Post Corona Virus and 4th Industrial Revolution

Samuel W. Chung¹,²
1. University of Utah, Salt Lake City, Utah, USA
2. Jeong Je Jo, E & S Solution Tae Gu City, South Korea

Abstract: The two apparent issues, Corona effect and 4th industrial revolution, are seemed to be totally irrelevant but can point out numerous similarities. Why and how? We may be able to point out how without any difficulty, but no one can identify why. This article starts with how first then mumble around why with no confirmed conclusion. The only concluding remark may be “It is a Historian’s duty, not the engineers nor scientists”. For Corona virus, the major catch phrase is “Separation”, physically and mentally, which can be related to the 4th industrial revolution, which this article foresees and no confirmation on “what will happen next”.

Key words: Corona virus, human separation, industrial revolution, 4th order revolution.

1. Introduction

For the post Corona effects due to the phenomena of strong and fast spreading virus, we must avoid close contact with the other human beings, no closer than 6 ft, can be identified and itemized as follows together with 4th Industrial Revolution:

(c) The atmosphere is getting unhealthy combined with all kinds of virus and air pollution.

(d) With the aid of the technology of 4th Industrial Revolution, the degree of virus strength and location can be predicted just like weather forecast.

(4) The internet of things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing.

(5) The fabrication technologies starting from shop drawings are interacting with the biological world on daily basis. Engineers, designers, and architects are combining computational design, additive manufacturing, materials engineering.

(6) The synthetic biology to pioneer a symbiosis between microorganisms, our bodies, such as corona virus is being developed.

(7) Like the revolutions that preceded it, the 4th Industrial Revolution has the potential to raise global safety and income levels and improve the quality of life for populations around the world.

(8) For building design, specifying better filters and HVAC equipment proper maintenance and commissioning is important. If the virus persists, we must set the indoor pressure lower than atmospheric pressure. Looking beyond coronavirus, we will have to utilize the technology earned from 4th Industrial Revolution.
2. Industrial Revolution

Human beings so far went through so called industrial revolution 4 times. Now we live in the era of 4th revolution. There are four main effects that the 4th Industrial Revolution has on business on customer expectations, on product enhancement, on collaborative innovation, and on organizational forms. Whether consumers or businesses, customers are increasingly at the epicenter of the economy, which is all about improving how customers are served. Physical products and services, moreover, can now be enhanced with digital capabilities that increase their value. New technologies make assets more durable and resilient, while data and analytics are transforming how they are maintained. A world of customer experiences, data-based services, and asset performance through analytics, meanwhile, requires new forms of collaboration, particularly given the speed at which innovation and disruption are taking place. And the emergence of global platforms and other new business models, finally, means that talent, culture, and organizational forms will have to be rethought. Overall, the inexorable shift from simple digitization (the 3rd Industrial Revolution) to innovation based on combinations of technologies (the 4th Industrial Revolution) is forcing companies to reexamine the way they do business.

3. Corona Virus

Symptoms of cough, shortness of breath, difficulty breathing, or at least two of the following symptoms: chills, shaking with chills, muscle pain, headache, sore throat, and loss of taste or smell. Symptoms can range from mild to severe and may appear up to two weeks after exposure to the virus.

Seek medical attention if you experience serious symptoms such as trouble breathing or pain or pressure in the chest.

With the aid of 4th industrial revolution, mainly with the technology of robotics and AI (artificial intelligence), we can identify the strength, location, and age of the corona virus.

Also, we will be able to create a map like we use for the weather forecast. Above all, main issue at the present time is, how to avoid and prevent the deadly virus. We all know about it.

Unfortunately or not it will be our way of life now and next generation. The technology of 4th Industrial Revolution may join the defense team of the virus, which may create new era.

4. Conclusion

We have noticed the four generations of the industrial movements, as it progresses further, more machinating, and digital use. New era and new technology will be developed and destined to be developed for us to survive. We expect new and more dangerous virus will also be created, the war between the two will never end. To be exact that is the question that only a historian will have to answer. The issue is a way beyond the intelligence of engineers and scientists. We can only hope a joint effort should be exerted.

Acknowledgement

The research was partially sponsored by Summit Partners in Menlo Park, California, USA.

References

[1] Coronaviruses, Including SARS-CoV. External Icon, American Academy of Pediatrics, 2018.
[2] Severe Acute Respiratory Syndrome (SARS), CDC external icon.
[3] Severe Acute Respiratory Syndrome (SARS), WHO external icon.
[4] Middle East Respiratory Syndrome (MERS), CDC.
[5] The National Respiratory and Enteric Virus Surveillance System.
[6] Killerby, M. E., Biggs, H. M., Haynes, A., Dahl, R. M., et al. 2018. “Human Coronavirus Circulation in the United States 2014-2017.” Journal of Clinical Virology 101: 52-6.
[7] Landes, D. S. 1969. The Unbound Prometheus. Press Syndicate of the University of Cambridge. ISBN: 978-0-521-09418-4.
[8] Horn, J., Rosenband, L., and Smith, M. 2010.
Reconceptualizing the Industrial Revolution. Cambridge MA, London: MIT Press. ISBN: 978-0-262-51562-7.

[9] Wrigley, E. A. 2018. “Reconsidering the Industrial Revolution: England and Wales.” Journal of Interdisciplinary History 49 (1): 9-42.

[10] Reisman, G. 1998. Capitalism: A Complete Understanding of the Nature and Value of Human Economic Life. Jameson Books, p. 127. ISBN: 978-0-915463-73-2.

[11] Robert, L. Jr. 2003. “The Industrial Revolution.” Federal Reserve Bank of Minneapolis.

[12] Lucas, R. 2003. “The Industrial Revolution Past and Future.”

[13] McCloskey, D. 2004. Review of the Cambridge Economic History of Modern Britain, edited by Floud, R., and Johnson, P. Times Higher Education Supplement.

[14] Keibek, S. A. J. 2016. “The Male Occupational Structure of England and Wales, 1600-1850.” PhD thesis, University of Cambridge.

[15] Chung, S. W. 2016. “A Comparison of Membrane Shell Theories of Hybrid Anisotropic Materials.” European Journal of Engineering and Technology 4 (5). http://www.idpublications.org/ejet-vol-4-no-5-2016/.

[16] Chung, S. W., Hong, S. G., and Ju, G. S. 2018. “Pure Membrane, Pseudo Membrane, and Semi Membrane Shell Theories of Hybrid Anisotropic Materials.” Journal of Material Science and Engineering A 8 (5-6): 121-35.

[17] Chung, S. W. 2017. “Semi-Membrane and Effective Length Theory of hybrid Anisotropic Materials.” International Journal of Composite Materials 7 (3). Contact Us: editor@sapub.org, ID:110900221.

[18] Chung, S. W., Hong, S. G., and Ju, G. S. 2018 “Applications of Pure Membrane, Pseudo Membrane, and Semi Membrane Shell Theories of Hybrid Anisotropic Materials.” International Journal of Composite Materials 8 (4): 73-90.

[19] Chung, S. W., Hong, S. G., and Ju, G. S. 2018. “A Spherical Shell Theory of Hybrid Anisotropic Materials.” International Journal of Composite Materials 8 (4): 97-104.

Fig. 1
2ND INDUSTRIAL REVOLUTION

Fig. 2

A 3RD INDUSTRIAL REVOLUTION

Fig. 3
Fig. 4