**Coronavirus**

**In the modern effort to eradicate disease, we pop antibiotics like candy, apply hand sanitizers with abandon, and gargle mouthwash by the gallon. But this carpet-bombing of germs takes a huge toll on good microbes as well as bad. *(Sharon Begley, in The Saturday Evening Post)***

**Contrary to the belief that the corona virus seriously affects only the old, a Chinese study of the first 2,500 confirmed Covid-19 cases in the U.S. found that 38 percent of those hospitalized (508 patients) were between the ages of 20 and 54, and 20 percent were between the ages of 20 and 44. *(The New York Times, as it appeared in The Week magazine, April 3, 2020)***

**Most cold symptoms you suffer are not directly caused by the virus but by the immune weapons your body uses to repel it. *(Lowell Ponte, in Reader’s Digest)***

**Researchers at Johns Hopkins University are hoping to use the blood of patients who've recovered from the coronavirus to treat severe infections. They hope "convalescent serum" containing antibodies harvested from the recovered patients' blood might be used to slow or treat the disease. Doctors using similar transfusions during the Spanish flu epidemic in 1918 reported a 50 percent drop in deaths. *(NBCNews.com, as it appeared in The Week magazine, March 27, 2020)***

**Chinese researchers who studied a group of 204 corona virus patients hospitalized in Hubei province found nearly half suffered digestive symptoms, including loss of appetite, diarrhea, vomiting, and stomach pain. *(CBSNews.com, as it appeared in The Week magazine, April 3, 2020)***

**New York City area funeral homes are now holding virtual services, while limiting those paying their respects in person to immediate family. Some cemeteries are prohibiting mourners from leaving their vehicles or bidding farewell until after grave workers finish burying the dead. *(New York Post, as it appeared in The Week magazine, April 3, 2020)***

**Are there multiple strains of Covid-19?: Scientists in China believe they have identified two unique strains of the new corona virus -- a discovery that, if confirmed, could mean new variants will crop up year after year in the same way as seasonal flu. Researchers from Peking University examined the genetic sequences of viral samples from 103 Chinese Covid-19 patients. They say they found two forms of the virus: "L-type" and "S-type." The L-type was more prevalent among those who had the disease early in the outbreak; the S-type was more common in later samples. Counterintuitively, it appeared that the former was derived from the latter. Researchers think the S-type didn't make as big an impact initially because it isn't as virulent. The differences between the two are tiny; they both carry the same symptoms and are equally deadly. But if there are indeed two strains, it's safe to assume that more will emerge in the months and years ahead. That's how seasonal flu works: New variants crop up as viruses mutate to overcome people's immune systems. Some scientists have questioned the finding, noting that the study is based on a small sample and that such mutations don't make the virus behave differently. But others say the research shows that the corona virus will be with us for years to come. Ian Jones, from Reading University in the U.K., tells New Scientist: "I don't see it going away any time soon." *(The Week magazine, March 27, 2020)***

**Nearly 60 percent of new coronavirus infections can be traced to someone who did not exhibit symptoms, a new study has found. That includes people who ultimately went on to exhibit symptoms (35 percent) and those who never showed symptoms (24 percent). *(Centers for Disease Control and Prevention, as it appeared in The Week magazine, January 22, 2021)***

**Oklahoma is trying to return its $2 million purchase of hydroxychloroquine and get a refund from the manufacturer. Republican Gov. Kevin Stitt ordered the purchase of the malaria drug in April, when President Trump was touting it as a "miracle" treatment for Covid-19. Studies have found the drug totally useless in treating Covid. Stitt's spokeswoman said he made the purchase "with the health and lives of Oklahomans in mind." *(The Week magazine, February 5, 2021)***

**Ebola virus in Africa, Nipah virus in Asia, even the new coronavirus -- all of these viruses appear to have originated in bats. While these viruses cause terrible illnesses in humans, bats carry them and stay healthy. How? Bats have developed unique immune systems that repel infections. During flight, a bat's temperature rises over 100 degrees, and its heart rate surges to 1,000 beats per minute. Also, bats' bodies make molecules that repair damaged cells, and their systems don't overreact to infections. All of these factors mean that they can carry the viruses but do not get sick from them*. (The Daily Chronicle)***

**Coronavirus can survive on surfaces for days: Scientists have found that the coronavirus can remain viable and infectious in droplets in the air for hours and on certain surfaces for days. A team of researchers from the National Institute of Allergy and Infectious Diseases used a device that duplicates the microscopic droplets created when an infected person coughs or sneezes. The virus-laden droplets landed on a range of surfaces and remained active for up to three days on plastic or steel, for 24 hours on cardboard, and only four hours on copper. However, the risk of catching the virus from home deliveries or takeout food remains low says infectious disease researcher Joseph Vinetz from Yale University, who wasn't involved in the study. "If somebody were to, say, cough on a box or on a letter," he tells USA Today, " the chances of that remaining viable for the period of time it's in transit seems extremely unlikely." Likewise, the discovery that the coronavirus can remain viable for up to three hours in the air -- which contradicts the World Health Organization's position that the virus is not transported by air -- shouldn't worry most of the population. The germ lingers in the air at levels so low that only people in very close proximity could potentially be infected. But the finding may have repercussions for medical workers: When they remove their protective suits, they may throw off virus-carrying droplets that could potentially lead to infection. *(The Week magazine, April 3, 2020)***

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**Ironically, our efforts to wipe out the rat have only produced a smarter, heartier breed. Some rats display a defense called neophobia – the fear of anything new. They are thus suspicious of poisoned bait and traps. “It’s the non-neophobic rats who fall for the traps and are killed,” notes Mitchell. “The smarter ones survive and pass on their neophobic genes.” *(Robert Neubecker)***

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*The fatal strategy of the 1918 flu: By infecting macaque monkeys with a reconstructed version of the 1918 Spanish flu virus, researchers are learning why it was such an effective killer. The 1918 Spanish flu pandemic killed 50 million people, and unlike other, less virulent strains, it took a huge toll among the young and healthy. When researchers infected seven macaques with the virus, they found that the monkeys’ natural immune responses actually inflicted more damage than the virus itself. The infection set off a “cytokine storm,” a sudden surge of immune-response chemicals that flooded the monkeys’ lungs with blood and mucous, essentially drowning them in their own fluids. The effect explains why the 1918 virus “was indeed different from all other flu viruses we know of,” says virologist Yoshihiro Kawaoka. People with the best immune systems – that is, the young – were most likely to fight back strenuously, and to kill themselves in the process. The study will help scientists devise ways to treat victims of a possible pandemic of the flu virus now spreading among the world’s bird population, which, when it has infected humans, has shown some similarities to the 1918 flu. *(The Week magazine, February 2, 2007)***

**The hunt for a viral treatment: Researchers around the world are working at a breakneck pace to find an effective treatment for Covid-19, the illnesses caused by the corona virus, reports The New York Times. While most are seeking drugs that attack the virus, a group at the University of California, San Francisco is trying another approach: hunting for drugs that shield the proteins in our own cells that the virus needs to thrive and reproduce. So far they have identified 50 possible candidates; many are already approved to treat unrelated diseases, such as cancer. Just months after the virus was first identified, scientists in New York City and Paris are already testing the drugs on the virus in their labs. If promising drugs are identified, they will have to be tested on animals infected with the coronavirus and then checked to make sure they don't cause harmful side effects in humans when given in a dose large enough to clear out the virus. The process could take months, but any form of treatment would be a major breakthrough. Doctors can currently offer patients only supportive care -- managing the fever and pushing air into lungs with a ventilator -- while the immune system tries to fight off the infection. *(The Week magazine, April 3, 202****0****)***

**Viruses, strictly speaking, are not alive. They are tiny sets of genes bundled within protein shells, with one singular function -- to replicate. Lacking cells or other common features of living organisms, viruses are parasitic zombies. They infect living cells, hijack the genetic machinery, and mass-produce replicas of themselves. (A single sneeze can release 100,000 viruses into the air.) The common cold is a virus, and so are influenza, measles, HIV, and Ebola. The new corona virus, Covid-19, has joined the list of viral scourges, after apparently jumping species from its original host, bats. It has sickened more than 80,000 people, and, infectious disease experts say, it's coming to America. One way or another, it will affect all of our lives. As Covid-19 relentlessly advances, there is much scientists and doctors do not yet understand. Infection produces widely varying responses. Some people have no symptoms, but can still transmit the virus to others. A majority suffer only mild respiratory distress. Others become severely sick, with flu-like aches and high fever and pneumonia. Deaths occur when the infectious trigger and our-out-of-control immune response, creating a "cytokine storm" that inflames and shuts down the lungs. Scientists estimate a mortality rate of 2 to 3 percent. If there are major outbreaks in the U.S., authorities may discourage people from congregating in crowds, and may temporarily shut schools and curtail travel. The economy could take a significant hit. Covid-19 may even have an unpredictable impact on the presidential race. Americans tend to overreact to such disruptions; protected by our oceans and relative affluence, we expect to be exempt from problems affecting places like China and Italy. Now we face a mindless invader thousands of times smaller than a grain of sand, one that knows no national boundaries. Covid-19 will test our strength, our social cohesion, and our leaders.*(William Falk, in The Week magazine, March 6, 2020)***

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