. Today, directors can let their imaginations run wild and incorporate bazaar scenes without rewriting their scripts or breaking the bank.

2. Second Screens

The introduction of multiple screens has provided entertainment lovers with endless ways to enjoy their favorite movies. From streaming services customized for the mobile screen to tablet apps, fans can have a more profound experience of their favorite content. Furthermore, recent apps such as the Men in Black III app and the Star Trek app allowed users to connect with other fans, gain access to exclusive content, and intermingle with the marketing campaigns.

3. Disney Digital and Ultraviolet Copy

These two technologies are revolutionizing when and where fans can watch movies and TV shows. Blu-rays can be purchased, then stored and accessed in the cloud on the internet, allowing people to enjoy their content whenever, wherever they want. With more access to entertainment than ever before, you can now find your favorite movies and TV shows on a wide range of platforms, including streaming services such as SnagFilms, Fandor, Hulu Plus, Crackle, and iTunes, among others.

4. Eco-sustainable Practices

One of the most iconic movie technologies has got to be in the field of sustainable practices. Movie studios have started replacing energy-consumptive filming methods with more eco-friendly solutions. For instance, in the movie Think Like A Man, the entire set had to be revamped to reduce energy consumption by implementing low energy emission filming and LED lights. Studios are looking for low-energy options in filmmaking, which can be in the form of solar power installations, natural gas micro-turbines, or minimizing the use of such resources as water, fuel, and electricity.

5. Science Fiction to Reality

There are certain movies that have inspired significant innovations in the movie industry as well. The previous imaginary gesture technology noticeable in films such as Johnny Mnemonic and Minority Report rose above their fictional roots and transformed into real world technological advancements. What's more, movies such as Iron Man, Prometheus, and Inception continue to champion futuristic gadgets and innovation.

6. The Dolly and Steadicam (Camera rigs) (1907 and 1976, respectively)

These technologies are the inventions that represent benchmark camera techniques. It's quite hard to find a major motion picture that does not utilize either (if not both) of these technologies. In a nutshell, the dolly is simply placing the camera on wheels that glide along tracks. This facilitates a smooth movement that allows you to follow people when they are walking or talking, or even get sweeping opening shots, particularly when combined with a crane. The Steadicam, on the other hand, was invented to incorporate the seamlessness of a dolly system while allowing the freedom of handheld shooting. To put it simply, it is a rig that allows you to place the camera on several points of the human body, utilizing the cameraman's chest, shoulders, and back to support the camera while holding it with your hands. Notable movies making use of this technology include The Russian Ark (2002/3) and The Shining (1980).

7. DSLR (Digital Single Lens Reflex) Cameras — 1969

One of the biggest moves in the movie industry was the transition from film to digital cameras. The ability to record onto internal storage and memory cards instead of chemicals saw a significant reduction in production time and expenses. The bonus was that these cameras were compact, which also helped reduce the time for setting up the equipment. Since the introduction of the first DSLR camera to shoot at 24fps in HD video (Nikon D90) in 2009, there has been a noticeable difference between film and digital.

8. CGI (Computer Generated Imagery) — 1973

The first time computer generated imagery was used in film was in the sci-fi movie Westworld, back in 1973. The subsequent films Futureworld (1976) and Tron then came with 3D, and the rest is history. This was a good time for fantasy and science fiction filmmakers because it provided the right tools to visually illustrate the themes and the world of their characters.

9. Green Screen — 1940

The "traveling matte" was the first form of digital compositing. This was a process used to superimpose backdrops as actors performed against a blank, colored wall. While the colors of these screens have changed over time, the effect and the process have remained the same. It's a time consuming technique that involves filming a scene against a green screen, and then re-filming it with a filter attached to the lens to remove all the colored areas of the film. In the final recording, the layers are arranged over each other, frame by frame. This technology gave actors the ability to appear anywhere in the world during filming, as well as create optical illusions while cutting back on production costs at the same time. The Thief of Bagdad (1940) is probably the first film to use a blue screen filter effect.

10. The Internet ('90s)

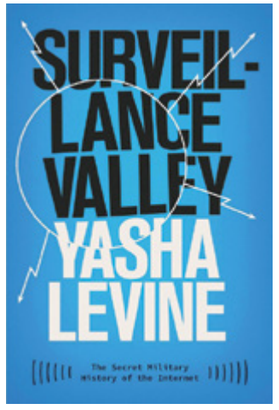
Of course, this list would not be complete without adding the internet, which has changed (and is still changing) how movies are seen and distributed across the world. Thanks to instant access and worldwide distribution facilitated by the internet, anyone with a Smartphone can enjoy the stimulating effects of video creation. New formats (podcasts, web shows, etc) and new methods of accessing video (downloading, streaming) have seen the power shift from the industry to the masses.

BEST TECHNOLOGY BOOKS

Technology is constantly evolving, with continuous developments shaping our present and future before our eyes, stemming into virtually every sector.

Here, we list some of the most recent groundbreaking tech tomes for you to get your teeth into.

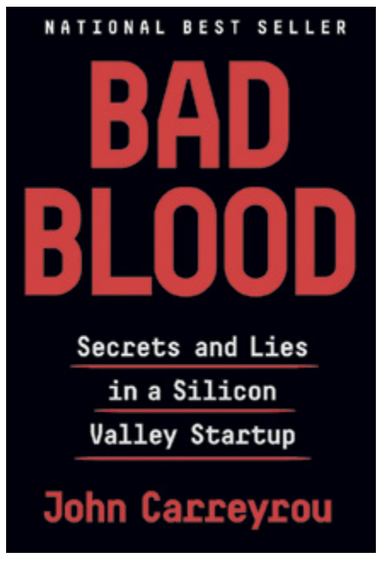
Surveillance Valley: The Secret Military History of the Internet
by Yasha Levine



Investigative reporter Yasha Levine details the roots of the internet as a tool for surveillance and control, through to the murky reality beneath the surface of the modern privacy movement today.

Surveillance Valley is a must read for those with an interest in the history of the web and where it all started – as a weapon.

Bad Blood: Secrets and Lies in a Silicon Valley Startup
by John Carreyrou



Wall Street Journal investigative reporter and Pulitzer Prize-winner John Carreyrou tells the story of a biotech startup based in Silicon Valley, Theranos, that wasn't quite as advertised.

Bad Blood reveals how Elizabeth Holmes, once the most successful female entrepreneur in Silicon Valley, grabbed the attention and capital of investors with a medical device that promised to transform the medical industry by making blood testing simpler. But the technology didn't work.

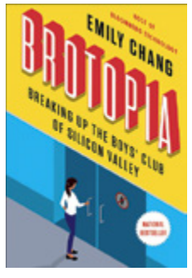
Hit Refresh
by Satya Nadella

Microsoft CEO and self-confessed cricket obsessive Satya Nadella launched his part-polemical, part-autobiographical book Hit Refresh in 2017.

Co-authored with former Microsoft employee Jill Tracie Nichols, the Hyderabad-born CEO charts his time growing up, moving to America, his family life and his rise to CEO at Microsoft, with various philosophical and political musings tied in along the way.

Although Nadella ignores some of the most pressing concerns of the 21st century (disaster capitalism – he doesn't want to talk about it, he writes) and comes across as technocrat (he is the CEO of Microsoft, after all), the book nevertheless became a New York Times bestseller

Brotopia: Breaking Up the Boys' Club of Silicon Valley
by Emily Chang



A riveting call to arms against the stifling homogeneity of Silicon Valley's tech bro communities. Enshrined in exclusive cultural practices – meeting in a hot tub or the local strip club anyone? – and workplaces where discrimination and harassment are rife, this book takes aim at the antiquated views still baked into one of the otherwise most forward-thinking segments of society.

Supported by interviews with a number of impressive women in tech, and insider scoops on the most troubling hotbeds of this inequality, this book examines how to disrupt the brotopia currently shaping the world of tomorrow.

Harnessing our Digital Future
by Andrew McAfee and Erik Brynjolfsson

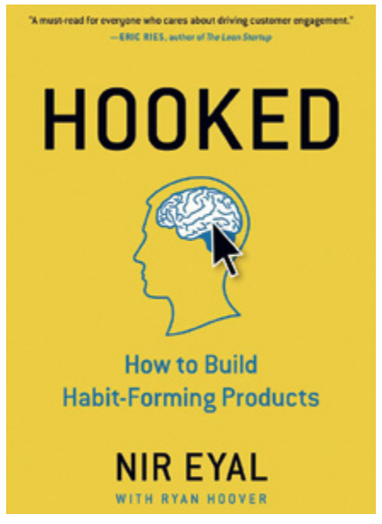
This book, written by MIT researchers Andrew McAfee and Erik Brynjolfsson, is a must read for those in tech or business. It focuses on how machine intelligence, products and platforms, and the ability to harness the crowd are informing the future of business, including how and why industry incumbents are being disrupted by younger upstarts and why the wisdom of crowds is more important than ever.

Innovation and Its Enemies: Why People Resist New Technologies
by Calestous Juma

This book is a fascinating, historical exploration of how technologies of varying scale have been received and the worries that are often associated with them, exploring themes such as inequality along the way. It then links these concerns to emerging technologies today and how to manage shifting public expectations towards new tech.

Hooked: How to Build Habit-Forming Products
by Nir Eyal

In Hooked: How to Build Habit-Forming Products, author Nir Eyal draws from his background in advertising and gaming, combined with a healthy dollop of behavioural psychology to inform this insightful book on how companies build products we can't put down. Eyal uses his Hook Model, consisting of four steps,



to explain why some products intrigue us while others are discarded. A fascinating read for anyone interested in consumer psychology or the human mind in general.

Technically Wrong
by Sara Wachter-Boettcher

Described by the journal Science as a 'call for resistance', Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech, explores the human biases behind the people who write code – and how an extreme lack of diversity in Silicon Valley can lead to extremely unpleasant results baked into the final software, including but not limited to racial discrimination and sexism.

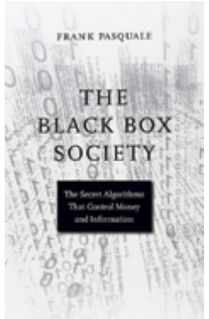
Soonish: Ten Emerging Technologies That'll Improve and/or Ruin Everything
by Kelly and Zach Weinersmith

Tackling serious topics with a light-hearted touch, SMBC cartoonist Zach Weinersmith and Dr Kelly Weinersmith to explore emerging technologies that might – wait for it – improve and/or ruin everything.

It puts the lens on real and imagined technologies like augmented reality, space elevators, and fusion-powered toasters, why they could or couldn't work and the steps that would have to be taken to potentially realise them.

Reddit cofounder Alexis Ohanian says the book provides insights into "the most ambitious technological feats of our time".

The Black Box Society: The Secret Algorithms That Control Money and Information
by Frank Pasquale



Frank Pasquale's exposé into the murky algorithmic undergrowth of big finance charts how hidden lines of code can make or break lives and even threaten to topple economies.

Chief executives cloistered in Silicon Valley race to gather the most data for maximum profit, but they're unaccountable.

Pasquale's book seeks to shine a light on their secretive (and perhaps unethical) practices, to encourage the kind of transparency that the public is eager for in both Wall Street and the Valley.

Ready Player One

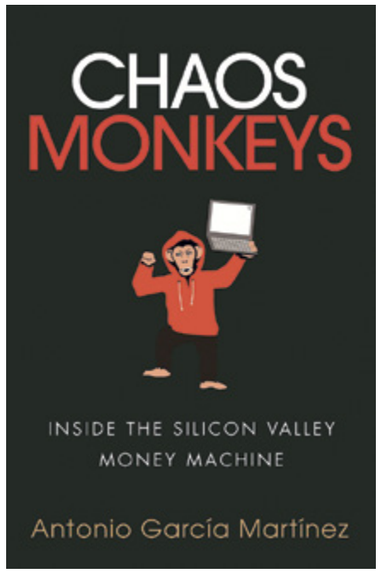
Set in 2044, humanity escapes the dystopia of existence within the OASIS (Ontologically Anthropocentric Sensory Immersive Simulation). Following protagonist Wade, we experience an action-packed sci-fi thriller,

teasing romance and on-the-bone comedy, ultimately fuelled by the nostalgia of the 1980s.

Any techie reader will be immersed from start to finish in the hunt for Adventure's three keys from the Atari 2600. Made to bring out the inner gamer-geek in all of us, Ready Player One is the close-sci-fi novel of the decade and a soon-to-be cult classic.

Chaos Monkeys: Inside the Silicon Valley money machine

Stripping the Silicon Valley bubble bare, Chaos Monkeys offers a guide to the high-powered tech elite living a life of excess in the Californian tech hub. In this book, author Antonio García

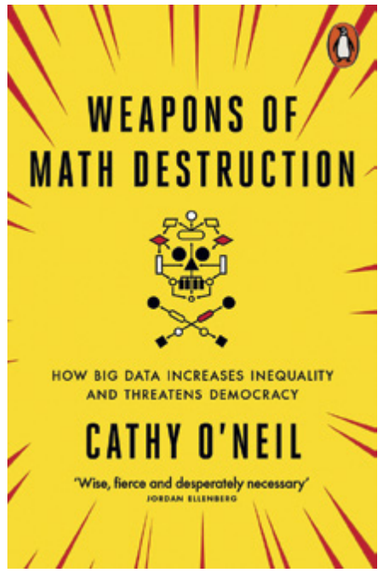


Martínez (previously a Facebook and Twitter advisor) looks at how tech innovators can disrupt every sector of modern life.

For a slightly more recent examination of the same topics, look no further than Live Work Work Work Die: A Journey into the Savage Heart of Silicon Valley following author, Corey Pein's, experiences trying to get rich quick in the world's most lucrative 'billionaire factory'. The resulting cultural excavation of a desolated landscape populated by opportunists, con-men and grifters from afar is well worth a read.

Weapons of Math Destruction

In this book, data scientist Cathy O'Neil explores the age of the algorithm, questioning its impact on humans and society. Logically designed algorithms would be expected to bring



about calm, certainty and fairness – but this is far from being the case. Instead, policies informed by 'fair' algorithms are currently penalising some of those most at need, creating vicious cycles and highlighting the 'dark side of big data'.

Rise of the Machines: the lost history of cybernetics

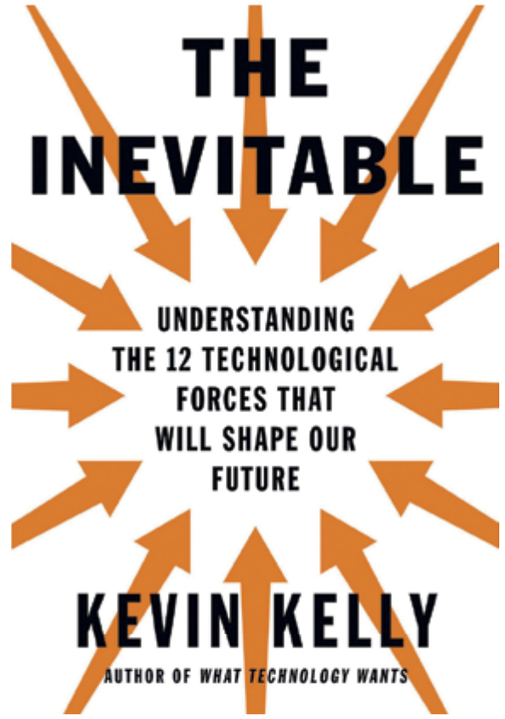
The rise of the machines as a futuristic theory has been well covered in TV, films and books, but what got us to this point? Why is there a constant need to explore a post-apocalyptic world where we have super intelli-

gent overlords? This book offers an insightful history of cybernetics, offering a guide to the recent past and how this could impact the future of, well, everything.

The Open Organisation
by Jim Whitehurst

In this book, Red Hat CEO Jim Whitehurst reveals how creating an

engaged and passionate workforce will result in a performance and revenue boost in both a work setting and in the greater world. Whitehurst focuses on the greater community, demonstrating how building a strong collective will inevitably lead to success.



The Inevitable
by Kevin Kelly

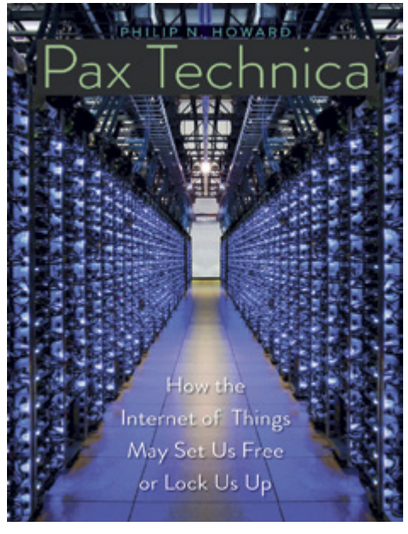
In this book, Kevin Kelly guides readers through the next 30 years of our lives, calling on 12 technological imperatives that will transform the way we live. From virtual reality, AI and the digital economy, this book aims to provide an understanding of the tech that will change the future of the planet.

The Innovators
by Walter Isaacson

A brave attempt to sum up how computers and the internet came to be, with Ada Countess of Lovelace in the 1830s at one end to the era of search at the other – and plenty in between. Covering the work of 60 'innovators', it turns out it was all about teamwork rather than the simplistic idea of genius or mavericks. He could have started earlier with the Mechanical Turk.

Pax Technica
by Philip N. Howard

An unfashionably optimistic view on the Internet of Things (IoT) and what this new hyper-connectedness could do for politics, democracy and even the authoritarian regimes that have flourished lately. He argues that IoT won't just change the nature of devices but the ability – or inability – of power brokers to control it.



A RUSSIAN EASTER FEAST

JENNIFER EREMEEVA

I have mixed feelings about Orthodox Easter, primarily because I feel deeply silly having to repeat, "Verily, he is risen," every time someone greets me with the traditional, "Christ is risen!" I once opened the door on Easter Sunday to some guys collecting a carpet to be cleaned and we had to go through all of that. I was terrified I would have to kiss each of them three times.

From a food point of view, I get extremely nervous about the hard-boiled eggs, dyed red with onion skins that go to be blessed by the priest on Thursday and don't ever see the inside of a fridge again – that's a food poisoning incident just waiting to happen. Then there's the Kulich, which is a kind of cake you have to make in a tall, narrow tin, and God help you if it doesn't rise. It doesn't ever taste of much unless you enhance the spices, but it looks lovely iced with the traditional XB (Christ is Risen) piped on top. To compensate for the rather dry kulich is Paskha, which is a marvellous, creamy cottage cheese confection – one of my Bulgarian friends calls it "Orthodox Cheese Cake." Paskha is moulded in a trapezoidal contraption called a "pashonitsa," one of those pieces of culinary kit that comes out only once a year. It also sports the XB logo.

These three are the essential building blocks for an Orthodox Easter meal – either a midnight supper if you are a devout churchgoer, or a breakfast if you are a lax infidel. The rigorous 40-day fast that proceeds Easter becomes especially stringent during the last week of Great Lent, but it ends promptly at 12:01 AM on Easter Sunday, when everyone races home and consumes the Holy Trinity; nothing like shocking a deprived system with a smorgasbord of dishes consisting of full fat cream, tvorog, botulism-infected hard-boiled eggs, and butter.

My approach to entertaining on Orthodox Easter is to skew things towards brunch. This gives everyone a chance to sleep in after the long service, and hopefully get the "Verily, he is risen" stuff out of their system. It also gives me a chance to un-mould my pashonitsa in peace and parlay those (refrigerated) hard-boiled eggs into something palatable.

Since Spring is taking her own sweet time about arriving this year, and Easter is nothing if not a celebration of the arrival of spring, I'm determined to propitiate the arrival of warm weather by serving up a menu chock full of springtime treats. I'll parlay the eggs into lovely egg salad with watercress and new pea shoots, use what the Russians call "young" potatoes and fresh herbs to make an elegant galette, and serve these with a triumphant main dish of leg of spring lamb with an herbed crust and finish up with Paskha, which I stud with candied fruits and ginger, and a decorated Kulich to keep things traditional!

Paskha and Kulich should both be made ahead of time, especially if you would like to have them blessed in church before Easter. The lamb should marinate at least 24 hours before you cook it, but be sure to bring it to room temperature before roasting. If you can get your butcher to trim, bone, and tie the lamb, this will mean less time in the oven.

Egg Salad and Watercress Toasts

This is a great way to use up all those hard-boiled eggs!

Ingredients:

6 hard-boiled eggs
2 tbsp best quality mayonnaise
1 tbsp sour cream
¼-cup (60 ml) capers, chopped
1 medium-sized shallot, finely minced
¼-cup (60 ml) of cornichons, chopped
½-tsp of cayenne pepper
1 tsp of celery salt
1 tsp of dried mustard
3 tbsp of fresh dill, chopped
Salt and pepper to taste
2 cups (475 ml) of fresh watercress and/or fresh pea shoots
10 slices of Borodinsky Bread or any sturdy pumpernickel or rye bread

Instructions:

Combine the hard-boiled eggs with all of the ingredients except the watercress and bread.

Toast the bread slices on a baking sheet in an oven pre-heated to 275°F (135°C) for 6 minutes.

Spoon the egg salad on top of the toasted bread and top with the fresh watercress and pea shoots.

Potato Galette

This may look complicated, but trust me, it's not. If you are nervous about the flipping part, just leave it in the skillet. I love to use duck fat on these, but clarified butter or olive oil work just as well.

Ingredients:

2-½ lbs. (1 kilo) red potatoes, sliced very thinly with a mandoline or food processor
5 sprigs fresh thyme
½-cup (120 ml) duck fat (or clarified butter and/or olive oil)
sea salt and fresh ground pepper

Instructions:

Preheat the oven to 450°F (250°C)

Coat the inside of an 8-inch (20 centimeters) cast iron skillet with duck fat. Place one sprig of thyme at the center of the skillet and then arrange the potato slices in an attractive spiral. (The bottom layer will be on display if you flip the galette, so be sure to use the nicest pieces.)

Brush additional fat onto each subsequent layer, then sprinkle fresh thyme and salt and pepper.

Make a circular cartouche of parchment paper one inch larger in diameter than the skillet.

Brush one side with fat and place it fat side down on top of the potatoes.

Weight the potatoes down with a heavy skillet or an ovenproof plate with a weight or brick on top of it. This will force the liquids out of the potatoes and help them bind together.

Cook for 50 minutes, then check to see if the potatoes are done by inserting a small sharp knife through the thickness. If it goes in easily, it is done.

Cool for 10 minutes, then use a spatula to loosen the potatoes around the perimeter of the skillet.

Place a serving plate over the skillet, and then invert it.

Scatter additional thyme over the galette before serving.

Horseradish Carrots

This recipe is an illicit love affair between that spicy Korean carrot dish, which has somehow become ubiquitous in Russia, and a more refined French version. The natural sweetness of the carrots is livened up with a dollop of prepared horseradish and Dijon mustard. Feel free to play around with adding ingredients such as pea shoots, black sesame seeds, almonds, raisins, and other vegetables.

Ingredients

1 lbs (500 gm) freshly picked carrots, peeled and grated
1 tbsp Dijon Mustard
2 tbsp fresh lemon juice
1 tbsp prepared horseradish
⅓-cup (80ml olive oil
1 tsp salt
Ground pepper to taste
1 cup (240 ml) fresh herbs finely

chopped, such as cilantro, parsley, mint etc.

Instructions:

Whisk together the mustard, salt, lemon juice, horseradish, and olive oil in a bowl.

Toss the mixture with the grated carrots and set aside for 10 minutes to allow the flavors to combine.

Toss the carrots with the fresh herbs and any other additions. Taste and adjust seasonings with additional salt and pepper.

Boneless Leg of Lamb with Herbed Crust

This is my go-to recipe when I need a showstopper of a main course that can look after itself while I mix drinks and make nice with my guests. I can't think of a time when it's let me down and it has even replaced turkey at Thanksgiving! We love lamb in our house and this leg of lamb will make several appearances after opening night, served cold with yogurt sauce and cucumbers in lavash and if there is anything left after that, HRH gets his favorite shepherd's pie.

This recipe must originate with Julia Child's How to Cook, but over the years, other influences have honed, improved and refined it from Elizabeth David, Melissa Clark, and more recently the wonderful Olia Hercules, author of Mamushka and Kaukasis, who has convinced me that if some fresh herbs are good in this crust, more are even better! Enjoy!

Ingredients

One 3–5 lb. (1.4–2.2 kilos) boneless leg of lamb* trimmed of all but ¼-inch of fat
8 cloves garlic, peeled and sliced in half
8 anchovy fillets
⅓-cup (80 ml) Dijon Mustard
4 tbsp best-quality olive oil
1 tbsp soy sauce
1-½ cups (350ml) fresh herbs such as thyme, rosemary, tarragon, mint, and parsley
Salt and pepper
½-cup (118 ml) panko breadcrumbs, toasted

Instructions:

One Day Before Serving

Spread the leg of lamb out on the counter with the bottom or non-skin side facing up. With a small paring knife, make about eight small slits at regular intervals. Slip the anchovies and garlic clove pieces into the slits.

Tie the leg of lamb with kitchen twine. If you have not done so, use a very sharp knife to remove excess fat.

In a food processor fitted with a steel blade, process the mustard, olive oil, soy sauce, and fresh herbs into a paste. Smear this over the top and bottom of the lamb. Cover with plastic wrap and refrigerate overnight.

On the Day of Serving

Preheat the oven to 450°F (232 °C) and adjust the oven rack to the middle position. If you have a roast function, do use it for this recipe.

Bring the lamb to room temperature. Set it in a roasting pan and cook until an internal thermometer reads 125°F (50 °C) for very rare or 140°F (60 °C) for medium rare (approximately 50–60 minutes).

Remove from the oven and tent with tin foil for 20–25 minutes to allow the juices to return to the lamb.

Press the toasted breadcrumbs into the crust. Carve and serve.

Paskha

Ingredients:

1-⅔ lbs (750 gm) full fat tvorog (curd cheese or farmers' cheese)
I lbs (500 gm) caster sugar
5 egg yolks
15 oz (450 ml) heavy whipping cream
16 oz (500 gm) sweet butter
2 cups (450 gm) chopped candied fruit, ginger, and peel
2 tbsp vanilla extract
3 tbsp sweet liqueur such as Cointreau or Grand Marnier

Instructions:

Note on Equipment: Paskha is traditionally moulded in a trapezoidal "pasochnitsa," which is made of either wood or plastic. Church kiosks sell them, as do the farmers markets and even amazon.com. But the lack of a pasochnitsa should not deter you: any plain mould will do, and you can decorate the un-moulded dish with candied fruits.

Whip the egg yolks together until slightly thickened. Add the sugar and beat until smooth.

Cream the butter in a separate container and then add to the egg yolks and sugar.

Drain the curd cheese through a fine sieve, and then mix it well into the butter, sugar and egg yolk mixture until smooth.

Add the cream, vanilla and liqueur and mix until smooth.

Fold in one cup of the candied fruit and peel.

Line a mould with plastic wrap or cheesecloth. Pour the mixture into the mould, and then weight the top with a pot lid or flat plate and a heavy weight.

Chill at least 12 hours in the refrigerator.

Un-mould the Paskha and decorate with the remainder of the candied fruit and peel. Keep cool until serving.

Kulich

Ingredients:

2 packages active dry yeast (or 4-½ tsp of active dry yeast)
1–1/2 quarts (1-½ liter) dry flour + 1 tablespoon
1 tsp salt
1-⅓ cup (350 ml) caster sugar + 1 tablespoon
5 large egg yolks at room temperature
10 fluid oz (300 ml) whole milk, scalded and cooled to 50 °C
8 oz (220 gm) butter, melted and cooled to 45 °C
2 large egg whites at room temperature, whipped to stiff peaks
6 strands saffron dissolved in 2 tablespoons of rum
2 cups (475 ml) candied fruit (I use a mix of raisins, candied ginger, dried cherries, candied orange peel)
80 ml (1/3 cup) slivered blanched almonds
Extra butter
475 ml (2 cups) icing (I used a confectioner sugar glaze)

Instructions:

Note on Equipment: Kulich cake is made in a tall, cylindrical tin. In recent years, Russian stores have sold springform Kulich tins, which have made life much easier. If you don't have a kulich tin, don't worry: you can use a clean, 1-quart juice tin lined with parchment paper.

Butter aluminium tins, then line the bottom and sides with buttered parchment paper.

Combine yeast, 6 tbsp. water, 1 tsp sugar and flour in a bowl. Cover and set to rise in a warm place with no breeze.

Beat the egg yolks and sugar together until combined, then vigorously for approximately 5 minutes. When the mixture is thoroughly combined, add the milk, then flour and the salt. Knead or mix for 2 minutes.

Add the proofed yeast, beating for 2 minutes to combine.

Add the melted butter gradually, beating a moderate speed. Let the dough rest for two minutes, and then test for elasticity. If needed, add more flour.

Add the egg whites and saffron and rum mixture. Once the dough is thoroughly combined, add one cup of the candied fruit.

Cover the dough to rise in a buttered bowl placed in a warm place until it has doubled in size (2–3 hours)

Knead the dough lightly a few times, then return it to the bowl and cover for another 2 hours.

Divide the dough between the aluminium tins so that the dough covers slightly more than ½ of the tin. Retain 1 cup of the dough. Cover and let rise another hour.

Preheat the oven to 350°F (180 °C).

Take the retained dough and form it into strips. Place two strips across the top of the dough in each tin in the form of a cross. This will enhance the top of the kulich.

Glaze the tops of each tin and place in the preheated oven. Cook for 15–20 minutes. Then raise the temperature to 200 °C. Smaller tins will cook faster than larger ones. Kulich is finished when a skewer inserted into it comes out clean.

The final step is a little local peasant wisdom that seems to work an extra bit of magic: cover a soft bed pillow with a towel and gently place the kulich tin onto its side on the pillow. Gently roll the tin back and forth over the pillow to ease the kulich out of the buttered tin. Cool the kulich on its side on the pillow for at 40 minutes. Then place it upright and frost with the glaze of your choice. Use the remaining candied fruit and almonds to decorate the kulich in any way you wish!

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6 WAYS IN WHICH TECHNOLOGY HAS CHANGED THE WAY WE TRAVEL

MARIANA MARQUES

The world is on the move. People are travelling more than ever and according to a report by World Tourism Organization, it is estimated that by 2030 a global population of 8.5 billion people will take approximately 2 billion international trips. Travel has progressed by leaps and bounds and so have travellers. Thus, the industry ought to constantly transform and enhance itself in numerous ways from technology to sustainability.

Next-generation technologies are changing the ways we travel, how we define transportation and mobility options. We travel faster but we are also fortunate to have better-quality, more comfortable accommodations together with helpful tools and apps that let us do it more frequently. Technology has forever changed the way billions travel either for pleasure or business. Smartphones, AI, electronic payments, social media and so on have, for better and worse, affected travel in incalculable ways.

It is common knowledge that what have kept customers pleased 10 years ago no longer works today. Internet and new technologies have wholly transformed consumption behaviours and the travel sector has advanced tremendously as a result of digital technologies. These changes in consumers' behaviour can be summarized in three ways: firstly, modern clients demand assistance with more immediacy than they have ever had; secondly, consumers expect a seamless experience when interacting with brands, no matter the channel, from messaging apps and emails to face-to-face contact; and lastly, costumers respond positively to personalised content and services. Technology is the one to blame for customers' higher demands and changes in travel patterns.

Here are some of the most significant technological changes that have affected the way we travel:

1. Technology made travelling more environmentally friendly and less time-consuming

If you choose to, with the precious help of technology, travel can become a lot eco-friendlier. Gone are the days where there was a need to print the airline ticket, boarding pass or hotel reservation. Thanks to online reservations, mobile check-ins and e-tickets we can save large amounts of paper and not worry about carrying numerous documents around. This is a win-win situation. Furthermore, online reservations and bookings are time-savers, as there is no need to stay in line to get a ticket.

2. Technology changed our packing routines and saved us a lot of space!

Nowadays, technology is all about trying to squeeze the most functions and roles into one tiny gadget. We no longer need an iPod to listen to music, all we need to have is a Spotify or iTunes account and we are able to stream music on the go. The same thing goes for books, it is the end of worrying where to fit them inside our suitcases. Amazon Kindles or Kobo (e-readers) save a ton of space in our bags.

3. Technology helped us surpass language barriers

Not so long ago, there was the need to carry a phrasebook in the language of the place we were going to travel. Today, all that is needed is a smartphone and with the support of apps like Google Translate or iTranslate, the times of struggle when interacting with locals have come to an end. Google's Translate app even lets you use your smartphone camera to translate signs or menus in real time. In addition, apps like Duolingo allow you to learn a new language or improve the one you are already familiar with, all this without spending money on classes.

4. Technology changed the way we book a flight, a room, access hotel services, are informed of daily events and seek advice to sightsee a city — chatbots for the win!

Chatbots have become the perfect travel companion. Many hotels and flight companies already offer messaging options to their customers, either by giving the ability to text them through their own apps or establishing messaging channels like Facebook Messenger or WhatsApp. But the real revolution is chatbots – they are becoming huge assets to this industry. Chatbots allow a person to interact with either a human or artificial intelligence via a chat interface. Bearing in mind that messaging apps are becoming the new social media, it only makes sense that companies start to integrate this type of services in their repertoire.

For instance, HiJiffy is a chatbot that connects guests with hotel's staff through Facebook Messenger. AI allows the chatbot to answers the most commonly asked question almost instantaneously, users can check rates, availability and make the booking directly on Messenger. Moreover, whenever the bot can't answer the question, it will hand off to a human agent. We believe that our product will revolutionize the hospitality industry by empowering hotels with a tool that will provide guests with the right service at the right time.

5. Electronic Payments made travelling safer and easier

Apple Pay, Samsung Pay or Google Wallet – everything is so much easier with electronic payments. Among the advantages of going cashless it is worth to highlight two of them: the convenience – there is no longer the need to carry a lot of cash, a couple of credit cards or even stay in the queue for ATM withdrawals. And lower risk – especially true while travelling abroad, where the loss of cash can cause a great inconvenience. Once fully integrated one does not have to worry about credit card fraud or changing cards.

6. Technology allowed us to have more personalised and unique experiences

The buzzword for the travel industry is personalisation. Indeed, modern travellers, particularly Millennials, are on the lookout for customised and unique experiences and with the help of technological advancements they can find them. Chatbots, niche websites, blogs, apps and services have created a space where one can let imaginations run wild and end up finding a real-life version of the "dream trip".

Blockchain technology is in its initial stages, but it is clear that it will change many industries in radical ways. Regarding the travel industry itself, an understandable implementation of this innovative technology would be in identification and personalisation.

UK ENTREPRENEUR VISA CATEGORY WILL BE SCRAPPED

EMIL MANASYAN

On 7 March 2019, the Home Office published a statement of changes to the Immigration Rules, which includes several amendments made to points based visa categories including investor, highly-skilled worker and student visa categories. However, the most prominent changes include the closure of Tier 1 (Entrepreneur) visa category starting from this April 2019.

The existing Entrepreneur visa category, which the government has been planning to reform, as it has a significant record of low-quality projects which contributed a 'little or nothing' to the UK economy. The changes are also explained by the rising financial crimes such as money laundering and fraud through this category, which follows the Migration Advisory Committee (MAC) review and reports published as far back as 2015.

The Tier 1 Entrepreneur category will therefore be scrapped after 30th March 2019. This will, however, not affect the migrants that are already on this route.

New Tier 1 Visa Categories

The Tier 1 (Entrepreneur) category is being replaced by two new categories – Start-up and Innovator.

The major difference between Tier 1 (Graduate Entrepreneur) and the new Start-up category is that the applicants under the Start-up route will not need to be graduates and the requirement of securing funding will cease.

Those who succeed in their application will get a leave for a period of two years instead of one and will be able to further develop their career by applying for a new Innovator visa category.

The Innovator visa option is intended for more senior and mature entrepreneurs or business people, who will be required to invest £50,000 of their own funds from legitimate sources in their businesses (reduced from £200,000 for most applicants in the current Tier 1 (Entrepreneur) category). This requirement for funds will be waived for migrants who want to switch from the Start-up category and those who have made a significant achievement against their business plans.

Importantly, the Applicants under these routes will now need to be endorsed by an independent endorsing body vetted by the UK government rather than the Home Office.

Applicants who satisfy at least two of the Home Office's new criteria (covering investment, innovation, business growth and job creation) may qualify for settlement after three years on the Innovator visa category.

We are yet to see how the new entrepreneur visa categories will be implemented and run by the government, but from it certainly seems that the requirements will become much tougher. As always, we will keep you informed.

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