

Requisite Leadership Theory:

***An Annotated Research Bibliography
on Elliott Jaques, Including:
Requisite Organization -
The Glacier Project -
Stratified Systems Theory -
Time-Span of Discretion -
Levels of Mental Complexity -
Complexity of Information Processing -
The Quality of Labor -
The Mid-Life Crisis -
and Psychoanalysis
(covering 1942-2002)***

by

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PART I.

INTRODUCTION

This Bibliography is in two parts because it grew too big. Part I is an Introduction to Elliott Jaques, to requisite organization theory, and to the bibliography itself. It provides a context for the articles and books in Part II and shows why this theory is so important and so expansive. I have also tried to point out some of the features of its future development. The second half of Part I consists of lists and groupings of the works in Part II. Some were published as part of a series. Others I have brought together to show their substance as a body of knowledge or to show their power, such as replication studies and cases.

Part II is the Bibliography itself. It is designed with keywords to be as flexible and searchable as I could make it. Today this is a substantial body of knowledge that reveals a coherent theory of great explanatory power and offers methods for significantly improving organizations. A lot of work has been done on it and a lot more beckons. The Bibliography has been arranged by type of material. The second half of the Bibliography consists of the doctoral dissertations and theses that have been done on it or are related to it. Each section of dissertations has its own short introductory essay. This bibliography replaces one prepared by Alison Brause in 1996.

As you follow your own trail of research into this material you will begin to sense the dynamics that have been surrounding this theory for half a century, its power, and why it is resisted. I believe this theory is fundamental to the future of organization studies.

(Part I fn: 1-Crad-Biblio-I-Intro)

(Part II fn: 1-Crad-Biblio-II-Biblio)

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INTRODUCTION TO THE BIBLIOGRAPHY

This bibliography is focused on the organization theory developed by Elliott Jaques during the second half of the twentieth century and into the twenty-first. One purpose is to answer several of the objections that have been put forth to justify rejecting the theory. Some people have claimed there is little supporting research to validate it. There are over 1500 items here on the theory, including over 150 peer-reviewed journal articles, which confirms a research base of a substantial size and a coherence that will allow cumulative additions. Included also are works on the methodologies and experiments that gave rise to the theory as well as studies to validate its hypotheses. Much of this bibliography was compiled from the bibliographies of the fifty-three Ph.D. dissertations done on the theory and should provide a source for future research.

Jaques (pronounced 'Jacks') has given this theory several names as it developed through different stages. In the UK, where Jaques began his research, it was variously known as time-span of discretion (TSD), equitable payment, levels-of-work (LoW), and the Glacier Project. The theory later was known in Australia, United States, Canada and Argentina as stratified systems theory (SST) and requisite organization (RO).

Jaques is known for three discoveries. In 1951 he developed the idea of corporate culture in his Harvard Ph.D. dissertation, which was published later that year. In 1965 he discovered the "midlife crisis." This too was published immediately. Both of these concepts have entered into popular usage. Jaques' organization theory was initially classified as a version of "equity theory." In 1961 two authors wrote books on how a feeling of equity over pay influenced the behavior of employees. They were George Homans and Elliott Jaques. Between 1962 and 1965 another researcher, Stacey Adams, wrote a series of papers to define this theory so as to make it operational. Most academic researchers have since followed the Adams formulation because it allowed for the measurement of inputs, outputs, comparisons, and behaviors. In the late 1960s equity theory came under relentless attack and was abandoned by most academics. But the alternatives proposed by these academics collapsed by the early the 1980s. Additional evidence has accumulated in support of equity theory since then and has restored it. (Warning: There is a seething cauldron of struggle - deception, reputation, power, misprision, and "purposes mistook/Fall'n on the inventors heads" - beneath the placid surface of this bibliography.)

Over the past half-century Jaques' theory has been developed into a comprehensive theory of organization. It now goes well beyond equity pay theory and encompasses organization structure (micro, macro and meso), cognitive complexity, managerial leadership practices, role relationships, the quality of labor, task complexity, the effort-wage bargain, managerial development and succession planning, aggregation of information, decision support, CEO selection, strategic planning, organization transformation, and firm mission.

Structure

This bibliography is in four sections: publications on the theory; Ph.D. dissertations on the theory; some series, lists and charts; and sources for further research. It is designed to be used with the computer. The intended audiences are - academic researchers, business professionals, students, and journalists. My emphasis has been to show the body of knowledge here and its interconnections more than to focus on each study by itself. Thus, I have tended to enter cross-references rather than full descriptions of each study. (Some people will find this less helpful for their purposes. I will try to remedy this in future versions.) However, this is not a bibliometric study, a study of bibliographies. No way. This is a bibliography. (So use it.)

The first section is in three parts: academic books, articles and chapters; non-print media, and; miscellaneous items. These parts do not reflect academic disciplines but the type of material. In the main academic part no distinction was made between journal articles, book chapters, and books. The entries are alphabetical by - author, date, and title. (Works having multiple authors are listed under the first author. I have double-listed a work when the second author is well-known.) Most entries have annotations that include keywords, to help you find, sort and select items according to your individual research interest. These keywords can be used as cross-references. (Use word roots for searches [e.g. nurs- for nursing, nurses].) Please let me know of any suggestions you have for improvement.

When selecting items for inclusion here, I tried to be comprehensive, the whole haystack related to Jaques and the theory. I leave it to you to decide what to use, what to disregard, and how to use your selections. However, a list only of titles and authors would not give the reader enough guidance through the variety of literature. Therefore, the entries are annotated to show what items cross-link to which other items. These annotations should reduce the false starts and stumbling around in the research underbrush. They should help you identify which readings are likely to be of direct relevance to your research question.

Some annotations include my own observations and biases. I hope these are clear enough to be self-evident. (For example, I do not admire Taylor or Taylorism and I believe there is a theoretical link between Jaques and Deming.) I would hardly have taken the time to pull together this bibliography if I did not have strong feelings about the deficiencies of current writing and research on management and organization.

I have been able to locate and read the vast majority of the items in this bibliography. If an item had been cited by another researcher, I was strongly motivated to include it, even when I was unable to find it. If an item is annotated, I have looked it over well enough to describe it. If it does NOT have any annotation, either it is obviously about the theory (say, by Jaques or Brown) or else I have not read it. If I have not read it, I have usually noted that. (If you publish something on this theory, please send in a copy of it, including your bibliography. This bibliography is inter-active and will be updated periodically. I hope it will never be "finished.")

Sustained searches were conducted at the libraries of Columbia University and at the New York Public Library research branches. I have conducted research via internet databases in

English and many countries were covered. My effort on the years before 1980 is far from complete, especially on newspapers and non-academic magazines. I have some items from Australia, Argentina and The Netherlands. Books on the theory have been translated into Spanish, French, Japanese, Italian, and Swedish. I have only a few citations in other languages, except for Spanish - and most of these are from Argentina. (The word for the language is in each description. You can search on "Spanish" to find all of the articles, books, etc., in Spanish.)

Sources

This bibliography is largely based on the bibliographies of: (1) Cason Hall & Company compiled by Alison Brause, (2) the Ph.D. dissertations on the theory, (3) other books and journal articles written about the theory, and (4) general literature on management and organization.

1. The 1996 bibliography at the Cason Hall website was the 'official' one since this is Jaques' publisher. The citations of Jaques' work fill two and a half of the four packed pages of this bibliography. This is an excellent place to start, but the tight focus on Jaques omits the intellectual context of the theory, its scope and implications.
2. Each dissertation and thesis has had its own bibliography. If all were in one discipline (say business) the bibliographies would overlap heavily. But since the academic subjects of these dissertations ranged across many disciplines, these bibliographies have greatly increased the size and scope of this bibliography.
3. Three books on this theory had exceptionally extensive bibliographies, which mostly have been incorporated into this bibliography. These were by Jerry Gray (US and Canada, 1976), Ralph Rowbottom (UK, 1977), and John Evans (UK, 1979). Gray, currently Dean of the I. H. Asper School of Business at the U. of Manitoba, attempted to include all the material relevant to the Glacier Project at that time. His book included several previously unpublished articles from the research at Berkeley and at Southern Illinois University in the late 1960s and early 1970s. Rowbottom's book was on social analysis, as was his bibliography. He also had a good bibliography in his 1973 book on hospitals (largely based on his dissertation). He and Billis have listed a number of British government publications at chapter ends in their 1987 book (esp. p. 154). Evans' effort was altogether different in focus. Evans attempted to identify all supporting research for the theory and he placed special weight on the supportive findings of those who had never heard of Jaques or the Glacier Project. His end-of-chapter footnotes were enormously enlightening and full of fascinating references. These three bibliographies on their own are worth a look.

Phillips and Hunt (1992) have an excellent bibliography. The thrust of their book was to tie this theory into the mainstream academic dialogue in organization theory. The bibliography contains a good deal of mainstream materials and is excellent in its own right. I included many items here but the selection was tough.

Zaccaro (1998) prepared a specialized annotated bibliography on senior leadership research supported by the US Army Research Institute for the Behavioral and Social Sciences (ARI). I have not incorporated Zaccaro's bibliography since it was very wide-ranging and since many ARI items were included here already.

4. I searched in CLIO (Columbia University), CatNyp (New York Public Library), Brunel Library (UK) and other university libraries. Keywords were searched in JSTOR, ABI Inform, Dow Jones, WorldCat/ ArticleFirst, Eureka, SSCI, and research data bases on the Internet to pinpoint articles related to the theory. These searchable databases are being expanded constantly. If another set of searches is conducted next year, I have every faith more items will be identified in newly added journals and volumes. (A few items herein look related but are irrelevant. Because they repeatedly showed up in computer searches, I decided weeding out this flotsam would create more confusion for you as user in the long run. They were included but with an appropriate note warning of their uselessness.) I have also cited a few contemporary mainstream works on organization and management to place the theory in context or to show how this theory contrasts with them. Most journals in JSTOR have blackout period of five years, so there are no citations from them since 1996. I penetrated this blackout period via searches in ArticleFirst but the results are far from complete. This means you will have to search through recent issues by hand.

Other Types of Material

Included are several short sections separate from the main academic section. One contains book reviews, which are listed alphabetically by reviewer. (The title of the reviewed book is inside each citation.) Newspaper and non-academic periodical articles are also listed in a separate section and they are in chronological order since many revolve around some incident or event. Other sections are on websites and on non-print media. (The personal communications and the conferences I attended while preparing my thesis are included in their own sections.)

Ph.D.s On Jaques' Organization Theory

The doctoral dissertations have been grouped into three sections: those directly focused on the theory, those indirectly related to it in some way, and those that I found interesting or may be provocative for future avenues of research. I included a dissertation in the first section if the author used, validated or extended Jaques' theory or else applied his measurement instruments or analytical frameworks in the research part of the dissertation.

Each of these three Ph.D. sections is prefaced by its own introductory essay. The essay on those directly related to the theory is the most detailed. Each entry is extensively annotated regarding discipline, area of study, publications, theme, type of subjects, and abstract. I have tried to shoehorn in as many keywords as possible to aid researchers in locating material, methods and data.

The Ph.D.s are listed by DATE within each of these three groups. Those directly focused on the theory were also included in the main section of the bibliography (alphabetical by author).

The result is double listing of these items. A select few from the other two groups also were included in the main section. At the end of each of these three sections there is an alphabetical list of authors' NAMES so they can be cross-referenced.

Glacier Project Series and Replications

This section contains a listing of the Glacier Project book series, the Social Analysis article series, the BIOSS book series, and others. It also contains comparative charts of those studies and dissertations that replicated the high time-span correlations of the theory.

Scope

What had initially seemed a minor theory of historical curiosity has turned out to have an extensive and elaborate documentation. This bibliography pulls together online for the first time a comprehensive compilation of works on the theory. Scores of books and hundreds of articles and chapters have been published on it. This bibliography is over 350 pages long and contains over 1500 entries on the theory (plus some 300 kindred citations). These items were authored in at least nine languages on six continents. Fifty-three Ph.D. dissertations have been completed on the theory in five countries.

These books, dissertations and articles are spread across many topics. This variety is a double-edged sword. The lack of prominence in any single area is one reason Jaques' theory does not have a high profile. Its application across so many types of organizations - the private sector, family business, non-profit, religious, and government - tends to obscure its sturdiness. The theory also has been studied across many academic disciplines - business/economics, psychology, sociology/social administration, education, nursing, health care, public administration, industrial engineering, library science, and systems analysis.

This same breadth and variety can be seen as reenforcing the validity of the theory. Within Isaiah Berlin's famous metaphor, Elliott Jaques would be classified a hedgehog rather than a fox. He knows one thing and he knows it well. He is not the foxy master of many tricks. Jaques has a fact: time-span of discretion. He will re-order the world around that fact. The fascination is the surprising places his hedgehog holes open up, not where he displays his personal intellectual virtuosity. All the holes emanate from the same burrow and they are all linked together (although how is not often obvious). This bibliography should more clearly show the theory to be a multifaceted, wide-ranging and dynamic approach to human organizations.

There is no formal, academic classification scheme in this bibliography. Were this so, the categories of business, sociology, and psychology would be large. Most other topics, however, being relatively small compared to these three, would fall under 'miscellaneous.' But that category would then be the largest, leaving the classification problem unsolved. Perhaps after another decade a more balanced classification scheme will emerge for this theory.

I prepared this bibliography because I became frustrated while preparing my own thesis. Jaques and Brown did not cite works by other management academics. Thus, their books and articles are not helpful in locating the theory in its intellectual context. But Jaques and Brown did not cite books and articles by other authors who wrote about this theory. Thus, their works also are not helpful in identifying the full scope of the theory. (An exception to this was Jaques 1976.) They even overlooked research that had supporting data, including most of the dissertations. Conversely, this theory was not cited by other academics in their literature.

In the end, I experienced too many surprises, jolts and twists, as unexpected items emerged from gaps in the documentation. The search effort became unnecessarily exhausting. I decided no one else should have to repeat this independent search process again. Learning this powerful, counter-intuitive, and controversial theory is daunting enough by itself.

Keywords and Glossaries

The introductory essay to the Ph.D. dissertations contains the list of keywords used in the online searches. You may wish to look into Jaques' works to identify keywords. In particular, his Glossaries are helpful for keywords. See *Requisite Organization* (all editions) and his two books published in 2002, *The Life and Behavior of Living Organisms: A General Theory*, and *Social Power and the CEO*. Wilfred Brown included Glossaries in *Exploration in Management* (1960) and in *Organization* (1971), although many terms have been refined since.

One keyword is "discretion." There are at least three different uses of "discretion" in business literature. Economists use it in connection with the "principal-agent" relationship. The owner (or principal) hires a manager (or agent) to run the business in compliance with the owner's goals and policies. When an agent used "discretion," it was to pursue other goals rather than those assigned to be done. This "discretion" leads to inefficiency, waste – even fraud. Another use of the word was by Donald Hambrick, who used it to mean "executive latitude for action." This was degrees of freedom of choice on goals, methods and priorities. James Thompson defined only certain jobs as having discretion - "boundary-spanning, intensive [technology], and managerial" - which afford "opportunities to learn through experience and opportunities for visibility." He considered routine jobs as "fully determined" and discretion in them as "unwelcome." On the other hand, Chuck Perrow found managers allowed discretion for routine tasks but restricted it on key aspects of non-routine tasks. (Are we there yet?)

Jaques has used the word with a very different meaning. Discretion is "judgment within prescribed task limits toward attainment of a goal" and every job always has discretion. The goal has been assigned to a role by the manager as part of a task. Discretion is used by the employee to achieve that goal. (The employee, by the way, might be a top executive, even the CEO or Managing Director who has been assigned a goal by the Board. Or the night janitor.)

Three hundred years ago the word had very different uses. "The years of discretion," meant the arrival at the age of adulthood and thus possession of the ability and judgment to freely use one's discretion concerning oneself - presumably wisely. Shakespeare's character,

Falstaff, is famous for the line, 'Discretion is the better part of valor,' by which he meant the careful avoidance of high-risk combat situations to stay alive. [This version of the quote is the popular one.] He also used his "discretion" to excuse his own cowardice on the battlefield.

Publishers of Works on the Theory

Jaques' early affiliation with the Tavistock Institute and its magazine, *Human Relations*, afforded him a channel for publishing many articles over the years. Heinemann Educational Books in London likewise was affiliated with Tavistock and published many of Jaques' books, as well as those of Wilfred Brown. In the mid-1960s Southern Illinois University Press in Carbondale, IL began to publish Heinemann books for the U.S. market.

Beginning around 1970 the U.S. government became a major publisher of Jaques-related research. The first round was sponsored by the Office of Naval Research. Most of these ONR studies were conducted at Berkeley's Industrial Engineering Department in the late 1960s and into the 1970s. A good number were published by NTIS (see below). The second round of research was sponsored by the US Army Research Institute for the Behavioral and Social Sciences (ARI) from 1983 to 1995, also issued by NTIS. JAI in Greenwich CT also published some of this ARI research.

National Technical Information Service, NTIS, 5285 Port Royal Road, Springfield, VA, 22161, USA. To order a product from NTIS by: phone at 1-800-553-NTIS (United States customers); (703) 605-6000 (other countries); fax at (703) 321-8547; or email to: orders @ ntis.fedworld.gov. NTIS uses only the initials of the author, not the first name, and no separation between the initials.

Kathryn Cason set up Cason Hall & Company in the 1980s to publish Jaques' new research and keep his earlier works in print. It is at casonhall.com and is located at 50 Blackburn Center, Gloucester, MA 01930. Tel: (978) 281-7707. Fax: (978) 281-7718.

Where Things Stand

There have been several sustained research efforts on this theory. At Glacier Metal from the late 1940s through the 1970s, at Berkeley (with ONR) in the late 1960s into the 1970s under Professor E.R.F.W. (Ted) Crossman, at Brunel/BIOSS mostly from 1965 into the 1980s, and at ARI in the 1980s and into the early 1990s. Research continues at Texas (Austin) under Professor Oscar Mink, at Texas Tech under Professor James G. (Jerry) Hunt, at George Washington with Professor Jerry Harvey, and at USC under Professor Catherine G. Burke. Most other studies have been one-off efforts where the focus of each project has reflected the interest of the individual author. Much of it is both interesting and powerful, yet there is little connection to other research being done. (This is not unusual in management research, just regrettable.)

This bibliography should begin a clearinghouse function. Given this significant amount of research findings, I believe a research center needs to be established to build a base of findings that is cumulative and bring appropriate research questions into focus sequentially. Jaques' logical extensions of his theory provide a road map for this effort. For starters, projects need to be designed to verify his theoretical extensions. Jaques has published enough material to generate another fifty dissertations. But (Please!), those doing research on this theory do not need to replicate the time-span of discretion to felt-fair pay (TSD:FFP) correlation again. It has been done more than five times. This average on this correlation is +0.89. Q.E.D. Enough already! Let's get on with the next level of questions.

Future avenues of research might start with the questions asked by Michael E. Gordon in his 1969 article. Gordon's way of asking questions was provocative, scientifically valid, and generative. Paul Nystrom picked up one of these questions in 1973 and hit paydirt immediately.

The 1965 book by Arthur Turner and Paul Lawrence claimed there was a positive correlation between job satisfaction and time span of discretion at $p < .001$ level of significance. However, the magnitude of the correlation itself was NOT published. This omission was weird to say the least. (Their working papers may contain the data.) This study cries out for replication.

Another study that needs to be done is literary in nature, a history of "requisite" concepts, especially "discretion" and "equity." These ideas have been around for a long time. For example, Adam Smith placed one at the heart of labor economics ["The wages of labour vary according to the small or great trust which must be reposed in the workmen."]. Joseph Juran oversaw the development and publication of a similar historical re-examination for quality, *A History of Managing for Quality*. (Yes, Virginia, there is a need for Humanities majors.)

This is the second online edition of this bibliography. The first was posted in January 2002 and was 192 pages long. This revision and expansion is being posted in September 2002 and is over 350 pages long. A future version will hopefully contain a curriculum of readings from generally accessible sources to help newcomers gain an understanding of the theory on their own. I also hope to include a list of the concepts that were generated as the theory was being developed - but turned out to be dead-ends and were abandoned (and why). This will reduce the confusion from readings that were written decades apart.

Note: In the 1950s and 1960s people in business were exclusively referred to in the male gender. Jaques has given permission for quotations from his early works to be rephrased so they are gender-neutral. No changes are to be made to the meaning of such quotations.

Other Bibliographic Issues

With the growth of the human population it is impossible to use the internet to find the father of economics by using only his initial: "A. Smith". All citations today must use the full name of the author. The internet address of a posted text is not a bibliographic citation. Many internet sites disappear without a trace, never having informed humans of their locale on this earth nor having made a hard copy to leave in evidence of their presence here. Forwarding address: Roswell. I decided to press home this bibliography in the summer of 2002 since Internet firms are now charging fees, where they earlier dispensed information free 'to get market share.'

The Wall Street Journal devoted a Page One story to the, "Bibliography Mess: The Internet Wrecks Havoc With the Form." (Kronholz, June, New York, NY, May 2, 2002, vol. CCXXXIX, No. 86, A1 (col. 4) with jump to A6 (col. 5).) No answer was found. I recommend you read the Columbia University Press "Guide to Online Style" at [http:// www. columbia.edu/ cu/cup](http://www.columbia.edu/cu/cup) . Good luck.

Comments by Jaques

Elliott Jaques has spoken about the current regime of alchemical thinking in the field of organization and management. There is no science in the field and no disprovable theory. In the 1600s, after the development of scientific method, no alchemists became chemists. They were educated as alchemists, published as alchemists, and died as alchemists. The alchemists did not know how to ask valid scientific questions. As you will see from this Bibliography, many academics have flirted with this theory but were not able to build on it. The result is an array of bits and pieces of observation and research that generally don't go very far. These academics will have to give up their alchemy - or a new generation of scientists will have to come on the scene - before this theory will get traction.

I have tried to be fair-minded toward the critics of this theory, but the more I deal with academics, the more peckish I have become. As UCLA Professor Harold Koontz put it, many academics suffer from an "unwillingness to understand." These academics dismissed this theory years ago, when it was first disputed in the late 1960s. The most serious of those accusations were later abandoned by their authors, but most academics have never reconsidered the original rejection. The original dismissal was made by ignoring all the studies already then published on this theory and claiming the theory was untestable. The language of their rejection is often violent, even today. Among other things, they continue to call Jaques nasty names, including nazi, fascist and communist. See Art Kleiner's 2001 article for examples of this.

The cost to businesses and organizations has been catastrophic. The corporate scandals following the collapse of Enron, WorldCom, Global Crossing, and their Wall Street analysts have been largely due to a lack of accountability. No, I do not mean a puritanical liability but real accountability that is linked at the hip to authority and both are within a requisitely structured organization that embraces managerial leadership practices. A few organizations

currently do this - a very few. Among other things, these firms have the advantages of having a trustworthy relationship with their employees, keeping their daily work focused on their key priorities, being able to implement their strategies, and detecting changes in their environment sooner than rivals. Also, the current corporate adoration of 'stars' undermines accountability and the internal horizontal and vertical systems that hold organizations together while the work gets done.

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If you discover an error or short-coming, or find any annotation misleading, please send me an email with the correction. I will include it in the next updated version. The internet is expanding all the time and more sources are constantly being added to it. If you find any additional items that should be included, please let me know about them - with your annotation.

Through both computer and manual checks I have tried to obtain full citations and ensure against errors. The accountability for any errors is mine alone.

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10-03-02

BACKGROUND OF THE THEORY

Background

Elliott Jaques is a Canadian by birth and has earned two doctorates, an M.D. from Johns Hopkins (1941) and a Ph.D. in social relations from Harvard (1951). He trained as a psychoanalyst under Melanie Klein. In 2002 he turned 85 and lived in Gloucester, MA, with his wife, Kathryn Cason. He continues to consult and conduct research on the theory and its ramifications. He has written over twenty books and over 80 articles. Two of these books were published in early 2002. You probably know his ideas, even if you don't recognize his name. Jaques is best known for his discovery of the "midlife crisis" and of "corporate culture." (These two concepts are not covered in this bibliography except as they relate to organizations.)

Wilfred Brown, Chairman and Managing Director (CEO) of the Glacier Metal Company, Ltd. in London UK, also contributed extensively to the theory. Together Jaques and Brown developed the basics of the theory while conducting research at the firm from 1948 to 1965. In 1965 Brown sold Glacier and joined the British government as a Minister of State in the Board of Trade. Jaques also left Glacier and became head of a new graduate school of social science at Brunel University.

In 1970 Jaques became head of a research and consulting institute affiliated with Brunel that advised government and non-profit organizations (BIOSS). Jaques left the UK in 1979 and spent some months writing at Wesleyan University in CT. He continued his research and consulted primarily with organizations in Australia and the United States in the 1980s and in Argentina and Canada in the 1990s. He is currently, a visiting research professor at The George Washington University and is Profesor Emeritus (Hon.), Universidad de Buenos Aires.

Five discoveries mark Jaques' theory from mainstream research on organizations: the development of "social analysis," which began in the late 1940s and extended over fifteen years; the recognition of linked "managerial authority and accountability" around 1950; the discovery of "time span of discretion" (TSD) in 1953; the discovery of "felt-fair pay" (FFP) the next year, and; the discovery of "levels of abstraction" in the late 1970s

Because the theory has had several names and gone through distinct development stages, individuals who came upon it and learned it at one point in time think they 'know' it. But such individuals use different names for the theory and its terminology, so their ideas are still rooted in that stage of its development. (It should not be hard for these people to 'get up to date' on the current theory.) This has isolated those who have an interest in the theory from each other.

Over 100 organizations have adopted parts of this theory. It has been adopted robustly by some thirty organizations and has generated a powerful increase in competitive effectiveness for

most of them. Many see it as a competitive advantage and, as a result, refuse to publicly acknowledge their use of it. This has served to keep down the profile of the theory.

Neither Jaques nor Brown felt the work of most management academics held scientific validity, so they simply ignored it and did not cite it. They saw this theory as dynamic across time. They saw the academics, still wed to “empirical” surveys, producing static snapshots of single points in time. In turn, management academics did not cite Jaques and Brown. The net impact has been the isolation of this theory from the main dialogue on management and organizations. This has tended to keep awareness of the theory low.

In the U.K. the concept that discretion is an essential part of every role took hold in the workplace. Whenever an employment relationship is considered, the discretion of the role is part of the discussion. In the U.S., on the other hand, discretion is not used in regard to employment. Other words are used - empowerment, enrichment, autonomy, self-management, knowledge worker, professional, self-starter, etc. None of these words, however, have the same meaning that discretion does in the U.K. *Discretion (judgment) is what the employee brings to the work.*

This theory was a challenge to many concepts in management practice and organization theory. It directly challenged much of the accredited curriculum of American business schools. The theory was rejected by academics in the late 1960s. The main objection at that time was the lack of supporting data. At that point, however, five dissertations had been completed and several studies had been published on the theory as books and articles. These were simply ignored by the critics. Many people have continued to conduct research on the theory and to produce results. That rejection has been refuted by subsequent replications of the original studies, yet academics have never reconsidered their dismissal of it. Some academics today still claim the theory does not have substantial research to support it.

The Published Research

Over the decades a thin stream of evidence supporting Jaques' findings has trickled in. These results now constitute a substantial body of cumulative knowledge. Over a hundred-fifty articles have appeared in peer-reviewed journals, with over ninety in “A-level” journals. Fifty-three doctoral dissertations have been earned on this theory. The average correlation of the four dissertations and two studies between time-span of discretion and hierarchy level is +0.85. The average for the three published studies and five dissertations that replicated Jaques' time-span of discretion to felt-fair pay correlation is +0.89. Jaques' initial strong findings have been replicated and confirmed. The following counts are of articles on or about the theory. They are not counts of citations of Jaques. (That number would be at least double these numbers.)

This research has produced over forty articles in management journals. Eighteen articles and seven book reviews have appeared in *Administrative Science Quarterly*. Thirteen articles have been in the *Academy of Management Journal*. Five articles and one book review came out in the *Academy of Management Review*, including a special issue on time and organization theory in 2001. Three have appeared in *Organization Science* and two in *Strategic Management*

Journal. Two were published in the *Academy of Management Executive*. *Entrepreneurship Theory and Practice* had a special issue largely related to the theory, 'Time and Entrepreneurship,' in 1997. A double issue of *Management Decision* (U.K.) in 1977 was devoted entirely to publishing John Evans' book *The Management of Human Capacity*. (MCB also published it two years later as a regular book.)

At least ten articles have appeared in operations and decision analysis journals. Three have appeared in *Management Science* (plus a book review), two in the *Journal of the Operational Research Society* (UK) (and a book review), and one in *MIS Quarterly*. Five have been published on decision analysis and computer support in *Acta Psychologica*. (I do not have the time to explore this application of the theory. My citations are only from the early- to mid-1980s, little since. Lawrence Phillips and Patrick Humphreys were then publishing from LSE.)

Over twenty-five articles have been published in psychology journals. Two appeared in *Psychological Bulletin* and three in the *Journal of Abnormal Psychology* [formerly the *Journal of Abnormal and Social Psychology*]. Ten have come out in the *Journal of Applied Psychology*, two in the *American Psychologist*, and three in *Organizational Behavior and Human Decision Processes* [formerly *Organization Behavior and Human Performance*]. Others have appeared in *Psychological Review*, *Advances in Experimental Social Psychology*, the *Journal of Personality and Social Psychology*, the *British Journal of Psychology*, *Journal of Occupational Psychology*, and *Personnel Psychology*. Three articles appeared in the *Journal of Applied Behavioral Science*. Ten reviews of books on the theory were in, among them, *Contemporary Psychology*, *Personnel Psychology*, and the *Journal of Occupational Psychology*.

Some twenty articles have appeared in sociology journals. The *American Journal of Sociology* brought out five articles and six book reviews on the theory. Three have been issued in the *American Sociological Review*, plus six book reviews. *Social Forces* published one article and one book review. *Sociometry* published two articles. Three articles appeared in *Sociology* (UK), three in *Organization Studies* (European), two in *Sociological Review* (UK), and one in the *British Journal of Sociology*. Five reviews of books came out in *Contemporary Sociology*.

Twenty-nine articles have appeared in just one publication, *Human Relations*, which was and is a London-based journal that includes both psychology and sociology. That's not a typo. *Human Relations* was established as the home journal of the Tavistock Institute. Jaques and others who were members of Tavistock published in it regularly.

Three articles were published in *Industrial and Labor Relations Review* along with ten book reviews. Others have appeared in the *British Journal of Industrial Relations*, the *Industrial Relations Journal*, and the *Journal of Industrial Relations* (Australia). *Industrial Relations* has published five articles. (These articles have been on industrial relations, human resources, personnel, and labor economics.)

Another twenty articles on this theory have appeared in economics journals (as the "effort-wage bargain," "rigidity of wages," "quality of labor," or "distribution of earnings and abilities"). These are problematic since none employed the names for this theory used in

organization studies. Two were published each in the *Quarterly Journal of Economics*, in *Econometrica*, and in the *American Economic Review*. (George Akerlof published two additional pieces in *AER*'s proceedings issues.) Others have appeared in the *Journal of Political Economy*, the *Journal of Economic Perspectives*, the *Journal of Economic Literature*, the *Review of Economic Studies*, and the *Journal of Labor Economics*. In the U.K., *Economica* (LSE) issued three articles and three book reviews. Two articles and seven book reviews appeared in *The Economic Journal* (*RES*). The *Journal of Industrial Economics* has published four articles on it.

Two articles have been published in the *Journal of Accounting Research* and one in *Accounting, Organizations and Society* in the U.K. Also, two articles appeared in the *Journal of Business* (a finance journal) and one in *The Journal of Consumer Research*. At least eight articles have been published in education journals and many in public administration reviews in the U.K. and the U.S.

In addition to the peer-reviewed journals, over thirty articles have appeared on the theory in professional management reviews. Thirteen articles have appeared in the *Harvard Business Review*. (Since *HBR* strips out references and footnotes, you will have to see my annotations herein.) Six have been in the *California Management Review*. The *Sloan Management Review* published five and the *British Management Review* one. *Leadership Quarterly* had a special issue of seven articles in 2000 on it and has published several articles on the theory since 1991. *The Manager* (UK) has carried five. *Canadian Business* has published three articles and *Canadian Manager* five.

Were this bibliography organized chronologically it would reveal the history of this theory – its propagation in the 1950s, its quick adoption into industrial economics, its waxing as a management theory in the mid-1960s, the rejection of Jaques at the end of the 1960s, the powerful validating studies published in the early 1970s, the abandonment by several critics of their 'findings,' the fifty-plus dissertations on five continents confirming the theory, its adoption by several prominent organizations across the world, and the stubborn belief of academics that there is no data to support this theory. The title of a 2002 article in the *Australian Financial Review* summed up the situation: "Come Back Elliott Jaques, All Is Forgiven."

Related Academic Topics

Several other academic topics come close to aspects of this theory and appear to offer support for it: hierarchical production planning (HPP) in industrial engineering, aggregation of data in accounting, accountability in auditing, the horizon effect and segmented labor markets and the effort bargain and the rigidity of wages in economics, requisite variety in cybernetics, the knowledge-creating company and management by objective (MBO) in management, and autopoiesis in ecology. Another concept, "future time perspective" (FTP), looks like it should be related but is weak because it has had so many different definitions.

Jaques work on adult levels of information processing capability is a direct extension of Jean Piaget's work on *cognitive development* in children. There is very little connection between

this school of psychology and Jaques, which is a pity and a huge loss for both areas. Jaques shows how the growth in children continues into adulthood and may be limited only by the length of our lives. Jaques is now working on issues around the aging of baby boomers.

“Hierarchical production planning” (HPP) in *industrial engineering* was developed by Professor Arnoldo C. Hax of MIT and Harlan C. Meal of A.D. Little in 1973. HPP has strong parallels with strata. HPP assigned longer planning horizons at sequentially higher levels in the organization hierarchy. There were at least 12 dissertations in UMI on HPP. Most were technical applications or extensions of HPP. Several viewed it as a structure for problem solving. Hax earned his PhD in Industrial Engineering at Berkeley in 1967, two years after Jaques was ‘discovered’ there. Hax says he had little connection to Crossman and HPP was developed after he left Berkeley (email 18 Dec 2001). Hax and Meal 1973 did not cite Crossman or Jaques. (HPP can be traced through Mesarovic, Macko and Takahara (1970) back to Holt, Modigliani, Muth and Simon (1960). MRP II, ERP, JIT, and OPT are related to it.)

The appropriate aggregation of data for presentation to each level of management is an important concern of *accounting*. If the data is too raw it will lead to confusion and perhaps data overload. If it is too abstract it will not be helpful in managerial decision-making at that level. The issue is matching the complexity of the data to the cognitive complexity at each managerial level. See Related PhDs by Otley 1976 and Dias 1979.

The *auditing* profession has a strong focus on “accountability” for judgment. A search on UMI using these terms surfaced 62 dissertations. None were directly related to Jaques’ theory and none cited it, but some of the findings seemed to support various aspects of the theory.

John Dearden at Harvard wrote several articles and chapters linking time span of discretion to management accounting, ROI and accountability. (HBR omits citations.)

Three dissertations in UMI on the “horizon effect” in *economics* may be related to the time horizons of individuals in the theory. (See Jennings 1985 Related Ph.D.) Several dissertations have extended the theory to economics and the employment relationship (Krimpas, Pankhurst). The work of David I. Levine shows the strength of segmented labor markets theory. Although Jaques is not cited, the concepts have resonance.

Eleven Ph.D. theses are to be found on the “effort bargain” in *industrial relations* and *labour economics*. This concept was first articulated by Hilde Behrend (1957) and was almost identical to Jaques’ 1956 concepts of felt-fair pay (non-market internal equity), the effort-wage bargain (fair pay based on effort level), and the equitable work payment scale. Behrend followed Jaques’ sequencing of the internal negotiations, first over effort and then over the wage, and the resulting internal wage structure. Behrend did not cite Jaques. The links were pointed out by three of their contemporaries. The separate effort bargain and the non-market internal pay equity had been invisible to economists until this paper. They were (and remain) inconsistent with competitive labor market explanations of wage levels. Wilhelm Baldamus (1957) worked on the same study with Behrend and wrote about the context of the ideas in it. He did not refer to Jaques but pointed to earlier economic ideas, such as ‘wage-effort parity,’ that contributed to the

study. This concept, however, had not addressed the non-market internal pay equity, the specific bargain sequence, or the differential wage scale their study uncovered. (I suspect the interview questions were developed to test whether Jaques' concepts were extant in the thought processes of managers and employees.) Three contemporaries noted the conceptual links between Behrend's work and the Jaques-Brown-Glacier findings. Many articles since have been written on the effort-wage bargain and on equity in economics, including ones by George A. Akerlof (1981, 1984, 1988, 1990) and Joseph E. Stiglitz (1987), who shared the 2001 Nobel Prize in economics. I have included three dissertations from this group as being on Jaques' theory. Search herein on keywords: *effort bargain* and *Behrend*.

However, because Jaques was omitted as the source of these concepts, economists have struggled to incorporate these ideas into economics. They have instead turned to the other equity theory developers, primarily Stacy Adams and George Homans, and to Peter Blau because he dealt with 'exchange theory' (wherein economists are tempted to seek solace). These equity theorists do not have an answer, for example, to the *efficiency wage* dilemma nor when the labor market does not *clear*. Jaques does. (A wage above the competitive rate may discourage shirking but - it more likely is for an unseen higher level of capability and the greater productivity it produces.). Jaques' theory contributes to many pressing research questions that occupy economists including: *wage rigidity*, *the architecture of economic systems*, *fairness as a constraint*, *agency theory*, *unmeasured ability*, *segmented labor markets*, *the internal labor market*, and *the internal wage structure*. In the right hands this will be a fruitful area for economic research. (Other terms were added later, including the "effort-wage bargain," "equity theory," "the rigidity of wages," "sequential effort-wage bargaining," "internal labor market," and "internal wage structure.") I discovered this connection to economics too late to fully explore the related articles, books and dissertations and to annotate them. Someone else will have to do that. I have included citations from computer searches online and several research libraries, but this is all I had time to do. The work of Edith Penrose offers a rich comparison with Jaques' ideas of executive capability levels and their impact on the growth of firms. [Penrose is not connected to Behrend.] (Dear reader: I have not explored these avenues because I have run out of time and must stop. My apologies.)

The law of requisite variety in *cybernetics* is related to the hierarchical structure of organizations and levels of information processing (Ashby). Perhaps three of eighteen Ph.D.s on it in UMI might be related to the theory. (See Samaras PhD, Introna 1992 Related PhD.)

Nonaka and Takeuchi (1995) attributed the centerpiece of their theory of the 'knowledge-creating' company to Jaques (1979). As of March 2002 there were at least five dissertations in UMI on this information and *management theory*. They are not included here because Jaques does not see this connection.

One essential for adopting Jaques' theory is that an organization shift from Taylorist 'functional' jobs to identifiable goals and objectives for every job. Peter Drucker began this shift in the 1950s with his creation of management by objectives (MBO). MBO was adopted by many *managements* in the 1970s. This theory shares the goal element with MBO (but not much else).

Autopoiesis is the *biological* and *ecological* study of the constant flow of changes in living organisms while the organism remains stable - this 'producing' itself and its unique identity - while undergoing enormous internal turnover. Jaques (2002) showed how the development of increasing levels of information processing and time-span underpin evolution.

Jaques has linkages to a number of other thinkers and writers: Brown (Glacier Metal), Stamp (career path appreciation or CPA; well-being at work), and Madeline Klein (psychoanalysis). Jaques has also been linked to Streufert (cognitive complexity), to Quinn (behavioral complexity), and to House (path-goal theory). Jaques' base discipline was psychology, specifically psychoanalysis. His education was in medicine.

Some Unrelated Academic Topics

Several terms sound like they should be related to this theory but are not.

"Vertical integration" is an economic term that refers to a type of industrial consolidation, not the integration of strata within a firm. This consolidation would describe, say, Ford in the 1930s. It controlled the iron mines where the ore was dug up, the shipping company that owned the ore boats, the smelters and foundries where it was processed into steel and pressed into parts, the machine shops where the parts were cut and shaped, and the assembly lines where everything came together to make the complete car. And the Ford dealerships, of course.

Several dissertations on "future time perspective" (FTP), the psychological concept, look promising that they might be related to Jaques' theory. But FTP must be regarded with very great care. Time span relates to work and has nothing to do with FTP, which has more to do with the individual's envisioning of his or her own future state.

The Theory In Perspective

There were about 42,000 annual entries for PhDs in the UMI data base between 1995 and 1999. The average between 1980 and 1999 was 36,000. The UMI database includes a high percentage of the total number of PhDs in the US, over ninety percent. In the UK the number of PhDs in theses.com is around 7,000 a year but this represents a lower percentage. The total number is estimated to be around 10-11,000 per year. Thus, the dissertations on Jaques' theory are a tiny number of the whole.

In contrast, the number of theses and dissertations that have been done before a new organization theory is dismissed as "disconfirmed" is usually only eight to twelve. Theories that were not dismissed and remain open to exploration often have scores of dissertations done on them. This can be seen in the hundreds of dissertations on "corporate culture," a concept Jaques originated in 1951. (Jaques has abandoned this line of inquiry believing it is not valid. Yet many others feel it is worth pursuing.) Several central questions remain unaddressed. A

research center needs to be established to help define gaps and questions and to explore them so the theory is systematically validated and developed.

This Author's Research

Much of my own research focus has been toward developing links between the workplace theories of Elliott Jaques and W. Edwards Deming. Jaques has developed a vertical managerial system and Deming has developed a horizontal operating system. When these two systems are combined within an organization, it becomes more effective as well as more efficient.

One other theorist provides a direct intellectual link between these two thinkers. Lawrence D. Miles developed value engineering in 1961. He described a method of value analysis to uncover what features the customer wanted and was willing to pay for. It was adopted by the Japanese and used in connection with Deming's operating system. Miles was awarded the Emperor's medal (third class) in 1986. In 1964 Brown and Jaques applied the Glacier Theory to value analysis and wrote a book about their experiences, *Product Analysis Pricing*, which is very close in conceptualization to value engineering. They had no knowledge of Miles.

Deming's intellectual linkages outside quality are to: Goldratt (theory of constraints), Miles (VE/VA), Shewhart (statistics), and C. I. Lewis (philosophy) [perhaps A. N. Whitehead too]. Representative work from each of these other writers is included. Deming's root discipline was statistics, specifically variation and dynamics. His education was in mathematical physics.

Taylor's Iron Cage

As Peter Drucker claimed, Frederick W. Taylor has been the dominant intellectual presence in business during the twentieth century. His influence is more hidden today than it was at mid-century, but it continues to dominate through economics and a value system that views people as factors of production. During my research I had the honor of meeting Joseph M. Juran, one of the founders of quality, who received the Award for Excellence in Operations Management at the 1997 Annual Conference of the W. Edwards Deming Center for Quality at the Columbia University Graduate School of Business in New York City (September 12). At the reception Juran said, in response to my question, that the defect rate for incoming manufactured parts in 1900 was 1.0%-1.5%. (See my notes immediately following.)

Eli Whitney's dream of interchangeable parts had become a reality by 1900. This improvement in quality of product opened the way to rapid mass assembly. This means Taylor's time and motion efficiency system was simply a form of speed-up that more fully exploited this profound breakthrough. Taylor's contribution was secondary to this improvement in quality of manufactured product. His claims have distorted much of twentieth century manufacturing away from quality. He contributed to instituting high-levels of waste, caused the devaluation of the

contribution of the employee, favored big-ticket technology breakthroughs over continual improvement, helped ensure creative destruction was a powerful economic force, increased the size of administrative staff and overhead, helped create a white-collar professional middle class (not blue-collar), and helped establish a managerial ideology in the U.S. Taylor was the first management consultant-guru and his fad was bigger than any other fad in the twentieth century.

But Taylorism was and is a fad. It is not based on scientific method, although it was as scientific as anything was in 1900. It is mechanical and Newtonian. Today, Taylorism blocks adoption of quality processes and requisite organization structures, both of which are based on true scientific method and present the opportunity of cumulative and continual improvement in knowledge and practice. But skepticism has prevailed. Skepticism is not just wariness but the denial of knowledge. We do not have to learn. Deming turned this on its head, "Nowhere is it written that you are the one who has to survive."

The Wisdom of the Poets

It has been said that poets and artists know more about human nature than the rest of us. If Jaques' theory is valid, then we should be able to find references to the concepts in artistic works. Have the poets and artists captured it and depicted it, holding up its mirror? Indeed they have. I do not have space here to give all the examples I have found even on one topic, "time-horizon" - Shakespeare (Hamlet, Macbeth, Antony's Soothsayer, Lord Bardolph, Laertes), Rudyard Kipling (*The Mary Gloster*), Robert Frost (*The Road Not Taken*), John Stuart Mill (*On Liberty*, Chapter 5, para. 23), and Peter Schaffer (*Amadeus*).

Support

Toronto Jaques User Group

A group of users of requisite theory in the Toronto area have set up an on-line user group at canadiancentre.com. This website is designed for dissemination of information, news, discussion, and mutual support and is run by Ken Shepard.

Requisite Organization International Institute (ROII)

Jaques has set up an organization to disseminate information on his organization theory. This site can be helpful. It is Requisite Organization International Institute (ROII) and can be found on the web at requisite.org. It is located at 50 Blackburn Center, Gloucester, MA 01930. Tel: (978) 281-7752.

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10-03-02

FURTHER RESEARCH SOURCES

This section is for researchers who wish to delve into primary sources. This is a list of sites and people I have identified who have papers or documents about the theory and its applications. I have tried to describe the materials wherever I can. In some cases I only have a location or a person's name and do not know what is there. Some universities may have "vertical files" (file cabinets) containing research notes and documentation on the theory. These also may be uncatalogued working papers or occasional papers that are in a file cabinet. They may not be in the library and may even be in an off-site storage area. (Some of these sites may be empty.) If you investigate these locations and people, please get back to me with a detailed description of the contents of the materials you discover so it can be included here.

Working Papers and Unpublished Works

There are many unpublished articles and working papers on this theory. Several book-length manuscripts on Jaques and the theory remain unpublished. Some of the early dissertations and theses on the theory were published as books or articles but most of the more recent ones have not been published. This is partly due to competition from a vast increase in the number of earned doctoral degrees. It may also be due to opposition from mainstream academics who editors use to vet manuscripts.

Approximately 100 time-span studies have been done in 25 countries. Most have been done by companies for their own internal use and were not published. They have been done all over the globe except in Central Asia.

In the U.K.:

Many working papers have been generated at Brunel University and the Brunel Institute for Organization and Social Studies (BIOSS) in the UK. They may be available from BIOSS. Some are on deposit at the Brunel University library in Uxbridge. See Rowbottom 1977 for a list of a half-dozen unpublished studies he produced there (see his reference section). Some were public documents or reports for public authorities and may be accessible from these clients. Maurice Kogan, professor of government at Brunel, may know the location of 'vertical files' on Glacier.

Lawrence D. Phillips was head of the decision analysis unit at BIOSS until he relocated to the London School of Economics in the early 1980s. The LSE decision analysis unit has working papers and technical reports that relate to the theory. (See Patrick Humphreys also.)

Alan Fox at Oxford incorporated a significant portion of the theory into his thinking (1966, 1974). His working papers may extend or shed light on the theory. See McGovern PhD.

The Glacier Institute of Management (GIM) existed from 1961 to about 1968-1970 (**ask Sir John**), and outlasted the independence of the Glacier Metal Company by several years (Cawston, Rugby). It was an independent entity but what happened to it is unclear. A. Derek Newman was head of GIM (q.v. 1968, 1973). Ralph Rowbottom worked there for a time. Another member was Brian Parkyn, per S. Cang (Jaques, ed., 1978, p. 278). (**Can I find him?? - ask Sir John**) I do not know what happened to the GIM training materials, course syllabi, or pedagogical research.

The company records of the Glacier Metal Company Ltd. are at Argyle House, Joel Street, Northwood Hills, Middlesex, UK. The records and minutes of the Glacier Metal Company Works Committee (1941-86) were opened in 2001 [University of Warwick Library. UK. MSS.300.] This is a significant new source for researchers. Glacier is now a division of the Dana Corporation, a U.S. firm. As the Glacier-Vandervell Division it has continued its licensing arrangements with the Daido Company in Japan, that were first established in the 1960s. Sir John Collyear, Glacier's MD in the early 1970s, is still hail and hearty.

I do not know where Lord Brown's personal papers are archived. The place to start is Argyle House with the Glacier Metal records and with the Warwick materials above. The librarians may be able to dig out a link to Brown's papers if they are located elsewhere.

No doubt Baxi Group in the UK has lots of records on its application of the theory. I do not know where the company archive or the records of the Baxendale family are located.

Stamp mentioned (1988) that the British Army Staff College used her CPA technique for research purposes.

In the U.S.:

Southern Illinois University (SIU) sponsored at least two conferences on the Glacier Model in 1965 and 1967. There may be research and working papers on deposit in SIU's Carbondale IL library. (Laner and Crossman 1970 mention two additional conferences in San Francisco in 1967 and 1968 that were sponsored by SIU. See also Grimes 1969.) James G. (Jerry) Hunt and Edwin A. Fleishman first encountered this theory while at SIU. Hunt is now at Texas Tech and Fleishman is at George Mason University in Virginia. Both maintain vigorous schedules of research and publishing in the leadership field.

Allen Industries of Herrin IL created a series of working papers and studies in the late 1960s as part of "The Allen Project." They may be deposited at SIU or the Herrin Library or at its successor company (which appears to be Mark IV Industries), or they may have disappeared in a swirl of mergers and acquisitions. The City of Herrin had a municipal project in the 1960s to apply the theory. Public documents on this effort may be on file at City Hall. (John J. McCarty was a member of the Illinois Civil Service Commission, but I have no evidence of any cross-pollination with this theory.) [See Laner and Crossman, 1970]

According to Emeritus Professor E.R.F.W. (Ted) Crossman the Berkeley Industrial Engineering working papers were not deposited with the university library. They appear to total about 40-50 papers from 1965 until about 1975. Some may be available from Crossman, or from Tarald Oddvar Kvålseth (Minn.) or Itzhak Wirth (St. Johns, NYC). Monterey Naval Graduate School and/or library may have some Berkeley research reports since Professor John W. Creighton was connected with the Berkeley group. Kaiser Aluminum and Steel in CA may have produced planning studies in the late 1960s using the theory. Kaiser was connected to the Berkeley research group. Also, the Office of Naval Research (ONR) in Washington may have working papers on file that were not released to NTIS for publication.

Not all of the papers prepared for ARI were published by NTIS. ARI has working papers at Fort Meyer in Arlington (also Alexandria?) VA, but some are classified. In the 1990s several professors at George Mason (including Fleishman) generated leadership studies influenced by Jaques' concepts. They formed the Management Research Institute (MRI) in Potomac MD to conduct studies for ARI. A few ARI papers are on deposit at the National Defense University and the National War College archive/ library in DC.

There has been a good deal of research on this theory since 1980 at the University of Southern California (USC) in L.A. See Professor Catherine G. Burke in the School of Policy, Planning and Development for further details.

Cason Hall Publishers has a series of working papers in Gloucester MA. Some are available for purchase. Elliott Jaques can be contacted through Cason Hall. Arrangements have been made to deposit Jaques' personal papers with the Library of Congress. Some are there now but require his permission for access.

In Australia:

This theory has had a large impact in Australia and New Zealand. Glacier Metal opened a satellite plant in New Zealand in the 1960s. Professor F. K. Wright of the University of Adelaide wrote a remarkable article in 1964 on Jaques' theory. He got it - soup to nuts. However, I have no knowledge of any further work by him or at Adelaide.

Professor Douglas A. Kirsner of Deakin University in Melbourne has published *Unfree Associations: Inside Psychoanalytic Institutes*, which used Jaques' organization theory to examine the internal dynamics of these institutes in the United States. Nils Timo, on faculty at Griffith University, Gold Coast campus, Queensland, AU, has written several papers on the theory.

Comalco/ CRA/ RTZ/ Rio Tinto [one firm] of Melbourne, Victoria, Australia, has also published pamphlets, papers, and held conferences and training sessions on the theory and its application. I do not know where the company files are stored. I do not know whether it has an affiliation with an academic institution. A lot of publicity was generated around legal and labor issues at the Weipa Minesite in northern Queensland in 1995.

See, Paul Lynch at James Cook University in Cairns, Queensland, for further information. See Professor Lex Donaldson and Dean Frederick G. Hilmer of AGSM at the University of NSW in Sydney. (Also see, Julian Fairfield of Bach Consulting, a consultant in the metropolitan Sydney area.)

In Canada:

In the 1990s Jaques consulted to several firms in the Toronto area. At present there does not appear to be an archive on his activities in Canada. See Ken Shepard (canadiancentre.com) and Herb Koplowitz in Toronto for further information.

Professor Derek J. Allison at the school of education at the University of Western Ontario in London ON has some working papers on the theory.

Jerry Gray, who edited the 1976 book of Glacier Project papers, is now dean of the I. H. Asper School of Business at the U. of Manitoba in Winnipeg, MB, Canada. He may have materials on the theory.

In Argentina:

Jaques has consulted to a large privately owned Argentine steel firm and to the Argentine tax authority to align its functions and combat systemic corruption that resulted in widespread tax avoidance. The fiscal crisis of 2001-2002 appears to have overtaken this effort. See Aldo Schlemenson at the University of Buenos Aires and UADE for more information.

In The Netherlands:

This theory caught spark in The Netherlands in the early 1960s. Hazekamp's bibliography for his 1966 article series contained a number of articles and studies in Dutch publications. Since many Dutch are bilingual in English, this was but one indication of their awareness of the theory. Wijberg also did studies. Fogarty was published in Meij's 1963 book. A number of Dutch firms were reported to have conducted TSD:FFP studies in the 1960s for their private use. I lack the language skills to pursue this line of research but it looks like a rich vein for the right person. The size, scope and growth rates of Dutch firms have required sustained future-oriented leadership at the helm and the organization and ability to execute. This Dutch connection may have sparked interest in South Africa (see van Lennep and Muller).

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TO DO:

- UK: ASK Steve Woolgar at Said Oxford? Also, any at Brunel?
ASK Lawrence D. Phillips at LSE if he knows of any besides Chun? VanDevender??
ASK does Phillips have any under development there?
ASK Maurice Kogan in govt dept at Brunel if he knows of any under development there?
ASK Joanna re: BIOS/ Brunel.
- Can: ASK Derek Alison at UWO if any there? In Canada?
ASK does Picard at McGill know of any?
ASK Jerry Gray at Manitoba - any there? Elsewhere in Canada?
ASK Joe Kelly - what was the "London PhD" he referred to?
- US: ASK Catherine G. Burke at USC if any PhDs are being developed under her?
ASK Kolb at CWRU if he knows of any others?
ASK Wiswell at Va Polytech/ Blacksburg if he knows of any?
ASK Atchison, Richardson, et al.
ASK Jerry Harvey and Oscar Mink.

PART I. B.

GLACIER PROJECT SERIES

AND

REPLICATION STUDIES

10-03-02

THE GLACIER PROJECT - SOCIAL ANALYSIS ARTICLE SERIES

(A series of eight articles in *Human Relations*, 1950-1952. Listed in Gray, 1976, p. 442.)

Jaques, E., 1950, "Studies In The Social Development Of An Industrial Community," (The Glacier Project - Part I), *Human Relations*, 3(3):1-15. (223-49)

Rice, A. K., J. M. M. Hill, and E. L. Trist, 1950, "The Representation of Labour Turnover as a Social Process," (The Glacier Project - Part II), *Human Relations*, 3(4):349-72. [See Behrend 1953 for review.]

Rice, A. K., 1951, "The Use of Unrecognized Cultural Mechanisms in an Expanding Machine-Shop," (The Glacier Project - Part III), *Human Relations*, 4(2):143-60.

Hill, J. M. M. (John Michael Meath), 1951, "A Consideration of Labour Turnover as a Result of a Quasi-Stationary Process," (The Glacier Project - Part IV), *Human Relations*, 4(3):255-64. [See Behrend 1953 for review.]

Jaques, Elliott, A. K. Rice, and J. M. M. Hill, 1951, "The Social And Psychological Impact Of A Change In Method of Wage Payment," (The Glacier Project - Part V), *Human Relations*, 4(4):315-340.

Rice, A. K., 1951, "An Examination of the Boundaries of Part-Institutions," (The Glacier Project - Part VI), *Human Relations*, 4(4):393-400.

Rice, A. K., 1952, "The Relative Independence of Sub-Institutions as Illustrated by Departmental Labour Turnover," (The Glacier Project - Part VII), *Human Relations*, 4(1):83-90.

Rice, A. K., and E. L. Trist, 1952, "Institutional and Sub-Institutional Determinants of Change in Labour Turnover," (The Glacier Project - Part VIII), *Human Relations*, 5(4):347-71.

10-03-02

THE GLACIER PROJECT SERIES – BOOKS (#s)

The numbered titles are in the official Glacier Project book series published by Heinemann Educational Books in London, U.K. Some of the later titles were co-published in the U.S. by Southern Illinois University Press. These 11 titles were published from 1951 to 1971.

1951	The Changing Culture of a Factory (# 1)	Elliott Jaques
1956	Measurement of Responsibility (# 2)	Elliott Jaques
1960	Exploration in Management (# 3)	Wilfred Brown
1961	Equitable Payment (# 4)	Elliott Jaques (2 nd edition, 1967)
1962	Piecework Abandoned (# 5)	Wilfred Brown
1964	Product Analysis Pricing (# 6)	Wilfred Brown and Elliott Jaques
1964	Time-Span Handbook (# 7)	Elliott Jaques
1965	Glacier Project Papers (# 8)	Wilfred Brown and Elliott Jaques
1965	Abstracts and Proceedings of the First United States Seminar in the Dynamics of Organization and Level-of-Work Measurement	1 st Southern Illinois University Conference, Carbondale, IL. Fohr, John Martin (1916-) Charles Penley Rahe.
1968	Progression Handbook (# 9)	Elliott Jaques
1968	Organization Analysis (# 10)	A. Derek Newman and Ralph W. Rowbottom
1968	Is Scientific Management Possible?	Joe Kelly
1969	The Glacier Project: A Compendium [NOT Seen]	Andrew J. Grimes (2 nd S.I.U. Conf. in Carbondale, IL, 1967)
1970	Work, Creativity, and Social Justice	Elliott Jaques
1971	Fair Pay and Work (# 11)	Roy Richardson

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I found one citation of two conferences in the San Francisco Bay area sponsored by S.I.U in 1967 and 1968 (Laner and Crossman 1970). This does not make sense unless they were joint conferences with Berkeley. Jerry Hunt (Texas Tech) or Edwin A. Fleishman (George Mason), who were then at SIU may have memory of them. Also, Kvålseth (Minn.) or Crossman (retired) may remember them.

- 1967 Proceedings, 1st S.I.U. San Francisco Conference, S.I.U. (with Berkeley?)
San Francisco, CA. (extant?)
- 1968 Proceedings, 2nd S.I.U. San Francisco Conference, S.I.U. (with Berkeley?)
San Francisco, CA. (extant?)

10-03-02

OTHER GLACIER RELATED BOOKS

The following titles are very closely related to the official Glacier Project series and some are by the same authors. These books were not published by Heinemann but by an assortment of other London publishers. Jaques knew Fogarty and helped him. Wilfred Brown had left the government by 1971 and was no longer associated with Glacier Metal. Newman had headed the Glacier Institute of Management (GIM) but had left before he wrote his 1973 book. Krimpas's book was his 1973 dissertation on Jaques' Glacier study plus the Brunel Project study (both 1969). Gray's book was published in the U.S. Evans completed his book in 1973. He worked for Jaques at Glacier and later at Brunel.

1961	The Just Wage	Fogarty, Michael P.
1963	The Rules of Work	Fogarty, Michael P.
1971	Organization	Wilfred Brown
1973	The Earnings Conflict	Wilfred Brown
1973	Organization Design	A. Derek Newman
1975	Participation (1972 monograph pamphlet; 1981 edition title: <i>Employee Participation In Management</i>)	Wilfred Brown
1975	Labour Input and the Theory of the Labour Market	George E. Krimpas (1973) *
1976	The Glacier Project: Concepts and Critiques	Jerry L. Gray (ed.)
1979	The Management of Human Capacity (1977)	John S. Evans (1973) **

* Krimpas's book was his thesis, which was completed in 1973.

** Evans' book shows evidence of completion in 1973. It was published in a MCB Journal in 1977 (no index) and as a book in 1979 (with an index).

10-03-02

**Brunel Institute of Organization and Social Studies (BIOSS) Series
(Heinemann)**

These titles are in the BIOSS book series published by Heinemann Educational Books in London, U.K. (See fly-leaf of Health Services.) A number were published in the U.S. by Crane, Russak.)

- | | | |
|------|---|---|
| 1973 | Hospital Organization: A Progress Report on the Brunel Health Services Organization Project | Ralph Rowbottom, et al. |
| 1974 | Social Services Departments: Developing Patterns of Work and Organization
(See 1980 and 1984 follow-up reports) | Social Services Organization Research Unit (BIOSS)
(Rowbottom, Hey, and Billis.) |
| 1976 | A General Theory of Bureaucracy | Elliott Jaques |
| 1977 | Social Analysis | Ralph Rowbottom |
| 1978 | Levels of Abstraction in Logic and Human Action
(A collection of articles, many by the editors.) | Elliott Jaques with Roland O. Gibson and D. John Isaac (editors) |
| 1978 | Health Services | Elliott Jaques, editor, with members of the Brunel (BIOSS) HSORU.
(Rowbottom, Cang, Macdonald, Packwood, Tolliday, Bromley, Hey) |
| 1980 | Organizing Social Services Departments:
Further Studies on the Brunel Social Services Unit
(A follow up report on 1974 study, see 1984) | David Billis, Geoffrey Bromley, Anthea Hey and Ralph Rowbottom |
| 1982 | The Form of Time | Elliott Jaques |
| 1982 | Free Enterprise, Fair Employment | Elliott Jaques |
| 1984 | Welfare Bureaucracies: Their Design and Change in Response to Social Problems
(A follow up report on 1974 and 1980 studies.) | David Billis |

10-03-02

Brunel Institute of Organization and Social Studies (BIOSS) Series**(Kogan, et al, et seq.)**

Another group of BIOSS books was spearheaded by Maurice Kogan, who then headed one the BIOSS research units and later became a professor of government at Brunel University. These books were not published by Heinemann. Some are “Post-BIOSS.” [Bolded were published outside the U.K.]

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|------|---|---|
| 1971 | Working Relationships Within the British Hospital Service | Maurice Kogan, Stephen Cang, Maureen Dixon, Heather Tolliday. |
| 1971 | The Organization of a Social Service Department: A Blueprint | Maurice Kogan and J. Terry. |
| 1974 | Advisory Councils and Committees in Education | Maurice Kogan and Tim Packwood. |
| 1986 | Education Accountability: An Analytic Overview | Maurice Kogan |
| 1987 | Organisational Design: The Work Levels Approach | Ralph W. Rowbottom and David Billis |
| 1987 | Analisis Organizacional y Empresa Unipersonal [Organization Analysis and the Entrepreneurial Enterprise.] (Argentina, in Spanish) | Aldo E. Schlemenson |
| 1991 | La perspectiva etica en el analisis organizacional [The Ethical Perspective in Organization Analysis] (Argentina, in Spanish) | Aldo E. Schlemenson |
| 1992 | Organizing Public and Voluntary Agencies (U.K.) | David Billis |
| 1992 | Strategic Leadership, A Multiorganizational-Level Perspective (U.S.) | Robert L. Phillips and James G. Hunt, eds. |
| 1999 | Out-of-the-Box Leadership: Transforming the Twenty-First-Century Army and Other Top-Performing Organizations (U.S.) | Hunt, James G., George E. Dodge, and Leonard Wong, eds. |
| 2001 | Accountability Leadership (U.S.) | Gerald A. Kraines |

- 2002 Levels of Excellence, a management novel Julian Fairfield
 (Australia)
- 2003e. *Evaluacion del potencial individual: la gestion* Harald Solaas
 del talento humano en las organizaciones,
 [Evaluation of individual potential: The
 development of human talent in organizations.]
 (Argentina, in Spanish)

10-03-02

A NOTE ON REPLICATION STUDIES

There are two main correlations in Jaques' organization theory. Both revolve around time-span of discretion, which Jaques uses to measure the length of a task and the size of a role. I have developed two charts to portray these studies.

The first correlation is between time-span of discretion (TSD) and felt-fair pay (FFP). The manager of a role assigns tasks of various lengths to the role. The longest task is the time-span of the role. The employee is asked, given the work assigned, what is the pay he or she feels is fair for that work. There are four published studies on this correlation, six dissertations and one master's degree. One of the dissertations (on public school administration) was disconfirmatory but may have encountered organizational chaos (McGee). A master's thesis questioned a Brunel Ph.D. dissertation study results and Jaques' own findings and claimed to reduce the correlation to +0.59 by using straight line method (Cameron). With these exceptions, the remaining study and dissertation results support Jaques strongly.

The second correlation is between time-span of discretion (TSD) and Hierarchy Level. Here again, the time-span is obtained from the manager. The Hierarchy Level was obtained from different sources depending on the study - organization chart, job title, reporting relationships, civil service level, and military rank. This list includes four studies and five dissertations. The major problem here was the initial low correlations found by Paul S. Goodman (1966, 1967). When Goodman used Jaques' definition for "organization level" the correlation rose sharply while still using the same time span data. Vinton revealed Goodman hid his high results under rhetorical stratagems and pointed his written analysis toward his low results. Goodman's low findings have not once been replicated after six attempts. (See my essays on Goodman at beginning of the section on Ph.D.s and at the Goodman Ph.D. entry.) In 1973 Goodman abandoned his earlier low findings that he had claimed were disconfirmatory (see Goodman and Miller book review). These correlation results (including Goodman's high figures) are strongly supportive of Jaques.

STUDIES AND DISSERTATIONS ON TIME-SPAN

10-03-02

TSD:FFP

Date (Pub'd.)	Author	Ratio	Corr. Coef. (R)	Population	Strata (Prob.)
STUDIES:					
1969	Jaques & Brunel Project	TSD:FFP	+0.90/ +0.94 # +0.83	General Manager to Hourly Workers (U.K.)	I - IV
1972 [1973]	Miller (MA)	TSD:FFP	+0.84 ##	Profsnl Acad Librarians (40)	II - III
1973	Nystrom ^	TSD:FFP	Explanatory	U.S. Population: Career Pay Levels	All
1979	Mahoney ^^	FFP:TSD^^	Consistent	Linked FFP to TSD as job content/ hierarchy level. (Kuethe & Levenson 1964)	II - V
1999	Carraher & Chait *	TSD':FFP'	+0.86	Business School Faculty (!), Nonsupervisory employees.	I - III
DISSERTATIONS:					
1965, 10/1967	Atchison **	TSD:FFP	+0.90	Professional Scientists, Engineers, Mathematicians	I - III
1969, 1971	Richardson	TSD:FFP	+0.862	Middle Managers in Engineering, Factory, and Administration	II - III
1968, 1969 1973, 1975	Krimpas / ~Brunel Project ~(Evans, Krimpas, Miller)	TSD:FFP	+0.84 #	Middle Managers to Hourly Workers across 11 U.K. organizations	I - IV and VI
1975, 1976	Cameron(MA)	TSD:FFP	+0.59 #	See Brunel data (U.K.)	I - III
1984	Gould	TSD:FFP	+0.948	Librarians, Technical Staff, Clerks (Academic)	I - III
1984	McGee	TSD:FFP ****	+0.314	Public School Administrators	II - IV
1985	Boals	TSD:FFP	+0.909	Clerks, Librarians (Public)	I - III

Ratio: **TSD** Time-Span of Discretion **FFP** Felt-Fair Pay.

Corr. Coef.: R is used here. R-squared is not appropriate in this type of study.
The figure for R would be higher than the R-squared figure.

Strata: These are the probable levels in the population sample. Unless stated by the author, this is my best guess. "Strata" are the requisite layers in an organization.

- # Krimpas, George, E., *Labour Input and the Theory of The Labour Market*, 1975, Duckworth, London, U.K., p. 66-67. This book includes results from the Glacier study and from 10 other organizations (p. 39-40). This is one more firm than reported by Jaques (1969) for the 1968 Brunel study by John S. Evans, Krimpas and Robert L. Miller. The statistical method was a cubic relationship (r-squared). The result was +0.84 for 125 observations. Jaques (1969) reported this as +0.83. Krimpas reports the Glacier result as +0.94 with 70 observations. It is not clear, but it would appear this is a revised figure from that reported by Jaques (1969), which was +0.90. Cameron reworked the Jaques/ Brunel data as a straight correlation coefficient in her master's thesis. (See Goodman and Miller 1973 Book Review. See Cameron 1976)
- ## Robert L. Miller examined professional academic librarians (20) and assistant librarians (20) for TSD:FFP. Probably a thesis for MA at Cornell. Found correlation of $r = +0.84$ $p < 0.001$ between TSD and FFP. Also, AP corr. $r = +0.80$ $p < 0.001$ with FFP. (See Goodman, Paul, and Robert L. Miller 1973 Book Review of *Fair Pay and Work*.)
- ^ Nystrom tested Jaques' FFP model against the U.S. career pay database developed by Haire, Ghiselli and Gordon (1967), as suggested by Gordon (1969). Nystrom found Jaques' theory of growth progression curves explained career pay. Q.E.D.
- ^^ Mahoney (1979) linked FFP to TSD as a dimension of job content that changes according to the hierarchy level of the role. This construct is the reverse of Jaques', yet the incremental ratio holds at 1:1.33 between hierarchy levels. Mahoney was at Minnesota and later moved to Vanderbilt. This replicated Kuethe and Levenson 1964.
- * Carraher, Shawn M., and Herschel Chait, 1999, "Level of Work and Felt Fair Pay: An Examination of Two of Jaques' Constructs of Equitable Payments," *Psychological Reports*, vol. 84, p. 654-656. LoW (TSD') was obtained through a questionnaire. Jaques approved the method for calculating FFP' $[(AP - \text{Deserved Pay})/\text{Deserved Pay}]$. TSD':FFP' Multiple R = +0.86; TSD' = 35% of FFP' var. (strongest); $n = 42$; 109. Also see Carraher's 1992 PhD Related) However, a university is not a MAH.
- ** Atchison's study was at two U.S. Navy research installations with GS 7, 9, 11 and 12 level civilian employees (see RO2 pp. 136). Results significant at the 0.001 level.

*** McGee appears to have either misunderstood the definition of TSD, misapplied the instrument, or encountered true organizational chaos as defined by Jaques. This study probably suffered from a combination of all three.

NOTE: Wood (& Joransen), 1973, was a master's thesis at Monterey on TSD:FFP. Its purpose was to explore the desirability of further study by the Navy of this technique. It did not reduce to a single number but supported the findings of Atchison and Richardson. The author recommended further study. Joransen was the "co-developer."

NOTE: The average correlation for the three studies and five dissertations on TSD:FFP (excluding the Brunel Project 1969, McGee, and Cameron - Nystrom and Mahoney do not have comparable numbers), is +0.89.

STUDIES AND DISSERTATIONS ON TIME-SPAN

10-03-02

TSD: Hierarchy Level

Date (Pub'd.)	Author	Ratio	Corr. Coef. (R)	Population	Strata (Prob.)
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STUDIES:

1974	Hansen ***	TSD:Rank	+0.84	Major to Private (CanArmy)	I - III
1975	Hansen ***	TSD:Rank	+0.74	Major to Private (CanNavy)	I - III
1979	Mahoney ^^	FFP:TSD^^	Consistent	Linked FFP to TSD as job content/ hierarchy level. (Kuethe & Levenson 1964)	II - V
1999	Nir ^^^	TSD:HierLvl	Explanatory	Managerial echelons (Male & Female incumbents)	III - IV

DISSERTATIONS:

1965, 10/1967	Atchison #	TSD:C-S Grade	+0.87 & +0.75	Professional Scientists, Engineers, Mathematicians	I - III
1966, 5/1967	Goodman * TE:OrgLevel	TVO:OrgLevel	+0.75 & +0.91	General Manager to Foreman	II - IV
1971	Kvålseth **	TSD:RoleRanks	+0.93	Supervisor to Hourly Worker	I - II
1976	Wirth **	TSD:HierLevel	+0.96	CEO, Div. Manager, FLM (by dept. in 3 companies)	II - IV
1995	Nir ##	TemplHzn: HierLvl	+Straight	Central & District Admins, Principals	II - IV
1995	Vinton ###	TH:OrgLvl	+Signif.	Professionals, clericals	I - III

Ratio: TSD: Time-Span of Discretion. None of these ratios has the exact same definition.

Corr. Coef.: R is used here. R-squared is not appropriate in this type of study.

Strata: These are the probable levels in the sample. Unless stated by the author, this is my best guess. "Strata" are the requisite layers in an organization.

Atchison reported correlations between TSD and civil service grades (hierarchy level) in two organizations: $r = +0.87$ in Org 1 and; $r = +0.75$ in Org 2. Average $r = +0.81$.

* Paul S. Goodman dissertation at Cornell. Goodman used two psychological variables as substitutes for TSD. **TVO:** Time Value Orientation (living for the future relative to the present - an evaluative concept); **TE:** Time Extension (length of future time cognitively conceptualized by the individual, q.v. Jaques' Time Horizon). Bishop noted Goodman's time measures, TVO and TE, are different from Jaques' TSD. The other studies come close to measuring Jaques' TSD. Goodman used **OrgLvl:** Level on Organization Chart (using his own definition of levels). When Goodman used Jaques' definition of hierarchy levels, he got results of $+0.75$ and $+0.91$, significant at $p < .01$. (Average $r = +0.83$) Goodman never used Felt-Fair Pay. See Vinton 1995 PhD.

** These two dissertations were at Berkeley. Wirth added 'resources' to HierLevel. Jaques saw this as a deviation from the theory.

*** Hansen used 'Index of Order of Association.'

Kvålseth: see pages 82 and 93.

Hansen: see pages 6 and 32. (1974 study at Canadian army land base.)

Hansen: see pages 4, 10 and 23. (1975 study on three Canadian naval units.)

Wirth: see pages 64, 81, 100, 184-189, 201-202, and especially 152.

Wirth's figures for multiple functional units in three transportation companies ranged mostly from $+0.93$ to $+0.99$. The average was $+0.96$.

^^ Mahoney (1979) linked FFP to TSD as a dimension of job content that changes according to the hierarchy level of the role. This construct is the reverse of Jaques', yet an incremental ratio still holds 1:1.33 between hierarchy levels. Mahoney was at Minnesota and later moved to Vanderbilt. This replicated Kuethe and Levenson 1964.

^^^ Nir 1999 article. Examined the differences between the sexes in managerial echelons regarding individual role TSD. There was none. Figures not reported.

Nir 1995 dissertation found a "straight relation" between the echelon's position in the hierarchy and its planning horizons and its temporal-horizons of implementing. Figures not reported in abstract.

Vinton. In contrast to Goodman, Vinton's dissertation at Iowa found a significant correlation between the employee's time horizon (Jaques' TH, close to Goodman's TE) and the organization level of the role. Vinton noticed when Goodman had used Jaques' definition of OrgLevel his correlation results shot up dramatically to +0.75 and +0.91. Goodman had dismissed these results with rhetoric. Goodman's low correlations (TVO: +0.10, not sig.; TE: +0.20, sig.) were disconfirmed. (Vinton's results were not developed toward a single number.) In 1973 Goodman abandoned his low findings. Note: Daltrey's 1982 Related Ph.D. distills FTP to a cognitive construct, which also supports Jaques.

NOTE: The average 'TSD:Hierarchy Level' correlation of these four dissertations and two studies is +0.85.

10-03-02

STUDIES, DISSERTATIONS AND WORKS ON THE PROGRESSION CURVES

The Progression Curves have gone by several different names as Jaques developed his theory: Pay Progression, Potential Progression, etc. As a result, there is no “replication” study but several independent studies showing that there is “something” there. Also, there are no “quantitative” results. Here are ten supportive studies and three validating doctoral dissertations.

Four studies used nationwide data bases or historical (longitudinal) samples to validate the existence of Jaques’ progression curves. They have included Britain (1965, 1980), The Netherlands (1965), Ireland (1970) and the United States (1973). Three dissertations have also been done on these growth curves (1967, 1990, 1997). A computer formula was even derived from the U.S. data to calculate the growth modes (1973). This part of the theory Jaques set forth in 1956, 1958, and 1961. It explains or fits this data better than any other. More studies are not needed. However, research questions need to be developed to explore and extend these findings.

Unaware of the theory:

Gifford, Walter S., 1928, “Does Business Want Scholars?” *Harper’s Magazine*, New York, NY, May, 156:671-674. (Jaques disagrees that this is connected to the theory.)

Royal Institute of Chemistry, 1956, “Remuneration Survey 1956,” *Journal of the Royal Institute of Chemistry*, London, U.K., September. See Fogarty 1963. See also Henry Phelps Brown 1977 for 1962 update.

Royal Commission on Doctor’s and Dentists’ Remuneration, 1960, *The Report of the Royal Commission on Doctor’s and Dentists’ Remuneration (Command 939)*, [1957-1960], H.M.S.O. (?), London, UK. See also, Minutes of Evidence. Cited by Fogarty 1963.

British Transport Commission, 1960, *Report of the Railway Pay Committee*, [Guillebaud Committee], H.M.S.O. (?), London, UK. Cited by Fogarty 1963.

Aware of the theory:

Wijnberg, W. J., (pron. Wineberg), 1965, *Capacity and Income: A Study of the Distribution of Individual Capacity and Income Structure, Extending the Theory of Elliott Jaques*, The Department of Research and Documentation, General (?) (Central?) Employer’s Association, Haarlem, The Netherlands. Dutch Title: Capaciteit en inkomen. Een studie van de verdeling van de individuele capaciteit en de inkomensstructuur naar aanleiding van de theorie van Elliott Jaques door de afdeling research en documentatie van de Algemene Werkgevers-Vereniging. Published: Z.pl., 1965.

Routh, Guy, 1965, *Pay and Occupation in Great Britain 1906-1960*, Cambridge University Press, Cambridge, UK. (See also 1980, 2nd edition)

Homa Hunt, Edna Beatrice, 1967, *The Dynamic Inter-Relationships Among Work, Payment and Capacity*, D.B.A., thesis in Business Administration, Graduate School of Business Administration, Harvard University, Boston, MA.

Behrend, Hilde, Ann Knowles, and Jean Davies, 1970, "Views on Income Differentials and the Economic Situation (Findings from a National Sample Survey)," *Economic and Social Research Institute*, Paper No. 57, Dublin, Ireland, 69 p. Cited in Evans 1977/1979 who thought the authors were unaware of Jaques - but they were.

Nystrom, Paul C., 1973, "Equity Theory and Career Pay: A Computer Simulation Approach," *Journal of Applied Psychology*, 57(2):125-131. United States.

Routh, Guy, 1980, *Occupation and Pay in Great Britain 1906-1979*, 2nd ed., Macmillan Press, London, UK. 269 pages. Citation of Jaques and comments were retained from the first edition (1965).

Macdonald, Ian, 1990, *Identity Development of People With Learning Difficulties Through the Recognition of Work*, Ph.D., thesis in Psychology of Personality (B2b), Brunel University, (West London), Uxbridge, Middlesex, U.K., 378 pages.

King, Sandra West, 1997, *Managerial Leadership Capability and Organizational Performance: The Relationship Between Predecessors' and Successors' Potential Capability and Organizational Performance Following a Succession in Family-Owned Businesses*, Ph.D., dissertation in Business Administration and Sociology, The George Washington University, Washington, DC, 138 pages.

10-03-02

Draft: Not Complete

**STUDIES, DISSERTATIONS AND WORKS
ON THE
EQUITABLE WORK PAYMENT SCALE**

Jaques 1956, 1957, 1957, 1958/1961, 1961, 1962. (Based on studies in 1954 and 1955 at Glacier.)

Behrend, 1957. *

Taylor and Pierson, 1957. *

British Transport Commission, 1960. *

Royal Commission on Doctor's and Dentists' Remuneration, 1960. *

Routh, 1965/1980. *

Wijnberg, 1965.

Krimpas/ Brunel, 1968/1973/1975. PhD and book.

Cameron, 1976. MA and pamphlet.

Theocharakis, 1990. Unpublished PhD. Cambridge.

* Fogarty 1961 and 1963 cited these studies as validating evidence of Jaques' equitable work payment scale.

None of these appeared in reviewed journals except for Jaques 1957, 1958/1961, and Behrend 1957. This presents a serious second-level problem. Since TSD and FFP have been firmly resisted by academics, is it impossible to present the full differential wage scale to editors? Is this too big a leap by itself? Very likely.

10-03-02

Not complete**WORKS ON THE 'EFFORT BARGAIN'**

Hilde Behrend, Professor of Industrial Relations at Edinburgh, adapted Jaques' 1956 concepts to labor economics in 1957 as the "effort bargain." Other terms were added later, including the effort-wage bargain, equity theory, the rigidity of wages/ wage rigidity, sequential effort-wage negotiations, internal labor market, internal wage structure, fairness as a constraint, agency theory, the employment contract, unmeasured ability, segmented labor markets, and the architecture of economic systems. Many articles and books have been written on these topics.

Kaboolian, Linda, 1990, *Shifting Gears: Auto Workers Assess the Transformation of Their Industry (Collective Bargaining)*, PhD, dissertation in Sociology, Industrial and Labor Relations; Business Administration, University of Michigan, Ann Arbor, MI, 791 pages.

Small, Ian Christopher, 1995, *The Theory and Effects of the UK's Supply-side Policies on the Labour Market*, Ph.D., thesis in Labour and Wages; Industrial Relations, B9c, University of London, Queen Mary and Westfield College, London, UK, 241 pages.

Charness, Gary Burton, 1996, *Psychological Influences on Individual Decision-making in Economic Environments: Some Experimental Investigations*, PhD, dissertation in Economics and Psychology, University of California, Berkeley, CA, 135 pages. (See articles in 2000 and 2002.)

Charness, Gary, and David I. Levine, 2000, "When Are Layoffs Acceptable? Evidence from a Quasi-Experiment," *Industrial and Labor Relations Review*, Cornell U., Ithaca, NY, April, 53(3):381-400.

Charness, Gary, and David I. Levine, 2002, "Changes in the Employment Contract? - Evidence from a Quasi-experiment," *Journal of Economic Behavior and Organization*, 47(4):391-407. Internal wage structure.

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Related:

McDonald, John C., 1958, "Social and Psychological Aspects of Night Shift Work," Ph.D., Thesis in Sociology, Psychology and Economics, University of Birmingham, Birmingham, UK. (Wilhelm Baldamus and Hilde Behrend were likely the research supervisors.) Not seen. No abstract available. Unpublished. Too early to be in Birmingham Library on-line catalogue. Described in Wilhelm Baldamus 1961 (p. 113, 104-105, 133).

Vainiomäki, Jari Turkka Juhari, 1999, *Essays on Non-competitive Markets, Effort and Wages (BL)*, Ph.D., thesis in Labour and Wages; Industrial Relations, B9c, University of London, London School of Economics and Political Science, London, UK, 233 pages.

Master's:

Facey, Paul R., 1987, *The Organization and Control of the White-collar Labour Process: a Case Study of a Canada Employment Centre*, M.A., thesis in Labour and Wages; Industrial Relations, B9c, University of Warwick, Coventry, UK. Theses # 41-7275. See Ph.D.

Andrews, Martyn, and Robert Simmons, 1995, "Are Effort Bargaining Models Consistent with the Facts? An Assessment of the Early 1980s," *Economica*, London School of Economics and Political Science, London, UK, August, [New series] 62(247):313-334.

Hall, Robert E., 1975, "The Rigidity of Wages and the Persistence of Unemployment," *Brookings Papers on Economic Activity*, The Brookings Institute, Washington, DC, Vol. 1975(2):301-335. See pages 302 and 331.

Stiglitz, Joseph E., 1987, "The Causes and Consequences of the Dependence of Quality on Price," *Journal of Economic Literature*, American Economic Association, March, 25(1):1-48. See Pankhurst 1990 PhD, *The Quality of Labour*.

Pankhurst, Kate, 1990, *The Quality of Labour: the Economics of Discretion and of Learning During Work*, Ph.D., thesis in Economics (Industrial Psychology/ Sociology) (B9g), New Hall, University of Cambridge, Cambridge, UK. Theses # 39-8614. BLDSC no. D60707. [Univ. Lib.] PhD.16180. Unpublished thesis. See Ph.Ds. See Stiglitz 1987.

Akerlof, George A., 1981, "Jobs as Dam Sites," *Review of Economic Studies*, January, 48(1):37-49. The person must match the job.

Akerlof, George A., 1984, "Gift Exchange and Efficiency-Wage Theory: Four Views," *American Economic Review*, Papers and Proceedings of the 96th Annual Meeting of the AEA, May, 74(2):79-83.

Akerlof, George A., and Janet L. Yellen, 1988, "Fairness and Unemployment," *American Economic Review*, Papers and Proceedings of the 100th Annual Meeting of the AEA, May, 78(2):44-49.

Akerlof, George A., and Janet L. Yellen, 1990, "The Fair Wage-Effort Hypothesis and Unemployment," *Quarterly Journal of Economics*, Harvard and MIT, Cambridge, MA, May, 105(2):255-283.

Fogarty, Michael Patrick, 1963, "Portrait of a Pay Structure," chapter 1 in J. L. Meij, ed., 1963, *Internal Wage Structure*, North-Holland, Amsterdam, The Netherlands, p. 1-114.

Kahneman, Daniel, Jack L. Knetsch, and Richard Thaler, 1986, "Fairness as a Constraint on Profit Seeking: Entitlements in the Market," *American Economic Review*, AEA, September, 76(4):728-741. Expanded by Charness and Levine (2000, 2002) who found this held in Silicon Valley as well.

Haskel, Jonathan, and Amparo Sanchis, 1995, "Privatization and X-Inefficiency: A Bargaining Approach," *Journal of Industrial Economics*, Basil Blackwell, Oxford, UK and Cambridge, MA, September, 43(3):301-321. Challenges the definition of "effort" as a form of agency theory.

Williamson, Oliver E., 1964, *The Economics of Discretionary Behavior*, Prentice-Hall, Englewood Cliffs, NJ. This has nothing to do with Jaques. This is a well-known book on agency theory in economics.

Jaques, Elliott, 1976, *A General Theory of Bureaucracy*, Heinemann, London, UK, and Exeter, NH; and Halsted/ Wiley, New York, NY. Reissued 1981. Also, 1993, Gregg Revivals, Aldershot, UK. Available from Cason Hall, Gloucester, MA. Chapter 3. Bureaucracy and the Employment Contract.

Ludeke, J.T. (John Terrence), 1996, *The Line in the Sand: The long road to staff employment in Comalco*, Wilkinson Books, Melbourne, VIC, Australia.

10-03-02

This is not complete**CASES ON REQUISITE ORGANIZATION**

This list is pulled from the Bibliography. I did remember to add the word “case” when I suspected a case was somewhere in the neighborhood. Some are anti-cases that show what goes wrong.

Anderson, Paul A., 1983, “Decision Making by Objection and the Cuban Missile Crisis,” *Administrative Science Quarterly*, June, 28(2):201-222. This case develops an alternative to the standard description of the rational, information laden planning exercise. Here we see decision by objection, which emphasizes sequential choice, goal discovery, and the avoidance of failures. The top executive’s role is to introduce order into complexity so SOME feasible action can emerge. A unique situation, to be sure. See also, G. Allison’s version 1999.

Applegate, Lynda M., Donna B. Stoddard, and Melinda B. Conrad, 1995 (rev.). *Connor Formed Metal Products*. HBS Case 9-193-003. Harvard Business School Publishing. Boston, MA. 20 pages. An automated version of the ‘andon’ cord. How to structure the employment relationship according to both Jaques and Deming.

Bartlett, Christopher A., 2001, “Enron’s Transformation: From Gas Pipelines to New Economy Powerhouse,” *Harvard Business School*, Boston MA, Case #9-301-064, Revised October 9, 2001. The inspiring story of how Enron (with help from top consultants, auditors, stock analysts, and investment bankers) reinvented itself from a “regulated” hierarchy into a star-based “partnership” based on a “free market for talent” and then blew itself to smithereens. This was the opposite of what Jaques proposed.

Billis, David, 1977, “Differential Administrative Capacity and Organisational Development: A Kibbutz Case Study,” *Human Relations*, London, UK. 30(2):109-127.

Bouchard, Joseph Frederick, 1991, *Command In Crisis: Four Case Studies*, Columbia University Press, New York, NY, 325 pages. Bouchard makes no mention of Jaques or Charles Perrow or of Eliot A. Cohen and John Gooch. (???)

Brinkley, Douglas, 1998, *Unfinished Presidency, Jimmy Carter’s Journey Beyond the White House*, Penguin, New York and London. A case. Carter has continued to grow and seek challenges. (Clinton faces a similar set of personal issues now that he is out of office.)

Cashman, Paul M., and David Stroll, 1987, “Achieving Sustainable Management of Complexity: A New View of Executive Support,” *Office: Technology and People*, Elsevier Science, Amsterdam, Netherlands, 3:147-173. DEC adopts SST. A case. A case!

Cohen, Eliot A., and John Gooch, 1990, *Military Misfortunes, The anatomy of failure in war*, The Free Press, New York, NY. 296 pages. A detailed examination of how the levels of

organizations interact when one organization collides with another on the battlefield. How one army fails under the impact of battle. (Many concepts drawn from Charles Perrow's *Normal Accidents*.) This book complements Jaques' SST/RO theory. A case? See Engles and Ferrill.

Connor Formed Metal Products. HBS Case 9-193-003. The 'andon' cord. See Lynda Applegate.

Cornog, Evan, 1998, *The Birth of Empire, DeWitt Clinton and the American Experience (1769-1828)*, Oxford University Press, New York and Oxford, UK. Clinton built the Erie Canal and opened the Great Lakes and West. A perfect example of time-horizon of a major public figure. A case. (See Cornog's Related 1996 PhD)

Dalton, Gene W., Louis B. Barnes, and Abraham Zaleznik, 1968, *The Distribution of Authority in Formal Organizations*, Harvard University Press, Harvard Business School, Cambridge, MA, 229 p. Jaques 1951 was featured in Chapter 5, "Change in Organizations" (p. 108-147). While changing the structure of an organization is one of the most powerful and easily accessible tools of management, little serious study has been done on it. Jaques got the moose off the table at Glacier through his social analysis methods. (The other study, by Paul Lawrence in 1958, was an HBS case on behavioral change during the decentralization of a supermarket chain.) [I did not copy chapter.] (See Zaleznik and Moment 1964.) NYPL HUM gen Res D-18 8544. Seen.

Dixon, F. Maureen, 1982, *The Organization of District Health Councils in Ontario* [Report on a research project funded by the Ontario Ministry of Health, demonstration model grant 332], Ph.D., thesis in Community Medicine (G3), Brunel University, (West London), Uxbridge, Middlesex, U.K. Theses # 32-8917. BLL no. D44419/83. Uxbridge PH.D.D58. Not in UMI. Sponsored by BLOSS. Published as: Dixon, Maureen, 1981, *The Organization of District Health Councils in Ontario*, Ontario Ministry of Health, London, ON, Canada, December, 212 p. [U. Toronto has a copy.] A case.

Everstine, L., and Crossman, E.R.F.W., 1965, "Case Studies in Time-Span Measurement," Human Factors in Technology Research Group, Department of Industrial Engineering and Operations Research, University of California, Berkeley, CA. [Working Paper] Unpublished.

Fairfield, Julian, 2002, *Levels of Excellence, a management novel*, Random House Australia, Sydney, NSW, and Melbourne, VIC, AU, February, Pbk. A business book written in the form of a novel. Offers a real-world example of how Jaques' Levels Theory and the McKinsey Seven-S model can be combined. A case.

Fallon, Ivan, 1991, *Billionaire*, Hutchinson / Random Century, London, U.K. The life of Sir James Goldsmith. Several extended quotes reveal his level of mental complexity. His actions reveal, however, a value system that is self-rooted. A case.

Glacier Metal Company Ltd. Case, 1964, Harvard Business School, Boston, MA. Reported in anonymous *Business Week* article, "Playing Guinea Pig," on Nov. 7, 1964, p. 166-170. Case was allegedly written by Professor Pearson Hunt. However, HBS has no record of such a case.

Gould, Allan, 1991, "The Universe of the Outside Consultant," *Canadian Business*, CB Media, Toronto, ON, September, 64(9):70-75. Suncor, Canadian division of Sunoco, used SST / RO. See Douglas MacKenzie 1992. A case?

Harvard must also have many cases based on QWL, STS and other fads. The old People Express case comes to mind. I do not know if it is still in print. It was based on Hackman's model and it blew up.

Hay, Michael, and Peter Williams, 1991, "Strategic Staircases: Planning the Capabilities Required for Success," *Long Range Planning*, Pergamon Press, London, UK, 24(4):36-43. They examine the case of Komatsu's strategic thinking to catch Caterpillar. There are no citations of Jaques but the authors start, "Creating an adequate supply of requisite skills and competitive capabilities is a fundamental objective of strategy." 'Nuf said.

Hunt, James G. (Jerry), and Arja Ropo, 1995, "Multi-Level Leadership: Grounded Theory and Mainstream Theory Applied to the Case of General Motors," *Leadership Quarterly*, JAI Press, Westport, CT, 6:379-412. (Note follow-up articles in book.) Is this a "case"?

Jaques, Elliott, 1950, "Studies In The Social Development Of An Industrial Community," (The Glacier Project - Part I: Case Study), collaborative group methods in a wage negotiation situation, *Human Relations*, Kluwer/Plenum, US, 3(3):223-49. Is this a "case"?

Jaques, Elliott, and Wilfred Brown, 1964, *Product Analysis Pricing*, Heinemann Educational Books Ltd., London, UK. [Brown is listed as first author, q.v.] A case study of the pricing and cost systems at Glacier Metal. Gives the feel of the MD's role running a job shop.

Jaques, Elliott, and Duguid, Andrew, 1971, *Case Studies in Export Organization*, Dept. of Trade and Industry, Board of Trade, Organization for Overseas Marketing, Her Majesty's Stationary Office, London, U.K., 183 pages. (Includes reprint of "Organization for Overseas Marketing," 1969, Board of Trade export handbook No. 3.) Published with Duguid as first author. [Elliott says there was no theory in this book. However, see Jaques 1976, p. viii-xi.] Marketing.

Kvålseth, T.O., 1967, "Some Further Case Studies in Level of Work Analysis," Human Factors in Technology Research Group, Department of Industrial Engineering and Operations Research, University of California, Berkeley. [Working Paper HFT 67-6] Unpublished. **ASK** Kvålseth at Minn.

Lewis, Philip, 1996, "Transformational Change Using Stratified Systems Theory," *International Journal of Public Administration*, 19(6):801-826. An unusual application of SST. (A case.) Ludeke, J.T. (John Terrence), 1996, *The Line in the Sand: The long road to staff employment in Comalco*, Wilkinson Books, Melbourne, VIC, Australia. A sustained application of the theory at Comalco/ CRA/ Rio Tinto/ RTZ. A case study. Individual employment contracts.

Macdonald, Geraldine, 1990, "Allocating Blame in Social Work," *British Journal of Social Work*, 20:525-546. The context matters. Reply: Hollis, Martin, and David Howe, "Moral Risks

in the Social Work Role: A Response to Macdonald.” p. 547-552. Counter-Point: Macdonald, Geraldine, “Moral Risks? A Reply to Hollis and Howe,” p. 553-556. This messy discussion emerges from the absence of a knowledge of systems and accountability. Painful. See Cohen and Gooch for a discussion of the errors in this dynamic. (This is an anti-case.)

MacKenzie, Douglas, 1992, “Corporate Restructuring: A Better Approach,” *Oil and Gas Journal*, Tulsa, OK. Sep 7. Suncor, Sunoco. [A Case.] See Allan Gould 1991.

Miller, J; Clement, S; Hoskins, C; Schloss, H; under Russ Zajtchuk, BG, MC; 1995, *United States Army Medical Department Reorganization. (3 Volumes)*. NTIS, Springfield, VA, 22161, USA. Office of the Surgeon General (Army), Falls Church, VA, 16 Jun 1995.

Volume 1 - Narrative. 81 pages. ADA2966471. (Notes: ADA296643, ADA296644, ADA296645, ADA296646.) [A long case.] ***

Oakeshott, Robert, 2000, *Jobs and Fairness, the logic and experience of employee ownership*, Michael Russell Publishers, Wilby, Norwich, UK. Chapter 15 (p. 227-265) is ‘The Baxi Partnership’ a history of Richard Baxendale & Sons, the adoption of Glacier theory and practices in the 1960s, the sale of Baxi to the employees in 1983, and the expansion into the EC from 1992. (No footnotes. References are in the text. Data ends in 1996.) Mentioned Wilfred Brown and Jaques. A case ?

Phillips, Lawrence D., 1982, “Requisite Decision Modelling: A Case Study,” *Journal of the Operational Research Society*, U.K., April, 33(4):303-311. Phillips was still at Brunel when he wrote this article.

Phillips, Robert L., and James G. Hunt, eds., 1992, *Strategic Leadership, A Multiorganizational-Level Perspective*, Afterword by Robert J. House, Quorum Books/ Greenwood Publishing, Westport, CT and London, UK. This book is the result of a 1991 conference sponsored by the U.S. Army ARI and the War College. Chapter 11. Stratified Systems Theory and Dynamic Case Study Perspectives: A Symbiosis, James G. Hunt and Arja Ropo;

Quaid, Maeve, 1993, *Job Evaluation: The Myth of Equitable Assessment*, University of Toronto Press, Toronto, ON, Canada, 283 pages, Pbk, 1996. See Montemayor 1994 book review. A case. (See Evans, Acker, Hellriegel) [SIBL] See Related 1988 PhD by Quaid.

Quaid, Maeve, 1993, “Job Evaluation as Institutional Myth,” *Journal of Management Studies*, Oxford, UK, March, 30(2):239-261. The article version. A case. (See Evans, Acker, Hellriegel)
Raby, Namika, 1991, “Participatory Management in Large Irrigation Systems: Issues for Consideration,” *World Development*, Pergamon Press, Oxford, UK and New York, NY, 19(12):1767-1776. A case?

Rigby, CK; Harris, PA, 1987, *Program Management Offices: Structural Modeling through Application of Stratified Systems Theory*, NTIS, Springfield, VA, 22161, USA. Apr 1987. 72p. Report: ARITR-736, ARITR736; ADA1819408. Models of SST organizational structure were explicated at Levels V, IV, and III, and two PMO models were constructed. A Case.

Sauer, John R., 1999, "CEO Succession Planning in a Petroleum Exploration Company A Case Study," *Consulting Psychology Journal: Practice and Research*, Winter, 51(4):266-272. This case study reviews a CEO succession project. Cited Jaques R.O. 1996.

Schlemenson, Aldo, 2000, "La Administracion Tributaria: Organizacion y Recursos Humanos," (Tax Administration: Organization and Human Relations), *Enoikos*, Revista de la Facultad de Ciencias Economicas de la Universidad de Buenos Aires, Buenos Aires, Argentina, Junio, Ano VIII, N° 16. The article gives a case account of an organizational structure and talent pool development project in the Argentine tax administration (AFIP).

Stace, Doug, and Les Blackstock, 1992, "On a Roll: Business Turnaround at Comalco Rolled Products," Centre for Corporate Change, *Australian Graduate School of Management*, University of New South Wales, Kensington, NSW, AU, 21 pages. Yennora NSW aluminum plant. Case studies. **UNSW library. Ask Helen D.**

Whittington, Colin, 1975, "Organizational Research and Social Work: Issues in Application Illustrated from the Case of Organic and Mechanistic Systems of Management," *British Journal of Social Work*, 5(1):59-74. How Burns and Stalker could be applied to social work institutions. (See 1975 M.A. thesis at Keele)

Wilkins, Peter (1961-), 1992, *Managing New Technological Change: case studies in the reorganization of work*, Avebury/ Gower/ Ashgate, Aldershot [England]; Brookfield, VT This was six case studies on the impact of changing technology on job definitions. This was six case studies on the impact of changing technology on job definitions. See Related 1990 Ph.D.

Wilkins, P. R., [Peter?], 1993, *The Development and Validation of an Integrated Salary System Based on Stratified Systems Theory*, **Career Search**, Trowbridge, UK, 14 pages. Original report: February 1989. Revised edition, 1993. Head of cover title: "Career Search experimental and occupational psychologists." (Brunel Library in UK has it: HD4926.W54 1993.) See Related 1990 Ph.D. Not seen.

Witte, John F., 1980, *Democracy, Authority, and Alienation in Work: Worker's Participation in an American Corporation*, University of Chicago Press, Chicago, IL, and London, UK, 216 pages. Closely based on his 1978 PhD dissertation at Yale. This was a study of a three-year application of the Tavistock Socio-Technical Systems (STS) [quality of work life (QWL)] in a US firm. Its "success was in areas marginal to the existing operational core of the corporation." It was not supported by most employees and many managers were hostile. This form of "worker participation" failed. Again. An excellent case write-up. An anti-case. (Is this what happened to STS in the coal industry in the UK?) Cited Jaques 1951 once but did not cite Brown at all on worker participation or on joint councils. [Where is he now?]

Worthy, James C., 1950, "Organizational Structure and Employee Morale," *American Sociological Review*, April, 15(1):169-179 [or 15(2):33-39]. Vice President of Sears, Roebuck & Co. Old-fashioned driver-managers use fear and control but this is no longer working. Flat

organization helps morale. This looks **Requisite** with only four levels between division head and the employees. This was a vigorous dissent from classical span of control theory (see Urwick 1938).

Worthy, James C., 1984, *Shaping an American Institution, Robert E. Wood and Sears Roebuck*, U. Illinois Press, Chicago, IL. Worthy by this time was a professor at Northwestern's Kellogg School, so Porter and Lawler were not taken very seriously in Chicago. Sears may have been **Requisite** from 1945 into the 1960s. This may be A BIG CASE. **Get This !!!! Biz Lib - not on shelf** Stolen! Barnard has it. BUY it. - See **Strand**.

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Ahern, Eileen, 1953, "Book Review of *The Changing Culture of a Factory* by Elliott Jaques," *Industrial and Labor Relations Review*, October, 7(1):151-153. Book contains five case studies on change. It took three years for major changes to come about.

Montemayor, Edilberto, 1994. "Book Review of *Job Evaluation: The Myth of Equitable Assessment* by Maeve Quaid," *Personnel Psychology*, 47(3):676. Case study of a Hay job evaluation from a novel and richly anecdotal socio-political perspective that focuses on influence tactics. It reveals the process is an institutionalized myth - a set of beliefs that can not be objectively tested.

Schaffer, Peter, 1981, *Amadeus*, Harper & Row, NY, NY. Movie version released 1984, director Milos Forman, with F. Murray Abraham, Tom Hulce, Elizabeth Berridge and Jeffery Jones. HBO Video, 1984, VHS. Pioneer DVD, 1996. 158 mins, color. How different levels of information processing impact behavior of humans toward each other. Directly related to Jaques. A case.

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Schlemenson, Aldo Eduardo, 1984, *Entrepreneurial Organizations: The Printing Shop*, Ph.D., dissertation in Sociology, Brunel University, (West London), Uxbridge, Middlesex, U.K. (in English), 520 pages. [Theses # 34-727. BLL no. D50530/84, PH.D.S34.] Published in Spanish as *Analisis Organizacional y Empresa Unipersonal*, Crisis y conflicto en contextos turbulentos, 1987, Ediciones Paidos, Buenos Aires, Argentina. (2nd ed. 1993, 3rd ed. 1998.) A longitudinal case study of a single three-stratum entrepreneurial firm, a printing shop, was developed using Jaques' social analysis methodology.

Theocharakis, Nikolaos, 1990, *An Investigation of the Relationship Between Responsibility and Pay*, Ph.D., thesis in Economics (Labour and Wages, Industrial Relations: B9c), University of Cambridge, Cambridge, UK, [length unknown]. Theses # 40-5404. BLDSC: D061482. Univ.Lib. PhD.16542. The practice of job evaluation and a case study of the pay structure of a Greek refinery are examined. Not seen.

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Cliffe, John, 1984, *Works Councils: A Case Study*, Ph.D., thesis in Sociology (Labour and Wages, Industrial Relations), (B9c), Brunel University, (West London), Uxbridge, Middlesex, U.K. Theses # 34-678. BLL no. D50296/84. Uxbridge PH.D.C56, 188 pages. No abstract on-line. Abstract not seen. Given the topic and school, a connection to Jaques, Brown, or Glacier is likely. Ask Joanna.

Quaid-Ahlstrand, Maeve Marion, 1988, *What Does Job Evaluation Do? A Case Study*, D.Phil., thesis in Personnel Management and Industrial Training (B9d), Faculty of Social Studies, University of Oxford, Oxford, UK. MS: D.Phil. c. 7456, 387 pages. Theses # 39-3033. Published as: Quaid, Maeve, 1993, *Job Evaluation: The Myth of Equitable Assessment*, University of Toronto Press, Toronto, ON, Canada, 283 pages. The case was the introduction of the 'Hay' job evaluation plan involving 1,200 supervisory, managerial and professional government employees.

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Facey, Paul R., 1987, *The Organization and Control of the White-collar Labour Process: a Case Study of a Canada Employment Centre*, M.A., thesis in Labour and Wages; Industrial Relations, B9c, University of Warwick, Coventry, UK. Theses # 41-7275. Central Campus Library: res DIS 1987 222-3, Ref. Unpublished. Abstract seen. Found at the point of white-collar production that "particularistic relations continued to exist" even in a large bureaucratic organization which "underwrote a thorough-going individualism." (Not clear whether these relationships were vertical, horizontal or both.) This resembles mutual knowledge and included the effort bargain.

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***Interesting Doctoral Dissertations That
Might Be Affiliated with Jaques' Theory***

(43, arranged by date)

During my searches I came across the following forty-three *interesting* doctoral dissertations. These are not directly related to the theory but many cast an interesting light on some aspect of it. This 'Interesting' list is intended to serve as a starting point for anyone wishing to undertake research toward an extension of the theory. It should be viewed as insinuating and provocative - and fun. Other people may dispute my choices here, but who knows the direction in which the research will develop? Four have been published as books (Patchen, C.E. Harvey, Caruso, Bouchard) and four as articles (Billis, J. E. Newman, McIntyre, ogilvie). No Masters essays were included here.

Pre-1970s

Roy, Donald, 1952, *Restriction of Output in a Piecework Machine Shop*, Ph.D., dissertation in Sociology, University of Chicago, Chicago, IL. Advisor: Everett C. Hughes. Published as articles in 1952-1953-1954 and 1959. These classic articles shook up a lot of people in economics, industrial relations, sociology, etc. They are also very funny. Roy revealed Goldbricking had not been ended by Taylorism and probably had been exacerbated by it. Also, he discovered the term 'banana time.' Behrend 1957 and Brown 1962 cited the article.

Hilpert, John Meier, 1956, *An Investigation of Problems in Attempting to Extend the Use of Work Measurement Concepts - Administrative Work*, Ph.D., dissertation in General Engineering, University of Iowa, Iowa City, IA, 100 pages. Chairman: J. Wayne Deegan. UMI AAT 0016115. DAI-A 16/04, p. 718, 1962. Mic 56-1119. The work measurement concepts of time study and work sampling were applied to administrative work. They were unsuccessful due to the nature of this work - "non-repetitive, non-standard, and non-manual." The "successes" of others were found to be due to the work first being redefined closer to manual, repetitive, and standard. Thus it became similar to manual production or assembly work. Making work more repetitive reduced the information processing component by taking the planning, decision, and initiative functions out of the work. A technique to rate mental effort was needed to allow work measurement to be extended to cover mental work. Thus, the need for a method to measure mental effort was evident in 1956 to at least one person other than Jaques. (See Jackson 1989 Related PhD.)

Patchen, Martin, 1960, *The Choice of Wage Comparisons*, PhD, dissertation in Social Psychology, University of Michigan, Ann Arbor, MI. 158 pages, DAI-20/12, p. 4739, Aug 1970. UMI: AAT 6001786. Published as a book in 1961, *The Choice of Wage Comparisons*, Prentice-Hall, Englewood Cliffs, NJ. 123 pages. CU Lib # HD4909.P27 Patchen found

employees used multiple comparisons when considering what is a fair wage. This conflicts directly with Jaques' findings. Most academics favored Patchen's approach and spend years searching for this elusive comparative "other." Pritchard 1969 article indicated there was no "other" but an internal standard - as Jaques claimed.

Ghare, Prabhakar Mahadeo, 1965, *Optimal Resource Allocation in Activity Networks*, Ph.D., dissertation in Engineering, Oklahoma State University, Stillwater, OK, 93 pages. UMI AAT 6604009. DAI-B 27/02, p. 446, Aug 1966. The duration (time) of an activity can be controlled by management through the modification of the resources allocated to it. These two variables are used to optimize use of limited resources while minimizing the total time required for the execution of the project. Task: Quantity, Timeliness and Resources. Probably "assumes" Quality. [Cited by Jackson 1989 PhD Related]

1970s

Billis, David, 1971-72, *The Process of Planning in the Kibbutz: A Case Study*, Ph.D., thesis in Social Structure, (B5b), London School of Economics, University of London, London, UK. Theses # 22-1726. No abstract on line. Thesis not seen. See, Billis, David, 1977, "Differential Administrative Capacity and Organisational Development: A Kibutz Case Study," *Human Relations*, 30(2):109-127. Billis joined BIOS in the early 1970s and began writing extensively on Jaques' theory and its application in 1974. Jaques says Billis thesis was not related to the theory. The above later article links the two.

Bedeian, Arthur G., 1973, *A Standardization of Selected Management Concepts*, DBA, dissertation in Business Administration, Mississippi State University, State College, MS, 395 pages. UMI AAT 7325719. DAI-A 34/05, p. 2085, Nov. 1973. Published as: Bedeian, Arthur G., 1974, "A Historical Review of Efforts in the Area of Management Semantics," *Academy of Management Review*, March 1974, 17(1):101-114. The problem of the "tower of babel" in management semantics has been addressed since the 1920s. But all efforts to "break the semantic barrier" and create "a taxonomy of management theory and work" ... "have failed to gain universal acceptance." (p. 108) Without definitions there can be no science. Attributed notable contributions in the development of management terminology to Col. Lyndall Urwick (1920s-1960s, **1965**), Harold Koontz (1961, 1962, **1964a**, 1964b), and Wilfred Brown (**1960**, **1971**). (Bold are all references to Brown.) Dismissed the glossaries in specific books (including Brown's) as too narrow to help the field as a whole. Did not cite Jaques.

Cicchinelli, Louis Frank, 1974, *Hierarchical Organization of Information in a Stimulus Classification Task*, Ph.D., dissertation in Experimental Psychology, University of Denver, Denver, CO, 108 pages. UMI 7509548-?, DAI-B 35/10, p. 5147, Apr 1975. Investigated the way people organize information from a visually displayed stimulus. Information was discriminated and categorized the information using a serial contingent mode of information processing into an organizational structure. Classification process interacted with the selection of the dimensions for discrimination and the development of a useful organization structure. **Very interesting.**

Newman, John E., 1974, *Understanding Employee Reactions to the Work Environment Through Personal and Organizational Frames of Reference and Perceptions of the Work Environment*, Ph.D., dissertation in Industrial Psychology, University of Illinois, Urbana-Champaign, IL, 212 pages. UMI AAT 7414589. DAI-B 35/03, p. 1438, Sep 1974. Published as an article: Newman, John E., 1975, "Understanding the Organizational Structure - Job Attitude Relationship Through Perceptions of the Work Environment," *Organizational Behavior and Human Performance* [now ...*Human Decision Processes*], 14(3):371-397. Discovered employee job attitudes were most strongly related to the organizational structure characteristics. "This puts a new perspective on the manager's job. He is not just a manager of people. He is a manager of the people-work environment system." This insight was a breakthrough for Industrial Psychology. Does not cite Jaques or Deming.

Karasek, Robert Allen, Jr., 1976, *The Impact of the Work Environment on Life Outside the Job*, Ph.D., dissertation in Civil Engineering, Massachusetts Institute of Technology, Cambridge, MA. Not available from UMI. ADD X1976. See Karasek 1979 article in ASQ. Jaques has been very interested in the impact of the work environment on the rest of life. Article parallels Jaques closely but does not cite him. (???)

Miller, Robert L., 1976, *Authoritarianism As a Moderator of the Relationship Between Field Dependence / Field Independence and Task Performance and Interpersonal Style*, Ph.D., dissertation in Industrial Psychology, Cornell University, Ithaca, NY, 86 pages. UMI AAT 7618170. DAI-B 37/02, p. 1022, Aug 1976. In ILR Library. (Research Fellow, School of Social Sciences, Brunel University: see study John Evans, Krimpas and Robert L. Miller, 1968; results published in Jaques 1969; study formed basis for Krimpas 1973 PhD; published in Krimpas 1975; later left to go to Cornell University.) Presentation and article: "Difficulties in the Use of the Time-Span Technique to Measure Level of Work," in Grimes, Andrew J., ed., 1969, *The Glacier Project: A Compendium*. Reprinted in Gray, Jerry L., ed., 1976, *The Glacier Project: Concepts and Critiques*. (See Miller, Robert L., 1972, "A Test of the Relationship Between Time-Span of Discretion and Fair Pay for Work Using Library Personnel," New York State School of Industrial and Labor Relations, Cornell University, Ithaca, NY. Results published in Goodman and Miller 1973 Book Review in ASQ.) "Authoritarianism" does not refer to the authority-centered groups in Jaques' theory vs the democratic or leaderless groups studied by Lewin, Bion and Tavistock. This dissertation is pure psychology. The hypotheses on the relationship of authoritarian personality to task performance were not supported. A question: Why did he leave Brunel to get his PhD? His turn toward the mainstream did not work.

Rossan, Sheila, 1976, *Social Class, Sex, and Identity*, Ph.D., thesis in Psychology - Individual and Group Identity, (B2c), Brunel University, (West London), Uxbridge, Middlesex, U.K. PH.D.R674, 179 pages. Theses # 30-557. BLL no. D6765/77. No abstract on line. Abstract not seen. She later joined BIOSS and worked with Gillian Stamp on CPA. See her *Festschrift* article 1992. (See Day 1987 Interesting PhD) Thesis was not related, per EJ

1980s

Harvey, **Charles E.**, 1981, *The Rio Tinto Company, 1873-1954: An Economic History of a Leading International Mining Concern*, PhD, thesis in Economic History - Great Britain and Ireland (B8b), University of Bristol, Bristol, UK. (1980 Thesis A1542, 507 pages.) Theses # 31-1140. No abstract. (Published as a book: 1981, Penzance: Alison Hodge, 390 pages, maps.) Background material for any study of CRA, Comalco, Rio Tinto and the Jaques/ SST transformation there in the 1980s and 1990s.

McIntyre, John Robert, 1981, *Interagency Policy Implementation: The Case of U.S. Export Licensing of Advanced Technology*, Ph.D., dissertation in Political Science and Public Administration, University of Georgia, Athens, GA, 462 pages. Portion of the background research was published as: McIntyre, John R., and Fremont A. Shull, 1979, "Managerial Perceptions of Role Discretion as Related to Selected Organizational and Personal Variables: An International Study," *Management International Review*, Weisbaden, Germany, Vol. 19, Iss. 4, p. 69. A micro-organization level analysis of decision-making and implementation regarding the export policy of the U.S. for restricted strategic advanced technology. This involved trade-offs among security, economics, and politics to arrive at an 'optimal' decision. One objective of this study was to provide a roadmap of this process and to suggest improvements. Marketing. (This study may relate in part to Duguid and Jaques, 1971.) (Currently professor at Georgia Tech, Atlanta, GA)

Bird, Barbara Jean, 1983, *Intentional Maps of Entrepreneurs*, Ph.D., dissertation in Business Administration, University of Southern California, Los Angeles, CA, length unknown. Not Available from UMI. DAI-A 44/05, p. 1556, Nov 1983. Advisor: Warren Bennis. Bird was unaware of Jaques. (Bennis wrote an article on Jaques' four types of organization analysis but without attribution.) This study is on the processes of creative intentionality, presenting psychological 'maps' of four entrepreneurs. It maps the domain of will and the experience of intentionality in the realization of enterprise. A detailed look at experiences of time, luck, barriers, and mistakes is presented. The role of consciousness, purpose, action, creative use of time and projection emerge as important in intentional processes. Individuals are noted to have complex loci of control, a present-centeredness, and an alignment of personal and work worlds. Two types of 'will' skills are proposed: ego and acceptance skills. Bird has since written several pieces drawing on Jaques' theory (q.v.). Bird is now at American University in DC.

Wilt, Kathryn Elizabeth, 1983, *A Punishment-Centered Bureaucracy: A Grounded Theory Approach*, Ph.D., dissertation in Business Administration, Case Western Reserve University, Cleveland, OH. 381 pages. UMI AAT 8329357. DAI-A 44/09, p. 2871, Mar 1984. Structural options in the formal design are important to the management of the bureaucracy. Unaware of Jaques. **See This.**

Day, Michael Lewis, 1987, *Adolescence: The Importance of the Peer Group and Friendship*, Ph.D., thesis in Human Sciences, Social Structure (B5b), Brunel University, (West London), Uxbridge, Middlesex, U.K. Theses # 39-2845. BLL no. DX86336. Uxbridge PH.D.D3882 (?), 404 pages. Day worked at BIOS in RTCU in the 1970s. The abstract describes the process of

research and the outline of the thesis - but not the results! [See M.Phil. on Jaques' theory, 1976.] (See Rossan, 1976, Related PhD) (See Bradford and Day, 1991, book) **Get This**

Sivaramakrishnan, Arvind, 1988, *Social Science, Professional Authority and Citizenship*, Ph.D., thesis in Political Theory (B6a), Department of Politics, University of Southampton, Southampton, UK. SU Thesis: 8808408. Theses # 38-2848. Claims of technical expertise and authoritative judgment by professionals are inextricably moral and political in nature. These claims are thus untenable. The free market is not the correct response. When citizens abdicate their own judgment to these professionals they free them from accountability. Citizens must engage with moral, political and technical issues to retain authority in the public realm. [The parallels to managers are strong, especially in the face of Taylorist, engineering and economist arguments. Operating managers must assert their managerial judgment as valid in order to retain their authority and to hold professionals, technicians and knowledge workers accountable.]

Bouchard, Joseph Frederick, 1989, *Use of Naval Force in Crises: A Theory of Stratified Crisis Interaction (Volumes I-III)*, Ph.D., dissertation in Political Science, International Law and Relations, Stanford University, Palo Alto, CA, 1236 pages (yes). UMI AAT 8912875. DAI-A 50/04, p. 1081, Oct 1989. Published as: *Command In Crisis: Four Case Studies*, 1991, Columbia University Press, New York, NY. 325 pages (whew). Bouchard makes no mention of Jaques or Charles Perrow or of Eliot A. Cohen and John Gooch. He covers much of the ground of these theories by focusing on the increasing speed and complexity of tactical-level military interaction during crises and the drive of top-level officials to establish control.

Bradley, Graham William, 1989, *Environmental Uncertainty, Planning and Organizational Performance*, Ph.D., dissertation in Business Administration, University of New South Wales, Sydney, NSW, Australia. Not available from UMI. DAI-A 51/10, p. 3457, Apr 1991. Found a positive relationship between perceived external uncertainty and level of development of planning and control systems and the congeniality of their internal planning environments. Even a correct perception of the external environment did not produce a higher relative performance. (Unaware of Jaques. Bibliography seen.) [Does this mean they could not execute a response? They could not adapt in time to avoid the iceberg?]

1990s

Caruso, Richard Ernest, 1990, *An Examination of Organizational Mentoring: The Case of Motorola*, Ph.D., thesis in Personnel Management and Industrial Training (B9d), Department of Industrial Relations, London School of Economics, London, UK, F6723, 252 pages.. Theses # 42-8341. (Published as a book: *Mentoring and the Business Environment: Asset or Liability?*, 1992, Aldershot: Dartmouth, 157 pages.) Part of Motorola's response to the Japanese challenge in the early 1980s was to enhance its employee career development activities. This included a formal, closed mentoring program. This study explored mentoring at Motorola and discovered the system in practice was actually a protégée-driven open system - a dispersed social activity. Mentoring was obtained from a variety of sources that Motorola made available. (See also Related: Hirsch 1988, Bennetts 1998, Garvey 1998.) Was his Advisor Lawrence Phillips?

Jessen, Svein Arne, 1990, *The Motivation of Project Managers: A Study of Variation in Norwegian Project Managers' Motivation and Demotivation by Triangulation of Methods*, Ph.D., thesis in Sociology and Social Administration (B9e), (UMI: Business Administration and Psychology), Brunel University, (West London), Uxbridge, Middlesex, U.K. Not available through PQDD (UMI). Theses # 40-5415. No BLL no. Uxbridge PH.D.J (???), ??? pages. ????? Too late to be influenced by Jaques???

Harvey, **John Henry**, 1991, *Educational Change In the Management of Organizational Development*, Ph.D., dissertation in Business Administration and Education, The Union Institute, Cincinnati, OH, 540 pages. UMI AAT 9211440. DAI-A 52/11, p. 3997, May 1992. [Not obtained.] This was a case study of the Sun-Canadian Pipe Line Company Limited, majority owned by Suncor, the Canadian division of Sunoco oil. Suncor adopted the Jaques' theory in its operations and organization development which led to a massive turnaround that lifted the firm from last place to first in its industry in the midst of the 1990-91 recession. The CEO gave full public credit to Jaques for the turnaround. This action research case study focused on how a self-directed learning/training technology was introduced to the firm at that same time. [Oh, what could have been!] **Get This !**

Tischler, Len, 1991, *Person-Job Personality Fit and Work Success (Personality)*, Ph.D., dissertation in Business Administration and Psychology, University of Maryland, College Park, MD, 237 pages. Advisor: Edwin A. Locke. UMI AAT 9133175. DAI-A 52/06, p. 2209, Dec 1991. Measure success (promotions) rather than work performance. Fit was to the psychological environment rather than to tasks. No significant success-fit relationship was found. MBTI personality scales were significantly different for lower versus upper level employees.

Backaitis, Nida Terese, 1992, *Rethinking the Relationship Between Customer and Supplier: Some Microorganizational Considerations*, Ph.D., dissertation in Business Administration and Management, Columbia University, Columbia Business School, New York, NY, 223 pages. UMI 9313544. Focused on the management of process risk due to variation in supplies and their negative impact on cost and quality in unanticipated ways. Deming's strategies for managing process risk conflict with industrial economics theories for managing the economic relationship between customer and supplier based on bargaining power (e.g. Porter's five forces). The superior effectiveness of single sourcing, zero-defects, just-in-time inventories, and simultaneous engineering are stressed. (See Pankhurst, 1990, for a study on Jaques' variation in quality of the labour market supply.)

Lee, Chang-Hwan, 1992, *Do Nice Guys Finish Last? An Empirical Investigation of Reputation as a Determinant of Stockholder Returns*, Ph.D., dissertation in Economics and Finance, State University of New York (SUNY) at Binghamton, NY, 124 pages. DAI-A 53/03, UMI: AAT 9217698, p. 906, Sep. 1992. The financial market rewarded improved reputation via the debt market and this increased the price of the firm's stock. Nice guys can indeed finish first, even on Wall Street.

Traniello, Adele Loretta, 1992, *Time Orientation, Time Extension, and Depressed Mood in Middle Aged and Older Adults*, Ed.D., dissertation in Education and Psychology, Boston University, Boston, MA, 206 pages. DAI-A 53/06, p. 1852, Dec. 1992. Advisor: Eileen Nickerson. Three hypotheses linked the title phenomenon to chronological age. Found time orientation and time extension are developmental phenomenon. They were not related to the depressed mood of the subjects. The younger people tended to time extend into the future, while the older people time extended into the past. [Is this hope and regret?]

Khalil, Kahlili, 1994, *An Evaluation of the Managerial Knowledge and Skills of Technical Professionals in the Construction Industry in Malaysia*, Ph.D., dissertation in Civil Engineering, Education, Psychology and Business Administration, University of New South Wales, Sydney, NSW, Australia. Not available from UMI. DAI-B 57/01, p. 540, Jul 1996. Technical professionals emphasize tasks more than people. Every group of professionals made equally good managers. Experience and discussion learning were shown to be ineffective in training managers. Formal structured courses were recommended. Unaware of Jaques. (Bibliography seen.) (See Related: Leong Hoe Yuen 1990, Dawson 1997, Haksever 1998.)

ogilvie, d.t., 1994, *The Strategic Decision-Making Process: Using Imagination to Improve Solutions in Unstable Environments*, PhD, dissertation in Business Administration, University of Texas at Austin, TX, 217 pages. UMI AAT 9428620. DAI-A 55/06, p. 1626, Dec 1994. Research has shown decision makers use local search and generate limited sets of solutions and that decision quality depended on the quality of the set of solutions from which a strategy was chosen. Tested the idea that the effects of local search on the quality of solutions generated may depend on the type of environment (stable vs. unstable) the decision maker faced and the type of strategic decision making process ('traditional' vs. imaginative) used. Imaginative decision making processes yielded extreme results, the higher quality solutions set in less stable environments and the lower quality solution sets in more stable environments. Unaware of Jaques. (Her first name is 'dt' and her last name starts with a small letter.)

Tway, Duane Converse, Jr., 1994, *A Construct of Trust (Group Dynamics)*, PhD, dissertation in Business Administration, Education, and Industrial Psychology, University of Texas at Austin, TX, 199 pages. UMI AAT 9428686. DAI-A 55/06, p. 1629, Dec 1994. Advisor: Oscar G. Mink. Trust was defined as the state of readiness for unguarded interaction with someone or something. The construct of trust proposed was in three parts: the capacity for trusting, the perceptions of intentions, and the perceptions of competence. All management systems depend on open, honest communication in order to function. Without trust, open and honest communication is not possible. This dissertation proposes a construct of trust for diagnosing the levels of trust and intervening to improve the levels of trust in groups and organizations. Findings support Jaques' emphasis on trust. Tway used statistical hypothesis testing.

Nishimoto, Ikuko, 1995, *'Time Is Money': A Consideration of the Place of 'Time Consciousness' in Industrialisation*, Ph.D., thesis in Economics - Theoretical and Statistical (B8a), Manchester University, Manchester, UK, Th19044. Theses # 46-6902. Examines the use of time as a labour discipline in the industrialising West, contrasted with the "lazy natives" of colonized domains. Japan escaped colonisation yet to industrialise, it deliberately adopted western notions of

rationalised time consciousness (primarily American). Today, Japan “is the epicentre of ‘Western’ [time] rationalisation.” [Deming is not mentioned, nor cycle-time, time to market, production as a system, just-in-time (JIT), continual improvement, simultaneous engineering, ‘time’s arrow v. circle v. screw,’ etc. Jaques’ definitions of time are not mentioned.]

Whitson [Sp: Whitston?], Kevin, 1995, *Scientific Management Practice in Britain: A History*, Ph.D., thesis in Economic History - Great Britain and Ireland (B8b), School of Industrial and Business Studies, University of Warwick, Coventry, Warwickshire, UK. (Whitston, res DIS 1995 41-42) Theses # 45-12581. Showed how Taylorism led to the development of production engineering and rigorous payment systems (following Bedaux) in the inter-war period. Deskilling was centered on the split between mental and manual labour and fatally undermined both craftsmen and foremen, “though it owed more [to] the jig and tool designer, and more broadly, the management of mechanisation, than the efficiency engineer.” [Taylor’s followers were operating at too low a level to make the impact they claimed.] However, resistance by unskilled labour “could not prevent the [constant] restructuring of the labour process consequent upon [public acceptance of] scientific management.”

Billot, Hugh, 1996, *From Industrial Relations to Human Resource Management: A Case Study of the Management of Change From the Steel Industry*, Ph.D., thesis in Personnel Management, Industrial Training, (B9d), Sociology, University of Leicester, Leicester, UK. UL Thesis 750319486X. Theses # 46-921. More successful companies operate with “more contingent forms of organization” - fewer layers, empowerment, multi-skilling, job enrichment, and Japanese manufacturing and personnel systems. [Note: This is not derived from the contingent organization approach: the Japanese won.] The case company, following the Japanese example, invested in people, training, job flexibility, layering, performance pay, leadership training and change management. Then the firm adopted a ‘harder’ form of HRM and derecognized its trade unions. [Note: this also is not derived from the Japanese.]

Barker, Robert C., 1997, *Measuring Value Adding Performance: A Framework for Analysis*, Ph.D., thesis in Industry, Management - General, (B9a), University of Manchester Institute of Science and Technology, UMIST, Manchester, UK. Joule Thesis P5883. Theses # 50-615. A computer program that can identify untapped potential and waste (in time, material stock and systems design). [Is this related to Goldratt’s horizontal system? Impact on vertical system?]

Brocklehurst, Michael, 1997, *New Technology Homework: New Identities, New Forms of Control?* (BL), Ph.D., thesis in Personnel Management, Industrial Training, (B9d), Imperial College of Science, Technology and Medicine, Management School, London, UK. Theses # 49-764. Many managers have reservations about employees working at home from concerns they will ‘lose control’ over them. However, this new technology can provide a mechanism for the surveillance of home workers. This is a reversion to discipline and Taylorism. The issues of intent revolve around the use of technology for power and control.

Muth, Melinda Marie, 1997, *Board Structure: Dimensionality and Performance Effects*, Ph.D., dissertation in Business Administration, University of New South Wales, Sydney, NSW, Australia. Not available from UMI. DAI-A 59/02, p. 552, Aug 1998. Stewardship theory was

supported while agency and resource dependence theories were not supported by this research. Board independence was found to have a negative effect on shareholder wealth and sales growth. Network connections also had no effect. (Unaware of Jaques. Bibliography seen.)

Perry, Mark Julian, 1997 (1998), *Distributed Cognition and Computer Supported Collaborative Design: The Organisation of Work in Construction Engineering (BL)*, Ph.D., thesis in Computer Science & Technology: Social/Behavioural Sciences; Humanities (K4g), Brunel University, (West London), Uxbridge, Middlesex, U.K. Theses # 47-7705. BLL no. DX197532. Uxbridge PH.D.P476, 230 pages. An interdisciplinary study using cognitive science, anthropology and sociology to provide a description of collaborative design work in the construction industry that developers can use. Design processes operate simultaneously at personal, organisational and inter-organisational levels. Formal organisational procedures and informal social processes were examined, showing how they interrelated with the design task. **See This**

Soderquist, K.E.D., 1997, *Inside the Tier Model: Product Development Organization and Strategies in Automotive Expert Supplier Firms (BL)*, D.B.A., thesis in Management - General, (B9a), Brunel University, (West London), Uxbridge, Middlesex, U.K. Theses # 47-11108. It is not in Uxbridge Library catalogue but at Henley Management College [henleymc.ac.uk] (Greenlands, Henley-on-Thames, Oxon). Each medium-sized expert supplier has to manage a continuum of participative customer relationships in the lean production context. The product development process is a four-level operational model representing - individual, group, project and systematic work. Four developmental phenomena were also identified: means of guidance, design support structures, learning, and core capabilities.

Sparrow, Shelagh, 1997, *Research in Uncertainty: Issues Relating to Power and Quality Arising Out of an Action Research Study With Nurses From an Inner London Health Authority (BL)*, Ph.D., thesis in General Therapeutics; Nursing (G5f), University of Nottingham, Nottingham, UK. 448 pages, Greenfield Medical Library. Theses # 48-1801. "Quality" was being used to increase surveillance of nurses at the British National Health Service in 1990-93. A peer review team formed by the nurses was blocked by policy changes at NHS. "Quality" was used to expand government control over resources by increasing the visibility of individual practitioners, but was not accompanied by an increase in the autonomy of individuals to alter their practice. [This reflects a serious misuse of quality by managers, although Sparrow also misconstrues employee autonomy under quality.] See J.A. Klein 1991 article.

Bennetts, Christine (Chris) Mary, 1998, *Traditional Mentor Relationships in the Lives of Creative People: Toward an Aesthetic Understanding (BL)*, Ph.D., thesis in Education - Methods of Teaching, (B3g), University of Sheffield, Western Bank, Sheffield, UK. (Thesis /9619) Theses # 49-397. Explored mentoring's relevance to human development, psychological well-being, and self-actualization. Mentor relationships exhibit Rogers' core conditions for learning, creativity and well-being. Mentoring is a valid and vital relationship for continuing education and learning. (See also Related: Hirsch 1988, Caruso 1990, Garvey 1998.)

Garvey, Robert, 1998, *Mentoring in the Market Place: Studies of Learning at Work (BL)*, Ph.D. thesis in Personnel Management, Industrial Training, (B9d), University of Durham, Durham,

UK. (Thesis 1999/GAR; Adult Ph.D/GAR) Theses # 49-3311. BLDSC no. DX206746. This study explores differences between workplace mentoring in the U.S. and Europe. Mentoring in the US is a vehicle to assist the careers of 'high fliers' and 'fast trackers.' In Europe mentoring is a learning and developmental process for people moving through work or life transitions. Three **case studies** were developed. (See also Related: Hirsch 1988, Caruso 1990, Bennetts 1998.)

Hawley, Katherine Jane, 1998, *How Things Persist (BL)*, Ph.D., thesis in Philosophy, Logic, (A3), History and Philosophy of Science, University of Cambridge, Cambridge, UK. Univ.Lib. PhD.21825. Theses # 47-7976. Endurance theory has difficulty with three problems. How can an object have different properties at different times? How can content and form have different identities? How can there be vague matters of identity over time? "Perdurant theory" is introduced to address these difficulties. However, Saul Kripke argues that a homogeneous disk, that may or may not be rotating, causes grave problems for this theory. It is modified by the author so it can survive. This dissertation may be related to Jaques' *Form of Time*.

Hohn, Helga Dorothee, 1999, *Playing, Leadership and Team Development in Innovative Teams: A Reflection on Theory Confronted With the Perspective of Experienced Leaders*, Dr., dissertation in Industrial Psychology and Business Administration, Technische Universiteit te Delft, Netherlands, 281 pages. [Not available from UMI.] DAI-C 61/03, p. 892, Fall 2000. The team needs time to take risks under generative leadership mode. It also needs to work efficiently toward goals with resources under a focused leadership mode.

Lissack, M. R., 1999, *An Ethnographic Exploration of the Significance of Word Choice in One Firm*, (BL), D.B.A., thesis in Social Anthropology, Ethnography, (B4), Brunel University, (West London), Uxbridge, Middlesex, U.K. [Henley?] Theses # 49-463. Language requires shared meanings. The coherence of communications within a firm (from a content perspective) can be considered an indication of the scope of corporate coherence, that, in turn, increased the likelihood of accomplishment of shared purpose. An emphasis on language context is important. (See Bechky, Related 1999)

Rodgers, Helen Marie, 1999, *[Gender and Post Bureaucracy,] The Impact of Organisational Transformation Upon Female Careers and Gender Relations (BL)*, Ph.D., thesis in Industrial Psychology/ Sociology (B9g), University of Kent, Canterbury, U.K, 266 pages. [Beware: two titles.] [Library F177684] Theses # 49-12765. (See Gill 1989, Related MA) The downsizing, layering and continuous transformation of organizations in Britain in the late 1980s and early 1990s prompted a re-evaluation of the tenets of organisational structure and values leading toward a more flexible "post-bureaucracy (Heckscher 1994)." However, the processes of change are underpinned and challenged by an "increasingly dominant shadow structure (Kanter 1977) which also influences the outcome of female managerial careers on a sub-cultural level." [This shift took place in Britain about 5 years after the US. But in the US 1980s financial raiders pounced on weak firms and dismembered them.]

2000s

[None yet.]

No *Interesting* Master's Theses

***Interesting Doctoral Dissertations That
Might Be Related to Jaques' Theory:
(Alphabetical)***

***Interesting Ph.D.s* (43)**

Backaitis, 1992 ---
Barker, R. C., 1997
Bedeian, 1973
Bennetts, 1998
Billis, 1971-72
Billot, 1996
Bird, 1983
Bouchard, 1989 ---
Bradley, 1989
Brocklehurst, 1997
Caruso, 1990
Cicchinelli, 1974
Day, 1987
Garvey, 1998
Ghare, 1965
Harvey, C. E., 1981
Harvey, J. H., 1991
Hawley, 1998
Hilpert, 1956
Hohn, 1999
Jessen, 1990
Khalil, 1994
Karasek, 1976
Lee, 1992
Lissack, 1999
McIntyre, 1981
Miller, 1976
Muth, 1997

Newman, J. E., 1974
Nishimoto, 1995
ogilvie, 1994
Patchen, 1960
Perry, 1997
Rodgers, 1999
Rossan, 1976
Roy, 1952
Sivaramakrishnan, 1988
Soderquist, 1997
Sparrow, 1997
Tischler, 1991
Traniello, 1992
Tway, 1994
Whitson, 1995 (sp? Whitston?)
Wilt, 1983

No *Interesting* Master's Theses Listed

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Ken Craddock is a consultant specializing in requisite organization and in quality. He has developed insightful recommendations integrating the operational concepts of Elliott Jaques and W. Edwards Deming. He provides support to managers for organizational transformation to increase effectiveness. This moves from instruction in the theory, to development of leadership practices, to executive development, information system design, strategic marketing of the firm, selling its products and services, to design of the organization and business unit development. (This approach is comprehensive.)

In the early 1990s Craddock was assistant to W. Edwards Deming, the man who gave quality to the Japanese. He has consulted to firms of varying sizes, including a Fortune 100 firm, where he trained mid-level managers on creative thinking in week-long sessions. He has also worked as an internal planner and consultant for metropolitan government, and supervised development of a PC-based tracking system to monitor services provided to clients. As a management planning analyst, he developed the first MBO business plans for 16 offices, with 2300 staff and \$146 million budget.

Craddock completed an on-line annotated research bibliography on *Requisite Leadership Theory* as part of his M.A. in Business History at Columbia University. His thesis was *Requisite Leadership: A Neglected Model of Organization Effectiveness*, which described the history and development of this theory. (Email him to get a copy.)

While at Columbia he initiated surveys which led to the first revision of the business school curriculum in 30 years, made proposals to improve morale, wrote cases and helped develop new courses. He has been a guest lecturer at the Columbia University Graduate School of Business on quality, strategy, and requisite organization design. (He also edited sell-side equity research reports, which attained an average one-year price appreciation of 34%.)

He also holds an M.P.A. degree in Management from the JFK School at Harvard. He published an HBS term paper in the *Journal of Management Consulting*. He has published 9 articles and papers and has made conference presentations.

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