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## Propaganda's Contamination of the Decision Making Process

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### Abstract

Propaganda (PRO) is commonly understood as a one-way process originated by a group to target a larger audience, in order to orient the perception of the latter, resulting either in an opinion shift or set actions, to the advantage of the former. The present work addresses the issue represented by a cognitive and media space dominated by Traditional Media (TMD – Television Networks, Magazines and Newspapers) and Social Networks (SNS), both emitter of PRO, where a country's leadership involved in Decision Making Process (DMP) risks to take inappropriate actions due to spillage of PRO in their discourse. This because the inherent TMD/SNS easiness and pervasiveness allows a two-way process where not only the manufacturers of PRO may be influenced by their own products, but the Political Decision Maker (PDM) as well, resulting in a flawed DMP. Another consequence of the mere presence of PRO is that PDMs have to mediate constantly between the “naked reality” and a “political, desirable one”; the first sealed inside economic and social indexes in many instances hard to frame inside a narrative (NRV, a  $n$ -th derivative of PRO – understood as a way of display a situation in accordance with a certain point of view to a large audience), while the second comes as immediate as easy to understand to the most of the Public Opinion (PUO).

On this regard, capitalizing on previous works on the subject of Human Behaviour Modelling, the Authors propose a conceptual model for a Computer Simulation where PRO/NRV and DMP interacts in a dynamic form, which can give insights into the connection between Media, PUO, and DMP.

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**Keywords:** Decision Making Process; Media; Narrative; Propaganda; Simulation

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## 1. Introduction

### 1.1 On Propaganda

According to Edward Bernays, Propaganda is “...the conscious and intelligent manipulation of the organized habits and opinions of the masses” [2]; PRO is necessary for the life of the nation’s socio-political body. Jacques Ellul [10] argued that PRO is aimed not only at manipulation of opinion, but as well as at mobilizing the individual into action. Ellul, even recognizing, as Bernays did, the uttermost necessity of PRO, he is it far too much distant from the optimism of the latter, so that no one can use such tool without triggering irreversible and undesirable consequences. Bernays, Ellul and later on M. McLuhan and N. Chomsky gave a qualitative picture of the playground where PRO/NRV exercise their full influence on PUO and as well over PDM.

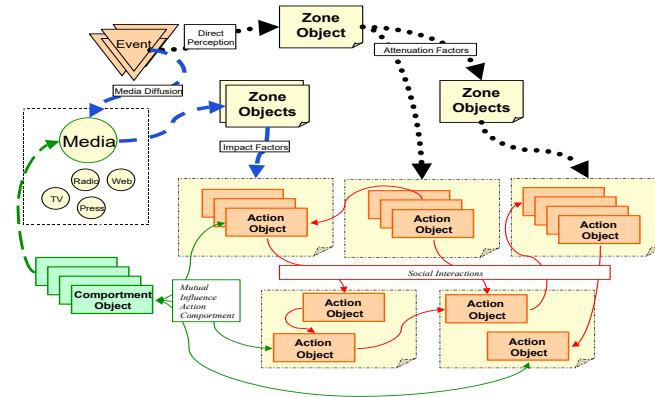


Fig. 1 Example scheme of PRO/NRV diffusion over Population & Media Channels, copyright by Simulation Team/Unige

On this specific regard, with the advent of SNS every individual, which before was almost a passive target of PRO/NRV, now, through the mean of “message forwarding” it is turned into a propagandist itself, a sort of radio relay. The path of such forwarding may be traced with the employment of social network analysis and sociograms [9]. Monica Peña [6] recognizes two different phenomena with regard to TMD, the “CNN effect” (dwindling support to a war) and the “Manufacturing of Consent” (elites control TMD/SNS and use them to create support to certain policies).

### 1.2 On Decision Making

Statistics and Computational Sciences are the privileged tools of DMP [15] since it is necessary for the PDM to get indicators, ratios, percentage, algorithms etc.; giving to PDM information and tools, he should be able to process the necessary intelligence and data, in order to extract a consistent conclusion, so that the so called “Hard Sciences” can contribute to redeem public policy from the irrationality of politics [19]. However, such “redemption” faces limit the moment we consider that DMP is an activity subjected to the bias of the Human Behavior.

The work of researching the targeted problems and propose COAs to the PDM pertain to the Government’s Bureaucracy (GOB), which possess a high degree of the so called “Human Capital”, which is “a key requirement for the establishment and maintenance of effective institutions” [13]. GOB is the complex apparatus made of ministries, departments, offices etc. with competence in economic, foreign, defense policy etc.

Now the questions arise: Why, despite the impressive amount of “Human Capital” and the quantity and quality of data and the excellent computational tools used in the process, DMP, especially at Political Level, does not match the expectations? Why PDM do not always choose the option that bring the greatest expected utility? Why PDM sticks to fruitless COA?

Among many, R.L. Leonard [11] argues that the operational tempo impressed by TMD/SNS forces PDM to take decisions and adopt the consequent policy literally “by minutes”; so phenomena that require a distinct amount of time to be properly understood are made trivial and distorted into an elementary narrative, that narrow the available policy options, backfiring into the DMP and resulting in the least expected outcomes.

Among the many answers that has been given on this subject by outstanding contributors, the authors want to offer owns, focused on disruption of DMP which derives from the fall-out of PRO/NRV and its consequent spillage into the political discourse, which may lead to the adoption of COA not consistent with the challenges. The full fall-out of PRO inside DMP is unleashed and reinforced by recursion effect, as propagandist more and more become a target of himself. PRO add further despicable effect the moment the public debate gets polarized, opinions around a matter crystallizes, and the masses are turned into football fans.

It goes without saying that PDMs, in approaching DMP, neither should rely on the information manufactured by TMD/SNS, nor get pollutant by their spin-off, PRO; however, at the same time PDMs are logically and emotionally bounded to a Narrative (NRV), a  $n$ -th derivative of PRO, because such was at the root of their successful political struggle. Their access to power was granted by the acceptance by the majority of the PUO of their NRV, which describes a set of attitudes and judgement of valor concerning economic, social and geopolitical issues.

The description of the process that governs the dynamic relations among TMD/SNS, PUO, PRO/NRV, PDM, GOB, it is framed inside a generic mathematical description, which is the precondition of its computability inside a Simulation centered around Human Behavior Modelling.



*Fig. 2 Social Network Dynamics are reproduced over several channels as PUO react to the perceived Scenario Evolution (copyright University of Genova and Simulation Team, 2016).*

## 2. Contamination of DMP by PRO/NRV

### 2.1 General framework

In our model, it is given that GOB/PDM are completely shielded from PRO/NRV produced by any adversary (those are simply regarded as “lies”), so the DMP is affected only by the own PRO/NRV. The efficiency of DMP toward the spillage of PRO/NRV may be represented, in its simplest and rough form, as a linear function ratio, where

at the numerator we have a number representing a set of rational choices, while at the denominator we have another number representing the degree of PRO/NRV intertwined with political constraints (never be “zeroized”); the bigger this ratio, the more the DMP is efficient; the lesser, the more DMP is inefficient because flawed by non-rationality. Further elaborating on the issue, we may say that given a real situation described as elements of a generic set and represented by a function  $Y$ , we can consider that the picture produced by GOB that arrives at the desk of a PDM (picture which lays at the foundation of the DMP, insofar named  $Y1$ ) - is not exactly superimposable to  $Y$ , but rather suffer of some degrees of inaccuracy, that for simplicity we may consider in a bi-dimensional space represented by:

$$Y = f(x \pm h, \pm k)$$

So  $Y1$  is the situation of the reality depicted by the GOB; the more competent GOB, the more  $Y$  is close to  $Y1$ , the more efficient (in theory) is the DMP.

A third function,  $Y2$ , is the derivative of  $Y$  operated by the TMD/SNS, which to some degree may or may not resemble  $Y1$ .

However, the reduction of TMD/SNS to a “building & maintain consensus” apparatus doesn’t allow the adoption of the policy suggested by the analysis of  $Y1$ , but rather of those adjusted to the Media NRV,  $Y2$ . When the Media NRV have degrees of discrepancy with the  $Y1$ , it superseded the PDM, obliging him to take a COA which differs from the dispassionate, rational analysis of the situation made by the bureaucratic apparatus.

Moreover, our hypothetical PDM, even though he is perfectly aware of the inconsistency, incongruity, and ultimately lack of expected results brought by the selected COA, cannot, without paying a substantial political price, set action to a different option. This calls in the game the “Escalation of Commitment to a Course of Action”, as described by B.M. Staw [18], where individual/group become locked into a costly and ineffective COA. The other option available to the PDM is a change of NRV by making it adherent to  $Y1$ , but this comes at cost of time, resources and the risk of confinement into a political “purgatory” because of loss of consensus. Even in the fictional, dystopic word depicted by George Orwell in “1984” [16] some individual like Winston Smith is still able to intercept the sense of inconsistency coming from the change of NRV.

Applying Computational Human Behavior Modelling [4,6,21], intelligent agents (IA) can be used to reproduce the interactions between interest groups and their NRV, as well as the consequences of different COAs (Courses of Actions). The proposed modeling approach considers the complex interactions among many variables and resulting as effects of the PDM decisions in a comprehensive scenario involving multiple layers (i.e. Political, Economic, Social Media).

## 2.1 The Proposed Conceptual Model of Simulation

We have represented above the efficiency of DMP in its simplest form as a linear function ratio, but inside the simulation model we may implement more sophisticated mathematical relations; in some cases, a hysteresis type of function may be preferred, which makes more relevant the permanent distortion that exists in the DMP due to the persisting spillage of PRO and its recursion in the adoption of a COA.

The use of simulation allows to obtain results in the analyses of the phenomena by recreating possible scenarios, with the goal of investigating the influence of alternative hypotheses and boundary conditions respect to scenario evolution and to evaluate different approaches. The concept that better suit this approach to simulation is “tessellation”, where each tile is able to interoperate with other ones; therefore, in adopting such approach, all the tiles need to be properly simulated. In order to solve this problem, meta-models should be adopted to cover each subject and tile in order to be always available to finalize the execution of the overall simulation [8]. Even very simplified model should be adopted when necessary to guarantee consistency, usability and maintainability of the simulation; however, how much of the simulation can rely on meta-model it is then a very critical choice, because it can affect the fidelity and the simulation.

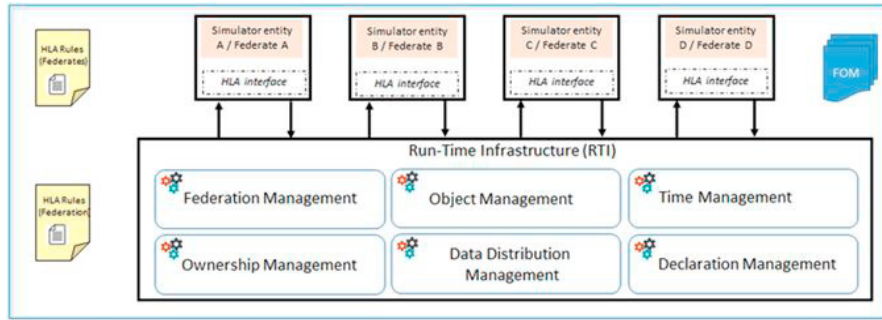


Fig. 3 A generic Simulation federation with HLA

Another crucial aspect of this approach is to guarantee the possibility to integrate also other simulators already available as well as real assets and tools already in use in DMP, in order to achieve full interoperability among them. Due to these reasons, the authors believe that the interoperability requirements are met by adopting IEEE HLA standard (High Level Architecture) [6].



Fig. 4 From Left to Right: Challenges in Modelling, Human factors fine settings, copyright University of Genova and Simulation Team, 2016

Human Behaviour Modelling (HBM) and Interoperable Simulation are an effective combination to investigate the interaction among PDM/GOB, TMD/SNS and their relevant PRO/NRV and effects on PUO and DMP; in this sense it is fundamental the use of proper models representing not just people statistics, but even their complex dynamics and social interactions at different levels. Human Behaviour Modelling through simulation is the reproduction of the Humans by using computer models. This requires to simulate aspects related to rational and non-rational thinking, psychology and sociology, as required by the specific project. The model nature is both deterministic and stochastic (variables are regulated by not known statistical phenomena by implementing pseudorandom variables).

At the core of Human Behaviour Modelling we have Intelligent Agents - Computer Generated Forces (IA-CGF), represented by units, which are interoperable set capable to be integrated in a constructive simulation. In our case they represent TMD/SNS, GOB/PDM, and the PUO; IA-CGF- Human Behaviour Modifiers are specific modules to simulate in a group fear, stress, aggressiveness, apathy, unresponsiveness etc. – those add dynamic information to the unit’s initial settings. Finally, we have IA-CGF Non-Conventional Framework in order to simulate specific events. IA-CGF are able to reproduce the population behaviour combining the influence of TMD/SNS to the PUO, so it is possible to simulate scenarios and evaluate the available COAs.

Our proposed simulation model should be able to reproduce the dynamics of population and social network reacting to the scenario evolution and different COAs with regard to:

- Population & Interest Groups
- Social Media
- TV, Magazines, Newspapers
- Layered and in multiple domains (i.e. economic, political, etc.)

It is possible to simulate population dynamic reactions to Scenario Evolution on Social Networks driven by Intelligent Agents, and as well to simulate the impact of news and other media on consensus and population reactions.

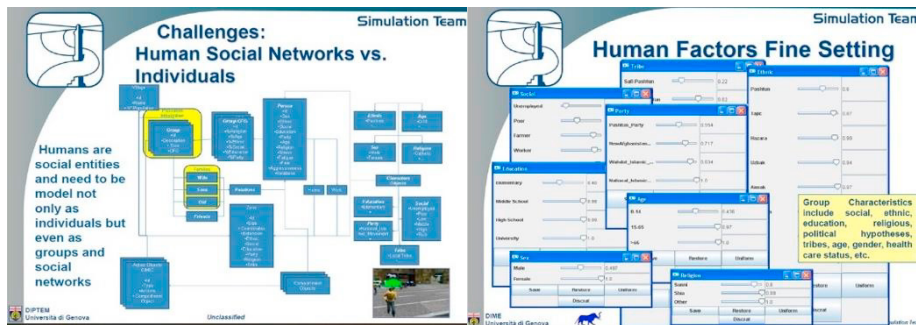


Fig. 5 From left to right; Challenges in HBM; Human Factors Setting, copyright University of Genova and Simulation Team, 2016

The Simulation Team in cooperation with the University of Genoa has been extremely active in the field of Human Behavior Modelling, developing complex simulation concerning Decision Making [3,5]. Finally, with regard to HBM, in order to get from the simulation realistic and consistent suggestions, a demanding activity of Verification and Validation (V&V) should be carried out [1,5].

## Conclusion(s)

The subject of PRO and DMP is an interesting area of research because it bridges the social to the computational sciences. The authors have proposed their understanding of the relations between PRO broadcasted by TMD/SNS and its spillage in the medium/higher echelon of GOB and PDM, as well as constraints that NRV impose in the DMP. Capitalizing on the previous works done in the field of Human Behavior Modelling, the authors proposed a model centered around the undesired effects of PRO/NRV in the DMP.

Indeed, there is still very much to investigate about the effects of PRO/NRV in the creation and consolidation of the cultural and political awareness of the individuals in modern society and how much this affect (supposed) rational actors, but unfortunately very much of such discourse is connected with judgement of value rather than judgement of facts, which in a way marks the boundary between Propaganda and Narrative/Information. However, realizing that such limit exists and that an osmosis process take place between the two above phenomena it is a progress itself, and a starting point for further development of the research in this very challenging field.

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