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Review

World on Data Perspective

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Abstract: It is not simple to consider the world from only one side, but analyzing all sides can cloud comprehension without reaching deep insight found at the core. In a word as a whole, there is potential for telling the whole world in one word, i.e., data, leading to interpretations as phenomena and paradigms at the core of this review. The tug of war between the two sides explains that data represent the world, or vice versa, and present a fundamental view that systems or subsystems frame the world, even though they are encoded and composed of culture, rules, or approaches such as the threshold of democracy. When the COVID-19 pandemic posed a threat, human efforts contributed to finding potentially answers to questions presented by the world: what, who, where, when, why, and how (5 wh); a calling in the form of a challenge, where facts show something. All these questions resulted in research, education, and service activities, with their respective data frameworks producing results. This paper aims to reveal the meaning of the outcomes through an observation from an outside perspective. Therefore, like COVID-19 and its vaccines, the assertion of convexity and concave contradictions in the treatment of data leads to a mutually conjugate treatment of data. In this regard, statistics and artificial intelligence play separate and complementary roles.

Keywords: information; knowledge; grammar; phenomenon; paradigms; pandemic; biology; COVID-19; mathematics; social

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1. Introduction

The world [1]—where humans carry out democracy as the embodiment of their existence [2] through the recognition of characteristics carried out by humans to reveal the laws of nature [3], by involving humans in games where they play actors to learn to enhance their skills [4], or by adopting changes to adapt to every challenge to achieve human welfare [5,6]—is intended for human dignity [7], otherwise known as human rights [8].

The world is ontologically close in relation to human works [9]. Human existence depends on the world, and its explanation taxonomically causes the world to be broken down into characteristics [10,11]. It is a deep-seated human desire to learn about the world and, as a reflection, to understand the world, where data play an important role. Based on that reasoning, this article reviews how data portray the world. However, it is impossible to come into possession of all data and then process them to generate meaning that describes the world. Thus far, computational intelligence has been able to carry out classification or clustering [12–14], or what could potentially be considered a paradigm of data mining [15], which works for both big data and information sources [16] to generate standardized consultations either as samples or summaries (datasets) [17]. This way, data are framed based on activity interests, such as education or research for community services (in triplicate), so that every individual human shares competence such as that portrayed in the following quote: "Who controls the data will rule the world [18]". When scientists scientifically state that there is "no competence without innovation", "no innovation without learning (in triplicate)", and "no learning without scientific publications" [19–21], publications become the outcomes of the triplicate, where they are a summary of data collections that humans have studied previously [22,23]. The way humans understand the world is through its

parts, and the meaning of that understanding applies to it as a whole, with the focus in this article, namely, the COVID-19 pandemic, considerations referring to natural constraints, namely, human behavior and limitations.

2. Materials and Methods

Every human being recognizes the world with their mind, and every opportunity to use that mind can reveal something in the form of language or as a deposit in human memory [24]. When the object of thought is expressed in language terms, then the noun names it, the verb describes it, the adjective names its properties, etc. [25]. What comes of agreements reached between human communities is cultures, for example, knowledge as an intangible noun existing in the human mind with an infinitive verb: "to know" [26]. However, it culminates naturally into rules that apply to support that culture, for example, the grammar of a language [27]. The results of that thought, call them the works, really come from something forced by circumstances to overcome problems that arise in life; then, it, humans are encouraged to reveal their use [28,29]. Because it is ordinary or repetitive, it is a habit. Then, because of that, the works become a culture [30]. Psychologically, the practice presents as a behavior when expressed explicitly or undertaken as a commitment [31]. Therefore, something hidden becomes the latent behavior of a culture. Therefore, when there is a trigger, the determined behavior emerges to the surface either in individuals or in groups, affecting life activities or the social world and becoming a social disaster [32,33]. Thus, the behavior starts again as a trigger for other behaviors. Historically, based on the track record of data, all behavior informs that the world's future is determined by how humans treat it today and what has happened in the past [34]. Therefore, for humans to understand the world, they must first equip themselves with the knowledge to recognize the phenomenon, and then try to express a paradigm as to how to treat the phenomenon [35,36].

2.1. Phenomena forward to Data

In adaptation, culture derives from human works [37]. Culture is the mutual knowledge of social members, with which wisdom is presented to achieve human welfare. Wisdom always consists of general rules that naturally exist. When there are rules that only apply locally (local wisdom), it is because humans, in general, have not practiced them, or scientists have not abstracted them into provisions that naturally balance human rights and obligations. Likewise, with some adaptation, local wisdom forms global principles [38]. For example, quarantine—according to human knowledge—is a culture that has always had application globally when dealing with pandemics. Because of the shallowness of knowledge, local policies may betray that wisdom under economic interests [39–41]. In a phenomenon, however, the human experience as knowledge also has a basis, namely, information that crystallizes as something agreed upon by reasoning both naturally and based on social considerations [42]. For example, taking into account the average capabilities of personal and social conditions regarding the use of financial technology (FinTech) in business and trade, it can be possible to push the wheels of economy in a better direction [43–45]. Information comes from facts, and, when encoded, information becomes data, such as encoding names of objects in human thought by using the alphabet [46]. The alphabet then becomes a source of knowledge for every human to understand their world, for themselves, how to coexist with the environment, or how to treat that world [47]. Understanding it as information for each individual changes individual behavior [48]. However, society's members with the ability of recognition can bridge the gap to a better understanding of the world, which is one of the best sides of humanity. It means that, on the one hand, there are internal facts that underlie something, while, on the other hand, external evidence influences anything; then, compactly, both influence the world. There are quantitative facts that continue to expand along with qualitative facts that demand quality, and historical facts that provide a trail along conjecture facts as trends [49,50]. COVID-19 [51]—a pandemic that has caused many human deaths in recent years—externally is a type of virus that affects the state of the organs of the human body so that they fail to function. The numerical increment in

victims could possibly quantitatively display an increase when governments were not able to control the spread of COVID-19. Qualitatively, it could also show the poor policies that governments applied to quell it, such as ones violating entrenched or standard rules when policymakers have not even tested these new ideas. In terms of time in a timeline, events may become history, but the time range between events shows the tendency of the nature of the world [52,53]. They are representations of the world in simplicity and complexity, where evolution and revolution reveal the world by chance, while truth maintains that existence. It is all about data, i.e., all facts and the smallest of units have value [54–58].

The world and all its contents convey challenges to humans [59], where little by little the world interacts with one another, and the interactions do not easily state this, except with data reasoning and with a fairly complicated process [60–62]. Although the world seems too simple at first glance, an in-depth study reveals its complexity [63]. Whether routine or something regular becoming a habit, it is simple and forms a culture, but the interactions may deviate from practice or become surprising and requiring change [64]. It is not simple. Therefore, all outcomes of activities are, on average, not forever, and interactions can possibly provide surprises, or at least that not so far from the norm [65]. Based on abstract reasoning considerations, this matter can be explained as follows.

Imagine a triangle with sides a, b, and c. Let us state that the simplest form is an equilateral triangle that is $a = b = c$ units, where each side is half of the other two sides, i.e., $a = (½)(b + c)$ or $(½)a = (½)b = (½)c$. Based on the principle that an equilateral triangle is nothing but two right-angle triangles, it is easy to express the perpendicular side between them [66], i.e., the height is $t^2 = b^2 - ((½)b)^2 = c^2 - ((½)c)^2 = a^2 - ((½)a)^2$ square units, known as the Pythagorean theorem [67]. Of course, deductively, reasoning about the area L being half the base times the height gives the answer $L = (½)at = (½)a(a^2 - ((½)a)^2)^{1/2} = (½)a(a^2 - (¼)a^2)^{1/2} = (3)^{1/2}(¼)\ a^2$ of square units, and, as such, demonstrates the use of data for recognizing a part of the world [68,69]. The formula shows a different world from one of cultural results, and is known as mathematics or specifically named algebraic geometry, where there is a basis of reasoning. It is simple. A reasoning activity generates variables that abstract the values of facts, whereby variables and values are nothing but data [70]. However, inductive reasoning provides a rebuttal to the simplification, where something regular, structured, regulative, static, and certain is indeed easy, becoming complicated when linguistically adding the words "not" to complement irregular, unstructured, dynamic, uncertainty, etc. [71–74]. Imagine that the geometric shape is an arbitrary triangle, where one of the sides changes to be long or short, causing one of the angles to open while the other two angles are closer together, so that t is also shorter in size. Of course, it is not easy to calculate L, if not to state that it becomes something complex, where it is necessary to add other data concepts such as angles and calculations in trigonometry, needing sine, cosine, or tangent [75]. Something that becomes odd is when the angle widens to 180°, and the two other angles become 0° or directly $t = 0$ units. A triangle consisting of three sides (lines) becomes one straight line only. Is it that simple? Topologically, any triangle does not equal a straight line, but a set of stripes can form another straight line [76]. Something complex may turn into something simple. It may not be simple, but it could be a phenomenon. Each phenomenon encloses an answer to a problem, and the solution depends on the appropriate approach, such as the COVID-19 pandemic and its anticipated resolution: the vaccine. Therefore, the COVID-19 pandemic is a phenomenon that may end in time [77,78]. Everything accumulates in data, which can have one or more structures, may be diverse or not, or may be homogeneous or heterogeneous. In any case, they may exist in large sizes or bigger. Some parts of them are garbage/noise, but many are right and trustworthy [79–83].

2.2. Paradigm from Data to Method

To obtain the right image from data, humans depict that the world consists of constituent components, the components interact with one another, and there are rules or formulations between these components [84]. Similar to a triangle, the world, or parts of the world, forms a system that allows it to be understood bit by bit. Of course, it is

the consideration of data that describes the components, models their interactions, and reveals the existence of metrics from problems to solutions [85,86]. The last statement states the methodology where the system is a paradigm [87]. The paradigm is a system of thought [88].

A system is a form of organizing parts of the world or a flexible way of providing a systematic understanding of the world [89]. The divided world also forms systems different in size, where each part of the world has an independent understanding as a system where it has its organization. Each system, therefore, consists of different subsystems. The difference is in the data they present as a representation [90]. The smallest thing in the world is atoms. Atoms are components of atomic systems [91]. On the contrary, the biggest is space, where there are planets and stars. A part of the world becomes a system with substantial components [92]. Each atom interacts with other atoms based on its properties. The atomic nucleus, in this case, has several positively charged protons, neutrally charged neutrons, and some negatively charged electrons that allow one atom to bind to another, whether of the same atom type or not. Then, those conditions form a molecule, for example, oxygen (O_2) and water (H_2O) [93,94]. In particular, in the current place where humans live, Earth, approximately two-thirds of its surface is covered by water, and 97% of that water is salty and not safe to drink [95,96]. No less important is how much oxygen is available for sustaining the life of the inhabitants, which is necessary data in the context of human welfare. Regardless of race, several conditions for the sustainability of human life have thresholds for the fluctuations in the amount of oxygen in air, which can have an impact on human respiration, and, naturally, change throughout the day and night alternately [97–99]. The oxygen threshold is, of course, a determining factor, and the measurement metric is clearly a part of the human respiratory system [100], but space also determines the metric, locating Earth among planets and stars [101]. Every celestial body, whatever it may be, interacts with other bodies through the force of their gravity, and based on their motion rotates on their axis, causing them to revolve with other celestial bodies alone or together. For example, the solar system contains planets, such as Earth, with the sun at the center. If the Earth's core fails to move regularly (cool down), its gravity is likely to weaken [102,103]. If the gravity of planets is weak, does the planetary arrangement of the solar system change? Is this what could cause the Earth to shift from its track and disappear? Earth disappearing or moving to another solar system, either evolutionarily or revolutionarily, would cause the end of the Earth's surface and what is on its surface. What about data? The answer is also data. That is, the creation of a historical picture of the world from the past until now to predict the future. Researchers can potentially extract data from nature [104,105] or extract/mine them from information sources [106,107].

The data, however, provide answers to all problems stemming from various compelling triggers [108]. The operating threshold is also data, which naturally allow for the application of tolerance to changing conditions that may occur [109]. Anything beyond the verge is a phenomenon, as are things that are outside the limits of statistical reasonableness, namely, the average, also being something phenomenal. In its time, the Pythagorean formula, apart from being a paradigm, was also a phenomenon for most people, with which the sum of two areas of a square were found to be equal to one area of a square [110]. However, naturally, the solution to the phenomenon must be based on the conditions of democracy that require it, and nature recognizes it, just not based on that threshold. The threshold simply attempts to come to terms with something temporarily, that democracy only exists but does not implement, namely, an alternative framework, but not a solution [111,112]. A matching based on data can show the existence of area L of any triangle dependent on the height $t > 0$ in metric democracy, where the size of t does not cause a right-angle elbow between the height t and the base a does not become 90°. If the height t causes the angle size on the base perpendicular to the height t to change, where the base side turns into two lines, then any triangle turns into any rectangle. Thus, as a paradigm, the threshold can change the face of democracy into an authoritarian or oligarchic one. While, as a phenomenon, it is only a discourse of the will to power [113–116]. It is called a

paradigm if it has the potential to be a solution, but, otherwise, it is just a phenomenon. For example, the COVID-19 vaccine has the potential to generate a new pandemic, because an attenuated virus needs proof of not mutating, and when it mutates without realizing or it crosses the threshold that allows the human body to learn to fight it, then logically a new vaccine is required to overcome the new virus, because vaccine is also virus itself that has been treated. Data and methods together represent different subsystems of the world in an outcome. Those outcomes comprise the overall representation of the world, where their semantic reliability relates to the methods [117]. That is, first, for the feasibility (randomness) of the number of categories, run is r, $n_c = \sum_{i=1,\ldots,n} c_i$, number $n_{min} = n - n_c$, average = $100\%/n$, the average of r is $\mu_r = ((2 \times n_c \times n_{min})/(n_c + n_{min})) + 1$, the variance of r is $\sigma_r = (((2 \times n_c \times n_{min})(2 \times n_c \times n_{min} - n_c - n_{min}))/((n_c \times n_{min})^2 (n_c + n_{min} - 1)))^{½}$, and $z_{connt} = (r - \mu_r)/\sigma_r$. Second being the use of the measurement of similarities between documents of subject areas by using occurrence x and cooccurrence $(x.y)$, i.e., the Jaccard coefficient $j_c = (x.y)/(x + y - (x.y))$ and distance $\delta = 1 - j_c$. Third, n^2 is the size of the matrix and the average of the interitem covariance in matrix $\sigma_{ij} = \sum_{i=1\ldots n} \sum_{i<>j=1,\ldots,n} s_{ij}$, where s_{ij} is the covariance between x_i and x_j, and $\rho = (n^2\sigma_{ij})/(s_{ij})^2$.

3. Results

Records that are sometimes not well recognized but that constantly naturally exist, such as seasonal rings in tree trunks, for example, reveal that the Earth and everything with it has recorded every event in history, and so have the other heavenly bodies in space such a possibility. Take, for example, the event related to metrics: the circumference at Earth's latitude has a size of approximately 40,075,017 km (kilometers), receiving energy in the form of sunlight as it is followed during exposure. The intensity of light received—when the Earth rotates on its axis and with the tilt position of the Earth's surface concerning the sun—also causes different events along the north–south pole line along the 40,007.86 km [96–98]. The seasonal difference between the two poles is a marker for the water level balance so as not to inundate the mainland [118]. Therefore, satellites must map out that surface using an equilateral triangle algorithm [119]. Can the surface of a sphere be approximated by using a hexagon? Unit by unit, a hexagon consists of six equilateral triangles and involves sensor technology, allowing for data mining from all angles of interest to be carried out [120].

Depending on metrics and units, events, whether due to atoms or celestial/heavenly beings, have an impact on Earth and the world as a whole [121]. Whether they come from the belly of the Earth, such as the shifting of the Earth's plates or bursts of volcanic magma [122], or from that what is found on the surface, such as pandemics or nonpandemic incidents [123], or whatever they come from outer space, such as meteors falling [124,125], directly or indirectly, these events have the potential to fundamentally change life on Earth's surface [126,127]. Data explaining human behavior, such as that before, during, and after experiencing the COVID-19 pandemic, undergo changes depending on their understanding of data about the pandemic [128–130]. Some people, without hesitation, make profits to become rich [131], others may become poor due to losing their jobs [132], or some people may try to maintain their power even though they violate democratic principles, for example, by perpetuating the threshold for leadership candidates [133], such as 20% or more [134]. The description of subsystems of the pandemic represents human behavior in understanding the world by considering available data.

3.1. A Subsystem: Pandemic

The pandemic timeline, Figure 1 provides an overview of past events related to alternating outbreaks [135–157]. The record of human efforts with the aim to overcome pandemics, having changed over time as data—in the form of documents representing studies in various fields—is a starting point for human to consider in understanding their world. The number of papers per year drawn from a reputable Scopus database at the time of writing this review exhibits different behaviors, representing a period of growing concern about the pandemic. Figure 2a shows an increase in studies addressing problems of

a pandemic from the human side of life. Figure 2b is a period of confusion or a tug-of-war between the persistence and despair of human interest to face the natural laws that apply to the pandemic. Figure 3 exhibits a seriousness period, where all resources focus on the ability to deal with an unexpected outbreak (COVID-19).



Figure 1. Pandemic events beginning the year 500 to present times in a timeline. [135–157].

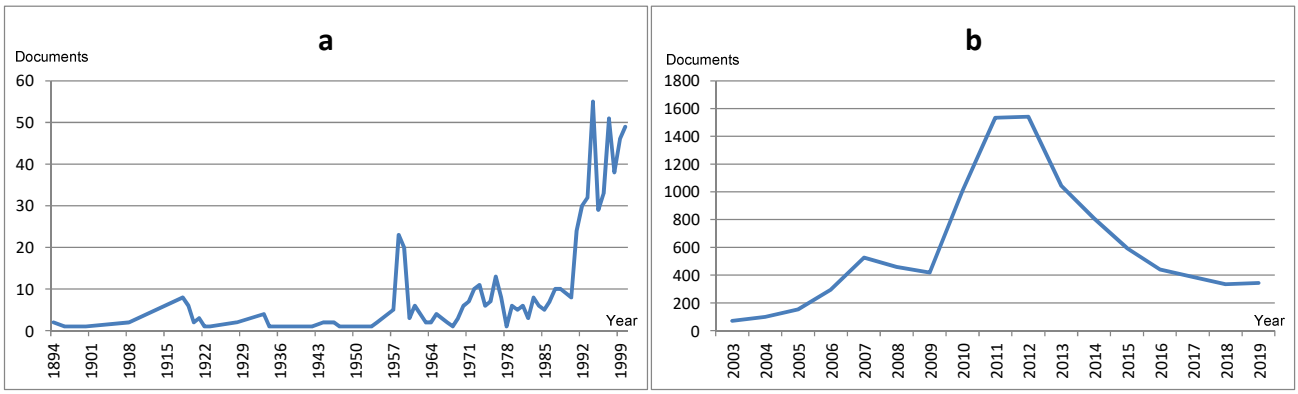

Figure 2. Human efforts to deal with the world (a subsystem: pandemic): (**a**). 1894–2000; (**b**). 2001–2019.

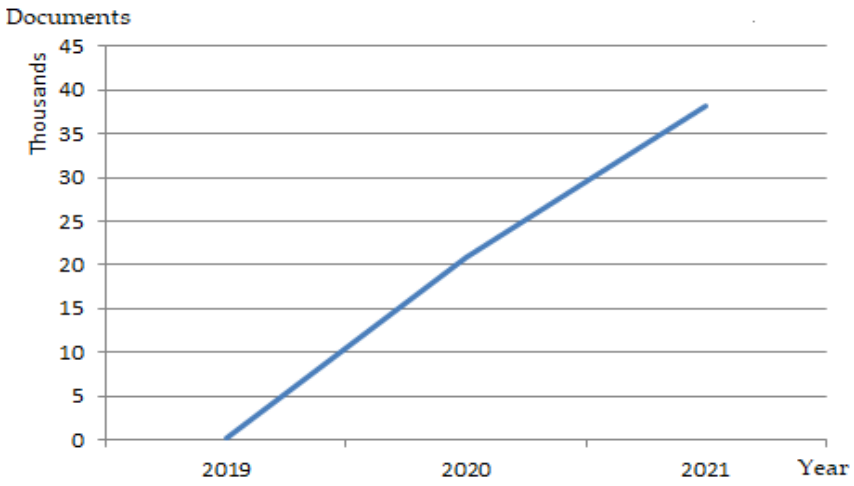

Figure 3. Human efforts to achieve peace with the world (outbreaks).

As a subsystem, a pandemic was a distinctive phenomenon that appeared at that time. Even so, the pandemic timeline illustrated that the world tended to experience outbreaks, until recently, when a sudden epidemic appeared and claimed many lives from the world. Scientists called it COVID-19, an unexpected disaster caused by humans. Human efforts undertaken to overcome the problem of a pandemic on Earth from the beginning stemmed from the subject area, with Table 1 (pandemic) presenting 70,293 documents as subsystems of human interest (see Figure 4a). It shows that social interests—such as prioritizing business, politics, and the economy—have cut human nature reasoning, resulting in every decision not taking sides in the interest of human rights and the environment. The languages of business, politics, or economics are not very polite towards nature, at least until they cause environmental damage (Table 1, Figure 4a,b interpret data semantically based on the strength relation among the documents). Social language has eternally not generally caused abnormalities. The language of any interest also does not abstract, and leads to inefficiency and ineffectiveness. Humans live on Earth with their characteristics. Some of those characteristics exist in the human body. That is, water comprises approximately two-thirds of their body weight. Therefore, a word can have a good or bad impact on human life and the environment [158–160]. Likewise, threshold language hampers sound reasoning from data about the world, which seems to fight for democracy, even though it is caused by the inability of humans to provide a way out of problems of unilateral interest, or only to balance rights and obligations in upholding human rights.

Table 1. Percentage of the number of documents in the Scopus database related to each subject area with the document title "pandemic" or "COVID-19" (accessed on July 2022).

	Subject Area	Pandemic			COVID-19		
n		**%**	***c***	***r***	**%**	***c***	***r***
1	Agricultural and biological sciences	1.69%	0	1	1.28%	0	1
2	Art and humanities	2.69%	0	1	1.51%	0	1
3	Biochemistry, genetics, and molecular biology	4.95%	1	2	5.13%	1	2
4	Business, management, and accounting	2.64%	0	3	2.11%	0	3
5	Chemical engineering	0.39%	0	3	0.54%	0	3
6	Chemistry	0.44%	0	3	0.66%	0	3
7	Computer science	3.66%	1	4	4.09%	1	4
8	Decision sciences	1.07%	0	5	1.14%	0	5
9	Dentistry	0.58%	0	5	0.51%	0	5
10	Earth and planetary sciences	0.74%	0	5	0.67%	0	5
11	Economics, econometrics, and finance	1.97%	0	5	1.68%	0	5
12	Energy	0.99%	0	5	0.93%	0	5
13	Engineering	2.87%	0	5	3.06%	0	5
14	Environmental science	3.62%	1	6	3.38%	0	5
15	Health professions	1.77%	0	7	1.73%	0	5
16	Immunology and microbiology	3.29%	0	7	3.55%	0	5
17	Material science	0.46%	0	7	0.58%	0	5
18	Mathematics	1.31%	0	7	1.62%	0	5
19	Medicine	39.94%	1	8	43.47%	1	6
20	Multidisciplinary	1.76%	0	9	1.69%	0	7
21	Neuroscience	1.53%	0	9	1.78%	0	7
22	Nursing	3.79%	1	10	3.15%	0	7
23	Pharmacology, toxicology, and pharmaceutics	1.72%	0	11	2.50%	0	7
24	Physics and astronomy	0.83%	0	11	1.04%	0	7
25	Psychology	3.50%	0	11	2.80%	0	7
26	Social science	12.04%	1	12	8.86%	1	8
27	Undefined	0.01%	0	13	0.00%	0	9
28	Veterinary	0.63%	0	13	0.27%	0	9
	Average	3.57%			3.57%		
	n_c		6			4	
	Z_{count}		1.4988			0.9370	
	H_0—*the data sequence is random* H_1—*the data sequence is not random*	$Z_{\alpha=-0.025} = -1.96 \leq Z_{count} \leq Z_{\alpha=0.025} = 1.96$, then reject H_1					

3.2. A Subsystem: Genetic

Every event in the world is composed of interactions, actions, and responses, which are all commonplace. These problems are known alongside connotations such as super, crisis, etc., or involving similar words, while common problems only imply notions such as effective, efficient, optimal, maximum, minimal, etc. They are all about data, for example, for treatment (as a noun), to treat (always), treating (now, subject), or treated (past, object), which are natural facts when dealing with the capacity or ability of the paradigm. The relationship between data and the paradigm has contradictory characteristics, such as convexity and concavity (nonconvexity), but not separate. Think of R as a set and a part of the universe of discourse S (the world). V, as a subset of R, is convex if, and only if, any x,y in V, a subset of $[x,y]$, is a subset of R, i.e., if, and only if, for each x,y in V, for every λ in [0, 1], $\lambda x + (1 - \lambda)y$ in V, or $f((\lambda x + (1 - \lambda)y) \leq \lambda f(x) + (1 - \lambda)f(y)$, where f is a function, while concave is declared with $f((1 - \lambda)x + \lambda y) \geq (1 - \lambda)f(x) + \lambda f(y)$. Any system can consider a genetic trait of the world, giving rise to the concept of understanding the world naturally from the genetics of biology, that is, a subsystem that works with a computer science-based computational intelligence paradigm, called a genetic algorithm (GA) [161]. Although computers have weak numerical properties, optimization defects (concave) have an implementation in algorithms, where the nonstationary nature of data statistically and directly shifts to the concept of computational intelligence, so that any modeling represents the world. In this case, events in the world have a simulation to obtain a subsystem picture of the world [162–164]. Likewise, genetics is a collection of words, and as objects of extraction also become data from natural language that instruct

the arrangement of atoms (molecules) as a functioning identity to interact with others to form larger objects, such as plants, microorganisms, animals, humans, etc. [165,166].

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	1,0000	0,0028	0,1309	0,0074	0,0045	0,0115	0,0088	0,0051	0,0000	0,0313	0,0111	0,0095	0,0125	0,0654	0,0060	0,0708	0,0031	0,0355	0,0031	0,0687	0,0358	0,0297	0,0083	0,0022	0,0056	0,0144	0,0000	0,0420
2	0,0028	1,0000	0,0059	0,0168	0,0000	0,0009	0,0122	0,0025	0,0000	0,0016	0,0304	0,0008	0,0126	0,0027	0,0051	0,0000	0,0012	0,0071	0,0078	0,0013	0,0027	0,0246	0,0006	0,0024	0,0459	0,1305	0,0000	0,0000
3	0,1309	0,0059	1,0000	0,0034	0,0352	0,0366	0,0122	0,0004	0,0088	0,0063	0,0008	0,0032	0,0243	0,0202	0,0154	0,1595	0,0156	0,0218	0,0493	0,0405	0,0377	0,0105	0,0594	0,0220	0,0037	0,0092	0,0000	0,0934
4	0,0074	0,0168	0,0034	1,0000	0,0047	0,0009	0,0426	0,1203	0,0000	0,0039	0,1979	0,0139	0,0683	0,0256	0,0071	0,0000	0,0085	0,0120	0,0022	0,0011	0,0025	0,0053	0,0006	0,0035	0,0207	0,0698	0,0000	0,0000
5	0,0045	0,0000	0,0352	0,0047	1,0000	0,1118	0,0203	0,0045	0,0000	0,0092	0,0004	0,0223	0,0832	0,0133	0,0009	0,0129	0,1823	0,0022	0,0010	0,0004	0,0005	0,0000	0,0139	0,0399	0,0000	0,0014	0,0000	0,0000
6	0,0115	0,0009	0,0366	0,0009	0,1118	1,0000	0,0151	0,0000	0,0000	0,0088	0,0008	0,0120	0,0196	0,0126	0,0047	0,0000	0,0906	0,0207	0,0005	0,0034	0,0000	0,0000	0,0163	0,0916	0,0000	0,0069	0,0000	0,0000
7	0,0088	0,0122	0,0122	0,0426	0,0203	0,0151	1,0000	0,1687	0,0000	0,0077	0,0089	0,0359	0,2240	0,0141	0,0276	0,0016	0,0397	0,1742	0,0054	0,0033	0,0115	0,0003	0,0035	0,0433	0,0211	0,0752	0,0000	0,0000
8	0,0051	0,0025	0,0004	0,1203	0,0045	0,0000	0,1687	1,0000	0,0000	0,0047	0,0269	0,0267	0,1226	0,0044	0,0040	0,0000	0,0105	0,1061	0,0017	0,0000	0,0004	0,0000	0,0000	0,0206	0,0031	0,0269	0,0000	0,0000
9	0,0000	0,0000	0,0088	0,0000	0,0000	0,0000	0,0000	0,0000	1,0000	0,0000	0,0000	0,0000	0,0005	0,0000	0,0061	0,0000	0,0000	0,0000	0,0046	0,0000	0,0000	0,0000	0,0012	0,0000	0,0000	0,0044	0,0000	0,0000
10	0,0313	0,0016	0,0063	0,0039	0,0092	0,0088	0,0077	0,0047	0,0000	1,0000	0,0007	0,0621	0,0196	0,1030	0,0015	0,0002	0,0047	0,0055	0,0004	0,0007	0,0000	0,0012	0,0000	0,0139	0,0000	0,0153	0,0000	0,0000
11	0,0111	0,0304	0,0008	0,1979	0,0004	0,0008	0,0089	0,0269	0,0000	0,0007	1,0000	0,0064	0,0104	0,0252	0,0008	0,0000	0,0004	0,0204	0,0008	0,0000	0,0000	0,0000	0,0010	0,0000	0,0099	0,0612	0,0000	0,0004
12	0,0095	0,0008	0,0032	0,0139	0,0223	0,0120	0,0359	0,0267	0,0000	0,0621	0,0064	1,0000	0,0883	0,1667	0,0000	0,0000	0,0293	0,0363	0,0006	0,0003	0,0000	0,0000	0,0000	0,0194	0,0000	0,0429	0,0000	0,0000
13	0,0125	0,0126	0,0243	0,0683	0,0832	0,0196	0,2240	0,1226	0,0005	0,0196	0,0104	0,0883	1,0000	0,0416	0,0094	0,0061	0,1047	0,1025	0,0078	0,0004	0,0002	0,0000	0,0025	0,0635	0,0007	0,0517	0,0000	0,0000
14	0,0654	0,0027	0,0202	0,0256	0,0133	0,0126	0,0141	0,0044	0,0000	0,1030	0,0252	0,1667	0,0416	1,0000	0,0149	0,0063	0,0067	0,0107	0,0343	0,0000	0,0064	0,0013	0,0151	0,0034	0,0000	0,0791	0,0000	0,0020
15	0,0060	0,0051	0,0154	0,0071	0,0009	0,0047	0,0276	0,0040	0,0061	0,0015	0,0008	0,0000	0,0094	0,0149	1,0000	0,0047	0,0000	0,0040	0,0323	0,0003	0,0069	0,0501	0,0653	0,0047	0,0200	0,0311	0,0000	0,0016
16	0,0708	0,0000	0,1595	0,0000	0,0129	0,0000	0,0016	0,0000	0,0000	0,0002	0,0000	0,0000	0,0061	0,0063	0,0047	1,0000	0,0007	0,0105	0,0560	0,0000	0,0122	0,0009	0,0749	0,0000	0,0008	0,0022	0,0000	0,1219
17	0,0031	0,0012	0,0156	0,0085	0,1823	0,0906	0,0397	0,0105	0,0000	0,0047	0,0004	0,0293	0,1047	0,0067	0,0000	0,0007	1,0000	0,0305	0,0006	0,0004	0,0000	0,0000	0,0026	0,1218	0,0002	0,0003	0,0000	0,0000
18	0,0355	0,0071	0,0218	0,0120	0,0022	0,0207	0,1742	0,1061	0,0000	0,0055	0,0204	0,0363	0,1025	0,0107	0,0040	0,0105	0,0305	1,0000	0,0021	0,0031	0,0164	0,0024	0,0050	0,0791	0,0000	0,0136	0,0000	0,0000
19	0,0031	0,0078	0,0493	0,0022	0,0010	0,0005	0,0054	0,0017	0,0046	0,0004	0,0008	0,0006	0,0078	0,0343	0,0323	0,0560	0,0006	0,0021	1,0000	0,0000	0,0282	0,0508	0,0203	0,0015	0,0288	0,0375	0,0000	0,0099
20	0,0687	0,0013	0,0405	0,0011	0,0004	0,0034	0,0033	0,0000	0,0000	0,0007	0,0000	0,0003	0,0004	0,0000	0,0003	0,0000	0,0004	0,0031	0,0000	1,0000	0,0000	0,0000	0,0000	0,0022	0,0000	0,0007	0,0000	0,0000
21	0,0358	0,0027	0,0377	0,0025	0,0005	0,0000	0,0115	0,0004	0,0000	0,0000	0,0000	0,0000	0,0002	0,0064	0,0069	0,0122	0,0000	0,0164	0,0282	0,0000	1,0000	0,0069	0,0152	0,0000	0,0373	0,0061	0,0000	0,0000
22	0,0297	0,0246	0,0105	0,0053	0,0000	0,0000	0,0003	0,0000	0,0000	0,0012	0,0000	0,0000	0,0000	0,0013	0,0501	0,0009	0,0000	0,0024	0,0508	0,0000	0,0069	1,0000	0,0038	0,0000	0,0128	0,0310	0,0000	0,0000
23	0,0083	0,0006	0,0594	0,0006	0,0139	0,0163	0,0035	0,0000	0,0012	0,0000	0,0010	0,0000	0,0025	0,0151	0,0653	0,0749	0,0026	0,0050	0,0203	0,0000	0,0152	0,0038	1,0000	0,0000	0,0043	0,0062	0,0000	0,0024
24	0,0022	0,0024	0,0220	0,0035	0,0399	0,0916	0,0433	0,0206	0,0000	0,0139	0,0000	0,0194	0,0635	0,0034	0,0047	0,0000	0,1218	0,0791	0,0015	0,0022	0,0000	0,0000	0,0000	1,0000	0,0000	0,0032	0,0000	0,0000
25	0,0056	0,0459	0,0037	0,0207	0,0000	0,0000	0,0211	0,0031	0,0000	0,0000	0,0099	0,0000	0,0007	0,0000	0,0200	0,0008	0,0002	0,0000	0,0288	0,0000	0,0373	0,0128	0,0043	0,0000	1,0000	0,0643	0,0000	0,0002
26	0,0144	0,1305	0,0092	0,0698	0,0014	0,0069	0,0752	0,0269	0,0044	0,0153	0,0612	0,0429	0,0517	0,0791	0,0311	0,0022	0,0003	0,0136	0,0375	0,0007	0,0061	0,0310	0,0062	0,0032	0,0643	1,0000	0,0000	0,0010
27	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	1,0000	0,0000
28	0,0420	0,0000	0,0934	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000	0,0000	0,0020	0,0016	0,1219	0,0000	0,0000	0,0099	0,0000	0,0000	0,0000	0,0024	0,0000	0,0002	0,0010	0,0000	1,0000

(a) Pandemic

n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	1,0000	0,0025	0,0779	0,0089	0,0056	0,0113	0,0073	0,0042	0,0000	0,0391	0,0201	0,0078	0,0118	0,0607	0,0048	0,0327	0,0036	0,0342	0,0037	0,0183	0,0325	0,0419	0,0127	0,0025	0,0050	0,0158	0,0000	0,0466
2	0,0025	1,0000	0,0049	0,0193	0,0000	0,0007	0,0118	0,0024	0,0000	0,0007	0,0332	0,0005	0,0000	0,0032	0,0060	0,0000	0,0011	0,0084	0,0050	0,0004	0,0031	0,0187	0,0003	0,0038	0,0557	0,1063	0,0000	0,0000
3	0,0779	0,0049	1,0000	0,0033	0,0395	0,0583	0,0229	0,0002	0,0076	0,0065	0,0011	0,0042	0,0273	0,0181	0,0192	0,1088	0,0147	0,0218	0,0531	0,0093	0,0404	0,0113	0,0651	0,0266	0,0030	0,0100	0,0000	0,0220
4	0,0089	0,0193	0,0033	1,0000	0,0649	0,0008	0,0335	0,0980	0,0000	0,0025	0,1936	0,0196	0,0590	0,0247	0,0073	0,0000	0,0062	0,0097	0,0016	0,0001	0,0022	0,0040	0,0002	0,0033	0,0202	0,0730	0,0000	0,0000
5	0,0056	0,0000	0,0395	0,0047	1,0000	0,1566	0,0362	0,0017	0,0000	0,0081	0,0000	0,0277	0,0923	0,0157	0,0017	0,0121	0,1741	0,0072	0,0016	0,0002	0,0002	0,0000	0,0127	0,0561	0,0000	0,0023	0,0000	0,0000
6	0,0113	0,0007	0,0583	0,0008	0,1566	1,0000	0,0290	0,0000	0,0000	0,0071	0,0007	0,0116	0,0252	0,0116	0,0039	0,0001	0,0863	0,0189	0,0006	0,0051	0,0000	0,0000	0,0270	0,1098	0,0000	0,0065	0,0000	0,0000
7	0,0073	0,0118	0,0229	0,0335	0,0362	0,0290	1,0000	0,1762	0,0000	0,0085	0,0113	0,0420	0,2611	0,0130	0,0279	0,0010	0,0510	0,1839	0,0091	0,0028	0,0089	0,0001	0,0034	0,0566	0,0151	0,0694	0,0000	0,0000
8	0,0042	0,0024	0,0002	0,0980	0,0017	0,0000	0,1762	1,0000	0,0002	0,0031	0,0306	0,0280	0,1253	0,0036	0,0082	0,0000	0,0079	0,1053	0,0028	0,0000	0,0012	0,0000	0,0000	0,0238	0,0025	0,0335	0,0000	0,0000
9	0,0000	0,0000	0,0076	0,0000	0,0000	0,0000	0,0000	0,0002	1,0000	0,0000	0,0000	0,0000	0,0003	0,0000	0,0112	0,0003	0,0004	0,0000	0,0037	0,0000	0,0000	0,0000	0,0017	0,0000	0,0000	0,0036	0,0000	0,0000
10	0,0391	0,0007	0,0065	0,0025	0,0081	0,0071	0,0085	0,0031	0,0000	1,0000	0,0003	0,0378	0,0141	0,0870	0,0008	0,0000	0,0022	0,0031	0,0003	0,0005	0,0000	0,0013	0,0000	0,0091	0,0000	0,0205	0,0000	0,0000
11	0,0201	0,0332	0,0011	0,1936	0,0000	0,0007	0,0113	0,0306	0,0000	0,0003	1,0000	0,0102	0,0134	0,0288	0,0007	0,0000	0,0000	0,0207	0,0007	0,0000	0,0001	0,0000	0,0007	0,0003	0,0080	0,0679	0,0000	0,0004
12	0,0078	0,0005	0,0042	0,0196	0,0277	0,0116	0,0420	0,0280	0,0000	0,0378	0,0102	1,0000	0,0965	0,1521	0,0000	0,0000	0,0400	0,0368	0,0000	0,0001	0,0000	0,0000	0,0005	0,0249	0,0000	0,0503	0,0000	0,0000
13	0,0118	0,0000	0,0273	0,0590	0,0923	0,0252	0,2611	0,1253	0,0003	0,0141	0,0134	0,0965	1,0000	0,0417	0,0124	0,0059	0,1252	0,1216	0,0089	0,0004	0,0006	0,0000	0,0030	0,0869	0,0010	0,0550	0,0000	0,0000
14	0,0607	0,0032	0,0181	0,0247	0,0157	0,0116	0,0130	0,0036	0,0000	0,0870	0,0288	0,1521	0,0417	1,0000	0,0258	0,0038	0,0095	0,0077	0,0288	0,0000	0,0043	0,0015	0,0153	0,0038	0,0003	0,0908	0,0000	0,0012
15	0,0048	0,0060	0,0192	0,0073	0,0017	0,0039	0,0279	0,0082	0,0112	0,0008	0,0007	0,0000	0,0124	0,0258	1,0000	0,0043	0,0010	0,0031	0,0305	0,0001	0,0052	0,0470	0,0413	0,0059	0,0156	0,0363	0,0000	0,0019
16	0,0327	0,0000	0,1088	0,0000	0,0121	0,0001	0,0010	0,0000	0,0003	0,0000	0,0000	0,0000	0,0059	0,0038	0,0043	1,0000	0,0001	0,0082	0,0664	0,0000	0,0254	0,0014	0,0989	0,0000	0,0013	0,0025	0,0000	0,0284
17	0,0036	0,0011	0,0147	0,0062	0,1741	0,0863	0,0510	0,0079	0,0004	0,0022	0,0000	0,0400	0,1252	0,0095	0,0010	0,0001	1,0000	0,0397	0,0011	0,0002	0,0000	0,0000	0,0024	0,1326	0,0002	0,0007	0,0000	0,0000
18	0,0342	0,0084	0,0218	0,0097	0,0072	0,0189	0,1839	0,1053	0,0000	0,0031	0,0207	0,0368	0,1216	0,0077	0,0031	0,0082	0,0397	1,0000	0,0026	0,0021	0,0126	0,0022	0,0023	0,0955	0,0003	0,0158	0,0000	0,0000
19	0,0037	0,0050	0,0531	0,0016	0,0016	0,0006	0,0091	0,0028	0,0037	0,0003	0,0007	0,0000	0,0089	0,0288	0,0305	0,0664	0,0011	0,0026	1,0000	0,0000	0,0292	0,0422	0,0304	0,0020	0,0230	0,0317	0,0000	0,0023
20	0,0183	0,0004	0,0093	0,0001	0,0002	0,0051	0,0028	0,0000	0,0000	0,0005	0,0000	0,0001	0,0004	0,0000	0,0001	0,0000	0,0002	0,0021	0,0000	1,0000	0,0000	0,0000	0,0000	0,0041	0,0000	0,0003	0,0000	0,0000
21	0,0325	0,0031	0,0404	0,0022	0,0002	0,0000	0,0089	0,0012	0,0000	0,0000	0,0001	0,0000	0,0006	0,0043	0,0052	0,0254	0,0000	0,0126	0,0292	0,0000	1,0000	0,0063	0,0136	0,0001	0,0364	0,0056	0,0000	0,0000
22	0,0419	0,0187	0,0113	0,0040	0,0000	0,0000	0,0001	0,0000	0,0000	0,0013	0,0000	0,0000	0,0000	0,0015	0,0470	0,0014	0,0000	0,0022	0,0422	0,0000	0,0063	1,0000	0,0028	0,0000	0,0182	0,0326	0,0000	0,0000
23	0,0127	0,0003	0,0651	0,0002	0,0127	0,0270	0,0034	0,0000	0,0017	0,0000	0,0007	0,0005	0,0030	0,0153	0,0413	0,0989	0,0024	0,0023	0,0304	0,0000	0,0136	0,0028	1,0000	0,0000	0,0038	0,0065	0,0000	0,0049
24	0,0025	0,0038	0,0266	0,0033	0,0561	0,1098	0,0566	0,0238	0,0000	0,0091	0,0003	0,0249	0,0869	0,0038	0,0059	0,0000	0,1326	0,0955	0,0020	0,0041	0,0001	0,0000	0,0000	1,0000	0,0000	0,0034	0,0000	0,0000
25	0,0050	0,0557	0,0030	0,0202	0,0000	0,0000	0,0151	0,0025	0,0000	0,0000	0,0080	0,0000	0,0010	0,0003	0,0156	0,0013	0,0002	0,0003	0,0230	0,0000	0,0364	0,0182	0,0038	0,0000	1,0000	0,0635	0,0000	0,0001
26	0,0158	0,1063	0,0100	0,0730	0,0023	0,0065	0,0694	0,0335	0,0036	0,0205	0,0679	0,0503	0,0550	0,0908	0,0363	0,0025	0,0007	0,0158	0,0317	0,0003	0,0056	0,0326	0,0065	0,0034	0,0635	1,0000	0,0000	0,0008
27	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	1,0000	0,0000
28	0,0466	0,0000	0,0220	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0000	0,0004	0,0000	0,0000	0,0012	0,0019	0,0284	0,0000	0,0000	0,0023	0,0000	0,0000	0,0000	0,0049	0,0000	0,0001	0,0008	0,0000	1,0000

(b) COVID-19

Figure 4. An overview of human efforts aiming to deal with problems related in semantic similarity j_c for $n = 1, \ldots, 28$ (Table 1): (**a**) for pandemic, there are 70.293 documents with $\rho = 0.1438$ and $\delta = 1 - \rho = 0.8562$ (reliable), while, (**b**) for COVID-19, there are 171.299 documents with $\rho = 0.1391$ and $\delta = 1 - \rho = 0.8609$ (reliable). Scopus database until 2021 (accessed on July 2022).

The universe of pandemic discourse, in general, is a microorganism known as a virus (Figure 1), which infects a host (human or animal) by forcing it to produce thousands of identical copies of the genetic material, protein material, and its envelope. A virus contains a lipid, a natural wax-like molecule, as the sheath (outer envelope) of the protein coat (capsid) for protecting a set of nucleic acids. Nucleic acids, which may be DNA only or RNA alone, code for the protein structure of viruses. Thus, the subject area of computational biology involves databases and computations for managing and analyzing information from DNA sequences where there are amino acids encoding it [167,168]. Studies have been

carried out by scientists for overcoming the COVID-19 outbreak. Outcomes of those studies have increased phenomenally (Figure 3), but presented a behavior similar to outputs of ways humans previously dealt with pandemics (see Figure 4b and Table 1 (COVID-19) of 171,299 documents). In other words, some people prioritize saving the economy and trade more than other aspects of life, and the economy and trade side also has a fragile foundation.

The human understanding of genetics—a subsystem larger than atoms in which there occur molecular interactions—is a deep insight that naturally describes human interactions with pathogenic microorganisms, such as viruses or other diseases [169]. Although the mapping of all DNA or RNA has been encoded and recorded into a database, the mapping of DNA functions is not fully understood. However, data derived from genetic mapping are likely to be perfect or in a convex state. Vice versa, when the data derived from mapping are incomplete or concave, the function f needs to reinterpret them until obtaining completeness, same as the presence of the conjugate function for nonconvex from inside a convex. Thus, to understand and recognize viruses and their consequences, it is not enough to trace DNA and RNA, but it is also necessary to reveal the structural form of the genes in supercoiled DNA [170]. Each supercoil has a different structure from the others based on algebraic invariants [171,172]. In other words, on geometric shapes such as equilateral triangles, the knot or braid theories play a role in interpreting the genetic structure [173–178]. Insightfully, geometric shapes reveal the natural language of genetics about the world [179–183].

4. Discussion

Perhaps to understand the world well [1], according to the advice of Galileo Galilei [184], it is necessary to read parts of the world as if the pages of a great book [16], that is, the universe that is constantly open to the human mind [166]. Each page contains records of the characteristics of subsystems as encoded data [46], maybe in composed words [169], or maybe in literature language to interpret natural ideas such as genetics/DNA. In different places, a record for estimating social uncertainty is a case for the completeness of the meaning of a 0% threshold that works for generating democratic governance, where the threshold leads them to achieve a balance in the implementation of rights and obligations (or justice) [97,136,171], fulfilling the provisions of nature and human rights [8]. Thus, looking for suitable methods can create a space for utilizing continuous study, teaching, or approaches to complement the human understanding of the world [4]. Even so, the book is incomprehensible without first learning to understand the language and reading the letters that compose it [181]. The language is written in mathematics [78,181]. Imagine that a book is in the form of the internet and the web [182], and has a structure with size, variety, and arrangement that is unimaginable by the human brain; thus, consequently, it is called big data, and it is needed to require a strategy to understand it [83].

In general, mathematics forms any system for framing human thinking around objects or subjects of thought [111], such as (big) data, in a systematic way, where the laws of nature follow appropriate reasoning [89]. Any system involves conditions that allow the system to consist of subsystems, and like system components, subsystems interact with one another [90]. In the human world, or socially, there is a relationship between social actors based on an interaction capital [185]. For example, COVID-19 is a vehicle for building communities which compete with one other in interactions to achieve prosperity. Those interactions are carried out with democratic principles, not by forcing a threshold [137,182]. Very early on, mathematics framed data into arithmetic, algebraic, geometric, and trigonometric studies [181]. Then, mathematics extended to its implications such as statistics and optimization [110]. The last step was to settle on convexity and concave in the model of mathematics [166,167], i.e.,

1. Models based on statistics involve a mean, median, etc., or are stationary, or in a linear condition.
2. Nonlinear and nonstationary models involve artificial intelligence or computational intelligence approaches.

5. Conclusions

The world has characteristics that have been explored and observed as a single entity known as data. From a data perspective, the world comes with surprising things (phenomena), and some things become paradigms. A human being understands this by presenting a system and subsystems to frame insight, so that democracy gives options to others, which then naturally establishes culture and provisions. One such phenomena was the journey of the COVID-19 pandemic. Various human efforts have been carried out, either as studies or its implications, to provide proof in documents of subject areas. Unfortunately, those efforts are still not satisfying when taking into account its many victims. Thus, those efforts show the human perspective on life, where data describe a representation of the world. Therefore, future works need to consider in-depth reviews of other events that potentially triggered appearance.

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