



Mathematical Simulation of the Activity of Debate on Formation of Interim Government as A Part of Transfer of Power from British Government to India : Part 1

KEYWORDS

Transfer of Power, Independence of India, Modelling & Simulation of thinking process, system dynamics

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ABSTRACT *The objective of the paper is to demonstrate as to how quantitative simulation of intensity of thoughts presented by members of a group holding discussion/debate/brain storming on some issue. This is based on approach proposed by Professor Sushil through his book on System Dynamics. The simulation is as regards part of the discussion which took place in the context of formation of interim government as one of the early steps which were required to be taken in the process of TRANSFER OF POWER BY BRITISH GOVERNMENT TO INDIA. The period under consideration is February 1946 to December 1946. Though, the discussion has occurred in the past the approach proposed for quantitative/mathematical simulation of thoughts proposed in this discussion is a novel concept almost being attempted for the first time as per the knowledge of the authors. Such kind of simulation may become useful from*

1.0 INTRODUCTION

In history when British Government started thinking about offering independence to India say approximately around 1942-43, lot of thinking on the part of leaders, Administrative Officers has gone into decide what way this step of giving independence to be executed. The major considerations must have remained such as (i) by what time it is to be executed (ii) to what extent the independence be given (iii) whether the socio-economic conditions are appropriate in India, Britain and in rest of the world to execute this step (iv) the extent to which the people of India individually and social group wise be satisfied (v) what should be in future socio-economic advantage to Britain immediately and in future, so on and so forth.

The persons involved in this thinking process may be at a time forming a small group, medium size group (i.e. in a meeting), a big group may be the event is a conference respectively. The discussions might have taken place at different time durations during specific time interval, the discussions might have taken place at different places, some persons might have written articles on this issue, some might have written books.

All these events i.e. participating in a meeting, or a conference or a workshop or meeting of officials are the events of exchange of thoughts. THE ISSUE HERE IS THAT THE PHENOMENON IS OF EXCHANGE OF THOUGHT AND WE WISH TO SIMULATE THIS PHENOMENON QUANTITATIVELY. This phenomenon of exchange of thought is to begin with covering the periods 1942-47. Hence, it will have to be dealt with from the point of view of such a simulation through several papers. This is the only first paper. The focus in this paper is to simulate this thought process as regards one phase of the entire phenomenon of transfer of power. This phase or aspect is formation of interim government. Even this aspect is so vast that this is presented through three papers viz. PART:1, PART:2, PART:3. The present paper is PART:1

2.0 EVOLUTION OF A CONCEPT FOR SIMULATION OF THINKING PROCESS OF INTERIM GOVERNMENT

The idea of possibility of simulation of thinking process (specifically, here the phenomenon is of thinking process or debate) is realized from the philosophy of "SYSTEMS DYNAMICS : A practical approach for Managerial Problems by Professor Sushil" [1].

Professor Sushil has demonstrated how this approach can be applied to (1) A MAN-MACHINE SYSTEM [2] and also for (2) Policy making [3], If this approach can be applied for the quantitative (or Alternatively Mathematical) simulation of the thinking process as regards POLICY MAKING, logically it can also be applied for quantitative simulation / Mathematical Modeling of phenomenon (i.e. activity) of thinking process or discussion. This is the thought which prompted the authors to arrive at a QUANTITATIVE SIMULATION OF DISCUSSION ON FORMATION OF INTERIM GOVERNMENT.

3.0 STEP WISE APPROACH FOR SUCH A SIMULATION

This approach stepwise could be enumerated as under :

Step 1 : Collection of facts as regards how the discussion towards some issue took place in the past. In order to process this information further as per the approach of SYSTEM DYNAMICS, it is better to put entire information in a tabular form to crystallize the details of thinking process/discussion.

Step 2 : Based on the details of such a table to develop a causal loop diagram [1].

Step 3 : Presentation of the causal loop diagram sequentially into (a) sub-system Diagram (b) Policy structure diagram (c) Flow Diagram Alternative to this is to form a block representation like the approach adopted for analysis of any FEEDBACK CONTROL SYSTEM [4].

Step 4 : Conversion / Presentation of FLOW DIAGRAM or block diagram presentation of discussion similar to that of FEEDBACK CONTROL SYSTEM into equations.

Step 5 : Either simulation of the EQUATIONS by DYNAMO SOFTWARE or to adopt the approach of block diagram representation of a system (off course with feed backs) and to form the equations as per this approach.

Formation of these equations is the simulation of the thought process.

4.0 SIMULATION OF DISCUSSION TOWARDS FORMATION OF INTERIM GOVERNMENT

The thinking /Discussion Process covering the period Feb. 1946 to Dec. 1946 towards formation of Interim Government is presented in Annexure-I in tabular form. Table 1 presents

these details.

ANNEXURE-1 DETAILS OF DISCUSSION TOWARDS FORMATION OF INTERIM GOVERNMENT :

Sr. No. of Event	Duration / Date of Event/Place of Event	Objective of the Event	Members of Committee/ Persons Involved	Opinions Expressed	Decisions Reached	Additional Information
1	20 Feb. 1947	Announcement regarding Transfer of Power	Cabinet mission Members	-	Announcement regarding Transfer of Power welcomed by British Government	Decision was welcomed by Congress & Muslim League
2	29 th June 1946	Cabinet Mission left India		Made recommendations regarding creation of a suitable system / Mechanisms for Transfer of Power	Made recommendations regarding creation of an Interim Inter Party Committee of Executives to frame the constitution of free India	
3	25 th June 1946		Congress Delegates		Acceptance of the Scheme	
4	7 th July 1946 Bombay		AICC		AICC verified the scheme	
5	7 th July 1946 Bombay	Decision regarding taking over presidentship of congress	Nehru		Formally took over from Azad Presidentship of Congress	
6	12 th August 1946		Wavell	Could not wait for Jinnah's prior approval	Invited Nehru to form the Interim Government	
7	Between 12 th August to 16 th 1946 August	For discussion for participation in Government	Nehru invited Jinnah	Conditions of Jinnah were not accepted by Nehru	Jinnah declined the proposal	
8	16 th August 1946	Declaration of Direct Action Day			Unlisted a fresh brief of low enders communal violence in Calcutta. Beginning of the end of any chance of a united India. Riots in Calcutta were terrible.	
9	16 th August to 15 th Sept. 1946	Continuation of Decisions reached/outcome of Calcutta event	-	-	Copycat riots in Bombay	
10	16 th August to 15 th Sept. 1946	Continuation of Decisions reached/outcome of Calcutta event	-	-	Other parts of the country Naokhali (East Bengal)	
11	16 th August to 15 th Sept. 1946	Continuation of Decisions reached/outcome of Calcutta event	-	-	Bihar India was in a continuous state of Civil War	Cabinet mission plan was still on the table. British Government did not have any alternate plan
12	24 th August 1946	Cabinet mission plan was still on the table of British Government	Wavell	Announced the plan of interim Government	Decision to be taken by Wavell shortly	
13	2 nd Sept. 1946	Decision regarding formation of interim Government	Wavell initiator Nehru consulted (likely)	Announcement of the plan for interim Government	Interim Government took office with Nehru as its hand	Muslim League stayed out

Sr. No. of Event	Duration / Date of Event/Place of Event	Objective of the Event	Members of Committee/ Persons Involved	Opinions Expressed	Decisions Reached	Additional Information
14	2 nd Sept to 15 th Oct 1946	Wavell had begun to make plans for partial withdrawal. This took most possible turn	Wavell Attlee	Wavell wanted the congress majority provinces to become independent and Muslim majority provinces to continue to be governed by the Governor General. Attlee thought it was a mad scheme. Advised Wavell to work on a political statement. Instructed Wavell to invite the League into the interim government to colour matter. Jinnah was made to agree on some compromise by Wavell & Attlee. The proposal was : Jinnah should drop his claim to have the exclusive right to nominate Muslims. However, he was given five seats in the cabinet. Congress agreed to give up the Finance Portfolio. Some congress Ministers stepped down to accommodate League ministers	On 15 th October 1946, the coalition (joint) cabinet was formed. Jinnah presently chose one Hindu Jogendranath Mandal as a Muslim League Nominee	Nehru as Prime Minister, Patel as Home Minister, Liaquat Ali as Finance minister, Rajgopalachari as Education Minister, Baldev Singh as Defence Minister
15	15 th Oct. 46 to Dec. 46		Attlee	Attlee was constantly thinking over past events as regards their repercussion on congress, Muslim League and others	Cabinet Mission Plan would not assure quick independence for India	
16	December 1946	Negotiations issue some "How to form Interim Government"	Jinnah, Nehru, Baldev Singh (Representative Sikhs), Cripps, Wavell and Attlee	Jinnah wanted a rigid scheme of zones unaltered by the coalition government (after independence). Congress wanted flexibility to change the zones. Congress knew that once they got the assembly they could change the decision If Congress were to be preconditioned congress wanted Assam out of Jinnah's clutches. Jinnah opined there should be an option to opt out after the group constitution is framed but not opt in. Comments of Cripps : Situation appears to be beyond compromise between Muslim League and Congress. British cabinet should do something yet again to break the deadlock. Conviction of Attlee: Attlee felt looking to the deadlock between Nehru and Jinnah that "DRASTIC SHIFT IN POLICY IS REQUIRED" Opinion of Wavell : He had a doubt that "INDIA COULD BE HELP BEYOND MARCH 1948 unless British were to again assist it's authority. In addition declare it's intention to stay for fifteen more years. Attlee : He had important thoughts in his mind in view of foregoing expressions of Jinnah & Nehru and inner thoughts of Cripps, Wavell that (i) Early announcement of India's independence may bring congress and the Muslim League to an agreement. (ii) If deadline by which the British would leave India might make the two rival parties viz Congress and Muslim League agree on long lasting pending agreement.	Meeting remained indecisive. The British cabinet had to do something yet again to break the deadlock.	This would assure Jinnah that ministry rights would be safe at least in zones B & C, so that Assam could opt out of zone C. Attlee thought that Wavell would not do so as the Viceroy in charge of the final GOOD BYE. He chose LORD MOUNT BATTAN to negotiate Independence of India.

5.0SIMULATION OF EVENTS BY DIAGRAMMING AIDS:

Article 4 enumerates the sixteen events during the period February 1946 to December 1946. The information is analyzed, crystallized and presented in a tabular form as shown in Table-1. Each event should now be presented in a form of a diagram. This is so because once the event is presented in a diagrammatic form it becomes very convenient to form the quantitative relationships amongst causes and effects of any phenomenon (i.e. activity/happening) [4]. The issue here is simulation of thinking process. Though the support

is taken of book of Professor Sushil [1] the diagramming aids he (i.e. Professor Sushil) proposes are to be slightly modified. Hence, a set of new diagramming aids need to be clearly made known before their implementation. Hence, the total substance under this article is presented in to two subsections viz. 5.1 Symbols of Diagrammatic Presentation of Thinking Process and 5.2 Illustration of Adoption of Symbols of Diagrammatic Presentation to most important event of meeting in London in December 1946.

5.1 Symbols of Diagrammatic Presentation of a Thinking Process or Debate or Discussion in a Meeting for Some Agenda.

These symbols are explained and presented in a tabular form given in Table -2

TABLE-2: SPECIFICATIONS OR MEANING OF SYMBOLS OF DIAGRAMMAING AIDS

Sr. No.	Symbol	Meaning	Justification
1		Proposal for some issue /issues X, Y, Z	Since the issues are at proposal stage, there is no definiteness or it is cloudy. Hence the symbol is similar to cloud is adopted.
2		This symbol in the form of a rectangle represents who are involved in the discussion. Here, it is assumed that four members A, B, C, D are involved in the discussion	
3		This is ellipse with major axis, horizontal indicates thoughts proposed by members A/B/C -----LINES represent actual thoughts proposed	Since it is actual though proposed the outline of the ellipse is a continues for firm line with a definite shape
4		This is ellipse with major axis vertical indicates thoughts come to the mind of a discussion but not presented ----- dashed lines represent thought. Since the thought is not presented/spoken the outline of the ellipse is a broken line.	Since it is a thought not proposed but actually appeared in the mind f a debater.
5		This is a trapazism indicating the views /decisions imposed on A/B/C against their wish. Though agaisnt the wish, A/B/C is made to agree. The view is indicated by ----- dashed lines.	
6		This is a circle divided in number of segments 1 more than number of participants invited in debate.	Here, there are in all 6 segments. It is assumed that 5 persons are invited in the debate viz. A, B, C, D, E. a, b, c, d, e represents the intensity of thoughts proposed by A,B,C,D,E. + sign is for thoughts supporting the proposal -ve sign is for thoughts opposing the proposal. R is the resultant effect of contribution by A,B,C,D,E.

5.2 Illustration of Adoption of Symbols of Diagrammatic Presentation to Event No. 16

The application of symbols of diagrammatic presentation of (i) issue under consideration (ii) debates invited, (iii) views expressed, (iv) emphasis of views and (v) degree to which discussion gets conducted as compared to enunciation of issue etc. in the context of Event No. 16 detailed in Table 1 is presented in Figure 1. Over and above this the mathematical/quantitative simulation of intensity of views is also stated therein. The justification for this quantitative simulation is detailed in next section.

6.0 QUANTITATIVE SIMULATION OF VIEWS EXPRESSED

In the context of event No. 16, how such a simulation is arrived at is detailed below.

Extensive discussion on the issue of how to materialize the independence to INDIA as a whole as far as possible, in the context of formation of interim government during the period Feb. 46 to Dec. 46 are enumerated through 16 events crystallized in TABLE 1 By December 46, no solution was arrived at. There was a deadlock between congress and Muslim League. Hence, perhaps it was thought that let one more meeting take place at LONDON. Hence, was this meeting. The debaters were Mohd Ali Jinnah, Baldevsingh (Representing Sikh Community), Nehru, Crips, Wavell and Attlee. Entire discussion is presented in Fig. 1 using the concept of diagrammatic presentation defined in section 5.1 of this paper.

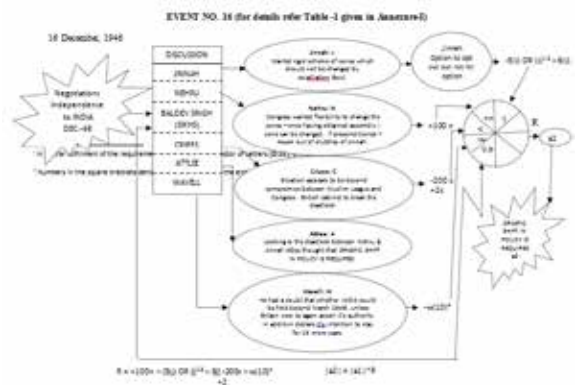


Figure 1: Presentation of Discussion at Event No. 16 with Diagrammatic Aids

Here, the issue was of negotiations regarding this shown by the calud symbol at the extreme left. Members of debate are shown in the corresponding next block. The views expressed are specified in elliptical blocks. Letters J, N, B, C, W and A stand for Jinnah, Nehru, Baldevsingh, Cripps, Wavell and Attlee respectively whereas small case j, n, b, c, w, a, i.e. j, n, b, c, w, a represent unit magnitude of intensity of thoughts presented in debate.

Mr. Jinnah has presented two thoughts described in two ellipse. These are quantified by $5j$ or $(j)^{1.3}$ and $6j$ respectively. Second view in second ellipse being little more severe than first it is quantified as $6j$ a quantity greater than $5j$. The first thought of Jinnah can be quantified either by $5j$ or $(j)^{1.3}$, these are mathematically identical at least for the range of j from 4 to 7. The signs for $5j$ & $6j$ are negative because Mr. Jinnah has remained strongly negative to the proposal of British Government of formation of interim government. As against this Mr. Nehru is very positive, well compromising with British government hence his views are quantified as $100n$ with a positive sign. Looking to the views of Cripps, he appears to be fairly diplomatic and rather opposite to general concession of British Government. Hence, in this regard his views are quantified by $-200c$ whereas in a very little respect his views are aligned with British Government. Hence, the other view is simulated by $+2c$. Hence, the resultant view of Cripps is $-200c + 2c$. However, we will not represent it by $-198c$ because this single value $-198c$ does not properly represent mixture of two views one is fairly negative whereas the other is slightly positive. The views of Wavell are highly negative as described in the respective ellipse. Hence, these are collectively represented by $-w(10)^4$.

Mr. Baldevsingh has practically remained silent hence his contribution is virtually zero, presented by numerical figure 0.

The resultant opinion of these five debaters is represented by a summing block a circle with segments as it is normally done in Science & Engineering. The resultant view is represented by symbol R. The quantification of this R can be deduced to be as under in Equation (I)

$$R = + 100n - \{5j \text{ OR } (j)^{1.3} + 6j\} - 200c - w(10)^4 - 0 \dots\dots\dots (I)$$

$$+ 2c$$

This resultant view is the basis on which Mr. Attlee did his thinking represented by $a1$ in an Ellipse to which R is the input, whereas $a2$ his final decision is the effect. Mr. Attlee finally concluded that "DRASTIC SHIFT IN BRITISH GOVERNMENT POLICY IS REQUIRED". This is quantified by symbol $a2$. This $a2$ is nothing but his decision that Wavell is not effective as a viceroy, MOUNTBATTEN be brought to INDIA to resolve the whole issue. $a2$ can be correlated with $a1$ by R. Hence another quantitative relationship could be

$$|a2| = R |a1| \dots\dots\dots (II)$$

7.0 MAJOR LIMITATION OF THIS PAPER

The way in which quantitative simulation is done for event No. 16, it should be done for all the events listed in Table 1. Though it is possible, it is not presented in this paper because otherwise the paper would become too lengthy. However, this detailing is planned as the main matter of the adjunct a paper.

The main objective of this paper is confirming feasibility of quantitative simulation of any BRAIN STORMING ACTIVITY/DEBATE/DISCUSSION. This has been realized to a faire degree though based on some approximations OR oversimplifying assumptions. Such a situation of making over simplifying assumptions has always remained in the past in the

case of some Engineering/Scientific investigations of one of the authors of this paper [3]. Whenever the first attempt towards analysis and simulation of a very strange & complex phenomena is made in the History of Growth of knowledge, over simplifying assumptions are always made. In view of this perspective authors of this paper feel that completely confident and justified that some new knowledge growth is being done in a new direction of knowledge growth through this paper. Of course, as stated earlier in a way similar treatment has been followed towards MANAGERIAL DECISION MAKING PROCESS and well documented by Professor Sushil [1]. In fact, from that knowledge source that the main idea of developing present paper is realized.

In view of possibility of very big length of the paper, if this treatment for all events presented in Table 1 is implemented; that the application of this concept of possibility/feasibility of establishing mathematical simulation of Discussion/Debate/Brain storming activity only for one most important event no. 16 is decided to be considered in this paper. THIS IS THE MAJOR LIMITATION OF THIS PAPER.

8.0 POSSIBILITY OF ADOPTION OF FUZZY LOGIC APPROACH

Article 6.0 has detailed how an intensity of any thought presented by a member of the group of discussion can be numerically quantified. Main essence of this quantification as reader would guess is mainly based on the relative intensity of thoughts presented by others. It is in this respect that there is obviously a FUZZY LOGIC [5] OR UNCERTAINTY OR RANDOMNESS involved in such simulation of assessment of intensity of thoughts. If this is accepted, alternative approach of FUZZY LOGIC MODELING and it's associated subset FUZZY LOGIC BASED CONTROLLER DESIGN AND IT'S INCORPORATION IN A SYSTEM IS ALSO WORTH TRYING IN FUTURE. In view of this argument of resemblance of proposed approach in this paper and well accepted approach of FUZZY LOGIC authors have a strong feeling that this alternative approach to FUZZY LOGIC may precipitate some useful ideas as regards Simulation Modelling of COMPLEX/RANDOM/CHAOTIC societal Phenomenon in future.

9.0 CONCLUSION:

Paper reports on a methodology of quantitative simulation alternatively Mathematical Modeling of intensity of thoughts proposed by members of group holding debate or discussion on some issue. The methodology adopted is similar to the one adopted in SYSTEMS DYNAMICS OR CYBERNETICS. Alternatively, FUZZY LOGIC APPROACH can also be adopted as there is some amount of fuzziness involved in quantification of intensity of thoughts.

Some more papers in this direction are likely to be contributed in future.

Acknowledgements: This paper is based on the partial fulfillment of the requirements of the Degree of Doctor of Letters (D.Lit), This may please be printed as a footnote at the end of the matter of first page of the paper as indicated below

"In partial fulfillment of the requirements of the degree of Doctor of Letters (D.Lit.) of first author"

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