

# WOSSI Mapping of SCSE Biorheological logic gates

Wisdom open system semantic identification as an enabler to Human sustainment systems

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**Abstract**— Wisdom open system semantic identification (WOSSI) modelling and simulation tool may be used for Soft Computing and Software Engineering (SCSE) pattern recognition. As a way forward, a ‘Human sustainment system’ (HSS) has been put forward as a conceptualisation that WOSSI entities might be aware and adaptable to the users need and wants within the context of Informatics medicine based on SCSE driven intelligent decision technologies.

**Keywords**—Coalescence Theory, entanglement, biorheology, logic gates .

## I. INTRODUCTION )

Coalescence Theory (CT) application to rheology of entangled, of single and multiple chains suggests the existence of biorheology logic gates using CT developed at the University of Tasmania. Using 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 processes and possible are part of a biologically based control systems approach. 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 machine systems (BMS) that provide SIANS (synergy, integration, assimilation narrative and synchronization) for strand-to-threads-to-chains (S2T2C), to accounts for random radicals in a dynamic continuum and achieve a human—machine partnership with enhanced biological entities.

The outcome that is being driven relates to improving a system’s ability to preserve its function and value under

continued operation, maintenance and unexpected change [1]. A BMS interface may overcome human impairments.

One then may be lead to the realization 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)*” [2][6][13]. Therefore, the BMS host might be aware and adaptable to the users need and wants. WOSSI mapping assists highlighting the existence of hybrid B-COR gate entity kernel C<sup>5</sup>M (‘Command—communication—control’ with ‘Management—causalities—consequences’).

## II. RELATED WORK

### A. 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 B-COR gate filled S2T2C entity kernel. [6][19][20][21].

### B. Fault Tree Analysis

The Fault Tree Analysis uses causality to highlight logic gates OR and AND. This is of relevance in providing plausibility to the existence of biorheology logic gates or B-gates [21]. What might be suggested is the existence of ESTMC COR gates Artificial Wisdom Intelligence (AWI) entity HBM kernel.

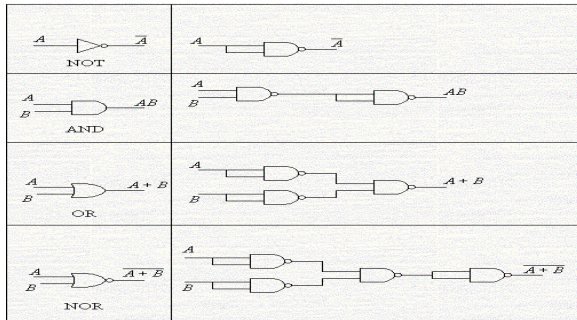


Figure 1. Circuit concepts [10].

### III. COALESCENCE THEORY AND BIORHEOLOGY

AWI entity HBM kernel could be driven by being in a 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’” [1]. In Table 1 the supporting CT hypotheses have been detailed as they are likely to apply to a hybrid B-COR gate filled S2T2C entity kernel. [2] [3].

TABLE I. CT HYPOTHESES—BIORHEOLOGY

CT-SMP hypothesis	Biorheology		
	Plasticity	Non-Newtonian fluids	Biological
1. Constructs emerge	Y	Y	Y
2. Constructs could stay	Y	Y	Y
3. Constructs have bonds	Y	Y	Y
4. Might have a commonality	Y	Y	Y
5. Strongest bond skews	Y	Y	Y
6. Profiles changes	Y	Y	Y
7. Uniqueness decay	Y	Y	Y

### IV. SEMANTIC MAPPING AND THEORY OF CONVERSATION

#### A. IT to TOC

Both Information Theory (IT) and Theory of Conversation (ToC) appear to have a nexus with various states and scales of C<sup>5</sup>M—SIAN as they related to Semantic mapping to capture simple structures (taxonomies) within knowledge—information—learning delivery engines (KILDEE's) that could be used for Internet technologies and relocating—realigning C<sup>5</sup>M—SIAN Biorheology interface B—gates applications [9].

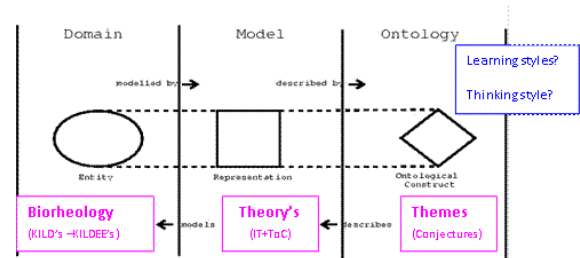


Figure 2. Semantic mapping and Theory of Conversation [15][16].

It should be stressed that these Information Theory Themes are drawn from traditional Theory of conversation and Semiotic and Semiotic temporal mapping. This nexus allows the development of ‘Command—communication—control’ (C<sup>3</sup>) interfaces with complementary explicit and implicit considerations associated with the realities of ‘Management—causalities—consequences’ (MC<sup>2</sup>).

#### B. Human sustainment system approach

Why use the word ‘sustainment’ Human systems context? ‘Sustainment’ may be said to be a process of “assessing and improving a system’s ability to preserve its function and value under continued operation, maintenance and unexpected change” [15]. A dominate sustainment system might have a life cycle/ lifetime footprint that tends to exceed the footprint associated with the entities initial birth/making/activation [15] [16].

This may be suggested ‘sustainment’ Informatics Medicine by the use of AWI to enhance vaccines [17] of:

- SIAN;
- C<sup>5</sup>M [1];
- BRI (Biorheological informatics: biological interfaces [11][12];
- PARRIFA—‘debt to be paid’ (‘portability, agility, redundancies, responsiveness, insight, foresight, and adaptability’ [1][6].

### V. WOSSI BIORHEOLOGY ‘CAUALITY LOGIC GATES’

#### A. WOSSI

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. 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’ [4] [5]).

#### B. Knowledge—information—learning delivery engines

AWI to enhance vaccines may provide foresight based on KILDEE's. Therefore CT used within WOSSI drives the development of KILDEE's to suggest the existence of B—COR gate filled AWI entity kernel. [2] [3] [6].

### C. Entangled—single—multiple chains

Fig 3 details the likely B-COR gate circuits and continuum formed by ESTMC that might exist in multiple operating dimensions as *Möbius strips* or hybrids. The B-COR tendency may be to act as a biological *Plasmoids* in *N-dimensional* space biological delivery engine(s) to give plausibly equivalent biorheology *Markov chains* [1][6][24][25].

In the merging of Semantic Mapping with CT, IT and ToC, what may be plausibly are nested:

- Domains (Bits of information constituting the messages are subjects);
- Models (Different scales [Macro-quantum]);
- Ontology (Probability of transmission of messages; Transmission; Specific accuracy-random radicals; Certain probabilities)[1][24][25];
- C<sup>5</sup>M—SIAN;
- BRI—PARRIFA; and
- CT, IT and ToC Packet capture engines [26].

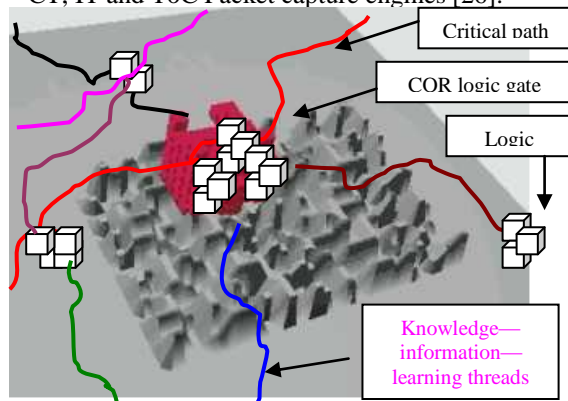


Figure 3. COR logic gate ESTMC-KILD backbone [6][24][25].

### VI. ESTMC AND BIORHEOLOGY BACKBONES

These perhaps are random variables that contain temporal hybrids of past—present—future—states of CT, IT and ToC. The biorheology backbones may be capturing and filtering skewed ESTMC filled packet capture engines. As such there could be random radicals that are independent driving un-intended consequences. As such, as the scale changes, the concept of causality could be uncertain at the Planck scale in tracing the B-COR gates critical path memory [7] [8].

#### A. Biorheology backbones

Like in SCSE the biorheological version has a bio-backbone (CT—IT—ToC) that assist in adaptability and reconfigurability. WOSSI is able to discover and then dispatch appropriate KILD packages within a biorheological KIDEE's approach to Human—machine interfaces likely via B-COR gate circuits and continuum.

### VII. WOSSI MAPPING

Logic gate and WOSSI mapping has a predisposition (e.g. bio entity memory) likely, B-COR gate circuits could act as a continuum and to be semantics by nature and therefore tends to be a biological—cognitive—human—machine process. As such, the associated mechanisms and tools perhaps could be influence by the 'de Montaigne' paradox, and causality—consequence creep. Traditional Logic gates are the building blocks to digital logic circuits via combinational logic that provides the foundations to move to B-COR gates. This has therefore required the need to draw from the solid foundations provided by traditional mono gate concepts such as NOT gates (or inverters), AND gates, OR gates, NAND gates, NOR gates, XOR gates, and XNOR gates [4] [10].

### VIII. KILDEE'S AND ESTMC

Plausible B-COR gates may be based on KILDEE's that have a common ESTMC themes such as 'any—place—any—time—any—way' 'Command—communication—control' of 'multiple—multiplexing—machines' (C3M3). Pushing the conceptualisation further, B-COR gates possibly will exist in multiple dimensions with temporal KILDEE hyperspaces—hypercube—hypersphere (3H). There could be biological-cognitive predisposition to the way information and knowledge may be used between human—machine partnerships with enhanced biological entities [10] [24].

### IX. RESULTS OF THE APPLICATION OF WOSSI

#### A. Achoff filters

Achoff filters (Tables 1 and 2; Figure 2) coalescence, suggests further alignment between causality, wisdom and Logic gates and scribing of the critical path. The KILDEE threads traced out the aligning WIKED's via control system mapping of logic gates and multiplexing.

TABLE II. CAUSALITY THEMES—ACHOFF FILTERS

CAUSALITY LOGIC GATE THEMES (CONJECTURES)	Domains			
	Information (I)	Knowledge (K)	Understanding (U)	Wisdom (W)
Decomposition	When	—	—	—
Discrete	—	How	—	—
Complementary—symmetrical	—	—	Why	—
Decisions	Who	—	—	—
Synthesized and adaptability	Where	—	—	—
Reasoning	What	—	—	—
Enablers to logic	—	—	—	e-Why

Note on Ackoff system of filters: information ('who', 'what', 'where', and 'when'); knowledge (application of 'how'); understanding (appreciation of 'why') and wisdom (evaluated 'why') [e-Why] [6][23]

### B. WOSSI circuit continuums

Based on Tables 1 and 2, Fig.1, 2 and 3, a likely WOSSI circuits and continuum (Figure 4) forms a COR logic gate that could exist in multiple operating dimensions.

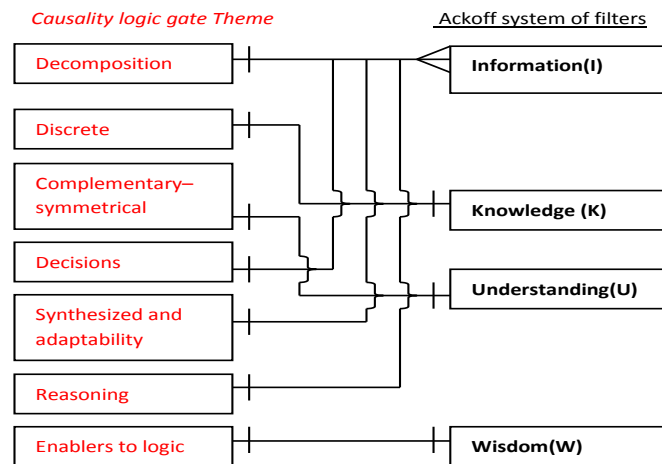


Figure 4. WOSSI map of simple relationships and attributes [22][23]

The COR logic gates might 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.

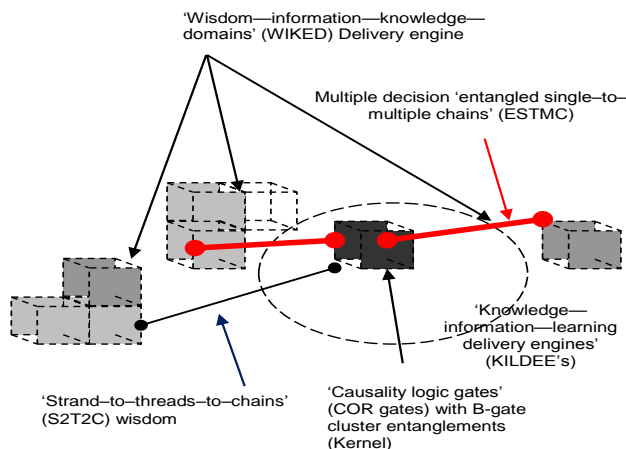


Figure 5. COR gate with interface HSS Kernel [6][24].

### X. CONCLUSIONS

Based on the number of Themes (Conjectures) any continuums established of KILDES type constructs could related to Internet technologies and applications 'multiple—multiplexing—machines' (M3) Biorheology interfaces.

With Processing and Parameters Themes (Conjectures) as 'Immediate cause', this may explain why the event or occurrence has explicit and implicit limitations and random radicals. The nexus suggests the existence of consequences associated with the level of random radicals with the realities of C<sup>5</sup>M, SIAN and BRI within a human-machine nexus PARRIFA biorheology 3H interface.

The main Ockham's razor points of the paper are, firstly, CT application to rheology of ESTMC suggests the existence of biorheology logic gates. Secondly, these gates appear to have ESTMC that plausibly are critical paths that influence the circuit logic gate system. Thirdly, B-COR's have the capability to multiplex. Fourthly, biorheology machine systems are likely to provide SIANS as intended consequences for S2T2C. Fifthly, it is likely the number of random radicals have un-intentional consequence in a biological dynamic continuum. The last point is that biorheological trigger events, and entities KILDEE threads might have temporal meshing (time, place, state) of the AWI kernel decision, event, or entity process [9]. The Truth Tables connectivity for B-COR's will be addressed in a separate paper.

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### REFERENCES

- [1] J. P. Ronczka, "Coalescence Theory—Strategic Management Planning in Australian ports", Australian Maritime College, Launceston, Tasmania, (2006); pp. 11.3–11; 2.24–39; 3.35–48.
- [2] Answers, "Relationship to continuum mechanics", Wikipedia; [www.answers.com/topic/fluid-mechanics](http://www.answers.com/topic/fluid-mechanics), (2010); p. 1..
- [3] F. Senese, "General Chemistry Online", Frostburg State University; <http://antoine.frostburg.edu/chem/senese/101/liquids/faq/non-newtonian.shtml>; (2005); p. 1.
- [4] C. Lin, "CMSC 311 - Computer Organization", University of Maryland, [www.cs.umd.edu](http://www.cs.umd.edu), (2003), p. 1..
- [5] Collins, *Desk Calendar Refill 2002*, Collins Debden, 28, (2002).
- [6] J. P. Ronczka, "Wisdom Open-System Semantic Identification (WOSSI) Mapping of Causality Logic Gates", WeST-2009 (2009).
- [7] R. Kremer, "Concept Mapping", University of Calgary, [www.cpsc.ucalgary.ca](http://www.cpsc.ucalgary.ca), (1998); pp. 1–5.
- [8] NSF, "Nanoscience Classroom Resources", NSF, USA, [www.nsf.gov](http://www.nsf.gov), (2004); p. 1.
- [9] FEDEE, "Relocating and integrating business operations", EDEE, [www.fedee.com](http://www.fedee.com), (2002), p.1.
- [10] A. Als, "Logic Gates", University of West Indies, [www.scitec.uwichill.edu.bb](http://www.scitec.uwichill.edu.bb), (1999), pp. 1-10.
- [11] Answers, "Information theory" (Geography Dictionary in Answers, (2008); p. 1.
- [12] Answers, "Information theory", Philosophy Dictionary, [www.answers.com/topic/information-theory](http://www.answers.com/topic/information-theory), (2008); p. 1.
- [13] P. Sutton, "What is sustainability?" *Eingana*, Vol. 27, No. 1, , April 2004; pp. 4-9.
- [14] P. Sandborn, "Sustainment/Sustainability Definition", CALCE Electronic Products and Systems Center University of Maryland, m April 20, 2012, <http://www.glue.umd.edu/~sandborn/>, p.1.
- [15] W. M.; Noppens; O. Liebig; T. Luther and M. Paolucci, "Semantic-based Service Discovery on Mobile Devices"; University of Ulm; Germany, Available: <http://www.informatik.uni-ulm.de>



- ulm.de/ki/Noppens/publications/wagner-et-al-demo-iswc05.pdf; (2005), p.1.
- [16] 4G WiMAX, "International Workshop on 4G WiMAX System"; [www.4g-wimax.org/](http://www.4g-wimax.org/); (2008); p. 1.
- [17] J. Ronczka, "C3W semantic Temporal Entanglement Modelling for Human - Machine Interfaces", Chapter 10 <http://www.intechopen.com/books/semantics-advances-in-theories-and-mathematical-models>. (2012).
- [18] J.F., Sowa, "Concept Mapping", [www.jfsowa.com/talks/cmapping.pdf](http://www.jfsowa.com/talks/cmapping.pdf), (2006), p. 1.
- [19] V. Phan Luong, "Between Well-Founded Semantics and Stable Model Semantics ideas", 1999 IDE&AS, [www2.computer.org](http://www2.computer.org), (1999), p.270.
- [19] C. Tancredi, "A Multi-Modal Theory of I-Semantics," Keio Uni. [semanticsarchive.net](http://semanticsarchive.net), (2007), p.22.
- [20] T. Eiter, V.S. Subrahmanian and G. Pick., G. "Heterogeneous Active Agents, I: Semantics", AI Journal, Vol. 108, [www.cs.mu.oz.au](http://www.cs.mu.oz.au), (1999). p. 179.
- [21] A. Hsu, "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](http://www.cs.umbc.edu/.../CMSC445/Fall06/Fault%20Tree%20Analysis.ppt) (2006); pp 1-7.
- [22] Y. Mei, "Asymptotic Optimality Theory for Decentralized Sequential Hypothesis Testing in Sensor Networks", Information Theory, IEEE, Vol. 54, Issue 5, [www.ieee.org](http://www.ieee.org), (2008), pp.207-8.
- [23] R.L. Ackoff, "Scientific Method: Optimizing Applied Research" *Decisions*, Wiley, (1962); pp.1-74.
- [24] P.A. Zizzi, (2003) *Quantum Computing Spacetime* Uni di Padova, [www.mindspring.com](http://www.mindspring.com), pp.1-12.
- [25] J. Avery, and J. Yearwood, "Supporting Evolving Ontologies by Capturing the Semantics of Change:: University of Ballarat, Victoria, 3350; [www.ballarat.edu.au](http://www.ballarat.edu.au), (2004).
- [26] M. Casado, "libpcap packet capture tutorial" [yuba.stanford.edu/~casado/pcap/section3.html](http://yuba.stanford.edu/~casado/pcap/section3.html), (2001); p. 1.