InImpact: The Journal of Innovation Impact: ISSN 2051-6002 : http://www.inimpact.org
Special Edition on Innovation in Medicine and Healthcare : Vol. 6. No. 1 : pp.38-53 : imed13-030

Mapping systems within systems

Dr John Ronczka[a]
[a] *Australian Society of Rheology*

Abstract. Within the 'health system' (NS) data intensive care may be suggested to be supported by 'intelligent decision technologies' (IDT) at a specific location (e.g. Emergency Medical Services [EMS], hospital, hospice). The overall patient management system (PMS) is suggested to be a multi-dimensional system of medical and non-medical interventions and countermeasures that are reported via soft computing and software engineering devices. What has being pushing the 'health system' (NS) tends to come from increased pressure to meet the medical practitioners and patients (end user's) key needs and wants: 'anywhere—anytime—anyplace—anydevice—anyentity' (A5). Traditionally semantic 'Command—control—communications' (C3) mapping is likely to be in the first phase for dealing with emerging complex systems. 'Command—control—communications' (C3) multi-dimensional computing tends to be associated with 'systems—of—systems' (SoS) which could augment mapping 'management—mitigation—mediation' (M3) to manage multi-dimensional entities in cloud computing. To achieve this, hybrid mapping using 'Wisdom open system semantic identification' (WOSSI) enables systems engineering pattern recognition in the merging human—machine interfaces for 'human sustainment systems' (HSS).

Keywords. Systems—within—systems; Systems—of—systems; Coalescence Theory; entanglement; biorheology; logic gates

1. Introduction

The motivation for developing this paper is to suggest that a Transition Management (TM) such as End-of-life (EOL) care may be suggested in the overall patient management system (PMS). To adapt 'health system' (NS) may be suggested to be supported by 'intelligent decision technologies' (IDT) at a specific location (e.g. Emergency Medical Services [EMS], hospital, hospice). This nexus plausibly is likely to be a progressive merging of humans and machine processes to enable hybrid medical tools for augmentations as part of a 'Human sustainment system' (HSS). It is likely that the merging of the human with machine systems may suggest possible future medical interventions and countermeasures through to vaccines. One such approach plausibly relates to 'Systems—of—systems' (SoS) that blends and repurposes chemistry and biology with hardware and software engineering SIANS (synergy, integration, assimilation narrative and synchronization).

'Systems—of—systems' (SoS) involves the contextualisation of entangled complex chemistry and biology and computing with interfaces that have similar supporting subsystems working to enable single entity to nest functions [1]. The conceptualisation aspect focuses on using a modeling option. Does the 'soft computing and software engineering technologist' (SCSET) or researchers use of either the taxonomies or the ontology's of the multi-dimensional 'Systems—of—systems' (SoS)? The semantics of each option may have a variety of interpretations and notations that are likely to influence and lead to skewing of the desired outcomes; that is meeting the end users' needs and wants 'anywhere—anytime—anyplace—anydevice—anyentity' (A5).

This paper suggests a hybrid mapping 'Wisdom open system semantic identification' (WOSSI) that may pattern the dilated and temporal 'Systems—of—systems' (SoS) to enable 'Command—control—communications' (C3) with 'management—mitigation—mediation' (M3) augmented together as 'Command—control—communications— management—mitigation—mediation' (C3M3) within a 'Systems—of—systems' (SoS) environment. 'Wisdom open system semantic identification' (WOSSI) may discover the nexus cipher–prima strings. Outcome likely could be to achieve a human—machine partnership with enhanced biological and non-biological entities using cipher–prima strings that form a nexus with. human—machine interfaces via 'Artificial Wisdom Intelligence' (AWI).

2. Background and Contextualization

The enablers may be the development of blended and repurposes chemistry and biology with hardware and software engineering 'Command—control—communications— management—mitigation—mediation' (C3M3) coded cipher–prima strings via 'knowledge—information—learning delivery engines' (KILDEE's) 'knowledge—information—learning delivery engines' (KILDEE's). Informatics medicine interventions and countermeasures that are 'Chemical and Biorheology logic gates' may lead to hybrid interface kernel filled with 'Artificial Wisdom intelligence' (AWI) that merge with the host. This paper therefore provides a trans—species—to—machine narrative and a mapping conceptualization that highlights 'knowledge–through–to–wisdom' (KTTW) delivery engine(s). These engines and supporting software based interfaces (e.g. biological and non-biological foams; glues; creams; pastes; plasmas) could provide a trans—species—to—machine vaccines that are plausibly equivalent to circuit sets of 'wisdom—information—knowledge—domains' (WIKED) that turn on/ turn off 'Chemical and Biorheology logic gates'.

2.1. Coalescence Theory drives meta data

Coalescence Theory (CT) states: "*in a situation where entities, events, actions, reactions, interactions and other influences are interlinking, they will cluster together as a unique construct and then may form a system of unique constructs within a unique, three–dimensional space continuum that is 'gooey–dough–like'*" [2]. This Theory suggests biological and non-biological 'knowledge–through–to–wisdom' (KTTW) delivery engine(s):

- Constructs emerge as unique,
- Constructs could stay unique,
- Constructs have bonds,
- Might have a common vector,

- Strongest bond, at the pivot point,
- Profile changes, and
- Uniqueness decay likely.

Why Rheology may be the next clarification required. What Rheology provides for the human—machine interface researcher is with "*knowledge of physical properties of fluids associated with their deformation and flow are essential in the development of physical models that accurately mimic their behaviour*" [3]. A linkage is possible to the coalescence phenomena within a linear rheology context. That is; polymer blends and backbones may be likely relevant to how software and hardware interacts as the dynamics of entangled polymers might be similar to how metadata interacts and entangles [3]. Applying this linkage to biorheology (human—machine interface) [4] [5] suggests the alignment to:

- Plasticity,
- Non-Newtonian fluids, and
- Biological.

The usefulness of Metadata is that it is "*structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage an information resource*" (e.g. title; creator; subject; description; publisher; date; type; format; identifier; language) [6]. That is Metadata is the foundation to 'big' data and enables flexibility and adaptability by being:

- Plasticity,
- Descriptive,
- Administrative,
- Access rights, and
- Preservation.

Table 1. Coalescence Theory (CT) nexus with Bio-rheology and meta data [2][6].

Coalescence Theory (CT)	Biorheology	Meta data
Constructs emerge as unique	Y	Y
Constructs could stay unique	Y	Y
Construct s have bonds	Y	Y
Might have a common vectors	Y	Y
Strongest bond at the pivot point	Y	Y
Profile changes	Y	Y
Uniqueness decay likely	Y	Y

2.2. Rheology to logic gates

Coalescence Theory (CT) application to rheology of entangled, of single and multiple chains suggests the existence of biorheology logic gates using Coalescence Theory (CT) developed at the University of Tasmania. Using Coalescence Theory (CT) may have plausibility in understanding the dynamics of deformation and flow of matter (rheology) as related to entanglement of single and multiple chains as possible biological logic gates (B-gate or biorheology logic gates) within bio-delivery engines and sub—delivery engines. Entanglements perhaps are the outcomes of Coalescence Theory (CT) processes that are part of a 'Systems—of—systems' (SoS) biological trans-entity control systems approach

[2]. This might enable B-gates to be repurposed as entity-vaccines applied to entry vector/route of pathogens to infections.

2.3. Wisdom keys to a lock are threads

With the assistance of 'Wisdom open—system semantic identification' (WOSSI) mapping, what might be further suggested is the existence of 'entangled single–to–multiple chain' (ESTMC) 'causality logic gates' (COR gates). A likely outcome could be 'biorheology Human-sustainment-machine systems' (BHSMS) that provide 'synergy, integration, assimilation narrative and synchronization' (SIANS) for 'strand–to–threads–to–chains' (S2T2C) wisdom.

A 'Command—control—communications— management—mitigation—mediation' (C3M3) within the 'biorheology Human-sustainment-machine systems' (BHSMS) after 'biorheology Human-sustainment' (BMS) nexus might accounts for 'Wisdom open—system semantic identification' (WOSSI) random radicals (paradoxes) in a dynamic continuum to achieve a human—machine partnership with enhanced biological entities. Sets of 'wisdom—information—knowledge—domains' (WIKED) coded interfaces (e.g. biological and non-biological foams; glues; creams; pastes; plasmas) could *provide a trans—species—to—machine vaccines and augmentations to resolve human biological and capability deficiencies, As such, a* 'Systems—of—systems' (SoS) *trans—species—to—machine wisdom interface would be* part of a 'human sustainment systems' (HSS).

2.4. Free to random radicals

Current research is embracing the possible unintended consequences of free radical and random radical. Chem—Biorheologic logic gates could be the enabler as the researchers used the pH mechanism to turn on and off a simple switch with either an acid or a base. This aligns to a likely quantum chemistry entity entry point that enables Bio- programmable logic controllers (B-PLC) to reprogram the biological host's autonomy functions. A free to random radical alignment might be suggested within the bio molecular context as the entangled–single–multiple chains tend to be uncontrolled and randomly change the biological 'Systems—of—systems' (SoS) of the human body. The nexus to rheology was provide by Professor Blanksby in the following statement "*if we can harness and control this extraordinary reactivity, we can put the radicals to work for us, such as in making polymers and plastics we use every day*" [8]. An unintended consequence of using Chem—Biorheologic logic gates may be moving autonomy functions into hybrid states with outcomes that could be against the host's benefits such as re-starting aggressive entities (e.g. Cancer) with chemical mechanism (e.g. injections of peptides).

2.5. WOSSI mapping continuum

'Wisdom open—system semantic identification' (WOSSI) mapping is an engagement of wisdom 'strand–to–threads–to–chains' (S2T2C) self-selecting systems. This is undertaken by Domains (e.g. entangled single–to–multiple chain 'knowledge—information—learning domains (KILD's); biological 'knowledge—information—learning delivery engines' (KILDEE's), use of Models (e.g. Coalescence Theory; Theory of Conservation) and Ontology (e.g. Themes; Conjectures; Style [Learning; Thinking; Intelligence]).

A paradigm shift occurs in the mapping of digital circuits by using 'Wisdom open–system semantic identification (WOSSI) mapping circuits and continuums (Figure 1) that form 'Causality Logic gates' (COR gates logic gates that may exist in multiple operating dimensions as 'U' and 'W' or hybrids. 'Causality Logic' (COR) act as 'knowledge–through–to–wisdom' (KTTW) delivery engine(s) to give plausibly equivalent circuits sets of 'wisdom—information—knowledge—domains' (WIKED). The concept of causality could be uncertain at the Planck scale in tracing the critical path memory.

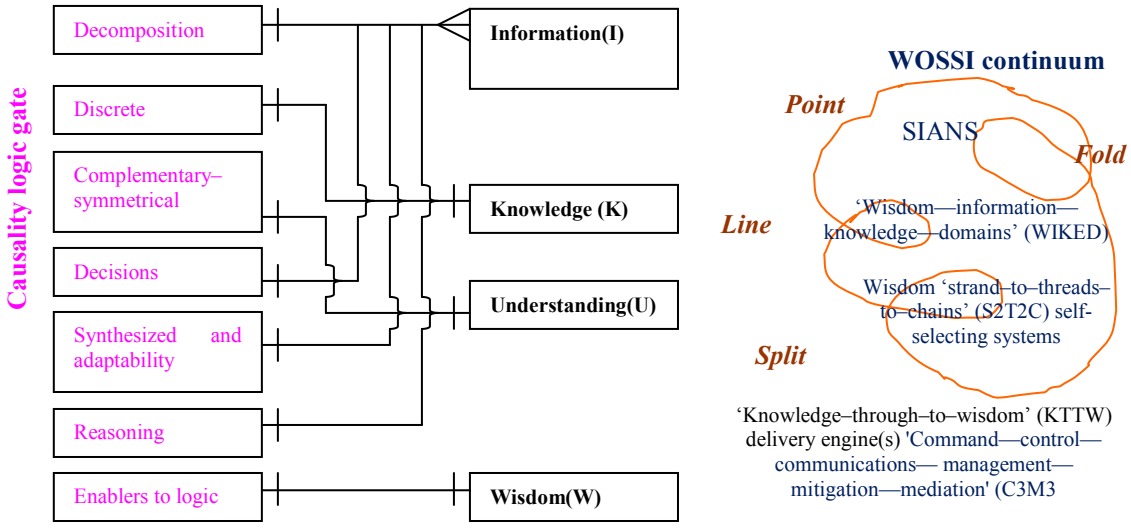

Figure 1. WOSSI map of simple relationships and attributes [9][10].

2.6. Cipher—prima strings

Ciphers and primers are enablers to confidential communication and message passing for many years between a sender and receiver. What is plausible to suggest is that no matter if the sender or receiver is a piece of software, 'Artificial Wisdom Intelligence' (AWI) or a biological entity the requirement for a confidential message(s) tends to have similar domains that are involved. The required domains would generally be:

- Intent,
- 'synergy, integration, assimilation narrative and synchronization' (SIANS),
- Algorithm(s) methodology,
- Key(s) prima(s) for encoding and decoding,
- Timelines for activation/deactivation,
- 'Command—control—communications— management—mitigation—mediation' (C3M3),
- 'Systems—of—systems' (SoS),
- Metrics to demonstrate success, and
- Sanitation.

Therefore, the cipher—prima might be considered a 'strand–to–threads–to–chains' (S2T2C) of encoded and decoded wisdom [11][12].

3. Issues

To assist in developing the human—machine interfaces 'Artificial Wisdom Intelligence' (AWI) approach, a number of issues need to be highlighted to develop a narrative to the overall context of this paper. The issues highlighted could further demonstrate how the 'Chief Information Officer's' (CIO's) operational landscape has changed and is likely to be in an ongoing state of change. The 'Chief Information Officer's' (CIO's) staff may exist as actual reality and in virtual reality to deliver the required 'anywhere—anytime—anyplace—anydevice—anyentity' (A5). Staff could have the requirement to adapt and morph into and within other entities in a 'Systems—of—systems' (SoS) information technology multidimensional and multiplexing environment.

3.1. Interpretation dilemma

One interpretation method for systems mapping relates to using taxonomic mapping of classes within a hierarchical typological framework. The other, is the use of an ontologies approach which focuses on conceptualisation of domains within models of operation. A narrative may be developed which tends to be more suited for mapping dynamic multi-dimensional 'Systems—of—systems' (SoS) [1][10].

Using the words 'end user' suggests an understanding of 'human' needs by the 'soft computing and software engineering technologist' (SCSET) whilst considering the limitation of the multi-dimensional 'Systems—of—systems' (SoS) machines and entities. This requires an understanding of 'Management—mitigation—mediation' (M3) and a nexus understanding with 'management—causalities—consequences' (MC^2). A mixed human—machine 'anywhere—anytime—anyplace—anydevice—anyentity' (A5) narrative, plausibly leads to miss understandings (random radicals') and unintendended consequences (system activations contrary to intent) cipher–prima strings [1][2][7][8][11][12].

3.2. Many possibilities and outcomes

The outcome that is being driven relates to improving a 'Systems—of—systems' (SoS) capability and as a human—machine hybrid, the entities ability to preserve its function and value under continued operation, maintenance and unexpected change [14]. A 'Bio-machine synchronisation' (BMS) cipher–prima string(s) interface may overcome human impairments.

One then may be lead to the realisation that a hybrid 'human—biorheology—machine' (HBM) sustainment dominated host could be an entity "*for which the lifetime footprint significantly exceeds the footprint associated with making it. Where (as defined above), footprint refers to any kind of impact one is interested in (or is relevant to the specific stakeholders)"* [9][10][13]. Therefore, the 'Bio-machine synchronisation' (BMS) host might be aware and adaptable to the users need and wants. 'Systems—of—systems' (SoS)mapping assists highlighting the existence of hybrid 'Biorheology causality logic gates' (B–COR gates) within entity kernel's 'Command—communication—control' with 'Management—causalities—consequences' (C^5M) delivery engine(s).

3.3. Challenging strongly held view

Driving user ‘anywhere—anytime—anyplace—anydevice—anyentity’ (A5) needs and wants has been suggested to be forcing the medical practitioner to be additionally a ‘Chief Information Officer’s’ (CIO’s) and to change their traditional views on the nexus between the human and machine and the medical intervention and countermeasures that may be applied.

Within ‘Systems—of—systems' (SoS) the operating environment for the future medical practitioner may be as an ‘Informatics Medical Officer’ (IMO’s). Without a corresponding ‘Systems—of—systems' (SoS) multi-dimensional ‘Artificial Wisdom Intelligence’ (AWI), that is able to serve the patients’ needs and wants within ‘anywhere—anytime—anyplace—anydevice—anyentity’ (A5).

The ‘Artificial Wisdom Intelligence’ (AWI) is suggested to be part of the ‘Chief Information Officer’s’ (CIO’s) ‘Human sustainment system’ (HSS). Within a ‘Human sustainment system’ (HSS) the ‘Informatics Medical Officer’ (IMO’s) has 'Command—control—communications— management—mitigation—mediation' (C3M3) over the ‘Systems—of—systems' (SoS) environment with ‘24hours/7days’ (24/7) ‘human—biorheology—machine’ (HBM) resources to vaccine entities.

3.4. Multiple dimensional status

User needs (must have) and wants (nice to have) tends to be pervasive and drives technologies as ‘anywhere—anytime—anyplace—anydevice—anyentity’ (A5). There is a tendency for transition gaps and surfaces between the dimensional states with likely occurrence of random radicals that could lead to unintentional consequences. The indicators of each dimensional status may be suggested to be are detailed in Table 2.

Table 2. User needs and wants as metrics [6][8][12]

User needs and wants	Ontology (Themes)	Metrics
Anywhere	Decision-Reasoning	Maintainability
Anytime	Complementary-symmetrical	Accessibility
Anyplace	Decomposition-Discrete	Dependability
Anydevice	Synthesized and adaptability	Scalability
Anyentity	Enabling logic	Understandability

3.5. Dilation and temporal logic

Metadata that is acquired in multiple timelines may be composed of gaps (random radical) that have lost their relevance to the composed decision threads that have entangled. That is a mix of Information, knowledge, understanding that could be dilated and temporally shifted. If a ‘Systems—of—systems' (SoS) multi-dimensional Metadata continuum delivery engines (‘knowledge—information—learning delivery engines’ (KILDEE’s) determines possible wisdom, it is likely to be skewed. This then would not have the outcome of optimization of an entity or event but facilitating unintended consequences (e.g. an error or unwanted action).

We need to have metrics or a way of calibrating the changes so that unexpected random radicals do not drive unintended consequences. This ‘Systems—of—systems' (SoS) context can be demonstrated by using a hypercube

representing a series of logic, data and logic gates (AND gate) as they dilate and temporally shift. This is detailed in Figure 2 below.

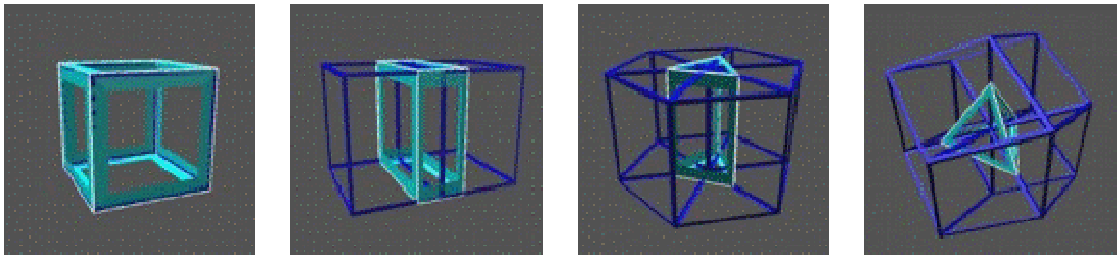

Figure 2. Dilated and temporal logic and Metadata (Metadata continuum delivery engines ('knowledge—information—learning delivery engines' (KILDEE's) transitioning 'Systems—of—systems' (SoS) multi-dimensional in time and logic chucks represented as 3D data cubes) [14]

4. Related work

The academic work emphasised within this section suggests hybrid mapping forms the bases to the 'Wisdom open system semantic identification' (WOSSI) that may pattern the dilated and temporal 'Systems—of—systems' (SoS) to enable augmented 'Command—control—communications— management—mitigation—mediation' (C3M3) with logic gate cipher–prima strings.

4.1. Semantic mapping

Semantic mapping has variability within a 'fit–for–purpose' ethos (e.g. F–semantics; I–semantics). So what should it be F–semantics, I–semantics or a hybrid? F–semantics that is, the semantics is deterministic: no stable models or well-founded model is empty, but is meaningful. I–semantics means lexical semantics: no principled reason to restrict being an ad-hoc stipulation or satisfying declaratives for agent programs or a hybrid 'Biorheology causality logic gates' (B–COR gates) filled S2T2C entity kernel [10][15][16][17].

4.2. Fault Tree Analysis

The 'Fault Tree Analysis' (FTA) uses causality that could be used to highlight logic gates exist in 'Systems—of—systems' (SoS) that are likely to be multi-dimensional with dilated and temporal entangled hybrid 'Biorheology causality logic gates' (B–COR gates) filled 'strand–to–threads–to–chains' (S2T2C) entity kernel. 'Fault Tree Analysis' (FTA) mapping enables cipher–prima string(s) use.

An improvement might be in the use of 'Failure Modes, Effects, and Criticality Analysis' (FMECA) [18]. A possible result is detailed in Table 3 below.

Table 3. 'Failure Modes, Effects, and Criticality Analysis' (FMECA) analysis - Logic gate function [18]

Logic gate function	Failure Mode	Cause of failure	Possible effects
Calculation	Omissions	Transmission of late data	Dilated-temporal display
	Inaccuracies	No consensus	Inaccurate display
Consensus	Incorrect	Corrupt chunks	No consensus
Used Metadata	Incorrect	Variable error	Data invalid or corrupt

This is of relevance in providing plausibility to the existence of 'biorheology logic gates'(B-gates) [17]. What might be suggested is the existence of 'entangled single–to–multiple chain' (ESTMC) 'Biorheology causality logic gates' (B–COR gates) 'Artificial Wisdom Intelligence' (AWI) entity HBM kernel, as illustrated below in Figure 3.

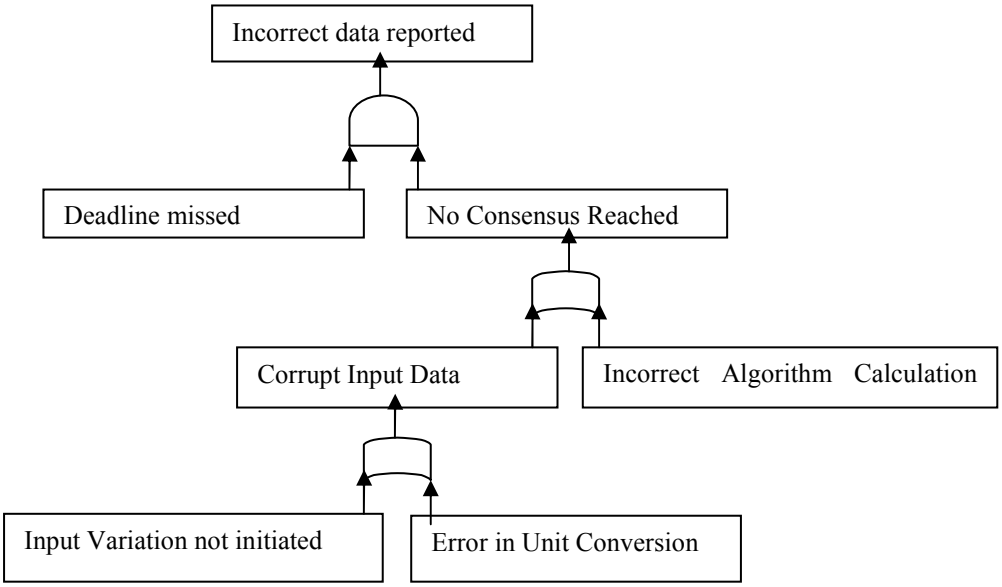

Figure 3. Logic fault tree [18].

4.3. Multi-dimensional parameters

Carrying the metrics further enhances the use of the simple circuit logic gates (e.g. OR and AND). By doing so this might provide leverage into the 'Systems—of—systems' (SoS) human–machine nexus as a trans-entity via a hybrid 'Theory of Conversation' (ToC) with 'Command—control—communications— management—mitigation—mediation' (C3M3) and MC^2.

This may mean temporal data between common 'Systems—of—systems' (SoS) host(s) and entity(ies) has: 'Long term memory' (LTM), 'Captured in

conversational to consequences' (CAC), 'Short term memory' (STM), with 'Mixed-Initiative Conversational System' (MICS) in Figure 4 [19].

Within the context of 'Systems—of—systems' (SoS) the important linage in 'Theory of Conversation' (ToC) is the 'Mixed-Initiative Conversational System' (MICS) Control-flow [19]. The nexus is then made to the 'Theory of Conversation' (ToC) Themes and logic gate fault trees. With a bio-trans-entity (human—machine—other species) acceptance is made of 'human' like errors 'Management—causalities—consequences' (C^5M) and the need for 'Command—control—communications— management—mitigation—mediation' (C3M3) cipher–prima string(s) in logic gates.

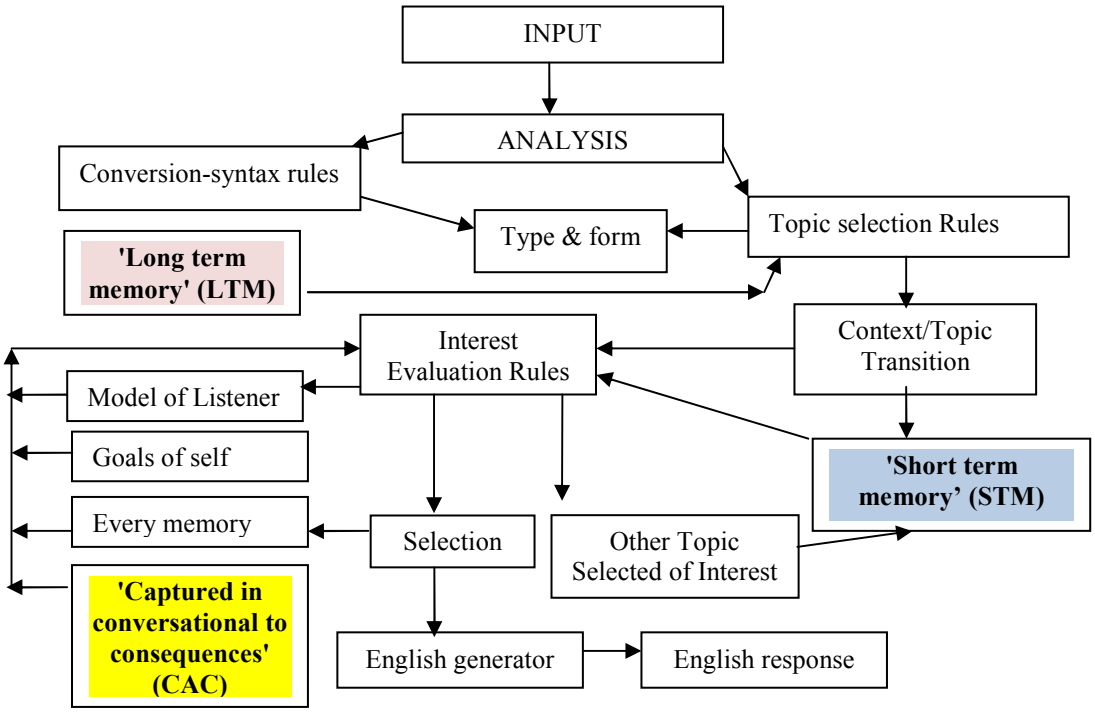

Figure 4. Theory of Conversation (ToC) Control flow 'Mixed-Initiative Conversational System' (MICS) [17][19].

Dynamic multi-dimensional computing 'Systems—of—systems' (SoS) might have the requirement to have metrics associated with the hosts 'Artificial Wisdom Intelligence' (AWI) entity 'human—biorheology—machine' (HBM) kernel. Current research effort has focused on the metrics nexus of 'Wisdom open—system semantic identification' (WOSSI) –'Biorheology causality logic gates' (B–COR gates) and how entangled single–to–multiple chain 'knowledge—information—learning domains (KILD's) play a part using Information Theory. Table 4 provides the nexus between 'Theory of Conversation' (ToC) and the way logic gates may work in 'Artificial Wisdom Intelligence' (AWI) context as Bio-programmable logic controllers (B-PLC).

Table 4. 'Failure Modes, Effects, and Criticality Analysis' (FMECA) analysis - Theory of Conversation (ToC) [17][19]

Theory of Conversation (ToC) Themes	AND gate	OR gate	NOT gate
Learning	Yes	Yes	Yes
Interactive	Yes	Yes	Yes
Dialog	Yes	Yes	—
Exchange	Yes	Yes	Yes
Engages	Yes	Yes	—

These entangled–single–multiple chains might exist in multiple operating dimensions as *Möbius strips* hybrid 'Biorheology causality logic gates' (B–COR gates). The 'Biorheology causality logic gates' (B–COR gates) tendency may be to act as a biological 'knowledge—information—learning delivery engines' (KILDEE's). Conceivably, the fusion of human—machine *Markov chain* Biorheology interfaces that the use of the electrical circuit may assist in mapping [9].

4.4. Metrics?

Current researchers are exploring research that may provide the metrics for 'Command—control—communications— management—mitigation—mediation' (C3M3) of multi-dimensional logics gates within and beyond 'Systems—of—systems' (SoS). One such nexus is how simulations of spiking of neurons are been undertaken [20]. Neuron spiking (Figure 5) may be a bio-logic gate working that could be used to benchmark 'anywhere—anytime—anyplace—anydevice—anyentity' (A5) actual and virtual 'Artificial Wisdom Intelligence' (AWI) entities or a hybrid 'Systems—of—systems' (SoS) nexus.

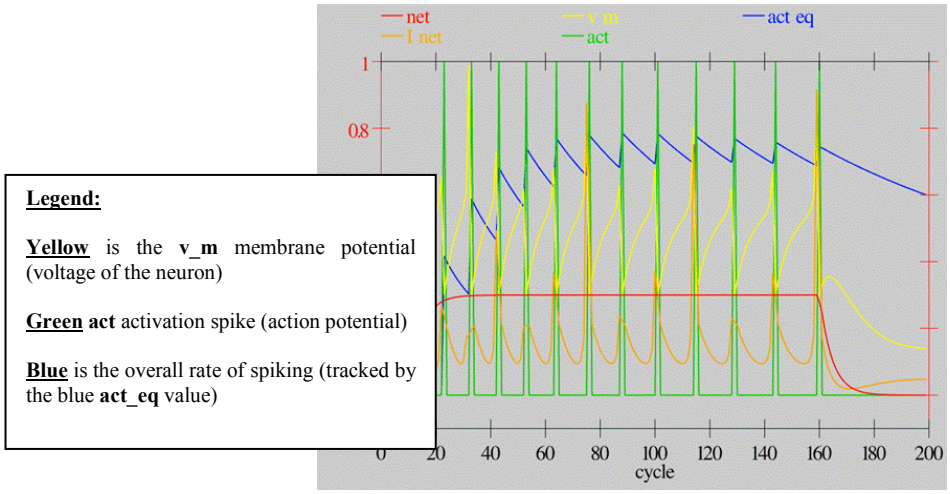

Figure 5. Neuron spiking simulation as a suggestion of metrics [20].

Other researches have focused on specialisation within neuroscience that has a nexus with logic gates, such as themes within cognitive processes:

- Psychophysics,
- Physiology,
- Representation of predictive relationships Signaling (dependent-independent),

- Temporal mechanisms,
- Neural recruitment mechanisms (memory), and
- Dilation [21][22],

4.5. Test causality

Testing using causality provides an Ockham's razor approach (Table 5) that highlights an alignment of a causality chain with the metric Themes to distill:

- Semantic neutral nets to 'anywhere—anytime—anyplace—anydevice—anyentity' (A5) actual and virtual AWI entities or a hybrid 'Systems—of—systems' (SoS) nexus; and
- Processing and Parameters as Immediate cause of the group of Information Theory themes (Conjectures).

Table 5. Causality Analysis of Information Theory themes (Conjectures) [23]

Information Theory themes (Conjectures)	Symptoms	Immediate cause	Remote cause
Message	Yes	—	—
Processing	—	Yes	—
Parameters	—	Yes	—
Conditions	—	—	—
Limitations	—	—	Yes
Foresight	Yes	—	—

4.6. Coalescence Theory and Biorheology

'Artificial Wisdom Intelligence' (AWI) entity 'human—biorheology—machine' (HBM) kernel could be driven by being in a Coalescence Theory (CT) phase state: "*in a situation where entities, events, actions, reactions, interactions and other influences are interlinking, they will cluster together as a unique construct and then may form a system of unique constructs within a unique, three–dimensional space continuum that is 'gooey–dough–like'*" [2]. In the supporting Coalescence Theory (CT) hypotheses have been detailed as they are likely to apply to a hybrid 'Biorheology causality(Table 6) logic gates' (B–COR gates) filled 'strand–to–threads–to–chains' (S2T2C) entity kernel [10] [23].

Table 6. Causality Analysis of Information Theory themes (Conjectures [16]

Coalescence Theory (CT) Coalescence Theory (CT) based logic gates	Plasticity phase state	Non–Newtonian fluids phase state	Biological phase state
Constructs emerge as unique	Yes	Yes	Yes
Constructs could stay unique	Yes	Yes	Yes
Construct s have bonds	Yes	Yes	Yes
Might have a common vectors	Yes	Yes	Yes
Strongest bond at the pivot point	Yes	Yes	Yes
Profile changes	Yes	Yes	Yes
Uniqueness decay likely	Yes	Yes	Yes

5. Conclusions

'Wisdom open—system semantic identification' (WOSSI) is a mapping system that allows identification of wisdom from the lower order delivery engines information, knowledge, reasoning, and understanding in an open–system. 'Wisdom open—system semantic identification' (WOSSI) mapping has the outcome of minimising the influence of 'de Montaigne' paradoxes (negative outcomes: '*nothing is so firmly believed as that which we least know'* [24] [25]).

Likely to be able to SIAN into a hybrid as suggested by Chem—Biorheologic logic gates that may be used as entity entry points that enable Bio- programmable logic controllers (B-PLC). These entity entry points may be the multi-dimensional Metadata continuum delivery engines ('knowledge—information—learning delivery engines' (KILDEE's) accepting cipher—prima strings that likely are entangled–single–multiple chains linking 'Systems—of—systems' (SoS).

5.1. Wisdom or just artifacts

Wisdom suggests the composition of intelligence development through a delivery mechanism of entities experiences that is likely to be obtained through a combination of cleverness and skillfulness [26]. Developing this further, there may be competences domains that could be associated with Ackoff delivery engines of learning, knowledge through to understanding [27].

The intelligence concept draws in the experience context as part of understanding or learnt information. This understanding suggest the competency to use ambiguous and conflicting information and yet to discover the reasoning and conclusion for action, reaction or inaction. By reasoning and understanding there appears to be a use of an artifact transition (inorganic object; symbols; expressions; decoding-encoding of symbols) [28].

5.2. WOSSI logic gate blocks

A nexus appears to exist between the 'Wisdom open—system semantic identification' (WOSSI) and a traditional approach of dealing with logic gates within a 'Central processing Unit' (CPU) hierarchy (logic device). This paper has additionally showed it is possible to have:

- Instability and stability states as 'switches' as part of a biorheological logic gate block(s) for reprogramming,

- Logic gates (input to output logic operations) to enable biological devices using scalable ‘anywhere—anytime—anyplace—anydevice—anyentity’ (A5).logic gate interfaces, and
- Map the ‘Systems—of—systems' (SoS) elements and disclose were 'Command—control—communications— management—mitigation—mediation' (C3M3) maybe effectively applied.
- Within the ‘Artificial Wisdom Intelligence’ (AWI) 'Central processing Unit' (CPU) context ‘Systems—of—systems' (SoS) instructions might be carried out based on what is found in the systems memory that ‘Systems—of—systems' (SoS) accesses [29]; and.
- It is likely the ‘Wisdom open—system semantic identification’ (WOSSI) ‘Systems—of—systems' (SoS) already exists and may be used to model medical countermeasures.
- ‘Informatics Medical Officer’ (IMO’s) of a ‘human sustainment systems’ (HSS) may utilise a hybrid mapping using ‘Wisdom open—system semantic identification’ (WOSSI)
- ‘Knowledge—information—learning delivery engines’ (KILDEE’s) might use neuron spiking for bio-logic gates developed as interfaces via a *trans—species—to—machine* coded cipher–prima strings,
- Mapping 'Chemical and Biorheology logic gates' as ‘three dimensional’ (3D) to multi-dimensional interventions and countermeasures is plausible and may lead to hybrid interface kernel filled with 'Artificial Wisdom intelligence' (AWI) that merge with the host.

6. Future research

Future research is proposed in using this papers conclusion. The focus is on additive fabrication or biofabrication that provides hybrid biology and rheology a nexus role in developing polymer scaffolds to light medical biorheological devices or vaccine entities of self-selecting systems.

The developed biorheological material and devices might not only be used in biofabrication but might take the next step as a vaccine countermeasure, intervention or both. As an example, by developing biorheological creams, gels, glues, slims or foams that could be biofrabricated as programmed logic controllers through to artificial wisdom intelligent based systems to overcome various related patient medical conditions.

Acknowledgement

The Author wish’s to acknowledgement the assistance of Leah McKenzie, Benjamin Ronczka and the support of the Australian Society of Rheology in development of this paper.

References

[1] Gruber T., 'What is an Ontology'; *Department of Computer Science; Stanford University*, www-ksl.stanford.edu/kst/what-is-an-ontology.html; (2007); p. 1.
[2] Ronczka, J. P., 'Coalescence Theory–Strategic Management Planning in Australian ports', *Australian Maritime College*, Launceston, Tasmania; (2006); pp. **1**1.3–11; 2.24–39; 3.35–48.
[3] Gary Leal, L., 'UCSB – Chemical Engineering- People- L. Gary' Leal*; University of California*; www.chemengr.ucsb.edu/people/faculty_d.php?id=17; (2012); p. 1.
[4] Bowen, R. M., 'Introduction to Continuum Mechanics for Engineers', *Plenum Press*, New York, NY, Texas A&M University, http://repository.tamu.edu/handle/1969.1/2501; (1989), p. 1.
[5] Senese, F., 'General Chemistry Online', *Frostburg State University*; http://antoine.frostburg.edu/chem/senese/101/liquids/faq/non-newtonian.shtml; (2013), p. 1.
[6] NISO, 'Understanding Metadata', *National Information Standrads Organisatio;* www.niso.org/publications/press/UnderstandingMetadata.pdf, (2004); p. 1.
[7] Slomianka, L., 'Blue Histology - Lymphoid Tissues I'; *School of Anatomy and Human Biology - The University of Western Australia*; lab.anhb.uwa.edu.au/mb140/CorePages/Lymphoid1/lymph1.htm; (2009); p. 1.
[8] UOW; 'Nature article reveals what turns free radical on'. *University of Wollongong*; http://media.uow.edu.au/news/UOW148032.html; (2013); p. 1.
[9] Answers, 'Relationship to continuum mechanics', *Answers;* www.answers.com/topic/fluid-mechanics; (2010); p. 1.
[10] Ronczka, J. P.; 'Wisdom Open–System Semantic Identification (WOSSI) Mapping of Causality Logic Gate", *WeST-2009*, (2009); pp.1-6,
[11] Hipschman, R; 'The Secret Language'; *Exploratorium;* www.exploratorium.edu/ronh/secret/secret.html; (1995), The (1995), p. 1,
[12] Sutherland, S.; 'Affine enciphering'; *Mathematics Department, Stony Brook University, Stony Brook NY*; http://www.math.sunysb.edu/~scott/Book331/Affine_enciphering.html; (2002); p. 1.
[13] Sutton. P., 'What is sustainability?" *Eingana*, Vol. 27, No. 1, April 2004; (2004); pp. 4-9.
[14] DPVC; '4th Dimension Hcube-slices: Projections of Hypercube Slices'; *Department of Mathematics, Union College*; www.math.union.edu/~dpvc/math/4D/hcube-slices/welcome.html; (2004); p. 1.
[15] Phan Luong, V.; 'Between Well-Founded Semantics and Stable Model Semantics ideas', *1999 IDE&AS*, www2.computer.org, (1999); p.270.
[16] Tancredi, C.; 2007; A Multi-Modal Theory of I-Semantics, *Keio University;* Keio Uni. semanticsarchive.net; p.22.
[17] Hsu, A.; 'Fault Tree Analysis', Fall 2006, *Center for Environmental Energy Engineering; University of Maryland; Department of Mechanical Engineering*, www.cs.umbc.edu/.../CMSC445/Fall06/Fault%20Tree%20Analysis.ppt; (2006); pp, 1-7.
[18] Dehlingerm J,. 'Software Fault Tree Analysis for Product Lines'; *Computer Science Department Iowa State* University; (2003); p. 1.
[19] Wagner, M.; Noppens, O.; Liebig, T.; Luther, M.; Paolucci, M.; 2005; Semantic-based Service Discovery on Mobile Devices*; University of Ulm; Germany*, http://www.informatik.uni-ulm.de/ki/Noppens/publications/wagner-et-al-demo-iswc05.pdf; p.1.
[20] CCNL; 'CCNBook/Neuron – Computational Cognitive Neuroscience Wiki'; *Computational Cognitive Neuroscience Laboratory; University of Colorado*;

http://grey.colorado.edu/CompCogNeuro/index.php/CCNBook/Neuron; (2012); p.1.

[21] Goldberg; M.; 'Columbia Neuroscience'; *Michael E. Goldberg, M.D.; Neuroscience; University of Columbia*; www.neuroscience.columbia.edu/?page=28&bio=67; (2013); p. 1.

[22] Hirabayashi T, Takeuchi D, Tamura K, Miyashita Y.; 'Functional microcircuit recruited during retrieval of object association memory in monkey perirhinal cortex'; www.ncbi.nlm.nih.gov/pubmed/23312526; (2013) p. 1.

[23] Senese, F. 'General Chemistry Online', *Frostburg State University*; http://antoine.frostburg.edu/chem/senese/101/liquids/faq/non-newtonian.shtml; (2005); p. 1.

[24] Lin, C. I; 'CMSC 311 - Computer Organization', *University of Maryland*, www.cs.umd.edu, (2003); p. 1.

[25] Collins, 'of 'de Montaigne' paradoxes' *Desk Calendar Refill 2002, Collins Debden,* 28, (2002).

[26] Goertzel. G., 'Articial Wisdom, The Multiverse According to Ben'; *Journal of Evolution and Technology IEET Trinity College; Connecticut*; ieet.org/index.php/IEET/more/goertzel20080420; (2008); p. 1.

[27] Ackoff, R.L. 'Scientific Method: Optimizing Applied Research'; *Decisions*, Wiley; (1962); pp.1-74.

[28] Perkows, M.; 'Apptoaches to AI: Robots Versus Artifical Intelligence', www.ee.pdx.edu/~mperkows/CLASS_ROBOTICS/2004-SEARCH/010-AI-Intro; (2004); p. 1.

[29] CS-UNC, 'The CPU, *Department of Computer Science', University of North Carolina*; wwwx.cs.unc.edu/~sud/COMP4/lectures/lecture10/lec10.ppt, (1999); p. 1.