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New Perspective for the Philosophy of Information: Re-construction & New Definition of Branches, and Hybrid Sciences & Systems

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In this work, general definition and meaning of knowledge, information, data and symbol are expressed generally/specifically, and the differences/relationships between them are briefly discussed. The general definition of system is briefly interpreted, and the semantic contents of the concept "system" expressed with nine perspectives generally. The meaning and importance of philosophy of information are then defined according to the general approaches. Some of the important philosophers of information and their professional interests are evaluated. The meaning and importance of mind, and philosophy of mind are discussed due to general approaches. Some of the philosophers of mind and their interests are evaluated and compared with a table. Systems philosophy is defined in line with general approaches, and its relationships with four main areas are stated. The new perspective of philosophy is then defined by the author generally, and the eight basic branches of philosophy and hybrid philosophy, along with their relevant theories, are briefly outlined. R-Philosophy, R-Science, R-Information, R-Mind, and R-System new disciplines are shortly expressed. New perspective for philosophy of information is defined as complementary branch with other seven basic philosophies. Types of information due to method, size, and content are given with a table. The 23 sub-branches of philosophy of information are defined generally/specifically. Philosophy of basic senses and some other branches are new defined, and new perspectives for philosophy of mind and for some other branches are expressed specifically. 18 hybrid philosophies for information are defined, and their relations with philosophy of information explained generally/specifically. General disciplines and concepts about information are defined shortly, and information science(s), 2D-6D hybrid information sciences, information system(s), and information & communication systems are given with details. New perspective for philosophy of system is defined, and types of system due to methods, size, and content are given with a table. Hybrid philosophies for systems, and some disciplines and concepts about systems are shortly outlined. Systems science(s) are defined due to four categories and each of these categories is explained with detailed tables. Hybrid systems defined by the author are shortly interpreted.

Keywords: philosophy of information, philosophy of mind, philosophy of system, New Era Philosophy, information science(s), hybrid philosophies, philosophy of basic senses, information systems, systems science(s), hybrid systems

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Introduction

History of information is defined as an emerging academic discipline related to, but broader than, library history. There are some scholars who made meaningful introduction and review about history of information.

Toni Weller has argued that there are important links between the modern information age and its historical precedents.

Alistair Black, on the other hand, has examined the definition and legitimacy issues of the discipline of information history by breaking down information history into its various components: (i) the history of print and written culture, including relatively long-established areas such as the histories of libraries and librarianship, book history, publishing history, and the history of reading, (ii) the history of information management, information systems*, and information science*, (iii) the history of contiguous areas, such as the history of the information society and information infrastructure, (iv) communication history (including telecommunications history), (v) history of information policy, (vi) the history of information as social history.

Author evaluated almost all branches of philosophy, and interests of philosophers, as well as sciences and branches of science, and other related disciplines/concepts generally/specifically, and made a R-Synthesis (Ramiz, 2010; 2015; 2016c; 2016d; 2020; 2021; 2025b).

As result of the synthesis, author defined that, in broad perspective, history of information interacts/relates with history of administration, history of justice, history of politics, history of religions, history of sciences, history of social sciences, history of systems, history of technology in general manner. Author evaluated more specific historical perspectives in the philosophy of history part generally in the following section.

With this respect, it is possible to deal with the branches of philosophy and branches of sciences that explain, contain, transmit, and/or process information in their clouds of ideas.

In the developing process, while the effectiveness of mobile phones, computers, information technologies, and other disciplines and hybrid applications is gradually increasing, theories and applications in these fields as well as in other branches of philosophy and science are being reconstructed and developed from scientific and philosophical perspectives and making human life easier. Author named this as New Hybrid Revolution Era where reforms, revolutions, and/or innovations, in general manner progression, are supplying in many disciplines at the same time and interact each other.

In this work, the subjects of information, data, knowledge, systems, mind, basic senses, science, and philosophy in the new era were examined generally/specifically, and basic information about the disciplines effective in shaping the new era was given from these perspectives.

Author considered R-Synthesis as a method for the evaluation of the philosophy, of all related branches of philosophy, science, all branches of science, and for all other disciplines defined in the past (Ramiz, 2016c). General and specific contents of the new synthesis were expressed in the other work (Ramiz, 2016c; 2016d).

As result of the R-Synthesis, the author defined new perspective for philosophy (Ramiz, 2016c), new perspective for philosophy of religion (Ramiz, 2020), new perspective for philosophy of science (Ramiz, 2016d), new perspective for ideology (Ramiz, 2010; 2015), new perspective for philosophy of justice (Ramiz, 2025b), and other subjects/concepts/disciplines in terms of providing integrity and complementarity in the theory and practice and expressing the good and/or correct understanding of justice that is taken into consideration.

Author evaluated all the disciplines through his new synthesis, generally/specifically, and in this work he focused on R-Philosophy, R-Information, R-Mind, R-System and R-Science disciplines and its some interactions with other disciplines generally.

The roles of philosophy, information, mind, systems, basic senses and sciences in human life are considered generally/specifically.

As a result of synthesis, some new words/concepts are defined by the author, which are not available in the literature. In history only some of the philosophers, scientists, and/or experts/thinkers considered more than one discipline at the same time, and in some time-periods, if one considers today where there are many new disciplines comparing with the history, some/most/all people can understand the new perspective defined by the author better.

Here "R-abc… xyz" are used to express that they are considered by the author and they are new defined and/or re-constructed from the past/present one, or modified, or used as it is same with the past/present one, or arranged due to the R-Synthesis (Ramiz, 2016c), and by applying definitive/certain result cases of the synthesis to science and philosophy disciplines in general manner. Author used "*" signs together with some words to denote that these words, "sciences", "branches of sciences", "philosophies", "branches of philosophy" are defined in the "past/present" and due to past philosophical/scientific/religious perspectives. There are "®©" symbols/signs which denote that it is re-constructed by the author, and there are "®®" symbols/signs which denote that it is new defined by the author.

This article includes and expresses the specific philosophical/scientific perspectives of the synthesis of the author about philosophy, information, mind, systems, basic senses, information sciences, hybrid systems in some manner. Author defined all other related philosophical, ideological, political, religious, lawful, etc., perspectives of the synthesis in other work generally/specifically (Ramiz, 2010; 2015; 2016c; 2016d; 2020; 2021; 2025b).

It is important to know the definitions and meaning of "knowledge", "information", "data", "sign" "idea", "symbol", and understand the relations and difference between them for the evaluation on the related subjects, concepts, and disciplines.

Knowledge

Knowledge can be defined in more than one approaches as follows: (i) It is facts, "information", and skills acquired through experience or education; the theoretical or practical understanding of a subject; (ii) it is awareness or familiarity gained by experience of a fact or situation; (iii) it is awareness of facts, a familiarity with individuals and situations, or a practical skill; (iv) it is a form of familiarity, awareness, understanding, or acquaintance; (v) it involves the possession of "information" learned through experience; (vi) it is be understood as a cognitive success or an epistemic contact with reality, like making a discovery; (vii) it is justified true belief; (viii) others.

Types of knowledge are given as: (a) propositional knowledge, (b) non-propositional knowledge, (c) a priori and a posteriori knowledge, (d) others (self-knowledge, meta-knowledge, common knowledge, situated knowledge, explicit knowledge, cognitive load theory, occurrent or dispositional knowledge, higher/lower knowledge).

Information

Information is defined as an abstract concept (ideas, qualities, or principles that cannot be perceived through the five senses, as they do not have physical form, and often represent thoughts, emotions, or theoretical constructs like love, justice, freedom, also essential for creating deeper meaning in both narration and description)

that refers to something which has the power to inform. At the most fundamental level, it pertains to the interpretation (perhaps formally) of that which may be "sensed", or their abstractions. Any natural process that is not completely random and any observable pattern in any medium can be said to convey some amount of "information". Whereas digital signals and other "data" use discrete "signs" to convey "information", other phenomena and artifacts such as analogue signals, poems, pictures, music or other sounds, and currents convey information in a more continuous form. Information is not knowledge itself, but the meaning that may be derived from a representation through interpretation.

The concept of "information" is relevant or connected to various concepts, including constraint (a limitation or restriction), communication, control, "data", form, education, "knowledge", meaning, understanding, mental stimuli (which means activities, events, or experiences that engage and challenge the brain to promote cognitive function, enhance mental capabilities, and support overall brain health. These stimuli enrich the "mind" by keeping it active and encouraging cognitive growth, which helps maintain sharp thinking, improve memory), pattern, perception, proposition, representation, and entropy (it is defined as a scientific concept, most commonly associated with states of disorder, randomness, or uncertainty).

The derivation of information from a signal or message may be thought of as the resolution of ambiguity or uncertainty that arises during the interpretation of patterns within the signal or message.

Information can be transmitted in time, via data storage, and space via communication and telecommunication. Information is expressed either as the content of a message or through direct or indirect observation.

There are several other definitions about information. But one of them is so philosophical. According to Luciano Floridi, four kinds of mutually compatible phenomena are commonly referred to as "information":

(a) Information about something (example- a train timetable);

(b) Information as something (example-DNA, or fingerprints, or pupil/iris prints);

(c) Information for something (example-algorithms or instructions);

(d) Information in something (example-a pattern or a constraint).

Michael Buckland, on the other hand, has classified "information" in terms of its uses: (i) "information as process", (ii) "information as knowledge", and (iii) "information as thing".

Beynon-Davies explains the multi-faceted concept of information in terms of signs and signal-sign systems.

If we consider the application of information study, it is possible to talk about information cycle. The information cycle (addressed as a whole or in its distinct components) is of great concern to "information technology" (IT), "information systems", "information management", as well as "information science". These fields deal with those processes and techniques pertaining to information capture (through sensors) and generation (through computation, formulation or composition), processing (including encoding, encryption, compression, packaging), transmission (including all telecommunication methods), presentation (including visualization, display methods), storage (such as magnetic or optical, including holographic methods), and others. Holographic methods record and reconstruct three-dimensional (3D) images by using interference patterns created by the superposition of light waves, often with the aid of a laser.

Types of information can be given as follows: (a) factual (deals only with truthful and proven concepts, like the scientific fact), (b) conceptual information (conceptual information comes from ideas, theories, concepts, hypotheses, and more), (c) procedural information (it is the method of how someone knows to do something and is used by performing a task. You can refer to it as muscle memory since it is knowledge that is hard to explain

and stored deeply in your mind), (d) subjective information (it is that from one point of view, like opinions), (e) objective information (it is that from several points of view that offer all sides of an argument), (f) stimulatory information (it is information that creates a response or stimulation amongst a person or group of people), (g) empirical information (information gained through human senses, observation, experimentation, and the testing of a hypothesis by establishing documentation of patterns or behavior), (h) directive and descriptive information (it is about providing directions to a person or group of people to achieve a particular result and outcome), (i) analytical information (it is the interpretation of factual information).

Author defined types of information due to methods and size in the following sections regarding the new perspective of philosophy of science and philosophy of information.

Beside this, categorization of information by format can be given as follows: (a) text: written information, including words, sentences, and paragraphs, (b) audio: sound-based information, such as speech and music, (c) image: static visual information like photographs and pictures, (d) video: a sequence of images, often with synchronized audio, such as films or animations.

Data

Data are defined as a collection of discrete or continuous values that convey" information", describing the quantity, quality, fact, statistics, other basic units of "meaning", or simply sequences of "symbols" that may be further interpreted formally. A datum is an individual value in a collection of data. Data are usually organized into structures such as tables that provide additional context and meaning and may themselves be used as data in larger structures. Data may represent abstract ideas or concrete measurements. Data are commonly used in scientific researches, economics, and virtually every other form of human organizational activity.

Data are collected generally using techniques such as measurement, observation, query, or analysis, and are typically represented as numbers or characters that may be further processed.

In one context, types of data are given as nominal, ordinal, interval, and ratio. In computer science and computer programing, it is possible to consider the following data types: machine data types, Boolean type, numeric types, enumerations, string and text types, union types, algebraic data types, data structures, abstract data types, pointers and references, function types, type constructors, quantified types, refinement types, dependent types, intersection types, meta types, convenience types.

Differences/Relations Between Data, Knowledge and Information

The relation and differences between data, information, knowledge, and meaning are important. Beside to above mentioned definitions, one can ask how does information relate to knowledge and meaning? Theories explore the process by which data become meaningful knowledge in some manner.

Data, information, knowledge, and wisdom are closely related concepts, but each has its role concerning the other, and each term has its meaning. According to a common view, data are collected and analyzed; data only become information suitable for making decisions once it has been analyzed in some fashion. One can say that the extent to which a set of data are informative to someone depends on the extent to which it is unexpected by that person. The amount of information contained in a data stream may be characterized by its Shannon entropy (a measure of information in a system, calculated based on the probabilities of different situations within the system).

Knowledge is defined as the awareness of its environment that some entity possesses, whereas data merely communicate that knowledge. Being aware of the characteristics represented by data on a subject is defined as

knowledge. Data are often assumed to be the least abstract concept, information the next least, and knowledge the most abstract.

Author expressed the differences and relationships between data, information, and knowledge in the following Table 1 due to different aspects as possible as.

Table 1

Differences/Relation Between Data, Information and Knowledge due to Aspects

Aspects	Data	Information	Knowledge
Definition	a. Raw facts and figures	a. Processed, organized, and contextualized data	a. Application of experience, context, and insights to information
Form	b. Individual data points, lacks meaningful interpretation	b. Summarized, analyzed, and structured data	b. Awareness gained from information processing
Meaning	c. Little or no meaning	c. Meaningful and relevant for decision-making	c. Understanding of a process or system and applying that to solve problems, create new things, or make better decisions
Focus	d. Individual data points, lacks meaningful interpretation	d. Structured and interconnected data for informed analysis	d. Synthesized understanding and expertise for effective application
Decision-making	e. Data can guide decisions but requires interpretation	e. Information enables informed decision-making	e. Knowledge drives sound decision-making based on experience
Transformation	f. Requires structuring and processing for meaningful analysis	f. Transformed data for meaningful interpretation and decision-making	f. Application of insights through experience and underpinning principles
Source	g. Primary	g. Secondary and created from data	g. Experience and education

General Definition of System and Types of System

The concept of a system has been defined in various ways. From one perspective, a system is defined as a collection (set) of interacting or interdependent or related components (objects, entities) forming a complex/intricate whole. These entities can be abstract or concrete.

Generally, system is defined as a whole, composed of interconnected units and various parts that interact in an orderly manner, established according to a general plan, and aimed at achieving a specific outcome. Systems are structures that emerge when a series of parts work together towards the general purpose of the whole.

According to Russell Lincoln Ackoff, a system is a group of interrelated elements that interact to achieve a specific purpose. It is an organized, indivisible whole composed of two or more interdependent (interacting or related) parts, with specific boundaries in terms of their operation and characteristics. It is also the combination of objects or entities that have a relationship with the external environment.

The word “System” was first encountered in Turkish (e.g. TR “Sistem”) in Mehmet Bahaettin’s work *New Turkish Dictionary* (1924).

The semantic contents of the concept “system” can be expressed generally as follows:

(a) Order: In its most general and simplest sense, it refers to an order or regular functioning, a planned, programmed progress.

(b) Method: A predetermined way, or procedure according to a specific plan to achieve a result.

(c) Mechanism: An assembly, installation, or mechanism that forms a vehicle or mechanical structure. A complex arrangement of elements or parts or a structure to achieve a specific purpose.

(d) Formation: A set of interconnected elements that form a whole; an integrated structure or complex structuring.

(e) Procedure: A sequential process or procedure based on a uniform plan or standard practice. Or a series of operations or cycles that must proceed sequentially.

(f) Process: An application, tool, or combination of these developed to achieve a result.

(g) Model: A part or version that is sampled or examined to understand the nature of a whole.

(h) Way of thinking: In philosophy, it means various knowledge gathered around a thought/idea. It also means a body of teachings, knowledge, and thoughts organized according to a basic principle or a worldview.

(i) Way of administration: This meaning mostly refers to a political formation or the functioning of the state.

Systems can be categorised in the following three types due to its structures: (i) open systems, (ii) semi-open systems, (iii) closed systems. This is due to the interactions with the environment and related with the boundary conditions.

Besides this, systems can be categorised as follows due to its nature: (a) natural systems: These are systems whose size, purpose, structure, and operation are not designed by humans. Some examples are sun system, biological systems, ecologic systems, etc.; (b) artificial (human made) systems: These are systems whose size, purpose, structure, and operation are designed by humans.

In the literature, there are: (a) political system, (b) legal system, (c) economic system, (d) cultural system, (e) social system, (f) socio-economic system, (g) global system, defined as an example.

Philosophy of Information* (General Approaches)

In general, philosophy of information is defined as a branch of philosophy that studies topics relevant to information processing, representational system and consciousness, cognitive science, computer science, information science, and information technology. According to this definition, it includes (a) the critical investigation of the conceptual nature and basic principles of information, including its dynamics, utilisation, and sciences, (b) the elaboration and application of information theory and computational methodologies to philosophical problems.

Philosophy of information is also defined by some scientists as a sub-discipline of philosophy, intricately related to the philosophy of logic and mathematics.

Here, above mentioned cognitive science is expressed as the interdisciplinary, scientific study of the “mind” and its processes. It examines nature, the tasks, and the functions of cognition (in a broad sense). Mental faculties of concern to cognitive scientists include perception, memory, attention, reasoning, language, and emotion. The typical analysis of cognitive science spans many levels of organization, from learning and decision-making to logic and planning; from neural circuitry to modular brain organization.

Besides this, computer science is defined as the study of computation, information, and automation. Computer science spans theoretical disciplines (such as algorithms, theory of computation, and information theory) to applied disciplines (including the design and implementation of hardware and software). Algorithms and data structures are central to computer science. The theory of computation concerns abstract models of computation and general classes of problems that can be solved using them.

There are three meaningful definitions about information science that are given in three different year period as follows:

> Information science is that discipline that investigates the properties and behaviour of information, the forces governing the flow of information, and the means of processing information for optimum accessibility and usability. It is concerned with the body of knowledge relating to the origination, collection, organization, storage, retrieval, interpretation, transmission, and utilization of information. (Borko, 1968, p. 3; Information Science)
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> … Information science brings together and uses the theories, principles, techniques and technologies of a variety of disciplines toward the solution of information problems. … The disciplines brought together in this amalgam called information science are brought to bear in solving the problems with information-its generation, organization, representation, processing, distribution, communication and use. (Williams, 1987/1988, pp. 17-19)
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> Information science is the science and practice dealing with the effective collection, storage, retrieval, and use of information. It is concerned with recordable information and knowledge, and the technologies and related services that facilitate their management and use. More specifically, information science is a field of professional practice and scientific inquiry addressing the effective communication of information and information objects, particularly knowledge records, among humans in the context of social, organizational, and individual need for and use of information. The domain of information science is the transmission of the universe of human knowledge in recorded form, centering on manipulation (representation, organization, and retrieval) of information, rather than knowing information. (Saracevic, 2009, pp. 2570-2585)

On the other hand, information technology (IT) is defined as the study or use of computers, telecommunication systems, and other devices to create, process, store, retrieve, and transmit "information". While the term is commonly used to refer to computers and computer networks, it also encompasses other information distribution technologies such as television and telephone. Information technology is expressed generally as an application of computer science and computer engineering. However, author defined IT as part of electronic and communications technology where almost all of the IT products considered hybrid structures of electronics, communication, and software.

The information theory mentioned above is defined as the mathematical study of the quantification, storage, and communication of information. This field was established and formalized by Claude Shannon in the 1940s, though early contributions were made in the 1920s through the works of Harry Nyquist and Ralph Hartley. Information theory is considered to lie at the intersection of electronic engineering, mathematics, statistics, computer science, neurobiology, physics, electrical engineering, and communication engineering.

Some of the theories of philosophy of information are given below generally (in alphabetic order):

(a) Andrey Kolmogorov's Theory: It is an algorithmic complexity (Kolmogorov Complexity);

(b) Charles S. Pierce's Theory: It is a semiotic theory, which links information to signs and symbols;

(c) Claude Shannon's Theory: It is a statistical information theory, which focuses on message transmission and uncertainty reduction;

(d) Donald M. MacKay's Theory: It is semiotic theory. It is informationalism where definition of information is considered as a "distinction that makes a difference";

(e) Luciano Floridi' s Theory: It is semantic information theory, which views information as meaningful data;

(f) Others.

Author considered these general approaches and defined new perspective for philosophy of information®© in the following section as result of the new synthesis he made.

Author defined new perspective of philosophy and also New Era Philosophy as 8D hybrid philosophy of eight basic philosophies in the following sections (Ramiz, 2016c; others), where philosophy of information is one of the basic philosophies, and complementary with other seven basic philosophies.

With this respect, there are "information" concept at each branch of basic philosophies, and the information is considered to be related not only with computer science but also in/for/as/about/with administration, justice, politics, religion, sciences, social science, and system disciplines/concepts.

Philosophers of Information and Their Professional Interests

Author evaluated some of the important philosophers of information and their professional interest generally given below (in alphabetic order):

Alan Mathison Turing (1912-1954): He was an English mathematician, computer scientist, logician, cryptanalyst, philosopher, and theoretical biologist. He was highly influential in the development of theoretical computer science, providing a formalisation of the concepts of algorithm and computation with the Turing Machine, which can be considered a model of a general-purpose computer. Turing is widely considered to be the father of theoretical computer science. His contributions to computer science, as highlighted in *The Essential Turing*, are foundational to the philosophy of information due to his work on computation and artificial intelligence.

Anthony Beavers (1963-cont): He is an American philosopher, and he holds the positions director of cognitive science, and director of The Digital Humanities Laboratory. He has been interested in search-engine design, information-theoretic philosophy of mind. His area of interests includes contemporary philosophy, western philosophy, philosophy of cognitive science, computational philosophy (particularly artificial intelligence, machine ethics, cognitive modeling) and philosophy of mind, ethical theory, meta-ethics, 17th/18th century philosophy, continental philosophy, philosophy of computing and information, philosophy of artificial intelligence.

Edward Nouri Zalta (1952-cont): He is an American philosopher who is a senior research scholar at the Center for the Study of Language and Information. His area of interests includes metaphysics, platonized naturalism, computational metaphysics, contemporary philosophy, western philosophy, analytic philosophy, mathematical platonism, neo-logicicim, mathematical structuralism, epistemology, philosophy of mathematics*, philosophy of language*, philosophy of mind*, logic, philosophy of logic, and 20th century philosophy.

Frederick Irwin Fred Dretske (1932-2013): He is an American philosopher noted for his contributions to epistemology and the philosophy of mind*. He holds externalist views about the mind, and thus he tries in various writings to show that by means of mere introspection (examination of one's own conscious thoughts and feelings) one actually learns about their own mind less than might be expected. His later work centers on conscious experience and self-knowledge,

Jean-François Lyotard (1924-1998): He is a French philosopher, sociologist, and literary theorist. His interdisciplinary discourse spans such topics as epistemology and communication, the human body, modern art and postmodern art, literature and critical theory, music, film, time and memory, space, the city and landscape, the sublime, and the relation between aesthetics and politics. His area of interest includes 20th century philosophy, western philosophy. His work "The Postmodern Condition" explores information's role in society and knowledge, which informs the contemporary study of information.

Luciano Floridi (1964-cont): He is an Italian philosopher. He is best known for his work on two areas of philosophical research: the philosophy of information*, and information ethics. His area of interest also includes contemporary philosophy, western philosophy, philosophy of technology, philosophy of logic*, epistemology, digital ethics, computer ethics, and ethics of artificial intelligence.

Mind and Philosophy of Mind* (General Approaches)

The "mind" has been defined as something that thinks, feels, perceives, imagines, remembers, and wills. It covers the totality of mental phenomena, including both conscious processes, through which an individual is aware of external and internal circumstances, and unconscious processes, which can influence an individual without intention or awareness. The mind plays a central role in most aspects of human life, but its exact nature is disputed according to some authors. Some characterizations focus on internal aspects, saying that the mind transforms information and is not directly accessible to outside observers. Others stress its relation to outward conduct, understanding mental phenomena as dispositions to engage in observable behavior. The main fields of inquiry studying the mind include psychology, neuroscience, cognitive science, and philosophy of mind*. The mind is relevant to many other fields, including epistemology, anthropology, religion, and education.

Philosophy of mind* is defined as a branch of philosophy that deals with the nature of the mind and its relation to the body and the external world.

The mind-body problem is defined as a paradigmatic issue in philosophy of mind*, although a number of other issues are addressed, such as the hard problem of consciousness and the nature of particular mental states. Aspects of the mind that are studied include mental events, mental functions, mental properties, consciousness and its neural correlates, the ontology of the mind, the nature of cognition and of thought, and the relationship of the mind to the body.

According to *Britanica*, philosophy of mind is reflection on the nature of mental phenomena and especially on the relation of the mind to the body and to the rest of the physical world. Philosophy is often concerned with the most general questions about the nature of things: What is the nature of beauty? What is it to have genuine knowledge? What makes an action virtuous or an assertion true? Such questions can be asked with respect to many specific domains, with the result that there are whole fields devoted to the philosophy of art (aesthetics), to the philosophy of science, to ethics, to epistemology (theory of knowledge), and to metaphysics (the study of the ultimate categories of the world). The philosophy of mind is specifically concerned with quite general questions about the nature of mental phenomena: What, for example, is the nature of thought, feeling, perception, consciousness, and sensory experience?

According to *Philpapers*, the philosophy of mind* covers all philosophical topics pertaining to the mind and mental states. Its subtopics can be divided into two main ways. First, by the traditional divisions drawn between kinds of mental states: consciousness, intentionality, perception, and other states and processes. Second, by the types of philosophical questions asked about these activities: especially metaphysical questions that have to do with their nature (especially the relation between the mental and the physical) and epistemological questions that have to do with our knowledge of them. The philosophy of mind also overlaps with the philosophy of cognitive science and the philosophy of action.

It is an important subject which should always be remembered: What is the relation between mind and information, and how does the brain keep information "in mind"?

Some of the Philosophers of Mind and Their Interests

Author evaluated philosophers of mind in 2015 first, where there were 132 philosophers of mind in that time. As of today September 2025, there are 151 philosophers of mind given in the literature. Author evaluated generally/specifically, almost all of the philosophers of mind, and their works/interests.

Table 2

Some of the Philosophers of Mind and Their Philosophical Interests (due to Date of Birth)

	Philosophical interests of philosophers (in alphabetic order)						
Pioneer/founder people	Philosophy of mind*	Philosophy of politics*	Philosophy of religion*	Philosophy of science*	Ethics*	Others	Life period
Aristotle	X	X	X	X	X	PoL, M, L, D	384BC-322BC
Thomas Aquinas	X	X	X		X	PoL*, PH, L, E, M, D	1225-1274
René Descartes	X				X	E, M, P, MP, D	1596-1650
Baruch (de) Spinoza	X				X	E, M, D	1632-1677
John Locke	X	X				E, M, PoEd, D	1632-1704
Gottfried W. Leibniz	X				X	M, P, D	1646-1716
David Hume	X	X	X	X	X	PoL, E, M, EC, A, D	1711-1776
Johann G. Fichte	X	X			X	PoL, M*,	1762-1814
William James	X		X			E, P	1842-1910
Ludwig Wittgenstein	X		X			PoL, E, M, PoM, L, D	1889-1951
Karl R. Popper	X	X		X		E, L, M, D	1902-1994
Wilfrid S. Sellars	X			X		PoL, E, D	1912-1989
Alan M. Turing	X					L, CSi, C, D	1912-1954
Georg H. V. Wright	X			X		PoL, E, PoA, D	1916-2003
John J. C. Smart	X	X	X	X		M, PoTi, D	1920-2012
Hilary W. Putnam	X			X		PoL, AP, PoM, E, D	1926-2016
Marvin Lee Minsky	X					AI, CS, CSi,	1927-2016
Anthony J. P. Kenny	X		X			PoW, HP, D	1931-cont
Frederick I. Dretske	X					E	1932-2013
Jaegwon Kim	X			X		M, E, D	1934-2019
Friedrich Kambartel	X			X	X	PoL, L, PoE, D	1935-2022
Thomas Nagel	X	X			X	E, PoLa	1937-cont
Daniel N. Robinson	X					P, PoLa, PoPs, P, D	1937-2018
David K. Lewis	X			X	X	E, A, PoM, PoP, M, D	1941-2001
Paul M. Churchland	X			X		AI, E, N,	1942-cont
Daniel C. Dennett III	X		X	X		PoB, CS, D,	1942-2024
Peter K. Unger	X				X	E, M	1942-cont
Patricia Churchland	X			X	X	AP, N,	1943-cont
Stephen P. Stich	X					CS, E, D	1943-cont
David Papineau	X			X		M,	1947-cont
Edward Nouri Zalta	X					M, D	1952-cont
Thomas Metzinger	X				X	N, CS, AI, D	1958-cont

Notes. * denotes that these branches are defined due to past philosophical branch perspectives; here A*: Aesthetics, E*: Epistemology, L*: Logic, M*: Metaphysics, PoL*: Philosophy of Language, PoM*: Philosophy of Mathematics, PoN*: Philosophy of Nature, AP: Analytic Philosophy, N: Neurophilosophy, AI: Artificial Intelligence, PoB: Philosophy of Biology, CS: Cognitive Science, P: Psychology, PoW: Philosophy of Wittgenstein, PoP: Philosophy of Probability, PoE: Philosophy of Economics, PoLa: Philosophy of Law, PoPs: Philosophy of Psychology, PH: Philosophy of History, D: denotes some other sciences.

As result of the evaluation, author determined that some of the philosophers of mind are being effective because of they were interested in with multi-disciplines at the same time, and interested in more than one branch of philosophy, as shown in Table 2 above. Author expressed 32 of all philosophers of mind here in Table 2 above, but the following evaluation includes info about all 151 thinkers/philosophers. Author noticed that some of these philosophers are/were theologian, or academics. While some of them adopted some religions, most of them also are/were related with both philosophy of mind and philosophy of language, few of them are interested with

philosophy of religion, some of them care about ethics, some of them consider philosophy of science, only few of them interested with history and/or philosophy of history, and most of them considered epistemology, some others considers(ed) computer science, cognitive science, metaphysics, psychology, and/or logic, and few of them interested in with artificial intelligence, or economics.

Systems Philosophy* (General Approaches)

Systems philosophy is defined as a discipline aimed at constructing a new philosophy (in the sense of worldview) by using systems concepts. The discipline was first described by Ervin Laszlo in his book dated 1972. It has been described as the "reorientation of thought and world view ensuing from the introduction of "systems" as a new scientific paradigm".

Soon after Ervin Laszlo founded systems philosophy it was placed in context by Ludwig von Bertalanffy, when he categorized three domains within systematic namely:

(a) "Systems science", which is concerned with scientific exploration and theory of "systems" in the various sciences, and general system theory as doctrine of principles applying to all systems;

(b) "Systems technology", which is concerned with "the problems arising in modern technology and society, comprising both the "hardware" of computers, automation self-regulating machinery etc., and the "software" of new theoretical developments and disciplines; and

(c) "Systems philosophy", which is concerned with "the new philosophy of nature" which regards the world as a great organization" that is "organismic" rather than "mechanistic" in nature.

Here in the context of system science and systems philosophy, "systemics" is an initiative to study systems. It is an attempt at developing logical, mathematical, engineering, and philosophical paradigms and frameworks in which physical, technological, biological, social, cognitive, and metaphysical systems can be studied and modeled.

Systems philosophy consists of four main areas:

(a) Systems ontology, which is concerned with what is meant by "system" and how systems are realized at various levels of the world of observation;

(b) Systems paradigms, which is concerned with developing worldviews which "takes (humankind) as one species of concrete and actual system, embedded in encompassing natural hierarchies of likewise concrete and actual physical, biological, and social systems;

(c) Systems axiology, which is concerned with developing models of systems that involve "humanistic concerns", and views "symbols, values, social entities and cultures" as "something very "real"" and having an "embeddedness in a cosmic order of hierarchies;

(d) Applied systems philosophy, which is concerned with using the insights from the other branches of systems philosophy to solve practical problems, especially social and philosophical ones.

Systems philosophy*, philosophy of systems* and philosophy of system®© are not exactly the same thing. The term "systems philosophy" is often used as a convenient shorthand to refer to the "philosophy of systems", but this usage can be misleading. The philosophy of systems* is in fact merely the element of systems philosophy called "systems ontology" by von Bertalanffy and "systems metaphysics" by Laszlo. Systems ontology provides important grounding for systems thinking but does not encompass the essential focus of systems philosophy, which is about articulating a worldview grounded in systems perspectives and humanistic concerns.

Systems philosophy was developed by some scientists such as Ervin Laszlo, Ludwig von Bertalanffy, Hasan Ozbekhan, Leo Apostel, Gerald Midgley, and David Rousseau.

Perspectivism and realism comparison in systems philosophy is important. An important debate in systems philosophy reflects on the nature of natural systems and asks whether reality is really composed of objectively real systems, or whether the concept of "natural systems" merely reflects a way in which humans might regard the world in terms relative to their own concerns.

Some Other Old Branches of Philosophy That Contain, Transmit, and/or Process Information in Their Clouds of Ideas

Author made a new synthesis and defined new perspective of philosophy and branches of philosophy (Ramiz, 2016c). In this context, evaluations of both the new synthesis method and past/present literature studies on relevant branches of philosophy are important in understanding the relationships, interactions, and differences between new branches and old branches.

Here, it is meaningful to notice that "information" consists of verifiable "facts" and "data", whereas an "idea" is a mental conception, opinion, or interpretation that is often based on "information". "Information" serves as the foundation or raw material from which "ideas" are generated and formed through processes like understanding, reasoning, and creative thought. For instance, gathering "information" about a problem can lead to an "idea" for a solution, or reviewing "information" can result in understanding a concept, forming a new "idea".

Author evaluated the literature about the past/present studies regarding the philosophy of information, and philosophy of mind. There are other philosophy branches, such as philosophy of contract law*, philosophical analysis*, analytic philosophy*, philosophy of education*, ethics*, philosophy of informatics*, philosophy of language*, philosophical methodology*, teaching philosophy*, and others that can be related and contain, transmit, and/or process information in their clouds of ideas generally.

Author considered these old branches of philosophy during his new synthesis.

New Perspective of the Philosophy

Author evaluated all related subjects and made a new R-Synthesis. Author defined new perspective of the philosophy (R-Philosophy) which includes all the new and/or re-constructed branches of philosophy due to that perspective, as result of the new synthesis (Ramiz, 2016c). Also, R-Science, R-Information, R-Mind, and R-System disciplines are defined here as result of this new synthesis. Aim/purpose of R-Philosophy is defined in general/specific manner in the previous works (Ramiz, 2016c; 2016d; 2020; 2025a; 2025b), where some general information is given here as guide. In this context, these new disciplines can be expressed as follows:

R-Philosophy: New Perspective of Philosophy, New Era Philosophy, Basic Philosophies, Hybrid Philosophies, Branches of Philosophy, Ideal Philosophical System, History of Philosophy,

R-Science: New Perspective for Philosophy of Science®©, Ideal Scientific System, Basic Sciences, Hybrid Sciences, Multidisciplinary Sciences, Interdisciplinary Sciences, History of Science.

R-Information: New Perspective for Philosophy of Information®©, Information, Information Sciences, Theories of Information, History of Information, Information Technology, Information Engineering, Information Security

R-Mind: New Perspective for Philosophy of Mind®©, Mind, Theories of Mind, History of Mind,

R-System: New Perspective for Philosophy of System®©, Hybrid Systems, Theories of System, History of System, Basic Sciences Systems.

With this respect, the following general/specific subjects and concepts are considered as guide for this work.

Philosophy due to Historical Period

Author divided the philosophy into the following "historical periods" as follows by considering the general perspectives considered for the new synthesis given in the other work (Ramiz, 2016c): (1) ancient philosophy: Egypt and Babylon, Ancient Chinese, Ancient Greco-Roman, Ancient Indian, Ancient Persian, (2) 5th-16th centuries: Medieval Europe, Renaissance, East Asia, India, Middle East, Mesoamerica, Africa, (3) early modern and modern (17th-18th centuries), 19th century, 20th century, (4) New Era Philosophy (future).

New Era Philosophy, Branches of Philosophy, and Ideal Philosophical System

Author defined R-Philosophy discipline to express all subjects directly related with philosophy. With regarding this, there are following concepts: new perspective of the philosophy, New Era Philosophy, "xD" Hybrid Philosophies (x: 1 to 8), upper constructional philosophies, lower constructional philosophies, basic branches of philosophy (basic philosophies), branches of philosophies, sub-branches of philosophies, and Ideal Philosophical System.

Due to new perspective of philosophy (Ramiz, 2016c), New Era Philosophy is defined as 8D hybrid philosophy of eight basic philosophies, and as a major philosophy branch, for the design, definition, etc., of all the subjects and to express some subjects due to the known perspective in daily life.

Ideal Philosophical System and all possible "xD" hybrid philosophy categories are given in previous work (Ramiz, 2016c).

Upper constructional philosophies and lower constructional philosophies are given in other work (Ramiz, 2016c; 2020) to express/explain the related subjects.

Basic philosophies, which are also defined by the author as new and/or re-constructed branches of philosophy, are as follows (Ramiz, 2016c) (in alphabetic order): (1) Philosophy of Administration®®, (2) Philosophy of Information®©, (3) Philosophy of Justice®®, (4) Philosophy of Politics®©, (5) Philosophy of Religion®©, (6) Philosophy of Science®©, (7) Philosophy of Social Science®©, (8) Philosophy of System®®.

Author defined new perspective for Philosophy of Science®© and its sub-branches in other work (Ramiz, 2016d), amd also defined new perspective for Philosophy of Religion®© (Ramiz, 2020), and new perspective for Philosophy of Justice®© in other work (Ramiz, 2025b).

Hybrid Philosophies®®

Hybrid theories are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of hybrid structure, (b) knowledge of hybrid structure, (c) nature of hybrid structure, (d) purpose of hybrid structure.

Since there are some technological, scientific founding/inventions which are/were effective and interacting with human life and also effecting the religion/science/politics/justice/administration/information and social science disciplines in some manner, author defined the hybrid branches of philosophy (hybrid philosophies) to express the interaction/relation between these founding and Ideal Philosophical System, and also to express the level of the hybrid philosophy perspectives behind these scientific founding.

New Perspective for the Philosophy of Information®©

As result of the R-Synthesis, Philosophy of Information®© is defined by the author as one of the basic philosophies, and as complementary branch with/to other seven basic philosophies. With this respect, the level

and content of the philosophy of information are strengthened and its increased importance in terms of all other basic philosophies is expressed.

Theories of information are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of information, (b) basic principles of information, (c) nature of information, (d) administration of information, (e) inspection of information, (f) purpose of information, (g) method of information.

Author defined types of information due to methods and size in Table 3 below regarding the new perspective of philosophy of information.

Table 3

Types of Information Due to Methods, Size, and Content

	Micro ınformation	Functional ınformation	Macro ınformation
Theoretical ınformation	Micro/theoretical	Functional/theoretical	Macro/theoretical
Experimental ınformation	Micro/experimental	Functional/experimental	Macro/experimental
Applied ınformation	Micro/applied	Functional/applied	Macro/applied
Computational ınformation	Micro/computational	Functional/computational	Macro/computational
Analytical ınformation	Micro/analytical	Functional/analytical	Macro/analytical
Comparative ınformation	Micro/comparative	Functional/comparative	Macro/comparative

Author considered that, data, knowledge, information, and meaning can be said to emerge from the following compatible 23 concepts/disciplines/philosophies given below. Author defined these philosophies as sub-branches of Philosophy of Information®©. The common point of these concepts/philosophies is that they all present concepts regarding the existence of information, basic principles of information, nature of information, meaning of information, and purpose of information.

It is important to note that one purpose of defining these sub-branches of philosophy of information is to make systematic evaluation to all philosophical subjects and to find answers easily to some questions interested.

Sub-branches of Philosophy of Information®©

The sub-branches of Philosophy of Information®© are defined by the author generally/specifically as follows (in alphabetic order):

(1) Philosophy of Agreement®®:

Agreement can be defined as a meeting of minds where parties share a common intention. An agreement is typically formed when one party makes an offer, and another accepts it. An agreement can also be defined as formal understanding that defines how the verbal or written information will be shared, used, and protected between parties, Agreements provide the structure for information exchange, ensuring that all parties are clear about their rights and obligations regarding the “data”. The existence of an agreement can be demonstrated by words, writing, signature, symbol, seal, sign, behavior, or in some cases, even silence.

Theories of agreement are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of agreement, (b) knowledge of agreement, (c) nature of agreement, (d) purpose of agreement, (e) inspection of agreement, (f) administration of agreement.

(2) Philosophy of Analysis®©:

Analysis is defined as the process of breaking a complex topic, subject, or substance into smaller parts in order to gain a better understanding of its nature, components, and relationships.

Theories of analysis are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of analysis, (b) knowledge of analysis, (c) nature of analysis, (d) purpose of analysis, (e) method of analysis.

Types of data analysis can be given as follows: (a) descriptive analysis, (b) prescriptive analysis, (c) time series analysis, (d) sentiment analysis, (e) cohort analysis, (f) diagnostic analysis, (g) quantitative analysis, (h) regression analysis, (i) factor analysis, (j) predictive analysis, (k) cluster analysis, (l) content analysis, (m) qualitative analysis.

(3) Philosophy of Archive(ing)®©:

Archive is defined generally as an accumulation of historical records or materials, in any medium, or the physical facility in which they are located. Archiving, on the other hand, is generally defined as the systematic storage of documents and "data" for an unlimited period of time, in an unalterable and usually controlled form. This can be done in analogue, digital, or electronic form.

Theories of archiving are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of archiving, (b) knowledge of archiving, (c) nature of archiving, (d) purpose of archiving, (e) method of archiving,

(4) Philosophy of Basic Senses®®:

In the literature, evaluation of the subjects, data, information or knowledge and others are done due to different methods and perspectives where generally the "true", "wrong", "good" or "bad" concepts/senses are used as reference.

Author made an R-Synthesis (Ramiz, 2010; 2015; 2016c; 2016d; 2020; 2021), about all subjects such as philosophy, religions, sciences, law, politics, and others, and defined new/reconstructed basic senses and philosophy of basic senses.

Theories of basic senses are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of basic senses, (b) knowledge of basic senses, (c) nature of basic senses, (d) purpose of basic senses, (e) degree/levels of basic senses.

With this respect, author defined following eight-basic senses in Figure 1 as result of R-Synthesis for the evaluation of the subjects, data, information, or knowledge in general manner.

In a simple sense, "evaluation levels" of a person for a subject-X can be given in one-dimensional (1D) form as follow in Figure 2 where it can also be correct guide during the examining of the general evaluation criterions for different subjects, concepts, disciplines.

Here the evaluation levels defined in line-1 of Figure 2 are "necessary and sufficient" for an expert regarding the interested subjects. However, considering the transitions between the eight-level, one may define sub-levels, and divide each level to suitable sub-levels, which means there will be 8 x n levels from highest level to lowest level for more specific detailed evaluations. This detailed leveling is very important for evaluations of all of the applications in each block of the general structure of the related discipline, concept, system, or units. These evaluation levels are also very important in terms of the sense of justice and the applications of this sense to different issues.

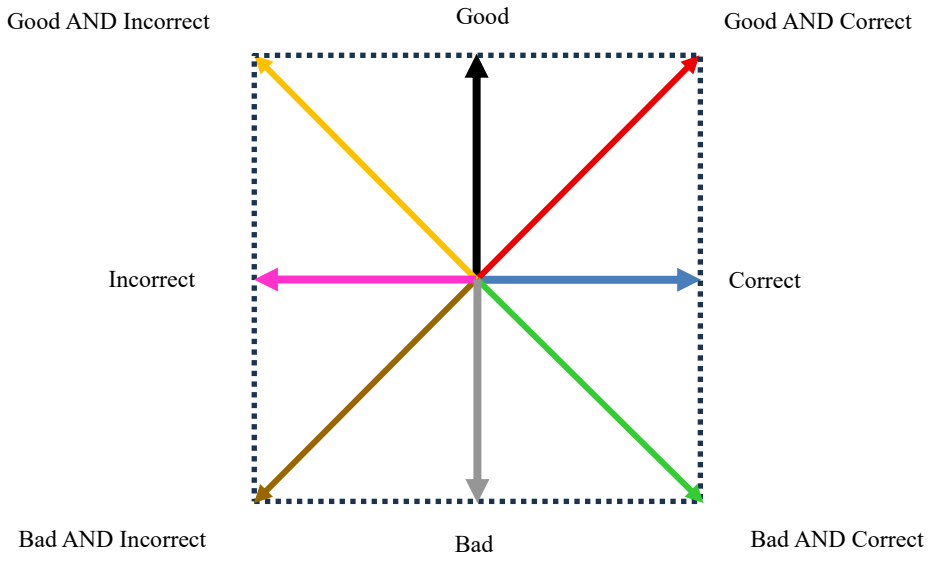

Figure 1. Eight basic senses (in 2D polar form).

Levels	Good AND Correct			Correct			Good			Good AND Incorrect			Bad AND Correct			Incorrect			Bad			Bad AND Incorrect		
Sub-levels	1. Highest Level		n. level	(n+1). level		2n. level	(2n+1). level		3n. level	(3n+1). level		4n. level	(4n+1). level		5n. level	(5n+1). level		6n. level	(6n+1). level		7n. level	(7n+1). level		8. n. Lowest level

Figure 2. Evaluation levels of a person for a subject-X (due to eight basic senses).

Author defined eight basic senses®® and the related priority levels generally/specifically above, and also explained some other subjects/concepts below, which are related with eight basic senses.

With this respect categorizes of evaluations are defined as follows:

(a) Data, information, or knowledge can be evaluated due to these eight basic senses;

(b) Principles, concepts, disciplines, or a subject can be evaluated due to these eight basic senses;

(c) Any action, or an event can be evaluated due to these eight basic senses;

(d) Systems, organization, or associations can be evaluated due to eight basic senses;

(e) Person's nature can be evaluated due to these eight basic senses; this can be realized by considering the nature of a person given in the following section;

(f) Values can be evaluated due to these eight basic senses;

(g) Appearance of a human being can be evaluated due to these eight basic senses;

(h) Abilities/skills can be evaluated due to these eight basic senses;

(i) Relations can be evaluated due to these eight basic senses;

(j) A "person" and a "subject" connected can be evaluated simultaneously by these eight basic senses (Ramiz, 2010);

(k) A person, and a group, and a community, and a country can be evaluated by these eight basic senses.

Author also defined possible functional "position levels" due to power authorities and responsibilities, abilities, education that person has (Ramiz, 2010, p. 2.26; 2021, p. 21).

Author considered the difference between a human being and a person due to the level of the education they have. In one sense, being a person is considered to be at higher position level than being human because person is considered as educated human being. In this context, one can talk about person rights as higher than human rights for some/most/all subjects taken into consideration.

"8 Basic Senses" and "R-Values", "8 Basic Senses" and "Person' Nature", "8 Basic Senses" and "Relations", "8 Basic senses" and "beauty/handsomeness", "8-Basic Senses" and "sense of justice", …are important dual concepts to be evaluated together for categorizing the philosophy of administration, philosophy of justice, philosophy of system, philosophy of information, philosophy of mind, and other skills/abilities of the related person. Some of these R-Values can be specifically as "courage" and "8 basic senses", "wisdom" and "8 basic senses", "creativity" and "8 basic senses", and so on.

Evaluation of "beauty" and "8 basic senses" together is given in 3D vector form in Figure 3 below, to express the sensitivity and sense of justice in the evaluation of person. This may help increase some of the value of some people, while it may be guide some other people to understand the meaning and importance of the values/information he/she has compared to his/her beauty/handsomeness.

Author applied similar sense of justice in Figure 3 to the fatness situation, or to tallness situation, or color, or ethnic origin, or gender, or age, or community values, etc. (Ramiz, 2010; 2015; 2016b; 2020), or "hybrid-case" of person, together and/or separately, to inform the sensitivity considered. It is also possible to evaluate each of the factors effective on a person's nature separately or all of factors effective on person's nature together.

These characteristics can be helpful to form "unique person", and/or to evaluate the "uniqueness of a person". In this context, author believes that every person is unique.

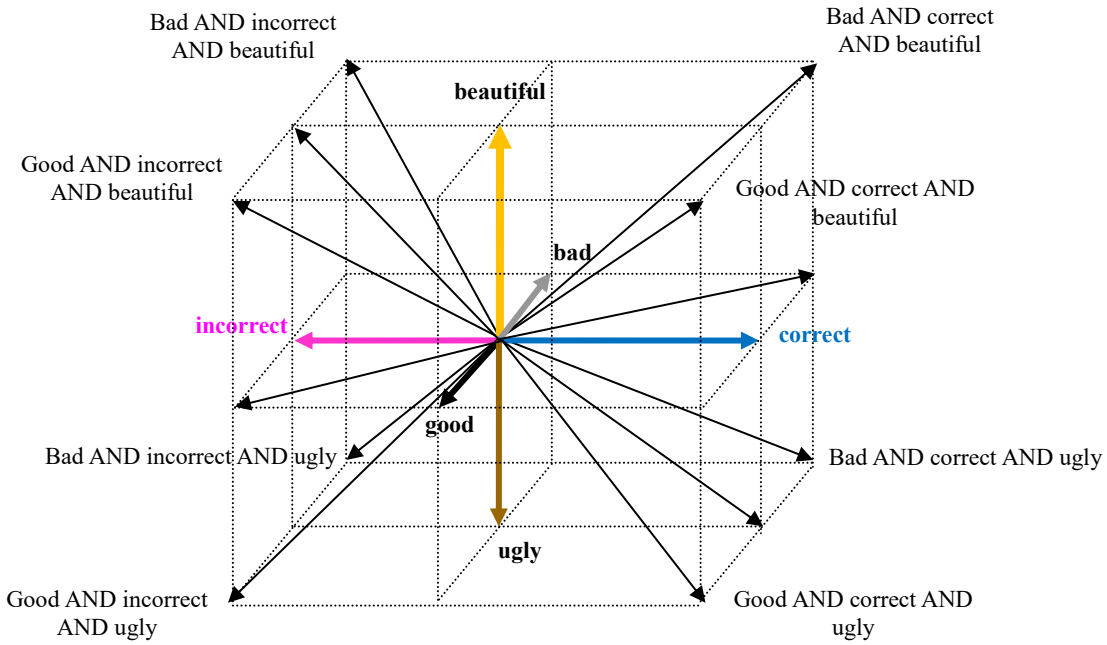

Figure 3. Evaluation of beauty and basic senses together (in 3D vector form).

To express some cases regarding Figure 1, following examples can be given: (i) There can be a group of people where 99 of 100 of them are incorrect but one of them is good in the group; this person may call "good

and incorrect" person because of being in that group; (ii) soldiers are armed person where they are dutied to make war with the opposite side. In this context a Soldier-A is "bad" because he/she can punish other side Soldier-B, but he/she is "correct" because of punishing the "bad" enemy Soldier-B. This Soldier-A may call "bad and correct" person.

(5) Philosophy of Classification®©:

Classification is defined as the activity of assigning objects to some pre-existing classes or categories. This is distinct from the task of establishing the classes themselves (for example through cluster analysis).

As well as "category", synonyms or near-synonyms for "class" include "type", "species", "forms", "order", "concept", "taxon", "group", "identification" and "division".

Classification is defined as a part of many different kinds of activities and is studied from many different points of view including medicine, philosophy, law, anthropology, biology, taxonomy, cognition, communications, knowledge, organization, psychology, statistics, machine learning, economics, mathematics, and others.

Classification can also be defined as the fundamental process of grouping or organizing objects, data, or ideas into predefined categories or classes based on shared characteristics and features. It serves as a method for understanding, differentiating, and structuring information.

Theories of classification are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of classification, (b) knowledge of classification, (c) nature of classification, (d) purpose of classification, (e) method of classification.

(6) Philosophy of Communication®©:

From one perspective, communication is defined as the process of transmitting and sharing/exchanging information, ideas, thoughts, and feelings between two or more individuals or groups using various methods such as speaking, writing, gestures, and body language. This is called human-human communication. It is also important to know: (i) whether the transmission is failed or un-intentional, (ii) whether the communication not only transmits meaning but also creates it. Effective/successful communication goes beyond simply sending a message; it involves the successful transmission of that message and ensures the receiver understands its intended meaning.

From another perspective, communication is defined as giving, receiving, or exchanging ideas, information, signals, or messages through appropriate "media", enabling individuals or groups to persuade, to seek information, to give information, or to express emotions effectively. This media/medium can be sound, written signs, electricity.

It is vital for building relationships, resolving problems, and functioning in both personal and professional settings.

A common way to classify communication can be whether information is exchanged between humans, members of other species, or non-living entities such as computers. By considering the possibilities, one can extend this classification to: (a) human-human communication (anthroposemiotics), (b) animal-animal communication (zoosemiotics), (c) human-animal communication, (d) plant-plant communication (phytosemiotics), (e) animal-plant communication, (f) computer-computer communication, (g) human-computer communication, (h) human-plant communication, (i) animal-computer communication.

There are five types of human-human communication: (i) verbal communication (e.g. by means of language), (ii) nonverbal communication (e.g. shaking hands), (iii) written communication, (iv) visual communication, and (v) listening.

With this respect, communication is applied to journalism, business, mass media, public relations, marketing, news and television broadcasting, interpersonal and intercultural communication, education, public administration, and so on.

Here, for this branch of philosophy author considered the communication categories where human and/or computer (electronic and communication systems) are part of it. Scientific/technological aspects of communication are evaluated through philosophy of science and philosophy of system.

There are various communication studies regarding the interested area such as: (a) organizational communication, (b) business communication, (c) corporate communication, (d) professional communication, (e) marketing communication, (f) political communication, (g) intercultural communication, (h) health communication, (i) others.

Theories of communication are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of communication, (b) knowledge of communication, (c) nature of communication, (d) purpose of communication, (e) method/model of communication.

(7) Philosophy of Data Collection®®:

Data collection is defined as the process of gathering and measuring information on targeted variables in an established system, which then enables one to answer relevant questions and evaluate outcomes.

Data collection is considering a research component in all disciplines.

Theories of data collection are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of data collection, (b) knowledge of data collection, (c) nature of data collection, (d) purpose of data collection, (e) method of data collection.

Author defined types of data due to method and size in Table 4 below. Here, both the method of data collection and the way of data evaluations are expressed in one point of view.

Table 4

Types of Data and Way of Evaluations Data Due to Methods and Size

	Micro data	Functional data	Macro data
Theoretical data	Micro/theoretical	Functional/theoretical	Macro/theoretical
Experimental data	Micro/experimental	Functional/experimental	Macro/experimental
Applied data	Micro/applied	Functional/applied	Macro/applied
Computational data	Micro/computational	Functional/computational	Macro/computational
Analytical data	Micro/analytical	Functional/analytical	Macro/analytical
Comparative data	Micro/comparative	Functional/comparative	Macro/comparative

Also, there are data that can be obtained through research and studies by considering 6/7 Basic Sciences and Hybrid Sciences (Ramiz, 2016d).

(8) Philosophy of Data Storage®®:

Data storage is defined as the recording (storing) of information (data) in a storage medium.

Theories of data storage are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of data storage, (b) knowledge of data storage, (c) nature of data storage, (d) purpose of data storage, (e) administration of data storage, (f) method of data storage.

Handwriting, phonographic recording, magnetic tape, and optical discs are all examples of storage media. Biological molecules such as RNA and DNA are considered by some as data storage. Recording may be

accomplished with virtually any form of energy. Electronic data storage requires electrical power to store and retrieve data. Data storage in a digital, machine-readable medium is sometimes called digital data. Computer data storage is one of the core functions of a general purpose computer. Electronic documents can be stored in much less space than paper documents.

Data can be stored via: (i) barcodes, (ii) QR codes, (iii) MICR code, (iv) hologram. Here barcodes are a method of representing data in a visual, machine readable form, where initially, barcodes represented data by varying the widths, spacings, and sizes of parallel lines, and commonly referred to as linear or one-dimensional (1D). QR codes are denoted as quick-response code, a type of two-dimensional (2D) matrix barcode, where it features black squares on a white background with fiducial markers, readable by imaging devices like cameras, and processed using reed-solomon error correction until the image can be appropriately interpreted. Magnetic ink character recognition code, MICR code, is a character recognition technology used mainly by the banking industry to streamline the processing and clearance of cheques and other documents. These methods are representing different ways of recording machine-readable data on paper. Hologram is a recording of a three-dimensional (3D) image created by holography. Holography is defined as a technique that allows a wavefront to be recorded and later reconstructed. It is best known as a method of generating 3D images, and has a wide range of other uses, including data storage, microscopy, and interferometry. In principle, it is possible to make a hologram for any type of wave. A hologram is also defined as a physical structure that diffracts light into an image. The term "hologram" can refer to both the encoded material and the resulting image. A hologram is also expressed as a picture of a "whole" object, showing it in three dimensions. One can see suitable hologram images on credit cards, on ID cards, electronic passports, and others.

Data storage refers to magnetic, optical, or mechanical media that record and preserve digital information for ongoing or future operations. Today, organizations and users require data storage to meet high-level computational needs for big data analytics, artificial intelligence (AI), machine learning and internet of things (IoT).

The other side of requiring vast data storage is protecting against data loss due to disaster, failure, or fraud. So, to avoid data loss, organizations can also employ data storage as a backup and restore solutions. To store data, regardless of form, users need storage devices. Data storage devices come in two main categories: direct area storage and network-based storage. Direct area storage devices include diskettes, optical discs—compact discs (CDs) and digital video discs (DVDs)—hard disk drives (HDD), flash drives, and solid-state drives (SSD). Network-based storage allows multiple computers to access it through a network, making it better for data sharing and collaboration. Its off-site storage capability is also better suited for backups and data protection. Two standard network-based storage setups are network-attached storage (NAS) and storage area network (SAN). NAS is often a single device made up of redundant storage containers or a redundant array of independent disks (RAID). SAN storage can be a network of multiple devices of various types, including SSD and flash storage, hybrid storage, hybrid cloud storage, cloud storage, and backup software and appliances.

Data can be recorded and stored in three primary forms in general: file storage, block storage, and object storage.

(9) Philosophy of Education®©:

Education can be defined as the transmission of data, information, and/or accumulated knowledge about the related person (see Category-A), institution (see Category-B), discipline (see Category-C) and/or values (see Category-D).

Category-A: person, group, community; Category-B: institution, association, organization, country; Category-C: disciplines, theories; Category-D: concepts, values, thoughts, senses, ideas, principles, beliefs.

Education can be classified/categorised due to different subjects. One classification depends on the institutional framework, distinguishing between (a) formal education, (b) non-formal education, and (c) informal education.

One can give different names to this act of education, such as civilization, socialization, or enculturation. It is specifically the transition from being uneducated human level to an educated person level (Ramiz, 2010; 2021) in some manner.

Theories of education are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of education, (b) knowledge of education, (c) nature of education, (d) purpose of education, (e) method of education.

Author defined new perspective for philosophy of education in other work (Ramiz, upcoming work).

(10) Philosophy of Formulation®®:

Formulation is defined as a term used in various senses in various applications, both the material and the abstract or formal. One of its fundamental meanings is expressed as, putting together the components in appropriate relationships or structures, according to a formula. Etymologically formula is the diminutive of the Latin “forma”, meaning “shape”. In that sense a formulation is created according to the “standard” for the product. Here both standard, formula, and components contain data/information regarding the subject of interest. The term “formulation” also refers to the act of formulating an “idea”, a “scientific theory”, a “strategy”.

Theories of formulation are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of formulation, (b) knowledge of formulation, (c) nature of formulation, (d) purpose of formulation, (e) method of formulation.

(11) Philosophy of Graphics Design®©:

Graphics are defined as pertaining to drawing, painting, writing, etc. in some manner, also expressed as visual images or designs on some surface, such as a wall, canvas, screen, paper, or stone, to inform, illustrate, or entertain. In contemporary usage, it includes a pictorial representation of “data”, as in design and manufacture, in typesetting and the graphic arts, and in educational and recreational software. Images that are generated by a computer are called computer graphics.

Graphic design on the other hand is expressed as a profession, academic discipline, and applied art that involves creating visual communications intended to transmit specific messages to social groups, with specific objectives. Graphic design is also defined as an interdisciplinary branch of design and of the fine arts.

Theories of graphic design are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of graphics, (b) knowledge of graphics design, (c) nature of graphics design, (d) purpose of graphics design, (e) method of graphics design.

(12) Philosophy of History®©:

History relies on information to be studied and understood, while the study of history itself creates and organizes information about the past. The considered historical evidence is the information gathered from the past, which historians, scientists, or philosophers then research, interpret, and present, often using primary and secondary sources to build a narrative and provide context for the present.

Author defined new perspective for philosophy of history generally (Ramiz, 2010). Theories of history are considered under this philosophy. These theories are proposed basically to have information about: (a) existence

of history, (b) knowledge of history, (c) nature of history, (d) purpose of history, (e) methods of history.

R-History is defined by the author as a discipline, where it includes new perspective for philosophy of history, that includes the evaluation of the following histories/timelines, generally/specifically, about the given subjects/disciplines to have information about the existence, knowledge, nature, and purpose of the said disciplines: (1) history/timeline of writing, (2) history/timeline of communication, (3) history/timeline of electronic and communication, (4) history/timeline of sciences; history/timeline of biological sciences, chemical sciences, electromagnetic sciences, mathematical sciences, physical sciences, hybrid sciences, (5) history/timeline of religions, (6) history/timeline for politics, (7) history/timeline of ideologies, (8) history/timeline of philosophies, (9) history /timeline of law/justice, (10) history/timeline of ethnic origins, (11) history/timeline of mythologies, (12) history /timeline of organisations, (13) history/timeline of religious books, text books, (14) history/timeline of commerce, (15) history/timeline of economics, (16) history/timeline of religious places, mosques, churches, temples, pyramids, synagogues, (17) history/timeline of industry; history of accounting, history of agriculture, history of automobile, history of aviation, history of chemistry, history of clothing and textiles, history of coal mining, history of construction, history of cosmetics, history of engineering, history of ferrous metallurgy, history of mining, history of petroleum industry, history of science and technology, history of steel industry, history of technology, history of transport, (18) history/timeline of museums, (19) history of military, (20) history/timeline of the social sciences, (21) history/timeline of countries, (22) history/timeline of the world, (23) others.

There are separate history and timeline for each discipline as possible. The classical timeline is due to time axis and about the discipline you are focused on generally. Author considered hybrid-timeline where it includes the evaluation of some/most/all disciplines simultaneously as possible. With regarding this, theory of interaction, theory of relation, theory of hybrid, and some other subjects considered also, besides the dimensions, other concepts/perspectives of R-Synthesis.

The theories of history express different thoughts and senses to the existence, nature, knowledge, and purpose of the lived history of the world. The philosophers of history predicted different future for the world. Author's theory proposes that we are in a new era and this new era is proposed as a kind of "parallel and hybrid progression era" in some manner, which means all the disciplines are proposed to be progressed, re-constructed, re-defined, and/or new defined parallelly, simultaneously in other manner.

(13) Philosophy of language:

Language is defined as a structured system of "communication" that consists of grammar and vocabulary. It is the primary means by which humans convey meaning, all in "spoken" and "signed forms" and may also be conveyed through "writing". Human language is characterized by its cultural and historical diversity, with significant variations observed between cultures and across time.

The English word "language*"* derives ultimately from Proto-Indo-European "tongue, speech, language" through Latin "lingua-language; tongue", and old French language.

The word "language" is also used to refer to "codes (system of rules to convert information-such as a letter, word, sound, image or gesture-into another form)", "chippers (algorithm in cryptography for performing encryption or decryption)", and other kinds of artificially constructed communication systems such as formally defined computer languages used for computer programming.

An early example is an invention of language, which enabled a person, through speech, to communicate what they thought, saw, heard, or felt to others. But speech limits the range of communication to the distance a

voice can carry and limits the audience to those present when the speech is uttered. The invention of writing, which converted spoken language into visual symbols, extended the range of communication across space and time. The process of encoding is defined as converting "information" from a source into "symbols" for communication or storage. And decoding is defined as the reverse process, converting code symbols back into a form that the recipient understands, such as English, French, Italian, Spanish, Turkish, etc. (in alphabetic order). One reason for coding is to enable communication in places where ordinary plain language, spoken or written, is difficult or impossible.

Unlike conventional human languages, a formal language (in linguistics, logic, mathematics, and computer science it is a set of strings whose symbols are taken from a set called "alphabet") in this sense is a system of signs for encoding and decoding information.

Author considered that in all three ways of conveying (via spoken, signed forms and through writing) people transmit and receive information. It is also important that each way of conveying includes specific additional concepts. In some manner, there is an energy attached to matter, or to sound or to a sign. With this respect, author considered that some languages are more "attractive", "creative", "energic", "calm", "effective", "fluent", etc. like English, French, Italian, Spanish and Turkish languages, because the sound frequency, sound analysis, and sound synthesize are beautiful.

There are "text to speech", "speech to text" applications where it is useful for better communication via human language once needed.

Theories of language are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of language, (b) knowledge of language, (c) nature of language, (d) purpose of language, (e) methods of language.

Author defined that there are 17 types of language that could be considered together and/or separately for upon the purpose of using language and for good and/or correct administration: academic language, commercial language, diplomatic language, English language, expert language, friendly language, ideological language, lawful language, military language, national language, nonofficial language, official language, philosophical language, political language, religious language, scientific language, social language.

(14) Philosophy of Library Science*:

Library science is defined as the principles and practices of library operation and administration, and their study. Libraries have existed since ancient times, but only in the second half of the 19th century did library science emerge as a separate field of study. With the knowledge explosion in the 20th century, library science was gradually subsumed under the more general field of information science. As an academic discipline it studies all aspects of the creation, organization, management, communication, and use of recorded information. It underlies a variety of professional activities such as information management, librarianship, and archiving and records management, educating professionals for work in those areas, and carrying out research to improve practice.

Theories of library science are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of library, (b) knowledge of library, (c) nature of library, (d) purpose of library, (e) administration of library.

(15) Philosophy of Media®©:

Means of communication or media are used by people to communicate and exchange information with each other as an information sender and a receiver. Diverse arrays of media that reach a large audience via mass

communication are called mass media. It refers to mass media used to store and transmit information or data too. This term also generally refers to mass media, components of the communications industry, such as print media, publishing, news media, photography, cinema, radio and television broadcasting, digital media, and advertising.

It has subheadings (types) such as advertising media, broadcast media, digital media, electronic media, print media, news media, printed media, social media, new media, multimedia.

Theories of media service are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of media service, (b) knowledge of media service, (c) nature of media service, (d) purpose of media service, (e) administration of media service, (f) method of media service.

(16) Philosophy of Mind®©:

Theories of mind are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of mind, (b) knowledge of mind, (c) nature of mind, (d) purpose/function of mind, (e) administration of mind.

With this respect author defined person' nature in Figure 4 below with its effective factors (parts). It is possible to evaluate each of the factors effective on a person's nature separately or all of his/her effective factors of person's nature together. These affective factors are shaping the abilities/skills of person too.

Here, interactions/relations/effects between each of the blocks/factors in Figure 4 are important. "R-Values" and "mind", "mind" and "8 basic senses", "sense of justice" and "R-Values", and other dual, trio, quaternary, … relations are meaningful as well. Values of the information obtained through each of the factors/abilities are important as well.

Author also considered social sciences* in Figure 4 as abilities/skills factor of a person in the following areas: (a) beauty and art, (b) culture and art, (c) dance, (d) film, (e) music, (f) sports, (g) theatre.

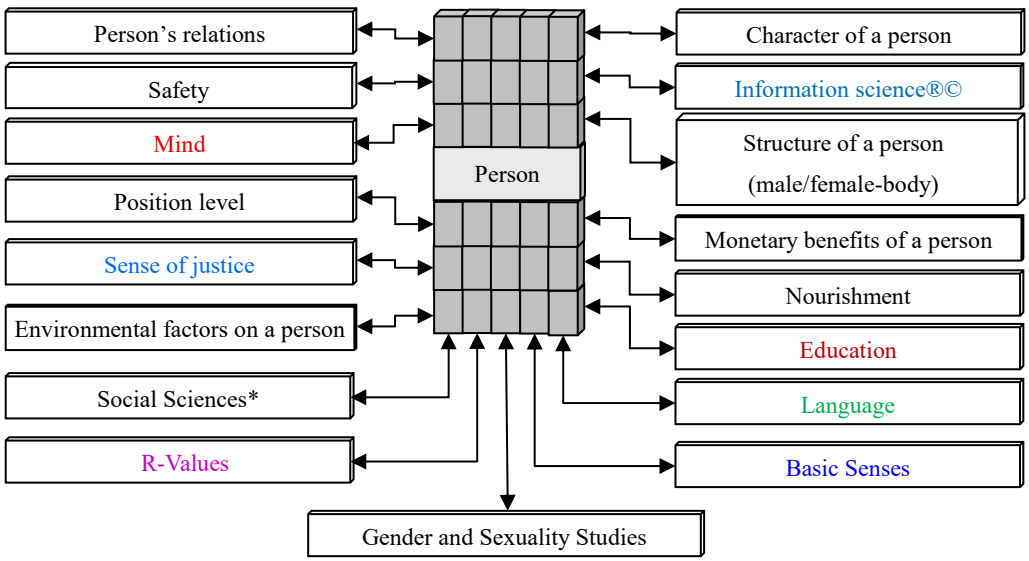

Figure 4. Person's nature and abilities/skills (with 17 general parts).

Here, the relations of a person in Figure 4 are generally defined by the author in Figure 5 below, and the said relations are categorized due to its applied concepts as: (a) Category-A: official, nonofficial, (b) Category-B: personal, group, community, country, (c) Category-C: national, regional, worldwide.

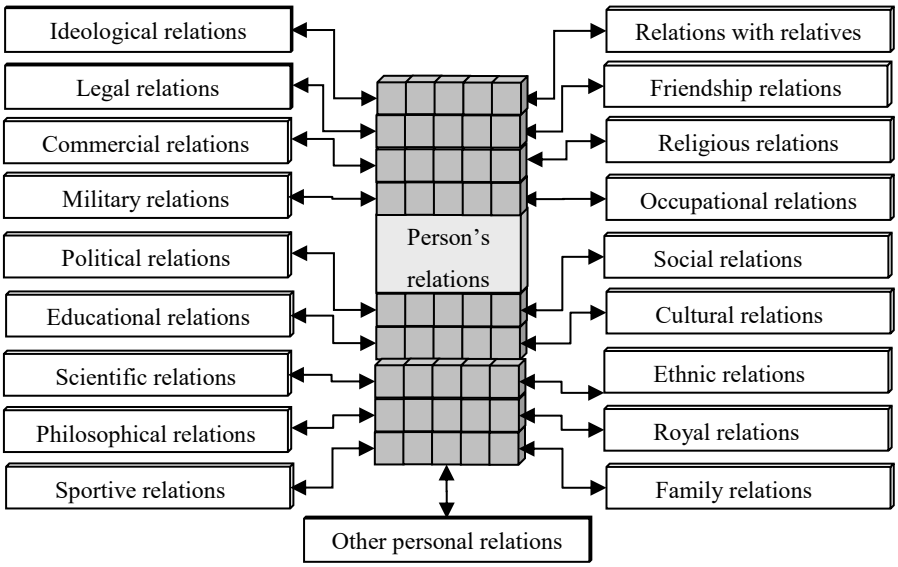

Figure 5. Person's relations (with 19 types of relations).

It is possible to define/express content of each of the relations in Figure 5 specifically. However, author defined availability and power levels of some of these relations for a Person-X in Figure 6 below to express the importance of their existence with different power levels together. One may call this as digitalized relation but in fact it is detailed engineering information where most people use social words saying "…I have a relation…" but does not give enough information about its types and power/effective level.

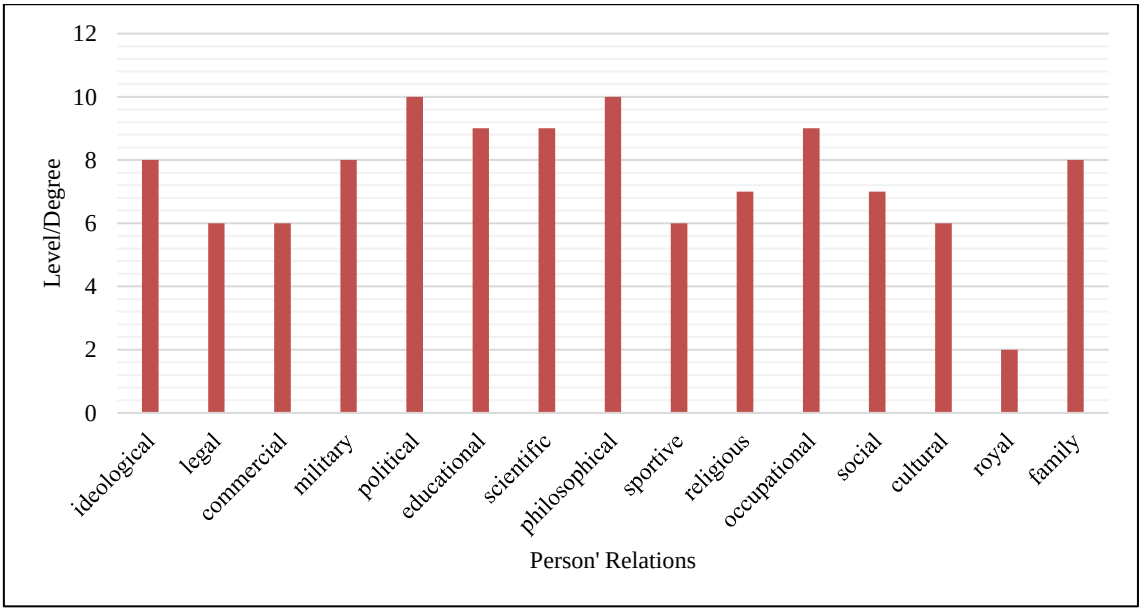

Figure 6. Availability and levels of some relations for a Person-X (from Level-0 (min) to Level-10 (max)).

Structure of a person (male/female-body) can be defined as follows (Ramiz, July 2016);

Structure of a person = Function $_{RR}${biological science; chemical science; electromagnetic science; informational science; mathematical science; physical science}

Author defined the R-Values in (Figure 4) for the humans, groups, communities as it is given below, generally/specifically: (1) ethnic colors (etnik renk), (2) ethnic origins (etnik köken), (3) historical values (tarihsel ilişkilerden gelen değerler), (4) age (yaş), (5) courage (cesaret), (6) diligence (dikkatlilik/çalışkanlık), (7) faithfulness (vefa), (8) frugality (tutumluluk), (9) generosity (cömertlik), (10) honesty (dürüstlük), (11) industriousness/hard working, (12) loyalty (sadakat), (13) manners (görgü kuralları), (14) nobility (asalet), (15) perseverance (azim), (16) philanthropy (hayırseverlik), (17) respect (saygı), (18) responsibility (sorumluluk), (19) support/aid/helpfulness (yardımseverlik), (20) self-reliance (öz güven), (21) sensitivity (duyarlılık), (22) share (paylaşım), (23) solidarity/cooperation (dayanışma/işbirliği), (24) trust (güven), (25) wisdom (bilgelik), (26) social values, (27) love (sevgi), (28) freedom (özgürlük), (29) stability (kararlılık/istikrar), (30) creativity (yaratıcılık), (31) mercy (merhamet), (32) objectivity (objektiflik), (33) open-minded (fikirlere açıklılık), (34) empaty (empati) (35) feelings (hissiyat), (36) forgiveness (bağışlayıcılık), (37) caring (korumacılık), (38) others.

The availability and levels of some of these R-Values of a Person-X are given in Figure 7 below to express the importance of their existence with different power/effective levels together.

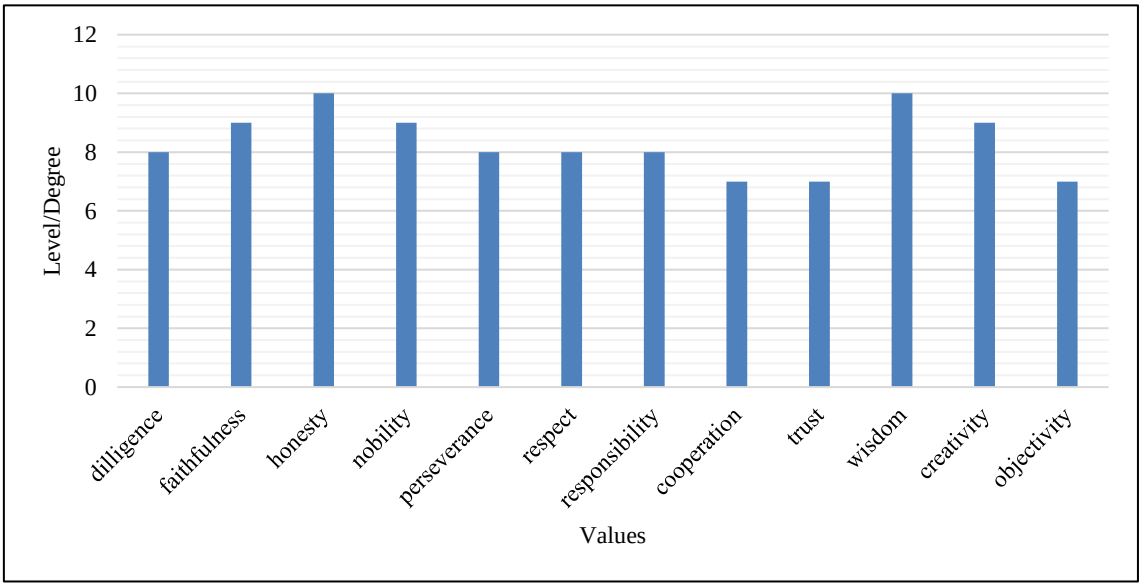

Figure 7. Availability and levels of some values for a Person-X (from Level-0 to Level 10).

Mind has been categorized and named due to different thoughts and senses until now by different thinkers, scientists, psychologist, psychiatrist, cognitive scientists, and philosophers.

Author considered that mind can be categorized in the following four perspectives: (a) mind due to person nature (Figure 4), (b) mind due to the relations of the person (Figures 5, 6), (c) mind due to the R-Values of person (Figure 7), (d) mind due to the general parts (Figure 8).

The dominant levels of R-Values can be used together to express the category of mind in some manner, where dominant levels of relations can be used to define the mind category in that way too. Creative mind, for example, can be use as reflecting where the creativity is high level amongst the others in the values-level diagram, and so on.

Some anthropologists might call this perspective a “multicultural mind”, some a “hybrid mind”, some philosophers might call it a “hybrid philosopher” perspective, another a “multidisciplinary scientist” perspective, yet another a “reformist” or “hybrid revolutionary”, and so on.

In all cases, one of the important things is the information, effectiveness, productivity, use, sharing, progress focused and obtained by the related people.

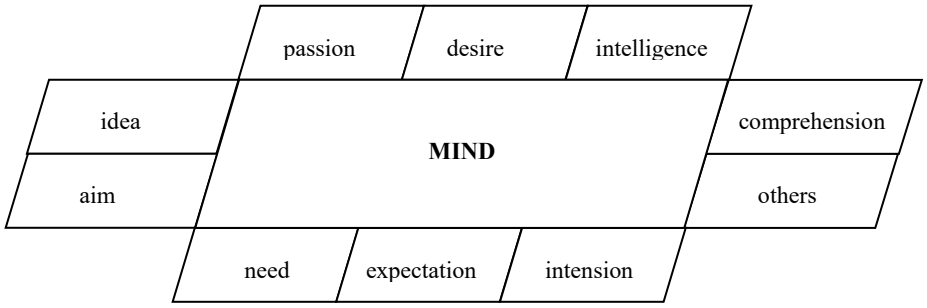

Figure 8. Person's mind (general parts).

(17) Philosophy of Observation®®:

In the natural sciences, observation is defined as the active acquisition of information from a primary source. It involves the act of noticing or perceiving phenomena and gathering data based on direct engagement with the subject of study.

In living organisms, observation typically occurs through the senses. In science, it often extends beyond unaided perception, involving the use of scientific instruments to detect, measure, and record data. This enables the observation of phenomena not accessible to human senses alone.

Observations in science are typically categorized as either qualitative or quantitative.

Theories of observation are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of observation, (b) knowledge of observation, (c) nature of observation, (d) purpose of observation, (e) method of observation.

(18) Philosophy of Presentation®®:

A representation or presentation is a reproduction of an object, event, sign, sound, imagination, memory, etc. The medium of representation can belong to the same domain (e.g. summary of a text) or to another domain (e.g. film about a historical event). In a representation, the levels must always be distinguished. The object is not identical with its representation. It is good to evaluate also image, pictures, reproduction, copy, media, levels.

A presentation also conveys information from a speaker to an audience. Presentations are typically demonstrations, introduction, lecture, or speech meant to inform, persuade, inspire, motivate, build goodwill, or present a new idea/product. Presentations usually require preparation, organization, event planning, writing, use of visual aids, dealing with stress, and answering questions. The key elements of a presentation consist of presenter, audience, message, reaction, and method to deliver speech for organizational success in an effective manner.

Theories of presentation are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of presentation, (b) knowledge of presentation, (c) nature of presentation, (d) purpose of presentation, (e) method of presentation.

(19) Philosophy of Spectrum®®:

The word spectrum (plural spectra or spectrums) is defined as a set of related ideas, objects, or properties whose features overlap such that they blend to form a continuum. Here continuum (plural continua or continuums)

theories or models explain variation as involving gradual quantitative transitions without abrupt changes or discontinuities. In contrast, categorical theories or models explain variation using qualitatively different states.

Here the word spectrum is referred by the author to as “specification range”, “product range”, “effective range”, “application range”, “usage range”, and/or “information range” related with the sciences, subjects, or concepts.

Author defined types of spectrums for basic sciences and due to method and size considered in Table 5 below.

Table 5

Types of Spectrums due to Basic Sciences, Size, and Contents

	Micro spectrum	Functional spectrum	Macro spectrum
Biological spectrum	Micro/biological	Functional/biological	Macro/biological
Chemical spectrum	Micro/chemical	Functional/chemical	Macro/chemical
Electromagnetic spectrum	Micro/electromagnetic	Functional/electromagnetic	Macro/electromagnetic
Informational spectrum	Micro/informational	Functional/informational	Macro/informational
Mathematical spectrum	Micro/mathematical	Functional/mathematical	Macro/mathematical
Physical spectrum	Micro/physical	Functional/physical	Macro/physical
Hybrid spectrum	Micro/hybrid	Functional/hybrid	Macro/hybrid

These types of spectrums are defined to express the different spectrum applications in the related branches of basic sciences and hybrid sciences.

An antibiotic spectrum is an application related with biological spectrum.

A noise spectrum of sound waves, and sea waves spectrum are kind application related with physical spectrum.

Electromagnetic spectrum itself is just reflecting an extraordinary spectrum related with electromagnetic sciences (Ramiz, 2016d). It applies for macro spectrum which means it covers all the frequency range continuously from “0” Hz to “∞” Hz units.

There are also political spectrum and economic spectrum which can be defined related with information sciences®©.

Theories of spectrum are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of spectrum, (b) knowledge of spectrum, (c) nature of spectrum, (d) purpose of spectrum, (e) administration of spectrum, (f) method of spectrum.

(20) Philosophy of Symbolize®®:

Symbol is defined simply as any object or sign that represents an “idea”. A symbol is also defined as a “mark”, “sign”, or “word” that indicates, signifies, or is understood as representing an “idea”, object, relationship, or mathematical formula. Symbols allow people to go beyond what is known or seen by creating linkages between otherwise different concepts and experiences. All communication is achieved through the use of symbols, for example, a red octagon is a common symbol for “Stop”; on maps, blue lines often represent rivers; and a red rose often symbolizes love, compassion, and passion. Numerals (it is a figure/symbol, word, or group of figures/symbols or words denoting a number) are symbols for numbers; letters of an alphabet may be symbols for certain phonemes and personal names are symbols representing individuals. The academic study of symbols is called semiotics.

The relationship between a “sign” and a “symbol” is that signs communicate “information” directly in the form of words or images, while symbols represent broader concepts and often carry deeper meanings. Signs are typically more straightforward, while symbols may convey abstract ideas and cultural values.

Symbolize, on the other hand, means to use symbols; to represent ideas symbolically.

Theories of symbolize are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of symbol, (b) knowledge of symbol, (c) nature of symbol, (d) purpose of symbolize.

(21) Philosophy of teaching:

Teaching is defined as the practice implemented by a teacher aimed at transmitting skills (“knowledge”, know-how, interpersonal skills, others) to a learner, a student, or any other audience.

Teaching can be realized by considering the following categories: Category-A (online teaching, or physical face-face teaching), Category-B (official, or non-official), Category-C (in an educational institute, or in private office), Category-D (via primary education teachers, secondary education teachers, university education teachers, professional education teachers).

Teaching is closely related to learning, the student’s activity of appropriating this knowledge. Teaching is part of the broader concept of education.

Statement of philosophy of teaching often attempts to express what methods of teaching the candidate practices and what educational styles they intend to make use of. Review of these philosophies with regarding new era and due their effective application by considering good and/or correct perspective about the past-present-future triple concept are important.

Theories of teaching are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of teaching, (b) knowledge of teaching, (c) nature of teaching, (d) purpose of teaching, (e) method of teaching, (f) administration of teaching.

(22) Philosophy of Writing®©:

Writing is defined as the act of creating a persistent representation of language. A writing system includes a particular set of symbols called a “script”, as well as the rules by which they encode a particular spoken language. It is also defined as letters or characters that serve as visible signs of beliefs, ideas, words, or symbols.

Writing is also expressed as a cognitive and social activity involving neuropsychological and physical processes. The outcome of this activity, also called writing (or a text), is defined as a series of physically inscribed, mechanically transferred, or digitally represented symbols. According to this, generally, writing systems do not constitute languages in and of themselves, but rather a means of encoding language such that it can be read by others across time and space. In one point of view, writing can also impact what knowledge people acquire, since it allows humans to externalize their thinking in forms that are easier to reflect on, elaborate on, reconsider, and revise. Contemporary use of writing includes business, finance, governance, law/justice, science, military, politics, journalism, education, educational institutes, and other disciplines/concepts where each requires different method of writing.

Theories of writing are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of writing, (b) knowledge of writing, (c) nature of writing, (d) purpose of writing. (e) understanding of writing, (f) experience of writing, (g) comprehending of writing, (h) reflecting on writing, (i) perspective of writing, (j) method of writing,

(23) Hybrid sub-branches: Hybrid philosophies are considered under this part such as: (i) Philosophy of Synthesis ®®, (ii) Philosophy of Methodology*, (iii) others.

Hybrid Philosophies for Information

Author defined some of the hybrid philosophies below that interact/relate with philosophy of information and other branches of philosophies (in alphabetic order): (1) philosophy of accounting, (2) philosophy of artificial intelligence (see Ramiz, 2025a), (3) philosophy of banking, (4) Philosophy of Color®©, (5) Philosophy of Compatibility®®, (6) philosophy of computer science, (7) Philosophy of Continuity®®, (8) Philosophy of Cooperation®®, (9) philosophy of economics, (10) philosophy of electronics and communication (Ramiz, upcoming work), (11) philosophy of ethics, (12) philosophy of logic, (13) philosophy of process, (14) philosophy of quality, (15) Philosophy of Sensitivity®®, (16) philosophy of standardization, (17) philosophy of statistics, (18) philosophy of transformation, (19) Philosophy of Values®®.

It is important to note that, author defined philosophy of information as complementary branch of philosophy to other seven Basic Philosophies where each of the seven basic philosophies has interaction, relation with the philosophy of information, or with one/some/all sub-branches of it due to the interested subjects/concepts.

These hybrid philosophies for information are generally/specifically defined, explained below.

Philosophy of Accounting®©

Accounting (accountancy) is defined as the process of recording and processing information about economic entities, such as businesses and corporations. Accounting measures the results of an organization's economic activities and conveys this information to a variety of stakeholders, including investors, creditors, management, and regulators. Types of accounting can be given as financial accounting, management accounting, tax accounting, cost accounting, and others.

The philosophy of accounting is the conceptual framework for the professional preparation and auditing of financial statements and accounts.

Author defined philosophy of accounting as 2D hybrid philosophy that interacts/relates with philosophy of information®© and philosophy of science®©.

Theories of accounting are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of accounting, (b) knowledge of accounting, (c) nature of accounting, (d) purpose of accounting, (e) method of accounting, (f) administration of accounting, (g) inspection of accounting.

Philosophy of Banking®©

Bank is defined in general as a financial institution that accepts deposits from the public and creates a demand deposit while simultaneously making loans. The definition of bank can vary from country to country. Beside this, banking is defined as the business of providing these financial services, acting as a financial intermediary to facilitate the flow of money by accepting money from depositors, lending it to borrowers, and generating profit from the interest rate difference. Banking as a business includes types of banking, banking channels, banking models, and others.

In ancient times financial services were realizing via in-person banking and on documents where data/information are recorded by/on papers. Later, electronic, communication, and information systems/technologies developed.

Now, financial services can be performed/realized by using following banking channels: (i) in-person banking, (ii) ATM (automated teller machine) banking (using ATM card-bank card/credit card/payment card), (iii) bank by mail (using check), (iv) online banking (using internet), (v) mobile banking (using mobile phone), (vi) telephone banking, (vii) video banking (remote video and audio connection), (viii) relationship manager, (ix) direct selling agent.

Philosophy of banking can be varied among financial companies, financial authorities, public or private banking authorities, national/regional/international administration authorities, or other philosophers, scientists, experts.

Author defined philosophy of banking as 3D hybrid philosophy that interacts/relates with philosophy of information®©, philosophy of science®©, and philosophy of system®©.

Theories of banking are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of banking, (b) knowledge of banking, (c) nature of banking, (d) purpose of banking, (e) method of banking, (f) inspection of banking, (g) administration of banking.

Philosophy of Colour®©

Colour is defined generally as the aspect of any object that may be described in terms of hue, lightness, and saturation. There is a colour perception which is expressed as related to an object's light absorption, emission, reflection, and transmission.

In generally/specifically, there are five cases regarding the colour: (i) electromagnetic spectrum of color, (ii) physiology of color, (iii) psychology of color, (iv) chemical causes of color, (v) digital/computerized causes of colour.

Author defined philosophy of colour as 3D hybrid philosophy that interacts/relates with philosophy of information, philosophy of science and philosophy of social science.

With this respect, theories of color are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of colour, (b) knowledge of colour, (c) nature of colour, (d) purpose of colour, (e) method/grading of colour, (f) value of colour.

Philosophy of Computer Science®©

As a discipline, computer science spans a range of topics from theoretical studies of algorithms and the limits of computation to the practical issues of implementing computing systems in hardware and software.

In general, the philosophy of computer science is concerned with the philosophical questions that arise within the study of computer science. According to some scientists, there is still no common understanding of the content, aims, focus, or topics of the philosophy of computer science.

On the other hand, according to the *Stanford Encyclopedia of Philosophy*, the philosophy of computer science is concerned with the ontological and methodological issues arising from within the academic discipline of computer science, and from the practice of software development and its commercial and industrial deployment. More specifically, the philosophy of computer science considers the ontology and epistemology of computational systems, focusing on problems associated with their specification, programming, implementation, verification, and testing. The complex nature of computer programs ensures that many of the conceptual questions raised by the philosophy of computer science have related ones in the philosophy of mathematics, the philosophy of empirical sciences (a systematic approach to knowledge that relies on observation, experimentation, and evidence to draw conclusions about the natural world), and the philosophy of technology.

Author defined Philosophy of Computer Science®© as a 3D hybrid philosophy, that includes, interacts, relates with Philosophy of Information®©, Philosophy of Science®©, and Philosophy of Systems®©.

Theories of computer science are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of computer science, (b) knowledge of computer science, (c) nature of computer science, (d) purpose of computer science, (e) method of computer science, (f) administration of computer science.

Philosophy of Economics®©

Economics is defined as a behavioral science* that studies the production, distribution, and consumption of goods and services. Behavioral science (as a branch of science concerned with human behaviour) is considered by some scientists as sitting in the interstice between fields such as psychology, cognitive science, neuroscience, behavioral biology, behavioral genetics, and social science*.

According to *Stanford Encyclopedia of Philosophy*, philosophy of economics consists of inquiries concerning (a) rational choice, (b) the appraisal of economic outcomes, institutions and processes, and (c) the ontology of economic phenomena and the possibilities of acquiring knowledge of them. Although these inquiries overlap in many ways, it is useful to divide philosophy of economics in this way into three subject matters which can be regarded respectively as branches of action theory, ethics (or normative social and political philosophy), and philosophy of science.

Author defined economics as a branch of information sciences®©.

Besides this, Philosophy of economics®© is defined by the author as 3D hybrid philosophy, where it interacts/includes with Philosophy of Information®©, Philosophy of Science®© and Philosophy of Social Science®©. Once the economy is considered as part of official country/government studies, philosophy of politics and philosophy of justice effects are being considered as well.

Theories of economics are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of economics, (b) knowledge of economics, (c) nature of economics, (d) purpose of economics, (e) method of economics, (f) administration of economics.

Philosophy of Logic

The term “logic” derives from the word “logos”, which has various meanings, including reason, discourse, or language. There is much disagreement about what logic is and how it should be defined. However, logic is defined generally as the study of correct reasoning.

According to *Stanford Encyclopedia of Philosophy*, there is a bi-directional relation expressed between logic and information. According to that, on the one hand, information underlies the intuitive understanding of standard logical notions such as inference (which may be thought of as the process that turns implicit information into explicit information) and computation. On the other hand, logic provides a formal framework for the study of information itself. At their most basic, logic is the study of consequence, and information is a commodity.

Philosophy of logic is defined as the branch of philosophy that studies the scope and nature of logic. It investigates the philosophical problems raised by logic, such as the presuppositions often implicitly at work in theories of logic and in their application. This involves questions about how logic is to be defined and how different logical systems are connected to each other. It includes the study of the nature of the fundamental concepts used by logic and the relation of logic to other disciplines. According to some scientists, the philosophy of logic can be understood in analogy to other discipline-specific branches of philosophy: Just like the philosophy

of science investigates philosophical problems raised by science, so the philosophy of logic investigates philosophical problems raised by logic. The philosophy of logic also investigates how to understand the most fundamental concepts of logic, like truth, premises, conclusions, inference, argument, and validity. It tries to clarify the relation between logic and other fields, such as ontology, mathematics, and psychology.

Author defined Philosophy of Logic®© as a 3D hybrid philosophy, that includes/relates with Philosophy of Information®©, Philosophy of Science®©, and Philosophy of Social Sciences®©, and that it interacts with these branches of philosophy.

Theories of logic are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of logic, (b) knowledge of logic, (c) nature of logic, (d) purpose of logic (e) method of logic, (f) administration of logic.

Philosophy of Quality

There are various evaluations about the meaning and use of the concept of "quality" in different disciplines, sectors/industries, including philosophy, business, engineering, science, manufacturing, and social science.

In philosophy, a quality is expressed as an attribute or a property characteristic of an object. In contemporary philosophy the idea of qualities, especially how to distinguish certain kinds of qualities from one another, remains controversial. Quality is also expressed as an idea produced in the mind by interaction.

Quality is defined by John Locke as an idea of sensation or a perception. Commonly, quality can mean degree of excellence. John Locke presented a distinction between primary and secondary qualities in his studies.

It is stated that there is important distinction between "primary qualities" (such as solidity, figure/shape, extension, motion, and rest), which are real properties of physical objects, and "secondary qualities" (such as colour, taste, and smell), which are merely the effects of such real properties on the mind.

In this view, primary qualities, such as shape, quantity, and motion, are genuine properties of things that are describable by mathematics, whereas secondary qualities, such as odour (smell), taste, sound, and colour, exist only in human consciousness.

There are many aspects of quality in a business context, though primary is the idea that the business produces something, whether it be a physical good or a particular service. These goods and/or services and how they are produced involve many types of processes, procedures, equipment, personnel, and investments, which all fall under the quality umbrella.

The drivers of this philosophy of quality are rooted in the alignment of product and service systems design with customer expectations, along with focusing on quality during all phases of development, production, and delivery. The philosophy is process centric and emphasizes the reduction of variability as well as a continuous improvement in the functionality of the final product or service.

It is considered that, quality concept is applicable in different types of industries, based on the type of activity or process: designing, production, or service delivery.

Quality is also defined as the value of things relative to their purpose. Any product, service, experience, or asset can be described in terms of its quality or lack of quality with this point of view. Quality includes both tangible aspects such as features and intangible aspects such as the taste of food.

The following are defined as common types of quality: (i) conformance quality, (ii) product quality, (iii) service quality, (iv) experience quality, (v) digital quality, (vi) information quality (IQ), (vii) quality of life.

The value of products, services, and experiences relative to their purpose can be expressed for each of the types of quality given above. With regarding this, it is possible to talk about different categories of quality with more details such as, quality person, communication quality, sound quality, video quality, education quality, etc.

Information quality (IQ) is the quality of the content of information systems. Specifically, the meaning and practical implementation of information quality are addressed, as it is relevant to any field where there is a need to handle data and issues such as accessibility, accuracy, completeness, currency, integrity, reliability, timeliness, usability, the role of metrics, and so forth are all a part of information quality.

The classification/degree of quality is another important subject to be considered.

Author defined philosophy of quality as 4D hybrid philosophy that interacts/relates with philosophy of information, philosophy of science, philosophy of social science and philosophy of system.

Theories of quality are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of quality, (b) knowledge of quality, (c) nature of quality, (d) purpose of quality (e) method of quality, (f) administration of quality, (g) principles of quality.

Philosophy of Standardization®®

Standardization is defined as the process of implementing and developing technical standards based on the consensus of different parties that include firms, users, interest groups, standards organizations, and governments. Standardization can help maximize compatibility, interoperability, safety, repeatability, efficiency, and quality. It can also facilitate a normalization of formerly custom processes.

Standardization provides the structure and consistency needed to effectively process, exchange, and interpret information, turning raw data into reliable, actionable knowledge.

There are various usages of standards such as de facto standards, de jure standards, voluntary standards. With this respect there are information exchange, environmental protection, product testing and analysis, safety, ergonomics, workplace and health, clothing, customer service, supply chain management, materials management, and others.

There are national standards, regional standards and international standards developed/defined by the related national organizations (such as ANSI, BSI, TSE, DIN, JISC, KATS, SAC, SIS), regional organizations (such as CEN, CENELEC, ETSI), and international organizations (such as ISO, IEC, ITU) respectively.

Types of standardization can be express as (i) product standardization, (ii) process standardization, (iii) information standardization, (iv) performance standardization, (v) document standardization, (vi) workflow standardization, (vii) communication standardization, (viii) resource standardization, (ix) policy standardization.

Author defined philosophy of standardization as 3D hybrid philosophy that interacts/relates with philosophy of information, philosophy of science and philosophy of system.

Theories of standardization are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of standardization, (b) knowledge of standardization, (c) nature of standardization, (d) purpose of standardization, (e) method of standardization, (f) administration of standardization, (g) principles of standardization.

Philosophy of Statistics®©

Statistics is defined as a discipline that concerns the collection, organization, analysis, interpretation, and presentation of “data”. Statistics is also expressed as a specific branch of knowledge that, among many other

activities, includes addressing reliable ways of gathering data and making inferences based on them. It is argued that statistics is the study of uncertainty. There are many demonstrations given that uncertainties can only be combined according to the rules of the probability calculus. From this it follows that statistical inference is based solely on probability.

The philosophy of statistics is defined as the study of the mathematical, conceptual, and philosophical foundations and analyses of statistics and statistical inference.

According to *Stanford Encyclopedia*, the philosophy of statistics concerns the foundations and the proper interpretation of statistical methods, their input, and their results. Since statistics relied upon in almost all empirical scientific research, serving to support and communicate scientific findings, the philosophy of statistics is of key importance to the philosophy of science.

Author defined philosophy of statistics as 2D hybrid philosophy that interacts/relates with philosophy of information and philosophy of science.

Theories of statistics are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of statistics, (b) knowledge of statistics, (c) nature of statistics, (d) purpose of statistics, (e) method of statistics.

Philosophy of Values®®

There are various definitions about values, meaning of values, and types of values in literature. The following types of values expressed by different scientists, thinkers, guru, coach, philosophers, others (in alphabetic order): aesthetic values, behavioural values, business values, commercial values, cultural values, customer values, democratic values, dominant values, economic values, environmental values, family values, instrumental values, interpersonal values, moral and ethical values, personal (core) values, political values, religious values, social values, spiritual values, terminal values, universal values.

As result of the R-Synthesis, author defined philosophy of values as 8D hybrid philosophy that interacts/relates with all eight basic philosophies including Philosophy of Information®©.

With this respect, it is possible to define the values due to following categories: (a) values due to basic philosophies; administration values, informational values, justice values, political values, religious values, scientific values, social values, system values, (b) values due to relations (see 19 Person's relations above), (c) values due to source, scope, (d) values due to function, (e) values due to subjects of services (see 39 subjects of services), (f) values due to basic sciences; biological values, chemical values, informational values, electromagnetic values, mathematical values, physical values, system values, hybrid values, (g) values due to content, size; micro values, functional values, macro values.

Theories of values are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of values, (b) knowledge of values, (c) nature of values, (d) purpose of values, (e) method/degree of values, (f) inspection of values, (g) administration of values.

Disciplines/Concepts About Information

Author considered following concepts/disciplines related with the information (in alphabetic order): (a) information analysis, (b) information architecture, (c) information ecology, (d) information communication, (e) information economics, (f) information engineering, (g) information management, (h) information quality, (i) information science(s), (j) information security, (k) information services, (l) information system(s), (m)

information technology (IT), (n) Information theory, (o) Information visualization, (p) Information warfare, (q) Information and communication technology (ICT), (r) others.

Some of these concepts/disciplines are expressed generally/specifically below.

Information Science(s)®©

Author defined information science branch as result of the synthesis and with regarding the philosophy of science, and philosophy of information which is mentioned generally/specifically in previous section.

Basic principles of information science®© branch are defined as: (i) information forming, (ii) information protection, (iii) information acquiring, (iv) information presenting, (v) administration/directing of information, (vi) information inspection, (vii) eight basic senses for information, (viii) transformation of information.

With this respect, as an academic discipline, information sciences®® are defined by the author with the following categories (in alphabetic order). Here 1D, 2D, …6D hybrid information sciences are considered (Ramiz, 2016d).

(1) Accounting: Definition, types of accounting, methods of accounting,

(2) Administration: Administration and ideology, administration and politics, administration and religion, administration and science, business administration, continuable/sustainable administration, public administration, system administration, management science, others,

(3) Archaeology: Definition, history, purpose of archaeology, methods, theories,

(4) Archive science: Definition, education, history,

(5) Banking: Types of banking, theories of banking, methods of banking,

(6) Communication: Personal communication, social communication, business communications, public communication, languages, internet communication, media communications, mobile communication, others,

(7) Continuable/sustainable development,

(8) Criminology: Types of criminology, theories of criminology, methods of criminology,

(9) Data science: Definition, ethics, others.

(10) Economics: Types of economics, methods of economics, theories of economics,

(11) Education: Science education, education science, others,

(12) Ethics: Business ethics, medical ethics, political ethics, scientific ethics, philosophical ethics, others,

(13) Finance/monetary values: Definition, areas of finance, types, theories, history of finance, value, money,

(14) Geography (human),

(15) History: Definition, timeline, historical methods, areas of study, evolution of discipline, others,

(16) Ideology and science; ideology and politics; ideology and justice; ideology and religion,

(17) Law and justice: Administration and justice, information and justice, politics and justice, religion and justice, science and justice, system and justice, ideology and justice, others,

(18) Library science: Definition, education, history,

(19) Linguistics,

(20) Political Science®©: Political organizing, politics and ideology, politics and religion, administration of political services, political services, others,

(21) Philosophy: Basic philosophies, new era philosophy, hybrid philosophy, constructional philosophy, sub-branches of philosophy, others,

(22) Relations: International relations*, industrial relations, public relations, social relations, others (Ramiz 2015),

(23) Religions: Religion and ideology; religion and science; religion and justice, religion and politics, beliefs,

(24) Social Sciences®©: Anthropology, psychology, sociology, pedagogy, dance, film, music, theatre, sports, culture & art, beauty & art, demography, geography (human), social works, gender & sexuality,

(25) Statistics: Definition, types of statistics, methods of statistics, history of statistics, applications of statistics,

(26) Philosophy, ideology, religion, science & others: (a) ideal political construction, (b) others:

(27) Hybrid information sciences (2D-6D): (a) data engineering, (b) information engineering, (c) information technology, (d) information management, (e) cognitive science, (f) computer science, (g) information theory, (h) classification science, (i) electronics engineering, (j) logic, (k) others.

2D-6D Hybrid Sciences for Information

2D hybrid sciences for information are defined below by considering the six basic sciences given in the Ideal Scientific System (Ramiz, 2016d).

2D hybrid sciences for information are as follows: information and biology (2D-IB), information and chemistry (2D-IC), information and electromagnetics (2D-IE), information and mathematics (2D-IM), information and physics (2D-IP). Author briefly expressed the concepts informed by these hybrid sciences below:

(1) Information and biology (2D-IB hybrid science):

There are following hybrid concepts:

(i) Biological information: It outlines the nature of information in genetics and neuroscience. The concept of information is widely used in biological sciences. Informational concepts are central to molecular biology, where it is standard to talk about translation, transcription, proofreading, redundancy, DNA libraries, the genetic code, genetic editing, or the genetic program. Genes are also meant to carry information about our evolutionary past.

(ii) Bioinformatics: It is an interdisciplinary branch of science that develops methods and software tools for understanding biological data, especially when the data sets are large and complex. Bioinformatics is defined as a branch of science that uses sciences such as biology, chemistry, physics, computer science, data science, computer programming, information engineering, mathematics and statistics to analyze and interpret biological data.

(iii) Cellular information: It refers to the hereditary material (DNA) and the complex mechanisms within a cell that store, process, and transmit this information to carry out its functions, growth, and reproduction.

(iv) Genetic information: The heritable biological information coded in the nucleotide sequences of DNA or RNA of living creatures, such as in the chromosomes or in plasmids.

(2) Information and chemistry (2D-IC hybrid science):

There are following hybrid concepts:

(i) Information chemistry (cheminformatics): It is expressed as the interdisciplinary field that combines chemistry, computational science, and information science to analyze and manage chemical data, predict molecular properties, design new molecules, and automate chemical research. Cheminformatics also refers to the use of physical chemistry theory with computer and information science techniques (so called “in silico” techniques) in application to a range of descriptive and prescriptive problems in the field of chemistry.

(ii) Chemical information: It encompasses the details about the properties, structures, and behaviors of chemical compounds, which are critical for drug design. This knowledge aids researchers and scientists in understanding how different compounds can interact within biological systems, ultimately facilitating the development of effective medications. Understanding these aspects of chemical information is essential for advancing pharmaceutical innovations and improving drug efficacy and safety.

(3) Information and electromagnetics (2D-IE hybrid science):

There is following hybrid concept:

(i) Electromagnetic information theory: EIT is an interdisciplinary framework integrating electromagnetic wave (EM) theory and information theory (IT) for the analysis of physical systems for the communication, processing, and storage of information. The goal of EIT is to uncover the information transmission mechanisms from an electromagnetic (EM) perspective in wireless systems.

(4) Information and mathematics (2D-IM hybrid science):

There are following hybrid concepts:

(i) Information theory: It is defined as the mathematical study of the quantification, storage, and communication of information.

(ii) Mathematical information: It explores mathematical approaches to investigating information. The Mathematical Theory of Communication (MTC) is the most important of these approaches, and aims to devise efficient ways of encoding and transferring data.

(iii) Mathematics of information: It refers to a broad field encompassing the quantitative methods for understanding, processing, and communicating information, primarily rooted in information theory. It employs mathematical tools like probability theory, statistics, and linear algebra to measure information using concepts such as entropy, which quantifies uncertainty. Key areas include data analysis, signal processing, and cryptography, finding applications in diverse fields from computer science to engineering and physics.

(5) Information and physics (2D-IP hybrid science):

There are following hybrid concepts:

(i) Information physics: According to some scientists, information physics shows that the core creative process in the universe involves quantum mechanics and thermodynamics. It also explores the relationship between physics and information by treating information as a fundamental physical quantity. It is also considered that it investigates how the laws of physics might be derived from information theory, how well-understood physics can create new information processing technologies like quantum computation, and fundamental questions about the nature of information itself.

(ii) Physics of information: It is stated that information is carried, stored, retrieved, and processed by machines, whether they are electronic computers or living organisms. All information, which in an abstract sense one may think of as a string of zeros and ones, has to be carried by a physical substrate, be it paper, silicon chips or holograms, and the handling of this information is physical, so information is ultimately constrained by the fundamental laws of physics. It is therefore not surprising that physics and information share a rich interface.

Besides the above mentioned 2D hybrid sciences, 3D, 4D, 5D, 6D hybrid sciences for information are important for some specific designs, applications, and engineering problems.

A scientist (Dittrich, 2014) discussed the concept of information in physics, and there is a figure which specifies the relation of physics, biology, mathematics, and philosophy with the information dynamics he outlined generally in Figure 9.

Here in Figure 9, computer science and other engineering branches, philosophy branches are not shown. Author considered new perspective for philosophy of information, eight basic philosophies and six basic sciences, and defined more general/specific approach for the relations of concept of information in all disciplines with regarding 2D-6D hybrid sciences, and 2D-8D hybrid philosophies as well, which are generalized with ideal scientific system and Ideal Philosophical System respectively.

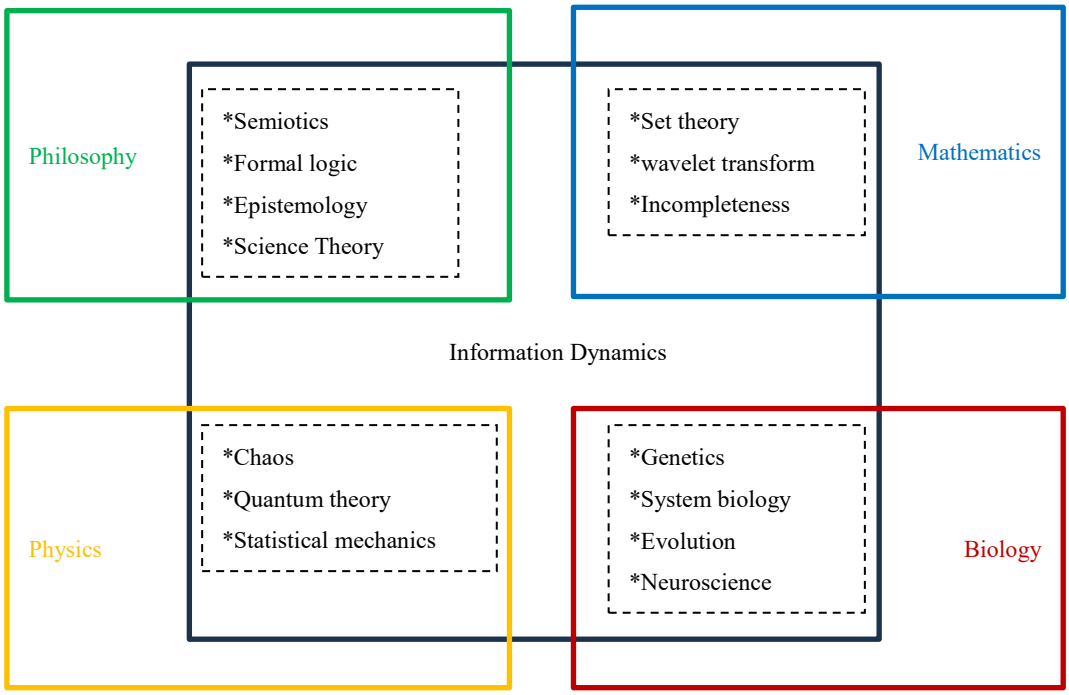

Figure 9. Information dynamics overlaps significantly with the neighbouring sciences, mathematics, physics, biology, and philosophy.

Information System(s)

An information system is defined as a formal, sociotechnical, organizational system designed to collect, process, store, and distribute information.

From a sociotechnical perspective, information systems comprise four components: (i) task, (ii) people, (iii) structure (or roles), and (iv) technology.

Information systems can be defined as an integration of components for collection, storage, and processing of data, comprising digital products that process data to facilitate decision making and the data being used to provide information and contribute to knowledge.

Computer based information systems include following components: (i) computer hardware, (ii) computer software, (iii) database (data), (iv) human resources (people), (v) processes (procedure), and (vi) networks (telecommunications, internet).

In the literature, there are following types of information systems generally (in alphabetic order): (1) Accounting Information System, (2) Artificial Intelligence System, (3) Business Intelligence Systems, (4) Customer Relationship Management Systems, (5) Decision Support Systems, (6) Enterprise Resource Planning Systems, (7) Executive Information Systems, (8) Executive Support Systems, (9) Expert Systems, (10) Geographic Information Systems, (11) Knowledge Management Systems, (12) Management Information

Systems, (13) Multimedia Information System, (14) Office Automation System, (15) Process Control System, (16) Supply Chain Management Systems, (17) Transaction Processing Systems.

Author also defined hybrid information systems in the following sections for different subjects of services.

Information and Communication Systems (ICS or ICT)

ICS (ICT) systems are kind of Hybrid Information Systems. ICS (ICT) is defined as integration of information technology and communication technology in simple manner. In general manner it is the integration of: (i) telecommunications (telephone lines and wireless signals), (ii) computers, (iii) enterprise application software, (iv) middleware software, (v) storage, and (vi) audiovisual, to enable users to access, store, transmit, understand, and manipulate information.

The field of ICS (ICT) is constantly evolving but generally includes following components: (a) computers and mobile devices, (b) the Internet and World Wide Web, (c) cloud computing platforms, (d) telecommunications services and technologies, (e) software applications and databases, (f) audio-visual and broadcast media.

One example for ICS (ICT) systems is Mobile Communication Systems. There are two types of communication systems: (i) communication with land base network, (ii) communication with satellite base network. Second Generation (2G) Digital Mobile Communication System for land base network is given in Figure 10 below with its basic units, where it is a kind start of digital mobile communication era.

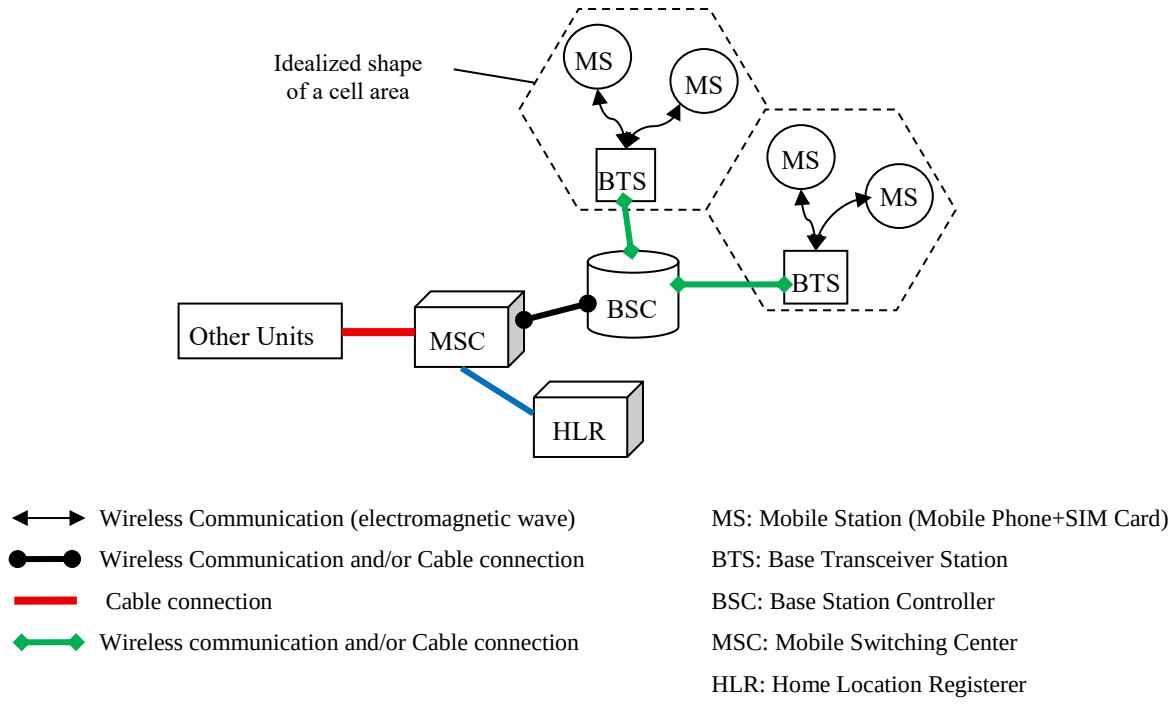

Figure 10. Basic units of the (2nd Generation) 2G Digital Mobile Communication System.

It is important to note that mobile satellite communications can be used where other wireless connections are unavailable, such as in largely rural areas or remote locations. Satellite communications are especially important for transportation, aviation, maritime, and military use.

Due to mobile communication system in Figure 10, a MS (Mobile Subscriber) can be mobile, where MS denotes a mobile phone with IMEI-International Mobile Equipment Identification number, plus SIM-Subscriber Identity Module card, and it communicates with BTS (Base Transceiver Station) directly any time. BTS communicates with BSC (Base Station Controller), BSC communicates with MSC (Mobile Switching Center), and MSC communicates with other units such as HLR (Home Location Registerer) for communication. There are some communication protocols between these units. The Global System for Mobile Communication (GSM system) knows the connection from MSC to MS and from MS to MSC where IMEI numbers of each MS must be registered to the GSM system for possible connection. That is why the two-way connection called as communication in simple manner.

The interest and intersect of the author with the information and communication sector can be good guide to express the evolution he noticed about mobile communication systems exclusively.

Author started his BSc education program in electronic and communication engineering in 1989, graduated from BSc program in 1993. and he became academics person at the University, Electronic & Communication Engineering Department, chair of Electromagnetic Fields and Microwave Techniques in 1995. He continued his MSc and PhD education in communication engineering program between 1993-2000. The first GSM system established in Turkey in 1993-1994 period by Turkcell and Telsim (Vodafone) Companies. Author first involved with mobile phone and mobile communication system in 1997 personally in Istanbul-Turkey by buying mobile phone. Turkish Telecommunication Authority (TTA) established in Turkey in 2000. Author became one of its first consultants of TTA in 2001, also appointed as law-court expert to Istanbul Courts in 2001 for the evaluation of the electronic and communication problems noticed. Author established the “First Standard GSM System Laboratory of Turkey” in 2002 through the support of Ericsson-Turkey and Turkcell Mobile Operator companies. The Turkish Telecommunication Authority supported this establishment with high level participation, and Telsim (Vodafone) Company also gave additional support. In 2004 author started IMEI national/international project for Turkey, UK, and EU. Author also worked for preparation of various law-drafts about electronic and communications too.

Once people learn more about the mobile communication systems, and its components, and the way of working of the system, it will be more meaningful for the people to understand how electromagnetic sciences, informational sciences, and related concepts are in our life in this new era.

Evolution of digital mobile communication systems, on the other hand, can be summarized as follows: from Analog-1G to Digital-2G (and 2.5G, 2.75G, 2.9G), 3G (and 3.5G, 3.75G, 3.9G, 3.95G), 4G (and 4.5G, 4.9G), 5G (and 5.5G), and 6G.

Mobile communication systems have evolved from 2G networks (which introduced digital voice and text services), to 3G networks (which introduced digital voice, text services and internet), then to 4G LTE (Long Terms Evolution) (digital voice, text services, broadband internet, and video communication) and 5G (digital voice, text message, high speed internet, UHD 3D video communication, Internet of Things), with the emerging 6G technology expected around 2030 to offer speeds up to 100 times faster than 5G and enable advanced holographic communication, AI-driven networks, and the seamless integration of physical, digital, and human worlds. Each generation represents a significant leap in data service capacity, speed, latency, and applications, with 2G focusing on basic human communication, 3G and 4G on enhanced multimedia and mobile data, and 5G/6G aiming for a hyper-connected society and intelligent, immersive experiences.

New Perspective for Philosophy of System®©

As result of the R-Synthesis, Philosophy of System®© is defined by the author as one of the basic philosophies, and as complementary branch with other seven basic philosophies. With this respect, the level and content of the philosophy of system are reconstructed, strengthened and its increased importance in terms of all other basic philosophies is expressed.

Theories of system are considered under this philosophy. These theories are proposed basically to have information about: (a) existence of system, (b) knowledge of system, (c) nature of system, (d) purpose of system, (e) method/model of system, (f) administration of system.

In this context, author defined types of systems due to methods and size in Table 6 below regarding the new perspective of system and philosophy of science.

Table 6

Types of Systems due to Methods, Size and Content

	Micro systems	Functional systems	Macro systems
Theoretical Systems	Micro/theoretical	Functional/theoretical	Macro/theoretical
Experimental Systems	Micro/experimental	Functional/experimental	Macro/experimental
Applied Systems	Micro/applied	Functional/applied	Macro/applied
Computational Systems	Micro/computational	Functional/computational	Macro/computational
Analytical Systems	Micro/analytical	Functional/analytical	Macro/analytical
Comparative Systems	Micro/comparative	Functional/comparative	Macro/comparative

Hybrid Philosophies for System

Author defined 2D hybrid philosophies for system by considering the basic philosophies as follows: (a) Philosophy of Administration System, (b) Philosophy of Information System, (c) Philosophy of Justice System, (d) Philosophy of Political System, (e) Philosophy of Religion System, (f) Philosophy of Scientific System, (g) Philosophy of Social Sciences System.

Disciplines/Concepts About Systems

Author considered following concepts/disciplines related with the systems (in alphabetic order): (a) hybrid systems, (b) systems analysis, (c) systems engineering, (d) systems science(s), (e) system security, (f) systems theory, (g) others.

Some of these concepts/disciplines are expressed with more details below.

Systems Science(s)

Systems science is defined as major science due to new perspective for philosophy of science (Ramiz, 2016d). Basic principles of this science branch are defined as: (i) formation of system, (ii) protection of system, (iii) to acquire/to have system, (iv) serving/supplying system, (v) administration of system, (vi) inspection of system, (vii) eight-basic senses for systems, (viii) transformation in systems.

System Sciences®® and branches of systems are defined due to categories as follows (in alphabetic order):

Category-A: Branches of systems due to basic sciences,

Category-B: Branches of systems due to subjects of services,

Category-C: Branches of systems due to nature of the components (objects, entities),

Category-D: Branches of systems due to applied regions.

Author defined branches of systems due to basic sciences as follows (Category-A) in Table 7.

Author defined information systems in Table 7 by considering the information sciences given in previous section above as well (Category-A): (1) Accounting Systems, (2) Administration Systems, (3) Archaeology Systems, (4) Archive Systems, (5) Banking Systems, (6) Communication Systems, (7) Continuable/Sustainable Development System, (8) Criminology System, (9) Data Systems, (10) Economics Systems, (11) Education Systems, (12) Ethics Systems, (13) Finance/Monetary Values Systems, (14) History System, (15) Ideology System, (16) Law and Justice Systems, (17) Library Systems, (18) Linguistics Systems, (19) Political Systems, (20) Philosophy System, (21) Relations Systems-international relations*, industrial relations, public relations, social relations, (22) Religion Systems, (23) Social Systems, (24) Statistics Systems, (25) Hybrid Information Systems (2D-6D); Engineering Systems, others.

Table 7

Branches of Systems due to Basic Sciences and Size, Content, and Precision

	Micro systems	Functional systems	Macro systems
Biological Systems	Micro/biological	Functional/biological	Macro/biological
Chemical Systems	Micro/chemical	Functional/chemical	Macro/chemical
Electromagnetic Systems	Micro/electromagnetic	Functional/electromagnetic	Macro/electromagnetic
Information Systems	Micro/informational	Functional/informational	Macro/informational
Mathematical Systems	Micro/mathematical	Functional/mathematical	Macro/mathematical
Physical Systems	Micro/physical	Functional/physical	Macro/physical
Hybrid Systems	Micro/hybrid	Functional/hybrid	Macro/hybrid

As result of the synthesis, author also defined subjects of services mandatory for a world country, state, or territory to have sustainable administration system in that country (Ramiz, 2010; 2015). With this respect, there are following systems (Category-B) defined in Table 8.

Table 8

Systems Due to Subjects of Services Mandatory for a World Country (in Alphabetic Order)

Systems	Systems	Systems
1. Accreditation, Standardization System	14. Environment System	27. Political System
2. Administration Systems	15. Finance and Monetary Values System	28. Press and Publication System
3. Agriculture Systems	16. Health System	29. Public/Private Inhabiting Systems
4. Civilian Community System	17. Industry System	30. Research and Planning System
5. Combat With Organized Crimes System	18. Information and Service System (internet, e-government, library, other)	31. Science System
6. Commerce System	19. Inspection System	32. Security System
7. Community Values System	20. Integration Systems	33. Social Support, Aid System
8. Consultancy System	21. Intelligence System	34. Sport System
9. Culture and Art System	22. Judgment System	35. Stockbreeding/animally System
10. Economy System	23. Law System	36. Tourism System
11. Education Systems	24. Logistics System	37. Transport System
12. Electricity System	25. Military System (Land, Air, Naval)	38. Infrastructure System
13. Electronic and Communication Systems	26. Natural Sources and Energy System	39. Other Systems

These systems in Table 8 are general systems in some manner, and they also include hybrid systems structures related to the subjects of services issues they deal with. With this respect, author considered hybrid information systems for each of these 39 general systems as well.

Besides this, branches of systems due to nature of the components (objects, entities) can be defined as follows (Category-C); (a) systems for living forms, (b) systems for non-living matters—country system, world system, solar system, galaxy system, universal system, and others (for 39 subjects of services), (c) systems for living forms and non-living matters together (for 39 subjects of services),

Branches of systems due to applied regions can be defined as follows (Category-D): (a) city specific, (b) country specific, (c) regional, (d) international (worldwide).

Hybrid Systems

Author defined various hybrid systems by considering the theory of hybrid (Ramiz, 2016c), basic sciences, hybrid sciences, basic philosophies, hybrid philosophies, and other concepts, disciplines.

With this respect, there are (i) 2D-6D Hybrid Science Systems, (ii) 2D-8D Hybrid Philosophy Systems, (iii) "nD" Hybrid Perspective Systems, (iv) others.

In this context, author defined the following systems:

(1) Ideal Scientific System: According to the new perspective for philosophy of science, all known and unknown branches of science are defined under a single framework called the Ideal Scientific System (Ramiz, 2016d).

(2) Ideal Philosophical System: According to the new perspective of philosophy, all known and unknown branches of philosophy are defined under a single framework called the Ideal Philosophical System (Ramiz, 2016c).

(3) Ideal Political Construction System: According to the new perspective of ideology and philosophy of politics, all known and unknown ideologies, and new branches of ideologies are defined under a single framework called the Ideal Political Construction System (Ramiz, 2010; 2015; 2016b; 2106c).

(4) Ideal Religious/Non-religious Belief System: According to the new perspective for the philosophy of religion, all known/unknown beliefs and new beliefs are expressed under a single framework called new era theory system, and new era belief system (Ramiz, 2020).

(5) New Administration Systems for the World Countries: According to the new synthesis of all subjects of politics, religion, science, law/justice, philosophy, administration and other disciplines, all political/non-political systems are defined under a single administration system called new administration systems for a world country. This system extended to "new administration system for the world" in the same study (Ramiz, 2010; 2016a; 2016b).

(6) Ideal Justice System (Sustainable Justice System) (Ramiz, upcoming work).

Conclusion

In this article, general definition and meaning of data, information, and knowledge are expressed generally/specifically, and the differences/relationships between data, information, and knowledge are briefly discussed and illustrated with table.

The general definition of system and types of system are briefly interpreted, and the semantic contents of the concept "system" expressed with nine perspectives generally.

The meaning and importance of philosophy of information are then defined according to the general approaches. General definition of cognitive science, computer science, information science, information technology and information theory are explained as related with philosophy of information. Some of the important philosophers of information and their professional interests are evaluated.

Then, meaning and importance of mind, and philosophy of mind are discussed due to general approaches. Some of the philosophers of mind and their interests are evaluated and compared with a table.

Systems philosophy is defined due to general approaches, and four main areas consisted are given specifically.

Some other old branches of philosophy that contain, transmit, and/or process information in their clouds of ideas are shortly expressed.

Then, new perspective of philosophy is then defined by the author generally, and the eight basic branches of philosophy and hybrid philosophies, along with their relevant theories, are briefly outlined. R-Philosophy, R-Science, R-Information, R-Mind, and R-System new disciplines are shortly expressed.

New perspective for philosophy of information is defined as complementary branch with other seven basic philosophies. Types of information due to method, size, and content are given with a table. Each of the 23 sub-branches of philosophy of information are defined generally/specifically with the related theories.

Philosophy of basic senses and some other branches are newly defined, and new perspective for philosophy of mind and for some other branches are expressed specifically.

18 hybrid philosophies for information are defined and their relations with philosophy of information explained generally/specifically.

General disciplines and concepts about information are defined shortly, and information science(s), 2D-6D hybrid information sciences for information, information system(s) and information & communication systems are given with details.

New perspective for philosophy of system is defined, and types of system due to methods, size, and content are given with a table. Hybrid philosophies for systems, some disciplines, and concepts about systems are shortly outlined. Systems science(s) are defined due to four categories and each of these categories are explained with detailed figures/tables. Branches of systems due to basic sciences and size, content, and precision are given with table as well. General systems due to 39 subjects of services mandatory for a world country, and hybrid systems defined by the author are shortly interpreted.

In this way old/new branches of philosophy related with information and systems are reconstructed and expressed as branches of philosophy that should be considered with higher concept, scope, value, and importance.

Information can be defined as a concept needed in every discipline, a concept that develops and shapes human development according to the field of interest taken into consideration.

Information, by creating a hybrid combination with technology, shapes human development on the one hand, and on the other hand, it becomes necessary to ensure its good and/or correct use through education, administration, and justice philosophies to be taken into account generally/specifically.

The principles of information science (information forming, information protection, information acquiring, information presenting, administration/directing of information, information inspection, basic senses for information, transformation of information) guide the correct use of information, while philosophy of information guides the development and shaping of individuals, groups, societies, and countries with the development of hybrid information philosophies.

While the needs of individuals, groups, societies, and countries sometimes trigger the development of concepts/disciplines related to information, generally the good and/or correct concepts put forward by kind scientists and philosophers with their vast knowledge and experience can enable development to be achieved in a planned and programmed manner in the short, medium, and long term.

Today, the progression of the information and communication technologies sector, which has been created through the collaboration of scientists and businessmen with various concepts, is important in terms of correctly evaluating the point reached in the effective use of philosophy of information, its sub-philosophies, and hybrid information philosophies. In this context, the following information will be useful in making a good and/or correct assessment of the evaluation and comparison of technologies and their purposes and effectiveness.

(1) Largest technology companies by revenue as of 2023 in the world are as follows (in alphabetic order): Accenture, Alibaba, Alphabet, Amazon, Apple, AT&T, Dell Technologies, Deutsche Telekom, Foxconn, Hitachi, HP Inc., Huwaei, IBM, Intel, Jingdong, Lenovo, LG Electronics, Meta, Microsoft, Nvidia, Panasonic, Samsung Electronics, Sony, Tencent, TSMC.

(2) Mobile phone manufacturers with the highest revenue in the world are as follows (in alphabetic order): Apple, HTC, Huawei, Lenovo, Motorola, OnePlus, Oppo, Samsung, Sony, Xiaomi, Vivo, ZTE.

(3) Computer manufacturers with the highest revenue in the world are as follows (in alphabetic order): Acer, Apple, Asus, Dell, Hewlett Packard (HP) Inc., IBM, Lenovo, Microsoft, Quanta Computer, Samsung, Sony, Toshiba.

(4) List of social platforms due to the highest active users are as follows: Facebook, YouTube, Whatsapp, Instagram, TikTok, WeChat, Messenger, Telegram, Linkedin, Snapchat, Douyin, Kuaishou, Weibo, Pinterest, QQ, X, Qzone, Redditt, Quora, Threads, Xianohongshu, JOSH, Temas, Tieba, Viber, imo, Discord, Twitch, Line, Likee, Picsart, Vevo, Tumblr, Signal.

(5) List of the integrated services are as follows: Zoom, Meet (Google), iMessage (Apple), FaceTime (Apple).

(6) List of the search engine companies with the largest user base is as follows: Google, Bing, Microsoft, Yahoo!, Yandex, Baidu, Ecosia, Naver, AOL, Qwant.

The scientific and technological founding/inventions are effective and interacting with human life, and also affecting the information sciences and social sciences disciplines in general manner. Author defined basic philosophies and branches of philosophies, including philosophy of information, to express the interaction/relation between these founding and Ideal Philosophical System, and also to express the level of hybrid philosophy perspectives behind these scientific founding.

This study examines the meaning and significance of the disciplines of information, mind, sciences, systems, hybrids, philosophies, and others, both individually and together. The general and specific philosophical/scientific approaches considered in the formation and application of these disciplines are defined. The indispensable relationship and interaction of these disciplines/concepts, which influence and transform human life and the face of the world, are revealed through a new philosophical perspective, using hybrid theories, hybrid sciences, hybrid systems, and hybrid philosophies.

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