Executive Summary

Human beings are interdependent: No one is an island. We depend on each other for food, medicine, transportation and everything we need for physical sustenance. In the same way, we depend on each other for knowledge and ideas: information.

Modern communications technologies provide widespread ability to source and access information and to facilitate the development of what is, in essence, a **Humongous Mind**: the virtual integration of our individual minds. In the same way as people create beneficial and helpful products, like nutritious foods and well-built shelter, most of us contribute in some way to the thinking, feeling and beliefs of those around us.

In this Appendix, we explore the concept of the Humongous Mind and the issues of misinformation and disinformation, we outline their potential deleterious effects, and cite the need to address the threats they represent. We provide a biologically-inspired model for understanding the effects that our technological infrastructure has on the coupling of humans and, particularly, on the global integration of their minds.

As we live day to day, the communications received over the Internet, radio, television, newspapers, magazines and neighbors' gossip influence each of us. Some of that information is accurate and intellectually nutritious. Some, though, is designed to manipulate us, and some is poisonous. Much as communities inoculate themselves against infectious disease, so they need to consider ways to reduce the influence of incorrect, manipulative and harmful ideas. This is particularly important as those ideas can be almost instantly and ubiquitously communicated among us and artificially reinforced.

The problem, of course, is conceptualizing and creating approaches that can help protect against harmful information while allowing access to that of value. Regulation is one solution. However, in some countries the regulators themselves are the creators of harm. For example, Russia has prevented people's speaking out about and viewing truthful information about its war on Ukraine. Our answer is the development of human rights-preserving, democratically approved policy used to define regulations and regulatory mechanisms subject to the will of the people. This would serve as a 'conscience' for the Humongous Mind.

We also point out that, until this 'conscience' is realized, individuals can also take steps to protect themselves by adopting methods to recognize truthful and useful information, versus information designed to manipulate them in harmful ways benefitting the promoters of misinformation. Schools can additionally contribute by informing students about the nature of Information and misinformation and how to determine which is which and address the threat misinformation represents.

Another solution is to extend into the domain of information the substantial penalties applied to swindlers and other fraudsters. A crucial intervention would be to recognize citizens' access to the world's knowledge as a human right. In Canada and America, academics have wide access to world literature, peer reviewed or not. Ordinary citizens, despite paying for communications usage, cannot reach the same breadth of resources and must rely on what is free on the Internet, and much of that is dubious.

All of us have a reason to act if we recognize that misinformation can incite disorder and can kill! It has!

Is Policy the Conscience for the Humongous Mind?

The Problem of Misinformation in Electronic Media

H. Dominic Covvey and David Zitner

Introduction

Many people have begun to recognize the nature and effects of misinformation and disinformation so ably promulgated by manipulators via the Internet, the Web and social media. Most can sense that manipulated media are dangerous to everyone, young and old, sophisticated or naïve because we all depend on the media to form an understanding of reality – what is really happening around us. How can civil society more deeply understand and moderate the dangers of misinformation?

The Clear and Present Danger

Internet-based electronic communications facilities and social networks are valuable because they connect us tightly to each other, allowing us to share useful and interesting facts and thoughts and learn about our local and global situation. Unfortunately, modern communications technologies also enable serious social pathology in ways not experienced before.

Social networks on the Internet have, in reality, effected what we call the 'Humongous Mind', the interconnected ensemble of all human minds, enabled by a neural-like network that can both improve and endanger global mental health.

About 70 years ago, Teilhard de Chardin[1], an idealistic thinker, defined an interesting concept: that humans will evolve into a "living skin of the Earth". As a Jesuit priest and philosopher, he saw this from a religious viewpoint. However, it isn't much of a stretch to recognize that this kind of change has begun.

Sure, we individual beings were already physically interconnected, made possible by transportation technology. We have called the result of that the 'Humongous Body'. Now, though, our neural-like technology enables an even deeper interconnectedness of our minds: the humongous mind. If we do not recognize the significant issues engendered by tight, nearly instantaneous, mental interconnectedness, we will not appreciate new failure modes, not to mention new opportunities. Both exist, with the result of both unwanted devastating social disruptions as well as dramatic and worthwhile benefits.

Regretfully, this interconnected super-system of minds lacks a monitoring, management and care system to assure its value and prevent or treat the pathologies it engenders. And it lacks a conscience. This means that our understanding and care of the Humongous Mind is in a state like that our understanding and care of our bodies were in before modern medical science.

There has been much discussion around Internet communications policy to guide the regulation of content on social networks and manage the effects that advanced software, like Artificial Intelligence-based algorithms, can have. Regulation must have clearly stated purposes and goals, so we can determine whether new regulations or behaviors are helping or harming. Before any of us can consider regulation and policy, however, we must more deeply understand why we need it and what outcomes we must achieve.

---

[1] https://www.britannica.com/biography/Pierre-Teilhard-de-Chardin.

Our Message

We urgently require policy related to communications content and processes that preserves the positive aspects of modern technologies but minimizes their extraordinarily dangerous negative impacts. We have called this the 'conscience' of the Humongous Mind. However, this policy is challenging to formulate – especially in face of the freedom of speech – and almost insuperable to apply and enforce. It is a challenge like the one we have faced and continue to confront in nuclear arms control. This new threat, though different, also has the potential of immense societal disruption, already exemplified in political divisions, which society will almost certainly increasingly and more devastatingly experience – that is, unless government takes steps to intervene.

On an immediate basis, despite the extant danger, it may be that – like Civil Defence in the 1950s – that all most of us can do is to be careful and skeptical, limiting ourselves to a few authoritative sources of information and communications, as well as a trusted community of contacts, and sticking to those. We can at the very least "information proof" ourselves, which we address below. This is like what we face in addressing our personal health: we protect ourselves from sickness through proper nutrition, becoming and remaining fit and being careful even when promoters encourage poor health behaviors!

Right now, for the Humongous Mind and, to some extent, even for the Humongous Body – as countries have allowed their Public Health systems to deteriorate (through underfunding, shuttering laboratories, failing to invest in information technology and reducing public health human resources) – it's "patient, heal thyself". Our global approach to the health of the Humongous Body is primitive, but we have not yet evolved any means for the care of the Humongous Mind. Worse, we have an environment that is ridden with misinformation and disinformation supported by the technologies that incredibly efficiently connect us and abundant bad actors who want to negatively affect our thinking, feeling and behavior.

Given this situation, we must at least develop methods to manage what we access and what or who can access us. We need to find means of inhibiting the exchange of fake news, alternative facts, external interference and the hacking of communications content, as these all impact how we think, feel and act.

Human beings have not, after more than 70 years, evolved a means of fully protecting the world from a thermonuclear disaster. However, we do have some arms control measures that have kept the planet relatively safe, even if on the edge. Perhaps national policy and inter-nation treaties regarding misinformation are answers for toxic content, malevolent interference and corrupt informers.

Though we are individual beings, we are globally united physically, like it or not. Next, though we have individual minds, our thinking is becoming more and more interlocked globally. We are all threatened by bad information and deliberate interference with our thinking. Agents who want to mess with my mind, who may not even know me, now have a direct channel into it. If I am not 'information-proofed', they can succeed and determine the course of my life or even my death.

Potential Dangers Created or Enhanced by Communications Technology and Social Media

The following represent the major characteristics of our existing information and communications infrastructure:

1. Universal and ubiquitous access to and sourcing of content (anyone can input and access information). This gives everyone, including deliberate manipulators, access to our minds.

2. Almost instantaneous access to information regardless of source, quality and validity. We receive and read information before we have much time to detect or consider problems or threats.
3. The ability to capture usage (including specific content exchanged) and user ID and demographic information and apply this information to influence individuals and populations. This enables almost closed-loop mind control, a perfect example being the reinforcement of suicidal ideation.
4. The ability to determine recipients' information wants, needs, preferences and identities and reinforce them, with or without their permission – as well as the difficulty in opting out. People are quietly trapped.
5. The use of algorithms – AI and other software – to analyze what users do, seek and request, and then respond. This is like having a constant online alter ego, not necessarily a good one.
6. A dearth of information content and source quality review and certification agents.
7. Minimal societal interest in and means to deal with the pathologies that result.
8. The substitution of direct discourse with affect-suppressing virtual interaction. In this, we lose a capability that at least helps us detect deceit and attempts at exploitation.
9. The ability to create hard-to-detect visual and auditory fakes. Manipulators can paint their version of reality on the inside of our eyeballs, and it looks and sounds real.
10. The policy and regulation vacuum: minimal or no information- and communications-related policy. Commercial and political interests seem to inhibit rule making.
11. The policing vacuum: minimal detection of violations and enforcement of even the negligible existing policies. Surely, we need some means of detecting violations and enforcing regulations.

The Kind of Policy that Can Help

We recognize that addressing the need for policy to deal with these problems requires international as well as national agreements and that it will be challenging to develop. Nonetheless, there is a need for action to counter the dangers, though we again find ourselves recognizing the need for technology policy after the proverbial horse has escaped the barn.

We are aware that many suggestions have been made regarding the control, of dissemination and of content. However, the threat to the freedom of speech and the fact that this is exactly what autocratic governments do to constrain their citizens' thinking, should put pause to interventions like these. We do offer that the following as the kinds of actions could possibly help (no priority intended):

- All information and communications should be meta-tagged at least with an identifiable source, date and other information in addition to standard email tracking tags. Ideally, Internet servers' software could flag messages with inconsistencies among tags (such as the sender's stated email address and the actual email origin) as 'from a questionable source', so receivers can choose to accept, ignore, delete or block the sender. This could also allow receivers to identify the actual sender. If software can be used to influence buying, it can also be used to protect receivers.
- Communities can consider incorporating the ability to recognize and delay distribution of communications tagged as indicating threats of violence or other harms. This would inhibit rapid initiation of riots and violent uprisings. Senders should be notified their communications were delayed.
- Privacy policy and other related policies can be written in simple and clear terms, providing an opt-in (not just opt-out) opportunity that must be regularly reapproved.

- A trusted NGO agency(ies) can review algorithms and inform targeted users of the algorithms' purpose, mode of operation, potential benefits and harms, as well as any potential violations of regulations and laws. Furthermore, every user should be able to opt-in to and regularly reapprove the application of that algorithm to them.
- Public education must address apathy by informing sources and users of the issues, dangers, potential solutions, policies and penalties. Consider the creation of a Computer Drivers License[2] like that available in Europe extended to deal with the matters we have addressed. This could be offered in early school years and in continuing education programs. It could provide education on the interpersonal and societal impacts of the technology, including the mental impacts on non-face-to-face communications and the rapid spread and danger of mis/disinformation.
- Governmental and non-governmental agencies should collaborate and cooperate related to developing the evidence base for policy development, policy promulgation and regulation.
- Our communities should be empowered to enforce policy and address violations.

We are not naïve regarding the issues associated with interventions like these. However, some advance in this direction would be superior to what we are experiencing in terms of the personal, societal and even global impacts of the status quo. We must recognize that societal conflict, disruption and death are the predictable effects of misinformation and disinformation

Now we will turn our attention to developing an understanding of the nature of information, misinformation and disinformation, as well as their impacts on the Humongous Mind.

Information in the Anthropocene Era

In the past, the sources of information were fewer and more easily traceable to a credible or dubious source. There were malicious informers, like authoritarian leaders, that propagated information to manipulate their captive populations. However, ordinary people had limited access to the channels of communication, and the limitations of the available media inhibited rapid replication and dissemination. Then, as now, bad actors could publish a deceitful book, broadcast propaganda, circulate fraudulent articles or communicate false gossip over the telephone or in the visual or print media. However, the reach of an individual was limited, and the effort and cost of dissemination were onerous. Now, social media, the World Wide Web, the Internet and other tools offer a 'bully pulpit', enabling anyone to reach almost everyone.

Types of Misinformation

Misinformation comes in many forms. Perhaps recognizing the face of evil will help avoid it.

Misinformation can be **Innocent Misstatements**, garbled facts, unintentional misquotes, the biproducts of confusion or the misunderstood conclusions of a study. Sometimes it can be an opinion twisted by bias, or a topic 'spun' by a politician. These are largely unavoidable artifacts of ordinary human beings. Generally, they are not malicious, though often manipulative. Wondering about validity should be our normal

---

[2] The International Computer Driver's License certification is a globally recognised ICT and digital literacy qualification showing that people have a set of recognized computer skills. The European Computer Driving Licence (ECDL) is a Europe-wide qualification in basic computer skills**.** If you have passed ECDL, employers know you have the skills to carry out the main tasks on a computer. The ECDL is the first qualification in personal computing skills to be recognised throughout the European Union. https://en.wikipedia.org/wiki/European_Computer_Driving_Licence.

response.

Misinformation can also be the attractive packaging of a commercial product. Let's call that **White Lie Packaging**, intended to catalyze purchasing with little or no consideration of the product's helpfulness or harmfulness. Sometimes this might be relatively innocent, like claiming that a product ablates wrinkles. Other times this can have lethal effects; cigarette advertising is the perfect example.

A greater problem is **Disinformation: Intentional Misrepresentations** from someone who is motivated to pervert another's thinking, feeling or acting to serve an interest. A more innocent version is when a politician or braggard denigrates an opponent. There can be, however, more nasty effects at the extreme of the spectrum. Let us look at these varieties of maliciousness.

Consider deliberate **Mind-altering Misinformation** – the information equivalent of psychoactive drugs. People promulgate it to cause others to think or decide in certain ways or to ideologically bias them. This is usually at the receivers' expense and can injure them. One example is "alternative facts" to influence targeted populations to, for instance, ignore political malfeasance or visual evidence.

Another malicious intervention is the fabrication of false information: **Manufactured Mis-evidence**. This is like creating a fake medication, and can involve promoting false concepts, misrepresentation of test results or manufacturing of falsified data. Fraudsters do this to benefit themselves financially or otherwise. Volkswagen's fraud regarding diesel engines is a good example.[3]

A common source of misinformation is people who traffic in conspiracy theories. These include non-scientific theories of disease or its treatment, often backed by claims that reputable science ignores their theories because they undermine mainstream producers' profitability. Some harbor misconceptions or aberrant beliefs, or they may just be trying to fool us. They include claims that vaccinations cause Autism or include computer chips. Theories sometimes mix in genuine science.

Perhaps the most malignant forms of misinformation are **Saturation Misinformation** and the facilitation of **Ignorance Tolerance**. Governments that control all information can do the former. But agents can be silent about or downplay information about genuine dangers. Some have kept the toxic effects Lead in the water system[4] or radioactive Radon gas[5] under wraps. This leaves people unaware and unconcerned – under a 'mental anesthetic'. The lack of information is the ultimate threat, as we all are immersed and effortlessly and unknowingly share it. Worse than communicable, we are already infected!

Misinformation Epidemics involve the spread of false or biased information within a region and **Misinformation Pandemics** circle the world. The infectiousness of misinformation varies enormously based on its source (e.g., a President), the transmission method (for example, the Internet) and the susceptibility of the population (like people seeking support of their own biases).

Misinformation is a Transmissable Malignant Disease

Virtually everyone today has concern about the environment, realizing that pollution can cause or potentiate illnesses, cancers and even death. Worse, its effects can be slow and insidious. Some are also awakening to the realization that there is another kind of toxic emission – misinformation – that

---

[3] https://www.bbc.com/news/business-34324772.
[4] https://www.nrdc.org/stories/flint-water-crisis-everything-you-need-know.
[5] http://www.waterkeeper.ca/blog/2016/11/8/what-you-need-to-know-about-the-port-hope-area-radioactive-waste-cleanup.

originates from fellow humans and is communicated person-to-person through their eyes and ears. A clear and present danger, it can poison, cause societal dysfunction and result in death. It can be a weapon of mass destruction, especially during a pandemic. It is contagious, needing no direct contact, its vector being communications systems. We are all vulnerable and there is no 100%-effective vaccine.

The Treatment: Dealing with Misinformation

Developing effective interventions to deal with misinformation is challenging and may need to be planet-level! As often is the case, the best intervention would be a prepared – think: 'vaccinated' – mind, high quality sources and critical thinking. Given the plethora of bizarre sources, that may be it!

We have become an information society, built on agencies, companies and media that are information dependent and copious information sources with wide-band communication channels. The potential for misinformation is enormous and easily reaches into our homes and our individual lives. The Internet provides embedded, direct and efficient channels for misinformation. It is naïve to think that we only get correct information or that just some of it is wrong or a little off and won't harm us! Almost any misinformation is a danger, and its effects can be subtle and delayed. Think heavy metals in the water supply as an analogy. Worse still is the dearth of high-quality curated information.

Health Promotion and Prevention for the Individual Mind

Right now, we live in a public policy and enforcement vacuum. However, individuals can take some steps to avoid Misinformation Disease and its pathological mental effects. This is not easy, because information is the basis for virtually everything we think, feel, decide and do. A preventive to the impacts of misinformation is to become **Information Fit** or **Misinformation Proofed**:

1. **Find and use reliable and authoritative information sources.** Undertake to select information from reputable sources, preferably vetted by agents, organizations or agencies that we trust. Admittedly, determining trustworthiness is challenging, as we may mistakenly depend on officials or organizations that have ulterior motives or that by default misinform us.
2. **Ask questions and be sure to get cogent answers** especially when of consequence, even regarding the information coming from purportedly reliable sources. An important question is: Does what I have heard, read or seen make sense? Does it comport with what I already know? If not, look further. This is especially important for people who may be immersed in misinformation and judging new information based on that. Going afield of usual sources and considering others is crucial.
3. **Determine if information has been peer reviewed and by whom**. That is a crucial check. Peer review (the evaluation of the methods, results and interpretation of research by qualified experts) is the 'good housekeeping seal of approval'. Even this is not a sure thing, as scientists sometimes self-serve or support friends. 'Expert' is often a self-awarded title. Perhaps the best solution is to realize this and consider several 'expert' assertions in the light of item 7. Below.
4. **Crosscheck or triangulate multiple sources** – trusting only one source or evaluator is risky.
5. **Decide if the claim is verifiable.** Can I become knowledgeable and use scientific thinking to get to the same point? It is the personal acceptance test.
6. **Always harbor healthy skepticism!** Never say "uncle" to information or a source! Only trust information of consequence after you verify. Foster a doubt even if assured and be curious to find the truth, if and when that is important to deciding or acting – often humans must function in the face of ambiguity.

7. **If unsure, determine what is required to mediate between conflicting claims.** When there is no way to test claims versus counter claims, they become opinion only.

The National Institutes of Health has published "How to Evaluate Health Information on the Internet: Questions and Answers".[6] The document suggests asking key questions paraphrased here:

1. **Who runs the website?** Is this a reliable source or might it deliberately or inadvertently provide misinformation or disinformation?

2. **Who pays for it?** Is the source trying to influence our buying behavior? This objective can cause the originator to 'spin' the information or fail to state the whole truth.

3. **What is the original source of the information?** Is it opinion dressed up to look authoritative? Good information will be based on scientific studies. However, recognize that that some studies on which we might depend and have consequences are themselves biased, self-serving, fraudulent or otherwise unreliable.

4. **Was the website information reviewed by an expert based on genuine evidence?** Most of the material on the Web is not in any way reviewed or certified by impartial organizations. Wikipedia, for example, is widely depended on. Is Wikipedia information referenced to support statements? Some assertions are opinions and subject to change by other participants, while other content may be observable facts.

5. **How is the fact that <u>you</u> searched for the information going to be used?** Is the website just bait to capture information about you? You may not be able to determine this prospectively. You will probably find out if you are bombarded by ads afterward.

Answering these questions is challenging, often time consuming and may be beyond many of us. Even answering them will not guarantee misinformation-proofing, but this may be the best we can do as individuals. Realize that even respected and trusted scientists have gotten things wrong[7] and inadvertently misinformed their peers and the public. We all need our own Index of Suspicion!

Probably the best way to approach information is to consider it a hypothesis that, if not disproved, stands as the best we can do…until and if it is disproved.

It is best if we recognize that Web information is like brackish water – a mix of fresh and saltwater like in a tidal river – some of it potable but some not! Anyone, with any kind of interest or for any reason, can place information there to achieve the source's positive or negative objectives. Nothing prevents disturbed or manipulative agents from polluting it with toxic info-effluent. And anyone can search for anything: ways to kill, make bombs, concoct poisons, perpetrate fraud and just about any nightmarish purpose. It is the ultimate resource and medium for bad actors.

Fortunately, the Web also hosts vast amounts of valuable information. Only the searching skills, critical thinking ability and good intentions can assure that is what we get. We need to information-proof ourselves (and our children) – street-proofing for life on the information superhighway!

6

https://ods.od.nih.gov/Health_Information/How_To_Evaluate_Health_Information_on_the_Internet_Questions_and_Answers.aspx.

[7] Fermi and transuranics: https://vimeo.com/143066365.

A Model for Understanding the Potential and Dangers of Social Networking

---

THE CONNECTED WORLD

Most have recognized that local, national and international transportation have enabled us to be more socially connected than ever before. COVID-19 pandemic and Climate Change make it clear that even more so we are biologically connected. The Internet, especially social media (Facebook, Twitter and the like), has made us informationally connected. However, mass political and societal disturbance – such as conspiracy theory-driven, highly emotionally charged and even violent disagreement – shows that our technology enables a deeper, more pervasive and potentially pathological connection we have not previously faced: Our minds are being 'virtually connected' in near real time. For some, this has diminished, inhibited or even eliminated independent thought and consideration, substituting dependence on echo chambers and information sources curated to support biases. Analogically, we now have a long distance 'neurological' connection that does draw us closer together, but also enables mass-thinking pathologies with which we are struggling. Star Trek had its Borg[8], and we confront a similar future.

So far, no one has suggested a term that encompasses all of humanity. Using words like "The Collective" is a possibility, but we use the term 'Humongous Being' to recognize that we face problems as if we all are one.

The Human Being

Each human being has a physical body and a mind emerging from the brain's function. The purpose of healthcare is to support the comfort, function and lifespan of the human being. That purpose should apply to **each** human being, as well as to the **ensemble** of all humans. **John Donne wrote: "No man is an Island".[9] That poem recognizes that we are and must be connected and integrated**, especially when it comes to our health. Pandemics make that obvious.

The Human Being's Body

Our individual bodies comprise organs, like the brain, heart and lungs, that perform necessary life functions. These organs work together in systems, like the digestive system comprising the mouth, esophagus, stomach and intestines. Bodily organs interconnect and intercommunicate with each other through the blood vessels and nerves. So, the body is a system of systems working together.

The healthy human body has healthy organs with healthy interconnections among them. Of course, disease, deprivation or trauma can narrow or block blood vessels, injure or sever nerves. The result will be that organs, organ systems or the entire body suffers impairment, damage or death. Spinal injuries, for example, can cause paralysis because the connection between the brain and the limbs is interrupted.

Medical professionals and healthcare centers are two of our answers to problems with the components of the body. Another answer is our own efforts to maintain physical fitness and adequate nutrition.

The Human Being's Mind

Just as the health of the body can suffer, so too can the health of the mind.

Disorders of the brain can affect the mind. For instance, Alzheimer's disease can impair or destroy a

---

[8] https://fr.wikipedia.org/wiki/Borg_(Star_Trek).
[9] https://web.cs.dal.ca/~johnston/poetry/island.html.

person's memory. Also, people might be born with structural problems of the brain. Life context also influences the mind, and mental health issues can develop in the absence of disordered biology.

However, there are other and even more ubiquitous causes of problems of the mind: disorders of thinking, feeling and behavior. Nothing may be wrong with the brain, but thinking can be disturbed. Normally the mind works well enough to enable us to cope. However, sometimes our environment, situation or those around us affect the function of our minds – abuse, catastrophes and disinformation can do that. Disorders of the mind can seriously impair our thinking, feeling and functioning.

Correcting the effects of problems like these is the objective of mental health care – we, those around us, or professional therapists try to help us to maintain or improve our mental healthiness.

The Humongous Body

We have coined the term 'Humongous Body' – the 'Body' of bodies that inhabit the globe – to represent our physical interconnectedness.

We may forget that we are not just individuals, but members of social, societal, philosophical and even larger groups, some spanning beyond national or geographical boundaries. We each are living parts of the entire population of our planet.

The 'Humongous Body' expression recognizes that we are all parts of a system, the amalgamated system of all human beings. As we individually comprise systems, so the population of the Earth is a super-system of systems, comprising all humans. Governments unite us into one kind of human super-system. But these are loosely coupled super-systems that can be changed by an election, a war, or another intervention. The Humongous Body is a tighter and more robust super-system that unites us all, regardless of our political and other identities. The Humongous Body comprises groups of people. Some grow crops, others manufacture products, and still others deliver things to us, teach us how to think about and do things, and finance these activities. Today, we find ourselves dependent on others for our resources, products and services. We have fulfilled Donne's prophesy: people are no longer islands.

The Interconnections among the components of the Humongous Body are ships, trains, cars, and planes on the waterways, railroads, highways and airways that support movement.

So, we find ourselves in a physically interconnected and interdependent world, where people thrive or perish based on that interconnectedness and our recognition of interdependence. What's more, any problem — any 'pathology' – in one group or area of the world can seriously impact people in other areas. Infectious diseases make this clear. However, pathology in our interdependence can also cause shortages of computer chips or the scarcity of essential minerals. Production in one area serves the needs of other areas and the selling of those materials supports the economy of the supplier and the purchasers. If the various parts of the Humongous Body interact productively and each part plays its role, the Humongous Body is healthy. If parts fail, the whole Humongous Body suffers.

We want to illustrate that our interdependence globally is much like the interdependence we have on our own organ systems.

The Humongous Mind

As the human being comprises a body and a mind, so does the Humongous Being.

Whole countries operate under common (mental) understandings, as they elucidate in constitutions or philosophies of government. That is the result of multiple minds choosing to coordinate their thinking, behave according to certain commonly held principles and have feelings of pride in their nation or heritage. We all function like this in our own minds related to our personal lives.

We are not asserting a strict correspondence between how an individual's mind functions and how the Humongous Mind functions, but rather we want to indicate that there IS a Humongous Mind. That Humongous Mind spans, links and unites groups with certain beliefs, such as religions, countries, political blocs, and, ultimately, the entire world. An example of a global 'thought' of the Humongous Mind is global awareness and concern regarding climate change or a belief in a basic right to happiness.

The Humongous Mind has interconnections much like those between the components of the brain or the other components of the body.

For the Humongous Mind, the interconnections are communications systems, including the media, telephones, e-mail, and social software. The Humongous Mind has recently evolved a radical kind of interconnectivity – the Internet – that enables universal sharing of individual thinking.

The advent of social networks is shocking! Suddenly, we can virtually instantaneously share thinking among dispersed groups. Before, that was far more difficult, expensive and slow. It's as if the Humongous Mind has evolved to the full human level.

The Pathology of the Humongous Mind

> **Problems – pathology – can emerge in the individual's mind; so can they, in the Humongous Mind.**

There are many pathologies of the Humongous Mind. 'Societal Alzheimer's' is a Humongous Mind pathology where we forget history or past mistakes or inhibit access to information about the past. This is already the case in places that ignore the repeated holocausts humanity has endured.

Another pathology can be 'Societal Delusion' caused by people perverting others in their social network with mistaken ideation – misinformation. Hearing ideation repeatedly can reinforce our personal thinking. So can misinformation affect the Humongous Mind via our networks. Algorithms can make it worse.

What could be called 'Social Psychoses' of the Humongous Mind can occur when manipulators create weird beliefs – like conspiracy theories – or fraudsters promote fake data or news.

Every other mental problem can afflict the Humongous Mind. Masses of people can become depressed, can be driven to a bipolar state by being whipsawed from one way of thinking to another. Every behavioral and feeling problem can be replicated at the mass level.

Misinformation is the primary cause of disorders of the Humongous Mind. We spelled out the nature and some of the detailed effects of misinformation and disinformation.

Care for the Humongous Body and the Humongous Mind

When it comes to Humongous Health Care, there is some bad news. The recent pandemic demonstrated that the healthcare system for the Humongous Body – the 'Public Health System' – is weak and dysfunctional, having been systematically under-resourced and only an asset of wealthy countries. Information about infections was not properly communicated, nor were infections expeditiously detected and traced. Only heroic efforts enabled the development of vaccines and therapeutics. Public Health had

withered despite the efforts of the WHO. The result: hundreds of millions became sick, were hospitalized and millions died. Locally, Public Health Care is poor; globally, Public Health Care is pathetic!

Even worse news is care of the Humongous Mind. Individual mental healthcare is often accessible only by fortunate individuals and groups even within regions or nations. Mental health care is a significant problem partly because of our misunderstanding about the nature of mental health problems. In particular, we do not distinguish between problems that are caused by medical diseases and problems induced by the context of life. Worse still, we lack any mechanism whatsoever for dealing with the pathology of the Humongous Mind. There is no genuine world solution for the mass mental illness potentiated by our technologies.

Summary and Message

We have touched on what we have called to Humongous Being and focussed on how our modern technology can facilitate pathology in the Humongous Mind by conveying misinformation and disinformation, the harmful impacts of which are common knowledge. Bad actors have already interfered with elections by publishing false information about candidates and parties. Lies have fomented violence and uprisings. Disinformation has deterred vaccination during the recent viral pandemic. False news has prompted the use of drugs with no effect or that are toxic. Malignant misinformation has kindled distrust and hatred and divided people.

Misinformation is clearly a malignant infectious disease that we can pass on to one another with horrible consequences, including casualties. No wonder that nations use propaganda as a weapon on enemies.

Social networks are the primary vector for bringing this 'infectious disease' to the Humongous Mind.

If we choose to listen, we will hear that the Humongous Being has begun to whimper and cry out in its mental distress. There is an intensifying crisis that only can be moderated by deeply understanding the problems our technologies have begotten and fostered, every day affecting more and more of us. It is past the time to act; it is now the time for rescue!

H. Dominic Covvey, FACMI, FHIMSS, FCIPS, SMIEEE, ITCP
President, National Institutes of Health Informatics
Professor, University of Waterloo (Retired)
330 East West Rd., Mayne Island, BC V0N 2J2
Cell: 250-538-8006 (BC); Home: 250-539-2286 (BC)
Email: dcovvey@uwaterloo.ca; Website: www.nihi.ca

David Zitner, M.A., MD, F.C.F.P.
Retired Family Physician, Professor
Founding Dir. Graduate Program in Health Informatics
Dalhousie University, Halifax, Nova Scotia
Faculties of Medicine and Computer Science
david.zitner@dal.ca