How Our Intuitive Sense of Candidate Problem Solving Ability Impacts U.S. Presidential Elections

Executive Summary

The American electorate intuitively senses the phenomenon of complexity of mental processing (CIP) in political candidates. Without exception, American voters elected the presidential candidate with higher CIP, or current potential, in the cases studied. When current potential proved equal, the candidate with higher future potential (the younger of the two) emerged victorious. When current potential and future potential were even, as was the case of Bush versus Gore, 2000, the closest vote in election history resulted.

Just What is CIP?

Human ability to make decisions and solve problems is dependent upon one's capacity to organize, group and extrapolate information. As one matures in the ability to process information, s/he becomes capable of solving increasingly complex issues. As a child, you might grapple with how to make a peanut butter and jelly sandwich. As a new parent, you might create a financial plan, which will culminate in your ability to fund your child's college education. As a world leader, you might undertake an effort to eradicate global hunger. The solutions to these three problems range from fairly simple and short term to multifaceted and, perhaps, multigenerational.

Complexity of information processing (CIP) is the term*, which describes any given person's current level of problem solving capability. We sense it intuitively as we interact with others. Their current level relative to ours determines whether we are awed by their "cleverness", or whether they are awed by ours. Others may have more knowledge or more passion regarding a certain subject, but their ability to deploy that knowledge and passion is bounded by their CIP.

When electing national leaders, American voters are naturally attracted to the one who exhibits a higher level of problem solving capability. Anecdotal evidence points to the fact that the 2000 vice presidential candidates, Lieberman and Cheney, both exhibited higher CIP than Bush and Gore. After the vice presidential debate, many implied that these men, rather than Bush and Gore, should be running for president. This, once again, points to our intuitive ability to sense CIP.

CIP's Impact on Organizational Effectiveness

PeopleFit founder and president, Glenn Mehltretter, contributed to the research reported upon in this article. PeopleFit applies the concept of CIP to improving organizational effectiveness by properly matching people to jobs that match their CIP. Mismatching results in "systematically disabled" employees; those made incapable by virtue of poor placement rather than actual incompetence. Our research shows that an average of 35% of employees are mismatched to their jobs resulting in enormous untapped potential. PeopleFit's Talent Pool Evaluation process helps your management team quickly pinpoint untapped potential so that you might fully deploy your organization's human resources.

About the Author

Dr. Alison Brause serves in the capacity of community organizer, group facilitator, research specialist, instructor and fund raiser to make changes at the individual, group, organization and community level. She has worked with corporations, public organizations, police departments, farm workers, the deaf, and the mentally retarded. Dr. Brause is a former Associate with the Requisite Organization International Institute, established to support work on human and organizational development begun by Elliott Jaques. Dr. Brause has used this system in a major organization to help the CEO assess the firm's talent and has taught this model at the University of Texas at Austin and St. Edwards University. She has conducted workshops on Jaques' model for local businesses and state organizations. Her life work is to provide the support necessary to help people become the essence of who they are and to develop organizational structures that allow people to be the best they can be.

* The attached article, originally published in 2001, uses the term CMP or complexity of mental processes. This term has since been renamed CIP or Complexity of Information Processing.

SUMMARY OF AN INVESTIGATION OF PRESIDENTIAL ELECTIONS USING THE JAQUES/CASON CONSTRUCT OF MENTAL COMPLEXITY

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Imagine a nation in which all citizens were able, given enough encounters, to evaluate the level of potential capability of each and every one of the candidates running for election in political campaigns, by observing the way different individual candidates approach problem-solving under the pressure of spontaneous political debate. For example, on television. It is true, of course, that we all now make such judgements of each other. But we cannot do so in a confident way. Nor are we able to articulate these judgements in a manner that can be meaningfully shared with others using some common concepts and language for doing so. Up until now, with one exception, no such concepts and language have existed. The exception is work that has been carried out as research consultancy while assisting CEOs to create more effective managerial organizations using Elliott Jaques' theory of Requisite Organization. This work was reported in the book Human Capability: A Study of Individual Potential and Its Application, E. Jaques and K. Cason, 1994 Cason Hall & Co Publishers.

This current study was conducted to explore the possibility that mental complexity is a factor in the election of Presidents of the United States. The mental complexity of candidates for eight U.S. Presidential elections was assessed using the Jaques/Cason model of Complexity of Mental Processing, a model for observing the way in which information is processed. Complexity of Mental Processing is determined by identifying patterns during the presentation of an argument or position in which a subject is fully engaged in the process.

Complexity of Mental Process level is defined by Jaques/Cason as "The maximum scale and complexity of the world that you are able to pattern and construct and function in, including the amount and complexity of information that must be processed in doing so," (Jaques' 1996). Examining the way arguments are constructed and the information that is used in those arguments we are now able to assess these Mental Processing levels.

Complexity of Mental Processing was discovered while investigating levels of work in managerial hierarchical organizations. Jaques had found specific well-defined levels of work complexity in organizations, which he called strata. This work has been reported as Stratified Systems Theory, (Jaques 1976). In a subsequent study, Jaques and Cason found that there was a correspondence between these strata of work complexity and the complexity of mental processing required to operate effectively in a role in a particular strata in an organization.

Although the original work was done on managerial hierarchies, the Complexity of Mental processing model is appropriate for analyzing any argument/debate of a position. This study examined the hypotheses that Complexity of Mental Processing levels would be important in political process and are most evident in selecting an American President every four years.

COMPLEXITY OF MENTAL PROCESSING MODEL

The Complexity of Mental Processing Model is composed of two components: Orders of Information Complexity and Mental Processes. Orders of Information Complexity indicate the kind of information that is used – the "what" of the argument. It is the level of complexity of the information itself. Mental Processes indicate the way in which that information is put together

for the argument. Mental Processes are the "how" of the argument and are recursive for each Order of Information Complexity. (See Figure 1)

Orders Of Information Complexity	Mental Processes
Universal	Parallel Processing Serial Processing Cumulative Processing Declarative
Conceptual Abstract	Parallel Processing Serial Processing Cumulative Processing Declarative
Classes	Parallel Processing Serial Processing Cumulative Processing Declarative
Specifics	Parallel Processing Serial Processing Cumulative Processing Declarative
Specifics Explanatory Gesture	Parallel Processing Serial Processing Cumulative Processing Declarative

Figure 1

Extracted from Human Capability, Jaques & Cason, Cason Hall & Co. 1994, used with Permission.

ORDERS OF INFORMATION COMPLEXITY

While Jaques has identified five Orders of Information Complexity, only two Orders of Information Complexity were applicable to this study, Classes and Conceptual Abstract. Most adults use information that is expressed at the Classes level. Classes level information is expressed using words as symbols to refer to concrete objects which are not present in the environment. Consider the way in which the term "cars" is used in the following example: "There are too many cars on the highways." The term "cars" used in this context is information expressed at the Classes level. The word "cars" is used as a symbol to refer to tangible entities, namely vehicles that are not physically present in the environment.

Information is expressed at the Conceptual Abstract level when language is more than one step removed from an entity. Thus words and thoughts refer to other words and thoughts. Consider the way in which the term "inflation" is used, as defined by the 1998 Edition of the Oxford Dictionary: inflation is "a general increase in prices and fall in purchasing value of money." The word "inflation" refers to a relationship between two variables, price increase and purchasing value. The word inflation as used here, is more than one step removed from an entity.

It is important to recognize that to determine the Order of Information Complexity in which an argument would be classified, the context in which the language is situated is critical to the analysis. Thus, language that would normally be considered Conceptual Abstract might be

used as a Class, and what is thought to be a Class might actually be used at the Conceptual Abstract level.

For example, inflation, which is defined above at the Conceptual Abstract level, can be used as a Class. The following is an example of inflation being equated with the price of gas. "There has been an inflation in the price of gas, which has gone up from $0.80 to $1.50 a gallon." In this context, inflation is a word used as a symbol to refer to a tangible entity, that is, the price of gas. Therefore in this context inflation is being used only as a Class. Thus, words or word combinations that are defined abstractly may be used by individuals operating at the Classes level, simply by concretizing the concept.

MENTAL PROCESSES

The four mental processes are declarative processing, cumulative processing, serial processing, and parallel processing. These mental processes are recursive, occurring at higher and higher levels of Orders of Information Complexity. In an argument, declarative processors use a set of unrelated elements (A, B, C) to support their position. Cumulative processors use an accumulation of elements (A + B + C) to support their position. Serial processors use cause and effect (A → B → C) to support their position. And, parallel processors use two or more serial arguments that are interlinked to support their position. (See Figure 2)

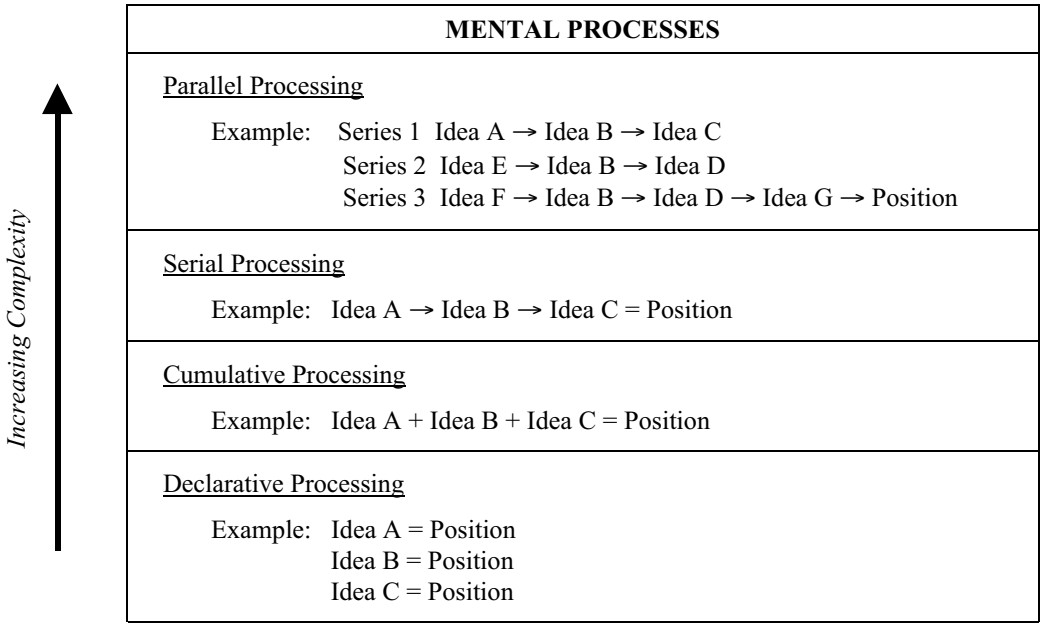

Figure 2

Consider an example of how a position would be argued using each of the mental processes at the Classes level. The elements used in the argument are the following: reasonable price, good gas mileage, availability of repair, repair costs, and future costs. The position to be supported in each of the arguments is "A Toyota is an economical car to buy."

An example of a declarative argument:

A Toyota is an economical car to buy. It is not too expensive. Repair costs are reasonable. It gets good gas mileage. Most mechanics know how to repair it.
(Idea A, Idea B, Idea C)

An example of a cumulative argument:

A Toyota is an economical car to buy for several reasons. It doesn't cost a lot to buy and it doesn't cost a lot to repair. It gets good gas mileage and most mechanics know how to repair a Toyota. It is when I take all of these reasons together that I believe a Toyota is economical.
(Idea A + Idea B + Idea C)

An example of a serial argument is:

A Toyota is an economical car to buy. It doesn't cost a lot to buy. It gets good gas mileage. And if it breaks, then you take it to most mechanics. Because a lot of mechanics can work on a Toyota, you can shop around for a mechanic whose charges are reasonable. And consequently, you can keep repair costs low.
(Idea A → Idea B → Idea C)

An example of a parallel argument is:

A Toyota is an economical car to buy. If you decide to buy a new car and you visit car dealerships, then you will find out that Toyotas are reasonably priced and low cost when compared with other vehicles. If you take gas mileage into account when considering cost, then not only is the initial price of the Toyota low, but your future costs are low as well, making the overall cost of the vehicle very inexpensive. The other factor to consider when buying a car is repair cost. Repair costs, like gas mileage effect future costs. If the Toyota should break you can take it to most mechanics. Because a lot of mechanics can work on a Toyota, you can shop around for a mechanic whose charges are reasonable. Consequently repair costs are low. And thus, your future costs are low. In summary, a Toyota is an economical car to buy because they are reasonably priced, they get good gas mileage and most mechanics can work on them keeping future costs low.
(Series 1 ~ Series 2 ~ Series 3)

(Again, note Figure 2. The letters represent the elements in the argument.)
The above arguments follow the formulas outlined in Figure 2.

ASSESSMENT OF COMPLEXITY OF MENTAL PROCESS

The purpose of this study was to identify the highest Complexity of Mental Processing level for each presidential candidate. To obtain the highest Complexity of Mental Processing level, a person must be engrossed in argument in favor of a particular point of view. Since the lectures and speeches delivered by presidential candidates are pre-prepared for a particular audience, they are not a good source of data for identifying the highest Complexity of Mental Processing level. The format that provides the most candid arguments by candidates is the

presidential debates. By analyzing the presidential debate transcripts the author identified the highest Complexity of Mental Processing level used by each candidate at that time.

The Complexity of Mental Processing level is assessed purely by identifying the way in which the argument is constructed. Complexity of Mental Processing level is not determined by the position taken by the candidate, the logic displayed by the candidate, or the facts used by the candidate. Two candidates may have completely different presentation styles and political philosophy and still exhibit the same Complexity of Mental Processing level.

PRESIDENTIAL DEBATES

A total of 29 debates, over 888 pages of transcription, were analyzed from the eight presidential election debates. The total number of debates and pages of debate transcripts examined per presidential candidate is shown in the chart (Figure 3) below.

Debate Transcripts per Presidential Candidates

Presidential Candidate	No. of Debates in which Candidate Participated	No. of Pages of Debate Transcripts Per Candidate
Bush, George	3	136
Bush, George W.	3	110
Carter, Jimmy	4	87
Clinton, Bill	4	140
Dole, Bob	2	43
Douglas, Stephen A.	7	361
Dukakis, Michael	2	39
Ford, Gerald	3	63
Gore, Albert	3	110
Kennedy, John F.	4	97
Lincoln, Abraham	7	361
Nixon, Richard	4	97
Reagan, Ronald	2	40

Figure 3

ANALYSIS

Using the Jaques/Cason model of Complexity of Mental Processing, eight elections were examined. Transcripts from presidential debates were analyzed to determine each presidential candidate's Complexity of Mental Processing level. The transcripts of the debates were reviewed first to get the overall context of the way the candidate used language. In the second reading, attention was focused on the Orders of Information Complexity and the Mental Processes used. An assessment was made as to the highest Complexity of Mental Processing displayed by the candidate. This assessment was made using the debate in its entirety, since considering only segments of the debate may give an invalid assessment. The third reading was used to validate the assessment made in the second reading.

RESULTS

In seven of the eight elections analyzed, the candidates who were members of a major party and who demonstrated the highest Complexity of Mental Processing levels in the debates won the election. (See Figure 4)

There were two elections, in which the candidates had the same current levels of complexity of mental processing, but there were great differences in age. Cason and Jaques have shown that with such differences, the younger will mature to higher levels of complexity in the future, and that signs of this future complexity manifest themselves in the present.

In 1976, Carter and Ford each exhibited the same Complexity of Mental Processing level in the presidential debates. Carter won that election, and being 11 years younger than Ford, thus would have the higher future complexity. In 1992 Clinton and Bush each exhibited the same Complexity of Mental Processing level in the presidential debates. Clinton, 24 years younger than Bush, won that election, and would have the higher future complexity.

In the remaining election, the candidates demonstrated the same Complexity of Mental Processing level in presidential debates, with almost no age difference. It is striking that this election, in which the two candidates were judged to be equal – both in terms of current and future complexity – is the year 2000 race between George W. Bush and Al Gore!

Complexity of Mental Processing Level (CMP) and Election Results

Election Year	Major Party Candidates		Winner	Candidate with Highest CMP Won
1858	**Lincoln, Abraham** Conceptual Abstract Cumulative Processing	**Douglas, Stephen A.** Conceptual Abstract Declarative Processing	**Lincoln**	**yes**
1960	**Kennedy, John F**. Conceptual Abstract Serial Processing	**Nixon, Richard** Conceptual Abstract Cumulative Processing	**Kennedy**	**yes**
1976	**Carter, Jimmy** Conceptual Abstract DeclarativeProcessing	**Ford, Gerald** Conceptual Abstract Declarative Processing	**Carter**	**same CMP***
1980	**Reagan, Ronald** Conceptual Abstract Serial Processing	**Carter, Jimmy** Conceptual Abstract Declarative Processing	**Reagan**	**yes**
1988	**Bush, George** Conceptual Abstract Cumulative Processing	**Dukakis, Michael** Conceptual Abstract Declarative Processing	**Bush**	**yes**
1992	**Clinton, Bill** Conceptual Abstract Cumulative Processing	**Bush, George** Conceptual Abstract Cumulative Processing	**Clinton**	**same CMP***
1996	**Clinton, Bill** Conceptual Abstract Cumulative Processing	**Dole, Bob** Conceptual Abstract Declarative Processing	**Clinton**	**yes**
2000	**Bush, George W**. Conceptual Abstract Cumulative Processing	**Gore, Albert** Conceptual Abstract Cumulative Processing	**Bush**	**same CMP**

**Competing candidates demonstrated the same Complexity of Mental Processing level in the presidential debates. However, there was a significant age difference between the candidates in these races.*

Figure 4

CONCLUSIONS

This study assumed that one important way that voters may distinguish between presidential candidates is their intuitive judgement of each candidate's complexity of mental processing as manifested in transcripts from the presidential debates. In seven out of the eight elections studied, the candidate who exhibited a higher Complexity of Mental Processing level in the presidential debates was elected.

Given the two elections – Carter and Ford in 1976, and Clinton and Bush in 1992 – in which the candidates had the same current levels of complexity of mental processing, but the winners were 11 and 24 years younger, respectively, it appears that voters recognize the higher potential capability in the younger candidate.

In the year 2000 election, Bush and Gore exhibited the same Complexity of Mental Processing levels in the debates, and there is only a two-year difference in age between the two candidates, thus indicating no difference in future complexity. If Complexity of Mental Processing level were a major factor in presidential elections, as this study indicates, and voters could not intuitively distinguish between the candidates, then the Gore/Bush election would be expected to be a close race. In fact the race has been so close that judicial intervention is needed to interpret the intent of the voters. Using their displayed levels of complexity during the debates, neither candidate would be recognized as having greater potential capability than the other.

Is Complexity of Mental Processing level an important factor in an election? In this study, the data provide a clear answer – YES. In all elections studied, despite marked differences in outlook, experience, and other factors, when there was one presidential candidate who exhibited a higher Complexity of Mental Processing level than his opponent, that candidate was elected President of the United States.

REFERENCES

Brause, Alison (2000). *An Investigation of Presidential Elections Using Jaques' Construct of Mental Complexity*. Unpublished Doctoral Dissertation, University of Texas, Austin.

Commission on Presidential Debates (http://www.debates.org/pages/trans96b.html)

Congressional Quarterly's Weekly. January 18, 1997, pp. 185-188

Jaques, Elliott (1996). Requisite Organization. Cason Hall Publishers.

Jaques, E., and K. Cason. (1994). Human Capability. Cason Hall Publishers.

