

# Thoughts about a General Theory of Influence in a DIME/PMESII/ASCOP/IRC<sup>2</sup> Model

LTC Thorsten Kodalle, Dr Char Sample, Dr David Ormrod, Dr Keith Scott

[thorstenkodalle@bundeswehr.org](mailto:thorstenkodalle@bundeswehr.org); [charsample50@gmail.com](mailto:charsample50@gmail.com); [drdave@linux.com](mailto:drdave@linux.com); [jklscoot@dmu.ac.uk](mailto:jklscoot@dmu.ac.uk)

**Abstract:** The leading question of this paper is: “How would influence warfare (“iWar”) work and how can we simulate it?” The paper discusses foundational aspects of a theory and model of influence warfare by discussing a framework built along the DIME/PMESII/ASCOP dimension forming a prism with three axes. The DIME concept groups the many instruments of power a nation state can muster into four categories: *Diplomacy, Information, Military* and *Economy*. PMESII describes the operational environment in six domains: *Political, Military, Economic, Social, Information* and *Infrastructure*. ASCOPE is used in counter insurgency (COIN) environments to analyze the cultural and human environment (aka the “human terrain”) and encompasses *Areas, Structures, Capabilities, Organization, People* and *Events*. In addition, the model reflects about aspects of information collection requirements (ICR) and information capabilities requirements (ICR) - hence DIME/PMESII/ASCOP/IRC<sup>2</sup>. This model was developed from an influence wargame that was conducted in October 2018. This paper introduces basic methodical questions around model building in general and puts a special focus on building a framework for the problem space of influence/information/hybrid warfare takes its shape in. The article tries to describe mechanisms and principles in the information/influence space using cross discipline terminology (e.g. physics, chemistry and literature). On a more advanced level this article contributes to the Human, Social, Culture, Behavior (HSCB) models and community. One goal is to establish an academic, multinational and whole of government influence wargamer community. This paper introduces the idea of the perception field understood as a molecule of a story or narrative that influences an observer. This molecule can be drawn as a selection of vectors that can be built inside the DIME/PMESII/ASCOP prism. Each vector can be influenced by a shielding or shaping action. These ideas were explored in this influence wargame.

**Keywords:** Modeling and Simulation, M&S, DIME, PMESII, ASCOPE, Wargaming, Serious Gaming, Gamification, Information Warfare, Influence Warfare, Weaponization of Everything, Perception

## Preface

We live in a world where people are dying due to the return of measles (The Economist 2018) after the spread of misinformation in social networks about the dangers of vaccinations (Godlee et al. 2017). A growing group of people believe the world is flat (Burdick 2018). Grounded in the scientific method, this article is a contribution to the Human, Social, Culture, Behavior (HSCB) models targeting the HSCB community (Dean S. Hartley III 2018). A goal of this paper is an academic, multinational and whole of government influence wargaming community in order to develop the understanding and capabilities of influence and counter-influence activities across that community. On an intermediate level “perhaps the most basic purpose of a model is to increase the user’s comprehension of something” (Dean S. Hartley III 2018). In essence “all models are wrong, but some are useful” (Box 1976).

## 1. Introduction

### The Scientific Method

We are using the scientific method to tackle the problem and phenomenon of “influence” (and particularly such related concepts as “weaponized information” (Pomerantsev, P. and Weiss, M. 2014), “fake news” (Sample and Justice, Connie & Darraj, Emily 2018) and “cognitive hacking” (Cybenko et al. 2002)) in unconventional warfare/information warfare/hybrid warfare/operations in grey zones. The basic investigative framework (as described by North (2018)) is as follows:

1. We observe the world around us (especially the phenomenon of hybrid warfare, information operations and the weaponization of everything)
2. We ask a question about what we see (how would influence warfare work and how can we simulate it?)
3. We construct a hypothesis that could answer our question (e.g. we write an influence warfare concept)
4. We think of a way to test our hypothesis (e.g. construct an influence wargame prototype)

5. We run experiments to see if our hypothesis's prediction was correct (e.g. we play the wargame)
6. We draw a conclusion from the experiment (e.g. we conduct an after-action review (AAR) after playing the wargame)
7. We communicate our results (e.g. we write this article)
8. We refine, alter or reject our hypothesis (e.g. we are developing version 2.0)

As an observer of the world we need to be aware of the mental model we are using for filtering and categorizing our observations and avoid several pitfalls. We will evaluate our observations either implicitly with biases, and we might be aware of the limitations of thinking fast and thinking slow about a problem (Kahneman 2012). But even if we read Daniel Kahneman, there are still several mistakes we can make and fallacies we might commit as outlined by Michael Shermer (Shermer 2002). This is an old problem that haunts philosophy for over two millennia. One of the most recent books on skeptical and critical thinking skills (Novella et al. 2018) is supported by a more than 13-year-old skeptical podcast with over 630 episodes (Bellucci 2018). We must consider the role of cultural biases. (Fiske and Taylor 2013) noted that analysts can detect others' biases but are blind to their own. This project sought to mitigate some biases by using a multi-national team. While the team consisted of participants from seven Western nations, we explicitly questioned and examined potential bias to address it. For this first version of the game we acknowledge the existence of our western biases (Hofstede et al. 2010; Nisbett 2003), but due to temporal and fiscal restraints we are unable to fully mitigate these biases.

### **Modelling the world**

We seek to choose an explicit way of thinking and we want to pay attention to the way we structure our sensory data input and the way we evaluate it. Therefore, we built a model. Applying Scott E. Page's "many models thinker approach" (Scott E. Page 2018) we recognize that one model might solve many problems and one problem might be solved by many models. The model we built (a wargame) is one such model of the world.

This would be a basic sequence for answering a research question using a modelling and simulation approach (Barth et al. 2012) follows:

1. Formulate the question (How do we wargame influence or how do we gamify influence for military usage?)
2. Identify relevant elements of the target system (DIME/PMESII/ASCOP/IRC<sup>2</sup> planning levels (tactical, operational, strategic and time level (instant, short term, medium term, long term)
3. Choose model structure (e.g. a multilevel and multidimensional wargame rigid and flexible elements)
4. Implement model (e.g. version 1.0)
5. Run and analyze model (we did run version 1.0 from 15.-18. October 2018)
6. Communicate results (we write this article and seek validation through the review process)

At this point we run into a chicken and egg problem. What is first: the model or the question? From a philosophical point of view, the model exists a priori (Kant 2015). Dietrich Dörner contends that additional models might be helpful (Dörner 2017).<sup>1</sup> There are many models available to run simulations on a modern crisis, from the matrix wargame (Curry and Price 2017) to computational simulations of unconventional conflicts (Hartley III 2017). We are moving on a wide spectrum from educational wargaming to Courses of Action (CoA) analysis and we might retrieve educational benefits for training (e.g. how to gamify training) and organizational insights into capability building. For an excellent introduction into the wide range of possibilities to use wargaming as a method the British Ministry of Defence (MoD) published the "Wargaming Handbook" in 2017 (Development, Concepts and Doctrine Centre 2017).

### **Framing the question**

This paper will describe the "problem space" and the "solution space" following an explanation of the modelling and simulation approach, recognizing the existence of unsolved philosophical ontological and epistemological problems (Corrazon 2018). They may not be the same. Einstein observed that certain complex problems on a specific level of complexity can only be solved on a higher level of complexity (Papathanassiou 2019). Computers

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<sup>1</sup> Aristotle thought the egg and the chicken were both unchanged, always there in an infinite cosmos. That's when philosophy got it totally wrong. From a scientific point of view the egg from which the chicken hatched was laid by a proto chicken. That's called evolution (North 2018).

in the information age are a perfect example. With computers we introduced a new level of complexity and we solved a lot of problems of the industrial age (e.g. by crunching vast amounts of numbers in a very short time) but we also created a whole new set of problems specific to the information age (like transformational pain disrupting existing markets and developing new markets) – which might only be solved on a higher level of complexity (e.g. with artificial intelligence).

Developing our understanding of the problem is critical to solving it. “If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.” (Garson O’Toole 2018a). In a similar paradigm, “Give me six hours to chop down a tree and I will spend the first four sharpening the axe.” (Garson O’Toole 2018b). I would like to spend a certain amount of time to sharpen our perspective on the problem. As a general frame for discussing any problem I adapted this matrix with lead questions from a course by the Teaching Company on the art of debate (Atchison 2016), which seems to be a good starting point in relation to the title.

| Argumentation Matrix - Leading Questions |   |   |  |   |
|--|---|---|--|---|
| Topic (generic)                          | Problem Status<br><i>Conjecturalis</i>  | Definition Status<br><i>Definitivus</i>         | Quality Status<br><i>Qualitativus</i>  | Responsibility Status<br><i>Translationis</i>       |
| <b>Problem</b>                           | Do we have a problem?<br>Do we have many problems on different levels, or a meta-problem? | Is the problem sufficiently described/defined?  | Is it a big problem?<br>Do we need to act (now or later or not at all)?                  | Did the “right people” describe/define the problem? |
| <b>Cause</b>                             | What is the cause?<br>Is there a single cause?<br>Are there more than one causes?         | Is the cause sufficiently described/defined?    | Are the causes qualified by their strength of influence?                                 | Did the “right people” make the cause analysis?     |
| <b>Solution</b>                          | What is the solution?<br>Is there a single solution?<br>Are there many solutions?         | Is the solution sufficiently described/defined? | Are solutions prioritized?   | Did the “right people” come up with the solution?   |
| <b>Cost</b>                              | How much does the solution cost?  | Are the costs sufficiently described/defined?   | What is the relation between cost and problem?<br>Is the problem actually worth solving? | Did the “right people” calculate the costs?         |

Figure 1 Argumentation Matrix – Adapted from (Atchison 2016)

We move through this matrix from top left to bottom right, proceeding row by row. While we may still be confused, we at least will be confused on a higher level. This matrix should be helpful answering and reflecting on any problem by framing the issues. The “Responsibility – Status Translationis” column will specifically shed light on any hidden agenda some stakeholder might have. After all, the definition of a problem and the authority to select terms will frame the problem in a certain way and might elevate a path to a certain preferred solution. For example, the inability to frame the violent acts of homegrown extreme right activist as “terrorism” may prevent the use of certain tools in the toolbox provided by the “War on Terror” (Reitman 2018).

This paper focuses on the first two cells and the respective lead questions:

1. Do we have a problem?
2. Do we have many problems on different levels, or do we have a meta-problem?
3. Is the problem sufficiently described/defined?

On the first question (do we have a problem?) we would argue that we do indeed have a problem since man is not a purely rational being, the much-vaunted *homo economicus*. In cyber space the main problems are humans. Kevin Mitnick, one of the most infamous hackers of all time, has said, “There is no Microsoft patch for stupidity or, rather, gullibility.”<sup>2</sup> Cognitive hacking/human engineering is the main reason for 90% of all successful cyber-attacks (Kelly 2017) (Proofpoint 2018)<sup>3</sup> – tricking humans into doing something irrational, or performing an action that counters the existing security policy. Humans represent a poorly understood component in the cyber

<sup>2</sup> Thinking about Cybersecurity: From Cyber Crime to Cyber Warfare. Paul Rosenzweig, published by THE GREAT COURSES, 2013 <https://www.thegreatcourses.co.uk/courses/thinking-about-cybersecurity-from-cyber-crime-to-cyber-warfare.html> last visited on 13. November 2018. See also: <https://www.proofpoint.com/sites/default/files/pfpt-uk-tr-the-human-factor-2018.pdf> last visited 17. March 2019

<sup>3</sup> There is a podcast completely devoted to explore the fallibility of human behavior <https://theyberwire.com/podcasts/hacking-humans.html> last visited on 17. March 2019

environment, and the emotional nature of human decision-making suggests accurate predictions of decisions are challenging. In spite of this, data can be shaped to provide information in a manner in which the emotional choice and the “logical choice” can appear to be the same (Cybenko et al. 2002; Sample 2017).

## 2. Building the model

### A General String Theory of Influence

For an in-depth elaboration on the second (do we have many problems on different levels, or do we have a meta-problem?) and third question (is the problem sufficiently described/defined?) we will develop a multidimensional DIME/PMESII/ASCOP/ICR<sup>2</sup> model incorporating a tactical, operational and strategic level on a short, medium and long effect time scale. The DIME model captures the main elements of national power, *Diplomacy, Information, Military, Economy*. The PMESII concept shows the interactions among the *Political, Military, Economic, Social, Informational* and *Infrastructure* domains. ASCOPE stands for *Area, Structures, Capabilities, Organizations, People* and *Events* (characteristics of civil considerations during a military campaign Intelligence Collection Requirements (ICR) are part of an Intelligence Collection Plan (ICP). ICR also stands for Information Capability Requirements – in this context they will be referred to as ICR<sup>2</sup>.

The advantage of the model presented within this paper is its modularity. We can focus on specific aspects without losing the holistic approach.<sup>4</sup> The modular construction leaves room to attach new aspects or cut existing ones to reduce complexity.

*Influence* is used as a cross discipline concept, in the same way that physics impacts many domains. New terms are also often created to describe new phenomenon. For example, “LikeWar” is used to describe the weaponization of social media (Singer and Brooking 2018). This is part of the “weaponization of everything” (Mousavizadeh 2015) and a theory of influence should be described in a framework which is capable of incorporating this. Broadly, influence relates to an effect a message, narrative, person or object can have on another’s behavior. In the context of this paper influence is bounded by the DIME/PMESII/ASCOP/ICR<sup>2</sup> dimensions.

### Starting Point

The DIME/PMESII paradigm is my starting point (Hartley III 2017).<sup>5</sup> Although “The origins of the DIME/PMESII paradigm are unclear” (Hartley 2017) and acknowledging its limitations, the DIME/PMESII model is a useful way to start such a model, reflected across many military doctrines. “Essentially, all models are wrong, but some are useful” (Box 1976). There are alternatives to DIME and PMESII. An expansion would be MIDLIFE (*Military, Informational/Intelligence, Diplomatic, Legal (Law Enforcement), Infrastructure, Finance*) as a concept of national power. Some argue, that the linear structure of the PMESII structure only reveals the “what” and not the “why” of complex systems (Hartley III 2017).

### The DIME Concept

The DIME concept groups the many instruments of power a nation state can muster into four easy to remember categories. Two categories collect the soft power instruments or levers of power: Diplomacy and Information. Diplomatic power rests on negotiations and agreements. Information power lies in gaining information from others and in controlling the information desired by others. Two categories collect the hard power instruments or levers of power: Military and Economy. Military power is an obvious component. In a broader understanding this includes also the police and other instruments/actors from the executorial power of a nation state. Economic power is also an obvious component. The idea of framing military and economic power as “hard power” instruments and diplomatic power and information power as “soft power”, however, narrows the view of the application of these instruments. “I suppose it is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail” (Maslow 1977). Maslow’s “law of the hammer” allows us to identify a cognitive bias, seeing military and economic levers as somehow ‘harder’ than diplomacy or information (Maslow 1977).

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<sup>4</sup> This was one of the goals of the influence wargaming exercise in October 2018: develop a wargaming framework specifically suited to influence

<sup>5</sup> Dean S. Hartley III also provides access to selected projects regarding tackling complex system on his website: <http://drdeanhartley.com/HartleyConsulting/hartley2.htm> last visited 17. March 2019

### The PMESII Concept

The five domains; political, military, economic, social, information and infrastructure; can be understood as part of an operational environment (Hartley III 2017). The following list (according to Hartley III) is not comprehensive. The primary components of the political domain are governance and the rule of law. The primary components of the military domain are conflict, government and security (intelligence services would be considered part of the military domain). The primary components of the economic domain are agriculture, crime, energy, finance, governmental economic actions and jobs. The primary components of the social domain are basic needs, education, health, movement and safety. The primary components of the informational domain are general information items, media, opinions and information operations. The primary components of the infrastructure domain are business infrastructure, social infrastructure, energy infrastructure, government infrastructure, transportation infrastructure and water infrastructure (Hartley III 2017).

The PMESII concept combines the domain interactions into a system and creates a framework for operational design and joint planning. The planner has a frame of reference for collaboration with inter organizational and multinational partners to determine and coordinate actions, fostering a comprehensive approach and providing a stepping stone for a Whole of Government-approach. PMESII supports the identification of Centre of Gravity (CoG) on different levels, operational CoG and strategic CoG (Hartley III 2017).

### The ASCOPE Concept

ASCOPE is used in a Counter Insurgency (COIN) environment to analyze the cultural and human environment or what is sometimes referred to as “human terrain” and encompasses areas, structures, capabilities, organization, people and events. Understanding ASCOPE is seen to identify the causes of an insurgency. It aims to provide the “who”, “what”, “when”, “where”, “why”, and “how” of the environment. By combining DIME/PMESII with ASCOPE and ICR<sup>2</sup> we hope to compensate for the limited functions of the standalone application of the PMESII concept.

| PMESII/<br>ASCOPE   | Political                                     | Military   | Economic  | Social   | Information   | Infrastructure  |
|---------------------|---|--|---|--|---|---|
| <b>Areas</b>        | District Boundary, Party affiliation areas    | Coalition/IN bases, historic ambush/ED sites                           | bazaars, shops, markets                                 | parks and Other meeting areas                    | Radio/TV/newspapers/where people gather for word-of-mouth | Irrigation networks, water tables, medical coverage           |
| <b>Structures</b>   | town halls, government offices                | police HQ Military HHQ locations                                       | banks, markets, storage facilities                      | Churches, restaurants, bars, etc.                | Cell/Radio/TV towers, print shops                         | roads, bridges, power lines, walls, dams                      |
| <b>Capabilities</b> | Dispute resolution, insurgent capabilities    | security posture, strengths and weaknesses                             | access to banks, ability to withstand natural disasters | Strength Of local national ties                  | Literacy rate, availability of media/phone service        | Ability to build/maintain roads, walls, dams)                 |
| <b>Organization</b> | Political parties and Other power brokers, UN | what units of military, police, insurgent are present                  | Banks, large land holders, big businesses               | tribes, clans, families, youth groups, NGOs/IGOS | NEWS groups, influential people who pass word             | Government ministries, construction companies                 |
| <b>People</b>       | Governors, councils, elders                   | Leaders from coalition, IN and insurgent forces                        | Bankers, landholders, merchants                         | Religious leaders, influential families          | Media owners, mullahs, heads of powerful families         | Builders, contractors, development councils                   |
| <b>Events</b>       | elections, council meetings                   | lethal/nonlethal events, loss of leadership, operations, anniversaries | drought, harvest, business open/close                   | holidays, weddings, religious days               | IO campaigns, project openings, CIVCAS events             | road/bridge construction, well digging, scheduled maintenance |

Figure 2 PMESII/ASCOPE Matrix<sup>6</sup>

### ICR as Part of an ICP

The ICP is the systematic process used by most modern armed forces and intelligence services to meet intelligence requirements through the tasking of all available resources to gather and provide pertinent information within a required time limit. The creation of a collection plan is part of the intelligence cycle.<sup>7</sup>

<sup>6</sup> Adopted from an open source planning template:

<https://www.trngcmd.marines.mil/Portals/207/Docs/wtbn/MCCMOS/Planning%20Templates%20Oct%202017.pdf?ver=2017-10-19-131249-187> last visited on 17. March 2019

<sup>7</sup> See: <https://fas.org/irp/doddir/army/fm34-2/Appa.htm> last visited on 17. March 2019

### ICR<sup>2</sup> – Information Capability Requirements

ICR<sup>2</sup> can contain different elements, being open to adding new elements. In an influence activity or wargame, we can implement Physical Destruction, Presence Posture Profile, PSYOPS, Key Leader Engagement, Cyber Operations, Electronic Warfare, Public Affairs. Kinetic effects should always be part of our consideration. A bullet through the brain disrupts a human thought pattern – literally and permanently. It is like an old fashion attack on the power grid, this does not need a sophisticated hack of an Industrial Control System (ICS) - blowing up a power generator or putting an axe through a power line will achieve the same results.

### Perception is Reality

One basic idea of the Grand Theory of Influence is “perception is reality”; this is also a leading idea of constructivism (Prawat and Floden 1994) and constructive perception (Sternberg and Mio 2007). This is the main reason why cognitive hacking works (Cybenko et al. 2002; Thompson 2004), exploiting the difference between perception and reality, or in other terms, the highlighting of similarities between perception and deeply held values and beliefs. From a classical physics point of view, an action (or event – like in ASCOPE), takes place in time and space and is the result of specific causes and leads to certain effect (in either a deterministically or probabilistically way). However, the perception from an observer is biased by her sensors (hardware and wetware (Gazzaniga et al. 2019)) and her analytical software for attributing meaning to certain events. And there is a lot that can go wrong, when a human brain tries to make sense of the world, about causes and about future effects. Usually, humans do not commit formal logical fallacies, but there are a lot of informal logical fallacies a human can commit (McCandless 2018)).

### 3. The DIME/PMESII/ASCOP/ICR<sup>2</sup> Model

#### General Description

The following model is the result of implementing an information warfare concept throughout a wargame in October 2018, featuring a whole of government approach (WoG) and reflecting on the DIME, PMESII and ASCOPE concepts. This multidimensional model can be considered as a rectangular prism with the DIME categories on the X axis, the PMESII domains on the Z and the ASCOP (**not** the E for Event) on the Y axis. This would result in a prism with  $4 \times 5 \times 5 = 100$  cubes. These cubes can have a tactical, operational or strategic “spin” (just like a quark); they are the building blocks inside a “space-time” continuum for a story or narrative.

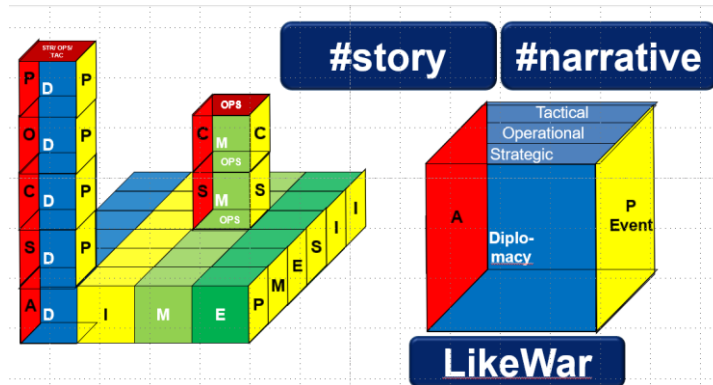


Figure 3 Prism Deconstruction into Cubes with “spin”

An event (as a result of an action) takes place in this three-dimensional analytical framework.

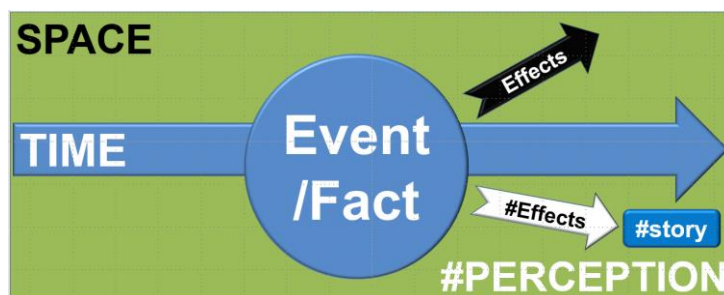


Figure 4 The Event

This event might have a strategic, operational and/or tactical effect which can be considered instantaneous, short-term mid-term or long-term. Any event might be considered as a nonlinear vector crossing through different cubes inside this rectangular prism, creating specific ICRs.

If you map this event inside the prism any domain/categories that is relevant for the event can be imagined as a point in this cube. This point can be identified in the prism according to coordinates on the axis. There are overlaps possible, creating more than one point in different categories, on the same axis. Ultimately the mapped-out points would look like an ordered network with specific nodes.

This kind of approach is demonstrated in Eric Berlow's TED Talk on "Simplifying complexity" in which he demonstrates the transformation of the COIN Afghanistan Stability Dynamics Map<sup>8</sup> into a 3D visualization<sup>9</sup>. The 2D approach is sometimes confusing for the average person, like almost any stock-flow diagram in system dynamics. The 3D rectangular prism approach provides the space to map out all the connections in 3D while reflecting the visualization that humans experience in the physical world. It is both a framework and a model.

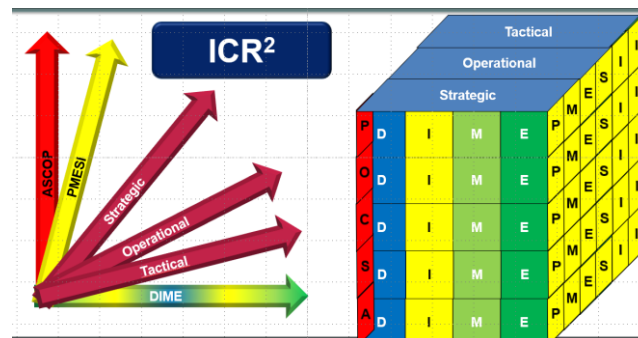


Figure 5 Complete Prism Dimensions

### The Perception Field

Humans build their opinions based on certain perceptions. Douglas Adams and Terry Pratchett toyed with this idea of humans constructing their world view based on total reinterpretation of reality. Douglas Adams famously introduced the "SEP Field" (Somebody Else Problem Field) (Adams 1982) and Terry Pratchett introduced Death as a literally skeletal Grim Reaper who humans reified into a normal person because the human mind could not endure the truth (Pratchett 2013). We are perfectly fine with optical illusions/distortions/biases, but we have difficulties in accepting cognitive biases. The Monty Hall Paradox shows a hardwired bias concerning dependent and independent probability. Humans are bad at probability and Marilyn vos Savant started a nationwide controversy in the U.S. in 1990 trying to explain this most provocative of the counterintuitive problems in her column "Ask Marilyn" (Vos Savant 1997, 1996).

There is a lot that can go wrong in communications. Based on Schulz von Thun's communication model (four sides or channels of a message/communication) (Piel 2016), a sender cannot transmit a purely factual message without also signaling about her relationship with the receiver. She also sends information about herself and may send an implicit call for action to the receiver. This is on a very fundamental level the basic principle of deterrence (D): D = Capability x Commitment x Communication (another variation: D = Capability x Resolve x Signaling). On an even higher level a narrative might have four sides: "Your Side", "My Side", "The Truth" (the reflection in mainstream media) and "What Actually Happened" (the actual truth) (Leitner and Rieger 2013).

Influence can be understood as a force that is transforming this perception field in a certain direction and pulling or pushing the "molecule" into another form with different properties. We might want to shield certain properties of this molecule and we might want to shape other parts. There are certain forces in the information field that have a specific attraction. Terry Pratchett speaks of "Narrativium", a specific element on Discworld on which humans run and that is an essential part of any story (Pratchett et al. 2000). Some stories are bound to happen and there are specific story lines and structures that have a strong attraction to the reader. For example,

<sup>8</sup> [http://www.visualcomplexity.com/VC/project\\_details.cfm?index=788&id=788&domain=](http://www.visualcomplexity.com/VC/project_details.cfm?index=788&id=788&domain=) last visited on 17. March 2019

<sup>9</sup> [https://www.ted.com/talks/eric\\_berlow\\_how\\_complexity\\_leads\\_to\\_simplicity?language=en](https://www.ted.com/talks/eric_berlow_how_complexity_leads_to_simplicity?language=en) last visited on 17. March 2019

the hero's journey (Campbell 2003) or the 'from rags to riches' trope (Al-Fahim 1998). Working along these strong attractive narrative lines of a story might grant a lot of traction in any information/influence operation.

### To SHAPE and/or to SHIELD

To demonstrate the effectiveness of this model as a proof of concept we need to be able to describe an existing event or action within this cube and we need to predict certain events, actions or effects by creating new particles. For example, a **Diplomatic** action such as a G20 summit delegation making a statement at a forum criticizing a competing nation may be matched with an **Economic** action such as a sanction, will result in an **Economic** effect impacting at the **Strategic** level impacting the **Capabilities** of the affected nation (in example in reducing their ability to access the global financial system). This particle has two DIME dimensions (D and E), one PMESII effect (E), one ASCOP aspect (C) and a strategic spin and would be just two potential cubes (**DIME/PMESII/ASCOP** and **DIME/PMESII/ASCOPE** both with a strategic spin) out of many. In addition to being two cubes in the model, these are also events, with a broader narrative and additional effects that will radiate outwards, like a stone thrown into a pond. Other cubes may be affected, perceptions may be altered, narratives might be affected. Or the stone may simply sink and add to the pond floor.

## 4. Conclusion and Future Work

The leading question of this paper is: "How would influence warfare ("iWar") work and how can we simulate it?". The model presented within this paper provides a method for structuring the problem of influence without seeking to reduce the complexity of the problem and diminish our capacity to solve difficult challenges. This model embraces complexity but provides it with structure.

This article is aimed at the HSCB community and one goal is to establish a community of academic, multinational and whole of government influence wargamer. Every reader is invited to establish contact and reach out to the authors. Our "whole of society" multinational wargaming community is already growing.

Future work includes the creation of an ordered influence network. Being modular, the expansion of this model will be tested for analytical value (in example from DIME to MIDLIFE). Benchmark for the actual usage of this modular approach will be the applicability for effect-based planning (e.g. in future all domain operations in urban terrain/mega cities). The "iWar" concept relies on actions according to "SHIELD" or "SHAPE" relevant influence inside the "narrative molecule". The authors intend to develop this approach further and apply it to a specific problem. This will happen in the preparation for the next version of the influence wargame. This work will also fuel the work of NATO Research Task Group 129 "Gamification of Cyber Defence/Resilience" in a coming workshop of All-Domain-Cyber-Wargaming in June 2019. The model will also be tested for educational and training value.

## 5. Illustrations

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