



GO Global Organization
Design Society

READINGS IN GLOBAL ORGANIZATION DESIGN

ARTICLE #14-03-25-1A

REQUISITE ORGANIZATION ANNOTATED BIBLIOGRAPHY

on Elliot Jaques, Wilfred Brown, and Requisite Leadership (Covering 1942 to 2014)

by Kenneth Craddock
formerly Columbia University & City College, CUNY

PART I

6.0TH Edition

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Requisite Organization Annotated Bibliography

***on Elliott Jaques, Wilfred Brown,
and Requisite Leadership
(covering 1942 to 2014)***

Topics Include

Requisite Organization, Stratified Systems Theory, Work Levels, Career Path Appreciation, The Quality of Labor, Time-Span of Discretion, Complexity of Information Processing, Managerial Accountability Hierarchy, The Glacier Project, Career Crossroads, High-Performance Work Systems, The Efficiency Wage, The Effort-Wage Bargain, Adverse Selection in the Labor Market, Managerial X-Efficiency, Personal Effectiveness Appraisal, Uncertainty, Equity Theory, Corporate Constitutionalism, Age-Wage Profiles (Maturity Curves), Social Analysis, Scale of Operations Effect, The Midlife Crisis, Rank Theory, Corporate Culture, Organization Effectiveness, Cognitive Complexity, Top-Line Growth, Depth Structure, Hierarchy of Values, Matrix of Working Relationships

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Pagination is No. American, not A4.
1-5Crad-Bib6-I-Intro_2.doc
6.0th Edition: March 2014

I.

3-25-14

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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 and Wilfred Brown, to requisite organization theory, and to the bibliography itself. It provides a context for the articles, chapters and books in each section of Part II and shows why this theory is so important and so expansive. (The theses and dissertations have their own introductory essay, also in Part I. The one for those written explicitly on the theory is extensive.) I have tried to point out some of the features of its future development. The second half of Part I consists of lists of some 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 online searchable as I could make it. Today a substantial body of knowledge 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 more beckons. The Bibliography has been arranged by type of material. The second part (II.B) of the Bibliography consists of the doctoral dissertations and theses that have been done on the theory or are related to it.

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 range, and why it is resisted. I believe this theory is fundamental to the future of organization studies.

The Annotated Bibliography So Far

This sixth edition is over 2,200 pages long, is online, and is keyword searchable. With some 5 entrees per page, 9,800 items are herein. (About 2,800 are 'Miscellaneous' items, not directly related to RO, but give background and context surrounding it.) These publications are worldwide (but most are in English).

For about a half-century the research on RO had produced 2 PhD theses/dissertations per year. In 2008 this jumped to about 5 per year. I believe this increase was due in part to the influence of this bibliography as a source. This Bibliography has been cited in eight PhDs and probably has been a source for another four. For the first time, publications on RO have been gathered in one location, and can be seen and examined as a single related body. To date I have been able to locate 134 PhDs on RO and 253 peer-reviewed articles in elite journals. This is a substantial body of knowledge that can be built upon.

Why the Bibliography

This Bibliography began on a Sunday evening in early 1999 when I called Elliott Jaques. During the conversation I asked him, “How many PhDs have been done on requisite theory?”

He responded, “Oh, four, five. Not many.”

“Do you mind if I go on the Internet and see how many I can find?”

“No. Go right ahead.”

By Tuesday evening I had found eight. In a couple of months I had found sixteen. I realized Elliott had not kept a scrapbook of clippings on the application of or research on his ideas. I had run into the impact of this already as I prepared my master’s thesis. The ups and downs of my readings were extreme. Some articles were supportive of the theory while others were skeptical, even hostile. I realized some form of guidance was needed and a context for learning the theory.

Original Reasons for Developing the Bibliography

Requisite theory had been challenged without rebuttal (and thereafter rejected) by Western academics in the Fall of 1969. The first question this Bibliography had to address was: Had enough research been done since then to warrant its reconsideration? Other questions soon came to mind. The second became: Where did the findings of the research lead? The third question: Had any firms adopted this theory, and what were the real-life results? Fourth: Why had the theory been largely rejected in the first place? And, of course, fifth: Why had the rejection continued?

Now, some years after beginning the Bibliography, I have answered each of these questions. (1) Research after 1969 dipped in the 1970s, followed by a ‘thin stream’ for decades which overwhelmingly supported the theory. About 30-40 peer-reviewed articles appeared annually and 4-5 were published in top journals. A few pieces were still critical or disconfirmatory but they were a distinct minority. Many negative findings often raised the issue of the researcher seriously misunderstanding the theory. (This was also true for much of the negative research in the 1960s – but it went unanswered, so it went into the record uncontested. Later could it be seen to be questionable.)

Only two of the 13 PhDs in the 1960s were done in the UK. One was ambivalent (Kelly) and one was hostile (Child). Another was published in Dutch (Hoof). The other 10 were done in the US. Six were done at elite universities. But one US dissertation and article claimed to refute this theory (Goodman). This latter finding was rescinded in 1973 by the author. Jaques seemed never to have been aware of much of this research and activity.

The published findings came out in each of the social sciences and a few in the hard sciences. (2) RO was found in psychology, sociology, anthropology, human resources, and

organizations. But it also has come to form a branch of economic thought chaos-complexity theory, engineering, information systems, and applied electronics. In short, its impact was wide.

About six months before it was challenged (without rebuttal) by Western academics, this early version of RO theory was adopted Japan-wide by all seven *kieretsu*. (3) Each *kieretsu* had 2000-3000 member and supplier firms. It has been used by Japanese firms at home and abroad with success competitively. These Japanese firms have taken away the electronics industry from the US, the steelmaking foundries, and the US automobile industry.

Meanwhile, many Western academics removed RO theory from the graduate curricula of the PhD and the MBA degrees after 1969. During this same period, the Japanese added this (and TQM) to their high school curricula. Firms trained their employees further in requisite and quality concepts in-house (Saint 1982). This gap had a direct impact on decisions and practices by business managers. In short, the results by Japanese firms using this early version of RO were better, stronger and more effective in the real-world of business than the contemporary models used by American business.

RO theory was prematurely rejected by Western academics as part of the churning of the 'management theory jungle' (4). This 'jungle' was first named in 1961. Among the major drivers was competition between academics for status and tenure among academics. Tenure was awarded by schools in the social sciences for the publication of new theory in the hope that one of the theories would strike pay-dirt. Other drivers were the pursuit of knowledge, the prestige of tenured professors, and the institutions themselves. (Yuyuenyongwatana and Carraher 2008) Academia was warned against using such an approach by several professionals in the 1950s and 1960s, but went ahead anyway.

As far as I can tell, the continuing rejection of RO has been largely due to this jungle-dynamic being in effect over the past half-century. But academics and business practitioners have also adopted an economic ideology which has pulled them toward an increasingly narrow and rigid view largely at odds with reality. This increases the vulnerability of domestic business to competition.

RO is cumulative, while the current approach of academics is not (5). The current approach leads to the profuse growth found in 'jungles'. It does not build "on the shoulders of giants" as does a true science. It simply replaces what is old with a newer version, a newer theory. It is the intellectual equivalent to the annual change in car models. It is declarative, not cumulative. In this, Elliott was sadly right, current organization theory is promoting 'alchemy.' No cumulative theory was possible unless there was a single agreed upon set of common terms and definitions. Elliott created a set of terms and defined them carefully. He was not being rigid. He was preparing the way for cumulative scientific development.

Later Developing Reasons for the Bibliography

In the original formulation of this theory Elliott Jaques had relied on 'unconscious' forces to show a different motivation for humans in organizations. To many management researchers

the unconscious was invisible, unseen, non-rational, and 'not provable.' But to Elliott, a psychoanalyst, this was not a problem or a concern, but a given. (The existence of the unconscious was proven later.)

Elliott also had the unique ability to project 'if-then' steps which would lead a researcher to a manifest, provable and discoverable real-world fact. And he was not the only one associated with this theory who did. In 1969 Michael Gordon, then at Berkeley, wrote of several ways to prove the existence of Elliott's theory by showing how it would manifest itself in the real-world. As he indicated, one way was that the facts would show up in the data collected for the US census. Within a short time Paul Nystrom used this census data to prove the empirical existence of Elliott's pay curves theory (1973). His article was published in a top journal. (The article and its findings were ignored by many academics and thus the management theory jungle continued.)

But Elliott made at least one major mistake. He assumed his theory was *sui generis*, born of itself. It was not. It was part of a stream of findings and can be shown to have many predecessors (Roche 1987). In fact, Elliott was not the first to discover the key facts behind the theory. The Japanese uncovered the same Age-Wage data beginning in 1927 (and the government issued it annually thereafter). A year later in the US similar data was published in a study by the CEO of AT&T in Harper's magazine. Neither understood the data to be a theory but saw it as a curiosity. Thus, when the Japanese discovered Elliott's Age-Wage curves in the 1960s they already had extensive confirmatory data for it. For them, embracing this theory was not a problem.

This Bibliography contains the intellectual predecessors of the theory and other management theories and approaches which do not conflict with the theory. These were collected mainly for teaching purposes and to provide historical context. This theory is not the only way to view organizations. Many other researchers have provided insights which have validity. Not all other management theorists were alchemists or fad-mongers. Students should be exposed to these valid views as well. Today, many of these valid approaches are presented as if the false 'alchemical' theories are their equals. But these approaches have been replicated, while the false theories have not been replicated. (See Morden's textbooks.) Many are included as miscellaneous readings in this bibliography. (Misc.)

BIOSS Interventions

In the 1970s Great Britain underwent a huge internal power shift. The Parliament, realizing it dealt with both national issues and local issues, was overburdened and needed to focus solely on its national responsibilities. Three devolution thrusts came of this: the devolution of political power toward the local level, the administration of the national health system (NHS) toward the local level, and the administration of social services (DSS) toward the local level. It was determined that the 'local level' was to be the counties in the UK. (These were similar in size to counties in the U.S., but each was bigger in population than most in the U.S.)

Jaques saw this as an opportunity for his newly formed public-sector consulting group, BIOSS. He positioned this group to partake in the NHS and the DSS reorganization efforts. (He personally handled the reorganization of the civil services in several ministries, but otherwise the politicians kept the political power shift amongst themselves.) The BIOSS involvement in NHS is most publically remembered. BIOSS laid out a plan for the reorganization of NHS and its hospitals to make it less bureaucratic. But, at the last minute, there were shifts in the design beyond the control of BIOSS to add layers. In opposition, the doctors formed their own clique or guild. As a group they demanded the structure serve their needs. The result was an operating fiasco which helped to bring down the government in the late 1970s. The NHS has undergone several reorganizations since – about one in each decade. (One lasting legacy of RO is the demand by workers in NHS to know how much ‘discretion’ they will have in each job position.)

On the other hand, the Department of Social Services intervention was a success. Several Brunel doctoral theses subsequently showed a major result was accurate and appropriate accountability for the social workers. The layering was requisite and the people well-trained for their positions. After this reorganization, the operation of DSS largely disappeared from public view – because it worked.

In South Africa there was another intervention by BIOSS beginning in 1985 to prepare institutions there for the end of *apartheid*. Jaques' time span of discretion (TSD) already had been a part of the Castellion method of job evaluation since its development by Cortis and Biesheuvel in 1964. This job evaluation method was in wide use. R.O. showed a way to end the dual employment and education system. It moved beyond the ‘Bell curve’ to show the capability level of the individual without reference to the population. Instead, under Gillian Stamp, it showed the match – or mismatch – of the individual’s capabilities to the job’s requirements both currently and into the future (the rate of growth) using a Career Path Appreciation (CPA) methodology. Most of the firms that use these systems in South Africa have been private about it and remain so even now. Several have been very profitable and successful.

Sears Roebuck & Company

The top tier of writers and researchers in the 1930s at the Hawthorne works were from Harvard. After the experiments there they went back to Harvard and wrote up the results in several books and articles which became the foundation of the 'Human Relations' school. The second tier of researchers subsequently went into the University of Chicago department of sociology, some as academics and some as graduate students. These researchers had been the ones who manned the organization studies and experiments at the Hawthorne works. (They are not to be confused with the group of sociologists in the 1920s who became famous as the ‘Chicago School of Sociology.’) These researchers as a group had a contract with Sears, Roebuck and did the personnel and social research for that firm from the late 1940s and into the 1960s. Many of their findings were published by James C. Worthy, who was the initial head of personnel research at Sears. He became an Assistant Secretary of Commerce in the Eisenhower administration and later was an academic. Several other related publications were by William Foote Whyte in 1952 and 1959.

Worthy's findings were challenged by Lyman Porter and Edward E. Lawler in the 1960s. In light of the methodology used by these two, their concepts can today only be described as based on a serious misunderstanding of Worthy. But they got published and this became part of the 'management theory jungle.' Only in the 1980s did Worthy and Jon V. Bentz, his research successor at Sears, finally publish their findings fully. Initially, they had focused on the personality of the store manager and on the formal structure. But over time they came instead to see that the cognitive level of the store manager was the key determinant of its structure and managerial practices. Their findings were similar to those from research at Glacier Metal in the U.K. Bentz saw a parallel with these findings, shared his data with Jacobs, and even cited Jacobs and Jaques 1987.

These two research streams were separated by continents, concepts, and types of organizations. But they shared one important thing in common – they each had sustained access. They did their research inside the firm. Their detractors never had sustained access.

Education – the Common Core

The decline of Western business competitiveness is part of a wider decline, especially in its educational systems. Much of this relates to requisite practices, but in reverse. Japanese business appears to have had influence on the design of the nation-wide curriculum. Being a catch-up nation after WWII, opened business access to the educational system. Catch-up meant not only what business needed to do to catch-up, but what individuals had to learn to be a contributing part of this effort. From a business perspective, which skills did or would it need in its workers and its managers? In Japan top managers worked with educators to identify and instill these skills. These were not just the superficial skills for a job, but for a lifetime – a career. Skills that a business could put to use today and also to build on for the future.

Nothing like this took place in the West. The Western relationship between business and academia was arm's length. Access was tightly guarded and formal due to competitive fears and conflicts. When they saw the way Japanese business was besting US business on its home turf throughout the 1980s, several other Eastern nations copied the Japanese reforms. For them the choice was based on both cultural values and pragmatic concerns - go with the winner.

Today, Westerners are playing catch-up. Students in Western nations were publicly falling behind those in the East on world-standard tests. Students in the US were far down the list. One proposed Common Core in the US (K-12) is partly based on the methods used in the Hong Kong education system. It aims to make children 'career and college ready.' A large percentage of US students who are admitted to college have had to first enroll in remedial education courses. This was seen as proof of failure at a lower level. The students had graduated but they were not college ready.

Requisite theory and practice starts at the other end from childhood education - with the adult work world. As adults we create institutions to coordinate our efforts in making things that

require a larger and more complex effort than can be made by one person. To be competitive, what should that world look like? How should it function? How should it be organized? What is the proper relationship between a manager and a worker? If we each grow all our lives, how is the firm accommodating that growth? Is there a human development program within the firm? And to close the circle – What skills are needed to get hired and to get the work done?

Again and again we have heard statements from businesses that Western applicants do not have the skills they require. But the economic relationship in the West between the employer and employee is arm's length. There is little trust here. In addition, employers often only consider products and projects in the short-term. So we have to ask, are they referring to today's immediate skills or to the long range worker capability to be flexible, to learn, and to grow?

W. Edwards Deming and other quality advocates dominate the operating level of Japanese firms (less so in Western firms). This is the first level that every student encounters. What quality skills do the workers have? These are teachable. But only one school district in the US teaches them. They are only partly included in the models of the Common Core that I have seen. This reform is still mostly directed toward other educators and levels of education, less so to the needs of business and of lifetime careers. How are kids educated for careers?

At the operating level of any organization the work needs to be coordinated among workers by managers. This relationship must be centered on competence and trust to be productive. Later, as the student moves into coordinating the work of others (that is, management), they will need these requisite skills to do this managerial work. But no schools in the US teach R.O. now at the high school, college, or at the graduate levels (ME Raynor 2007). (A few Western companies teach R.O. to their future executives quietly in their own internal colleges. Many Eastern firms have extensive internal training programs.) If Western managers have never been exposed to R.O., how would they know what is missing or what to ask for?

This Bibliography does not cover the Common Core. [To learn more start online at <http://www.corestandards.org> or parcconline.org] These reforms are now coordinated nationwide at the state level in the US, not at the Federal level. This is due in large part because education has historically been at the local and state levels. Literally, there are thousands of local boards across the US each setting its own standards. The center of the conflict is that business, trade, and commerce have grown in size and scope to become national, international, and global. Requisite theory would inform this debate and could contribute to its resolution. As you will learn, R.O. is a driver, is a portion of its ultimate goals, and perhaps played a role at its original source.

Other Outgrowths

For consultant presentations (and as an aid in the classroom) I went through movies and identified clips showing aspects of this theory that reveal themselves in organizations and hierarchies. In short, these scenes show an otherwise unexplained aspect of situations. Classical psychology does not explain the event or the actions of the people involved. However, human behavior in such situations can largely be explained through this theory. (Also, certain whole

movies can be shown to illustrate this theory. Both are listed and described in another file separately from this Bibliography, which is available from the Global Organization Design Society website. But do see *You've Got Mail*. I don't recommend clunkers.)

Developing materials for teachers and students was a natural outgrowth for this project, including syllabi at the high school, undergraduate and graduate levels for courses on this theory. Articles were selected which were appropriate to each level. When they graduate, most B.A. students will reach Level One capability. Usually, graduate students are at Level Two capability. To write a thesis/dissertation at the doctoral level requires Level Three capability. (Understanding R.O. is not all that hard.)

Executive modules are often taught by consultants (as trainers). The participants are high-mode executives, but with little time and less attention to give. Each module has to be developed individually to reach the audience and to fit the circumstances of the firm.

Public sector readings were included here as well. The R.O. approach to organization has been adopted in different government departments and agencies in the UK, US, Canada, Australia, Argentina, and Scandinavia. Non-profit (aka voluntary, common good, or 'third sector') readings and cases are also included.

For those seeking doctoral education to study and explore this area I have certain helpful questions that they should ask of programs they may be considering. First, is there a faculty sponsor willing to supervise such a dissertation? (There have been instances where no faculty member was interested.) Second, since it may take a higher level of cognitive capability to fully grasp these ideas, does the institution have an executive education program for those with managerial experience that the faculty teaches [not adjuncts]? (This would require a higher level of cognitive capability on the part of the faculty.) Third, many students are older. Since many older students work or have other obligations, is the program part-time, or non-residential or has only short residential periods? Is the time-limit for dissertation completion flexible or extendable? (Many accredited programs have a time-limit of seven years.) Several recent PhDs have been awarded by accredited institutions that have these features, so they might be considered. Lastly, contact the GO Society since many members already have earned PhDs in many different areas. They would be happy to give helpful guidance and advice.

+++++

As Mozart proclaims to the Emperor in *Amadeus*, everyone talking at once in a play is simply noise. But in an opera – with music – they can all talk at once and still can all be understood. I think Elliott Jaques has found the rhythm, the music, to organize the chaos we hear around us into such a coherence that many previously chaotic noises can be understood at once.

March 2014

For Laura Whisman

(Part I fn: 1-5Crad-Bib6-I-Intro)
(Part II fn: 1-2Crad-Bib6-II-Biblio)

103k words, 264 p.
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3-25-14

BACKGROUND OF R.O. THEORY

“These opportunities, therefore, made these men successful, and their outstanding ingenuity made that opportunity known to them, whereby their nations were ennobled and became prosperous.”

– Machiavelli, *The Prince*, Book VI, 1513. Trans: Peter Bondanella and Mark Musa, Oxford, 1985.

“It is the future that dictates the present.... People act in the present according to their judgment about what the future will hold.”

- Gordon O. Pehrson, co-author,
Mind of the Corporation,
Harper and Row, rev. edn., 1982.

“No amount of sophistication is going to allay the fact that all your knowledge is about the past and all your decisions are about the future.”

- Ian H. Wilson.

“Without the right people in place, strategies can’t get implemented.”

- Jack Welch, CEO, *Jack*, 2001.

On great companies: “They first got the right people on the bus, the wrong people off the bus, and the right people in the right seats - and then they figured out where to drive it.”

- Jim Collins, interview, 2006.

“The race to the future is the race to maximize the ratio of learning over investment.... Now you have to compete for industry foresight and reinvention opportunities.”

- Gary Hamel, 1995.
[Randall, Robert M., *Planning Review*, Jan.-Feb.]

“Systems are components in hierarchies. In another sense, hierarchies are systems and each system is itself a hierarchy.”

- Ervin Laszlo, *The Systems View of the World*, 1972.

“The social object of skilled investment should be to defeat the *dark forces of time and ignorance* which envelop our future.”

- John Maynard Keynes (1936/ 1964, p. 155;
emphasis added, 1985)

"The question is not what you look at, but what you see."

- Henry David Thoreau

"This is what they all come to who exclusively harp on experience. They do not stop to consider that experience is only one half of the experience."

- Johann Wolfgang von Goethe , 1749-1832
(as quoted by Winston Churchill, 1949.)

"How odd it is that anyone should not see that all observation must be for or against some view if it is to be of any service."

- Charles Darwin, in a letter to Fawcett (1861).

"We are made wise not by the recollections of our past but by the responsibility for our future."

- George Bernard Shaw.

"Don't they want America to get strong and healthy? Sure they do. But they want it to happen without any planning. They want America to be great by accident."

- Lee Iacocca, CEO, *An Autobiography*, Bantam, 1984.

Background (1)

The theory, now known as Requisite Organization, was initially developed by Elliott Jaques and Wilfred Brown in a factory in north London, UK. It has since been expanded by them and by many others. This theory was based on practice, action research, and prolonged observation of people at work.

Elliott Jaques (1917-2003) was a Canadian by birth and earned two doctorates in the U.S., 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 the U.K. in the late 1940s.

In January 2003 Jaques (pronounced 'Jacks') turned 86 and lived in Gloucester, MA, just north of Boston, with his wife, Kathryn Cason. For over fifty years he had consulted and conducted research on this organization theory and its ramifications. Throughout Jaques' life he was the principal investigator in this field. He wrote twenty books and over 80 articles. Two of these books were published in 2002. You probably have heard of his ideas, even if you don't recognize his name. Jaques is best known for his discoveries of the "midlife crisis" (1965) and of "corporate culture" (1951). He is also known for "organizations as a defence against anxiety" (1955), but he withdrew this concept in 1995 as untenable. (These concepts are not covered in this bibliography except as they relate to the organization theory.)

Wilfred Brown (1908-1985) came up intellectually through a practical but acceptable British route. Chairman and Managing Director (CEO) of the family-owned Glacier Metal Company, Ltd. in the UK (1939-1965), Brown sponsored the development of this theory and also contributed extensively to it. He wrote seven books and several score articles on it. He received several honorary degrees: Brunel (DTech, 1966), Southern Illinois (Dr. of Laws, 1966), and Cranfield (DSc, 1972). Brown was born in Scotland, received the MBE in 1944, was created a Life Peer in 1964 as Baron Brown of Machrihanish, entered the House of Lords, and thereafter was addressed as 'Sir Wilfred.'

Together Jaques and Brown developed the basics of this organization theory while conducting research at Glacier Metal from 1948 to 1965. In 1965 Brown sold Glacier and joined the British government as a Minister of State in the Board of Trade with special responsibility for exports and overseas trade relations. He was appointed to the Privy Council in 1970 and retired from government. At this time also he was Pro-Chancellor of Brunel University (1966-1980), the top administrative position rather than an academic one. Jaques left Glacier when it was sold and became head of the new graduate school of social science at Brunel University (1965-1970).

In 1967 Jaques founded a research and consulting institute affiliated with Brunel that advised government and non-profit organizations (BIOSS). Jaques came to the US in 1980 although he remained head of BIOSS until 1985. 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 became a visiting research professor at The George Washington University in 1989 and later became Profesor Emeritus (Hon.), Universidad de Buenos Aires and Universidad del Salvador, both in Buenos Aires.

This organizational theory had 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, rank theory, social analysis, the Glacier Project, depth structure, and levels-of-work (LoW). The theory later was known in Australia, United States, Canada and Argentina first as stratified systems theory (SST) and finally as requisite organization (RO). To be sure, the later versions were more complete and scientific. (Even so, these changes in name can be confusing.)

Jaques is known for three innovations. He developed the idea of "corporate culture" in his Harvard 1951 Ph.D. dissertation, which was published as a book that year and became a standard text in many anthropology courses. In 1965 he discovered the "midlife crisis." It was published immediately as an article. Both of these concepts have entered into popular usage. Jaques' third innovation, this organization theory, was initially classified as a version of "equity theory." (Underlying this, Jaques discovered the "time-span of discretion" (TSD) for Glacier Metal employees in 1956. Chester Barnard endorsed this concept as "entirely new.")

In 1961 three authors wrote books on how a feeling of "equity" regarding pay influenced the behavior of employees. They were George Homans, Martin Patchen, and Elliott Jaques.

Between 1962 and 1965 another man, Stacy Adams (aka J. Stacey Adams), wrote a series of articles to define this theory so as to make it operational. Most academic researchers have since followed the Adams formulation because it allows for the quantitative measurement of inputs, outputs, comparisons, and behaviors. In the late 1960s equity theory was challenged by Lyman Porter and associates. Adams' version of equity theory was given a severe credibility blow at the 1969 American Psychology Association annual convention in a presentation by Valenzi and Andrews, who claimed Adams had biased his results by giving skewed instructions to some of his participants. (Lyman Porter was mentor to Andrews.)

There was considerable collateral damage to Jaques' credibility even though Lyman Porter's former colleague at Berkeley, Edwin Ghiselli, soon published several articles and books answering many of Porter's critiques. The alternative pay theories proposed by Porter and the other critics collapsed. Stacy Adams' experiments were replicated in the late 1970s by other researchers using corrected (unbiased) instructions and produced results very similar to the original results obtained by Adams in the 1960s. Additional evidence has accumulated in support of equity theory since 1978 and has restored much of its credibility.

Oblivious to these U.S. events, Jaques went his own way in the U.K., continuing his own research. Across a half-century Jaques' approach was developed into a comprehensive theory of organization. It now goes well beyond equity pay theory and has been successfully applied to organization structure (micro, macro and meso), individual cognitive complexity, managerial leadership practices, role relationships, work levels, the quality of labor, task complexity, the effort-wage bargain, managerial development and succession planning, aggregation of information (accounting and IT), decision support, CEO selection, x-efficiency innovation, employment 'bundles,' managerial career-crossroads training, continual improvement (CI), scenario planning, and strategy deployment (scenarios, *hoshin kanri*).

Six discoveries mark out this theory from mainstream research on organizations: the development of "social analysis" methodology [see Rowbottom 1977], 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; strata based on differential behavior (1956) [by Jaques and Brown], and; the discovery of "levels of abstraction" in the 1970s by Jaques, Dr. D. John Isaac, and their Brunel colleagues.

[Because the theory had several names and went through distinct development stages, individuals who came upon it at one point in time use different names for the theory and its terminology. Their ideas and keywords are often still rooted in that stage of its development. The changing nomenclature has isolated these people from each other. See the essay later in Part I., Introduction to Ph.D. Dissertations and Theses, for a full list of the **keywords** on this theory. It should not be hard for such people to 'come up to date' on the current and fuller theory.]

When they began in the early 1950s Jaques and Brown looked over the academic field of management writing and came to feel a vacuity. There was little there to add to their work, little research of a meaningful nature, and little science. (Note that in the later 1940s Brown sent an

advance copy of his ‘principles’ speech to Brech, a prominent British academic, who then critiqued it in print using academic armchair analysis to show how learned he himself was and how unacademic this industrialist, Brown, was. Not a good start.) As time went by Jaques and Brown saw the academics still wedded to ‘empirical’ surveys, producing static snapshots of single points in time, and descending into the ‘management jungle’ of using empirical explorations without a theory to test. Neither Jaques nor Brown felt the work of most management academics held scientific validity, so they simply ignored it and did not cite it.

In turn, the management academics did not cite Jaques and Brown. Academics also may not have cited this work in part because Brown was not an academic and because Jaques often was not affiliated with an academic home. The net impact has been the isolation of this theory from the main academic dialogue on management and organizations. This has tended to keep awareness of the theory low (*The Economist*, May 1, 2009).

Both Jaques and Brown saw this theory as dynamic across time and scientifically valid. (Peter Blau was one academic who early recognized the theory was dynamic.)

The Context of Management Theory

If this bibliography were organized chronologically it would reveal the history of this theory – its propagation in the 1950s, its quick adoption into economics (1957-1966), its waxing as a major management theory in the mid-1960s, its adaption by the Japanese *keiretsu* in 1969, and some six-months later, the rejection of equity theory (and Jaques’ theory) by Western academics at the very end of the 1960s, the abandonment in the 1970s by several of its critics of their critical ‘findings’ of the 1960s, the powerful validating studies published beginning in the 1970s, the thin stream of dissertations, theses, books, and articles on five continents confirming the application of the theory, its quiet adaption by organizations across the world with powerful positive results (Japan, South Africa, India, Australia, Brazil), the continuing stubborn belief of some Western academics that there is no data to support this theory. The title of a 2002 article in the *Australian Financial Review* by its editor aptly summed up the situation: “Come Back Elliott Jaques, All Is Forgiven.”

Western management theory has been dominated across the 20th century by Frederick W. Taylor. In 1997 I had the honor of meeting Joseph M. Juran, one of the founders of quality and the editor of the book, *A History of Managing for Quality*. Juran said, in response to my question, that the defect rate for incoming manufactured parts in 1900 was “1.0%-1.5%.” Thus, Eli Whitney’s early-19th-century dream of interchangeable parts had become a reality by 1900. This improvement in quality of incoming product opened the logic of assembly in the U.S. automobile industry from skilled craft assembly to unskilled rapid mass assembly in 1914. The process of mass assembly was soon extended to many other types of manufacturing as well.

Thus, Taylor’s time-and-motion efficiency system was actually a form of speed-up that more fully exploited this profound quality breakthrough. It also means Taylor’s contribution was

temporally secondary to the improvement by others in the quality of manufactured product. As Andrew Carnegie summarized it, "There lies at the root of great business success the very much more important factor of quality." (Hopper 1982).

Taylor's claims for 'efficiency' shifted much of twentieth century manufacturing and engineering away from quality. His emphasis on quantity contributed to instituting high levels of waste, caused the devaluation of the discretionary contribution of the employee in favor of the design two stratum above the employee, favored big-ticket technology breakthroughs over continual improvement, multiplied the size of administrative staff and overhead, helped create a white-collar professional middle class (not blue-collar), helped create rigid mechanical organizations that were quite efficient but could not change or adapt, helped ensure 'creative self-destruction' became a powerful economic force, focused on the same two elements as economics – quantity and price – while ignoring quality, and helped a pro-managerial ideology gain prominence in the U.S. and elsewhere. It is not an exaggeration to say that much of the challenge to 'modern' management practices is really an attack on Taylorism.

Taylor was the first management consultant (a.k.a. guru) and his approach was hugely popular - bigger by far than any of the later ones in the twentieth century. (See Abrahamson articles.) He created an academically acceptable justification ('scientific management') for the establishment of business schools within universities. The first of this type was the Harvard Business School in 1908. (Taylor taught a course there.) Throughout next decade many more graduate and undergraduate business schools were established, including most of the top-ranked ones today.

But Taylorism was not based on 'scientific method,' and it was not as scientific as other ideas were in 1900. It was mechanical and Newtonian, not system-oriented. It became best known for time-and-motion stop-watch studies of workers to set rates of pay and the slogan the 'one best method' approach. It intensified effort-wage bargaining because first the workers and then the managers/engineers in the 1920s recognized there was no science in time and motion studies (Church 1912; Thompson 1914; Abruzzi 1955). Simone Weil wrote eloquently in the 1930s on its dehumanizing impact on French workers (Ezzy 1997). Behrend (1959) examined the records of 50 manufacturers in Scotland/ northern England and found none collected the data necessary to isolate the effect of piece rates. Time and motion studies represented a managerial belief system only. It conflated the marketplace with the workplace (Littler 1978). Importantly, there was also found a 21 percent variation in the time-study measurements on the most simple motions (Rodgers & Hammersley 1954). This was hardly a 'one best method.' In reality, Taylor separated work into two parts: that requiring brains and that requiring muscle (Stewart 2009). One goal of Taylorism was to make the muscle employees interchangeable as parts of the system. Another was to make engineers plan the work (L. E. Davis 1966/1979; Littler 1978).

Of course, Taylor's contributions have to be put in context of the business environment of his times. In the first-and-second decades of the 20th century Taylor's 'scientific management' replaced 'systematic management,' which had held sway since about 1879 (Shenhav 1995, 1999; Weitz and Shenhav 2000).

Systematic management focused on the issues faced by managers and technicians in process-oriented systems rather than the cost of making products (Litterer 1961a). This emphasis was more American than European. (One of its leading advocates was A. H. Church (Litterer 1961b; Jelinek 1980), who also wrote on overhead cost accounting – that is, the cost of management itself. Many of the practices he advanced are at the heart of modern management today.) As companies expanded greatly – continent-wide and internationally – in the late 19th century, they were in danger of 'decoupling' – coming apart due to internal management loss of coordination (Litterer 1963). As the firm grew in size managers had less and less contact with the world of work. This danger was real and was a central concern of Church and others.

Systematic management was used by engineers and executives to create systems to get business done despite these problems. It was embraced by J.P. Morgan, Andrew Carnegie, Joseph Wharton, Charles Schwab, Theodore Vail, Alfred P. Sloan, Julius Rosenwald, and H.M. Barksdale to create major organizations (Krass 2000). In the US a monthly magazine, *System, the Magazine of Business*, came out 1900-1928. In the UK a magazine of the same name was published 1902-1927 (Rountree 1924). Articles were by Presidents, CEOs, and senior executives about the issues they faced at their levels (e.g. Sloan 1924; Rosenwald 1924; Johnson 1924). [NYPL and Columbia U. have copies offsite.] It was used to run Bethlehem Steel, the Bell system (AT&T), Dupont, and General Motors (Dale 1960). Inspired by Vail, AT&T R&D improved standardization until it became statistical quality control (Miranti 2005).

For an example, when Wharton at Bethlehem had the opportunity to get the steel plate contract to build the 'white fleet' for a new US Navy, he engaged Taylor to reduce the price below \$400/ton. When Taylor responded with his shoveling and pig-iron handling experiments, Wharton fired Taylor for what he saw as an irrelevant response. (Wharton got the contract without Taylor's help.) Shortly afterward, Wharton's successor, Schwab, threw out all of Taylor's 'scientific management,' created what was reputed to be the most efficient steelworks in the world, and generated huge profits for 35 years. This he did by matching the capability of the person to the task to be done (Mitton 1997). This was perhaps best epitomized in Andrew Carnegie's famous epitaph (1919), "Here lies one who knew how to get around him men who were cleverer than himself." This was not personal modesty but a business philosophy.

Of the above group, I would estimate Morgan, Vail, and Sloan were probably capable at level eight. As best I can tell, the rest were capable at level seven. Barksdale was influential in Dupont and in GM and in many ways was the intellectual father of the modern M-form corporate structure (Dale & Meloy 1962). Taylorism was very popular among college professors, graduate engineers and managers, but unpopular among foremen, gang-bosses, roustabout working men - and executives.

Eli Whitney proposed to produce thousands of guns for the War of 1812. He used the concept of inter-changeable parts to make his claim. The US Army bought the concept. But the production problems were formidable and Whitney was unable to produce the quantity of guns

by this method before the end of the war. Yet the dream of inter-changeable parts was planted. (Kettering and Orth 1955; Starr 1969)

One key was the 'accuracy' of each incoming part. If each part was accurate enough, they would all fit together to form a working whole and mass production would be possible. Replacement parts would also be inter-changeable. (Later, 'accuracy' became known as 'quality.')

Given the enormous rise in the level of quality of every manufactured part over the 19th century, it was inevitable that Taylor would stress increased productivity - speed-up. From hand-assembly he and his followers moved to mass-assembly, where the work came to the worker on an assembly line. The first breakthrough was at Ford in 1914 and improved production from 2 cars per day per skilled assembly team, to one car every two minutes for the unskilled assembly line. This increased productivity helped the US war effort enormously. In fact, it likely was decisive in the production of tanks and trucks for WWI. (US mass production was also influential in WWII).

Publication by Taylor of his major work, *Principles of Scientific Management*, drew first real blood and a response/ challenge by Church (1911). The results of the Congressional investigation into scientific management were issued in early 1912 (*American Machinist*, March 2, 1912, 36(14)). That investigation supported the claims made on its behalf. Cost could be lowered by attention to waste reduction. Efficiency was the way to do it. The benefits would be divided between labor, capital, and the customer. Each would get a piece. By this scientific management also claimed to be a route to improved social justice and communal well-being.

Pieces by advocates on each side appeared and the feud lasted over a decade. Until then, scientific management had been viewed as just a branch of systematic management. The fullest expressions of these different philosophies of management were by Church and Alford (1912), and by Sheldon (1923). [Both are included here.] Church continued to respond, critique, and offer another view of the true full scope of management (1918, 1923).

Taylorism led immediately not to continued productivity increases but to increased managerial control and rigidity (Church and Alford 1912; Collins et al 1946). Contrary to popular wisdom, much of the productivity improvements of the mid- and late- 20th century have been due to the adoption of new technology, not Taylorism. The denial of discretion to today's knowledge workers at higher capability levels (L2-L3) has precipitated a hostile reaction similar to that of manual workers almost a century earlier. Widespread Taylorism remains largely unquestioned in the US, but is now a problem and a blockage to quality and productivity improvements (Dale and Meloy 1962; Juran 1967, 1973; Connors and Romberg 1991). His denial of quality meant the creation of mountains of waste – reaching an estimated 20-30 percent of all incoming parts by 1980 (Deming 1986). Taylorism ensured that suggestions for improvement of product or process from below were viewed by managers as threats or criticisms (Connors and Romberg 1991). Managers in the West thus blocked and undermined the creation of QC-circles. Richardson in the U.K. claimed continued application of the scientific management approach during the 1990s had already led to indications of a crisis-ridden, non-sustainable global society (1996).

Above all, Taylor was a first-rate promoter of his ideas and they were simple enough to be grasped by the public, and by graduate students and their professors (L1-L4). His performance in testimony before the U.S. Congress when his methods were challenged was spectacular and successful. He had the power of the popular press and everyone could understand the concepts of 'waste' and 'efficiency' (Monin et al 2003). On the other side, Taylor's opponents put forth arguments that were too convoluted (too complex/ at too high a level/ too wide in scope) for listeners to understand and his negatives did not surface until later.

But Taylor did serve the purposes of Progressive politicians in 1912. The Progressives saw themselves as anti-trust. Corporate Trusts then dominated business to the point the public and their representatives feared the Trusts threatened the freedom of the marketplace. The Trusts combined existing firms within an industry to reduce 'redundancy' through rationalization, gain 'efficiency' in manufacturing through combining for size, and eliminate 'destructive competition' (especially price wars) that drove out profits.

Underlying this approach was an economic logic. Wherever there were profits which could be made, another entrant came into the market. Eventually, there were so many entrants that no profits were left for any of them. This was 'destructive competition.' Trusts ensured profits to the investor and continuity, but customers feared they would be closed out of lowest price goods due to lack of choice created by the Trusts.

Customers wanted the lowest price producer to stay in the market because these products saved them money. Thus, the public wanted to keep the marketplace open and companies would have to compete for profits through innovation. This choice echoed 'innovation' in the 18th century and the patent/copyright system in the U.S. Constitution as the economic driver. Taylorism offered waste rather than 'destructive competition' as the cause of high prices. (The Trusts were much like the Japanese *zaibatsu* before WWII. Deming often spoke highly of AT&T, originally a lowest-cost 'natural monopoly' facing future time. It had to innovate at lowest-cost or be overtaken in the marketplace. This reflected a Level 5 or higher conceptualization of the firm and the market, not a Level 3-4. Given the high error rate in hiring, the AT&T conceptualization would by the 1980s be lowered, future-oriented innovation would weaken toward present profits, and the firm became oppressive and overpriced - as the Progressives had feared.)

In the Presidential election of 1912, Woodrow Wilson and Teddy Roosevelt both presented themselves as Progressives. The incumbent, William Howard Taft, represented the corporate interests. Wilson won and Taft came in third. In the end, the opposition to Taylor's 'efficiency' died in the patriotic sweep toward nationalism during WWI (Andrew 1999).

Although it was detected rather quickly, a flaw in Taylor's approach did not fully surface until the 1970s. He denied both improved quality and discretion to the first two levels. His reorganization of the workplace meant engineers at level 3 did the planning for level 1 workers. This undercut the authority of the FLM supervisors at level 2. It confused the workers who now

had two bosses. (Taylor had proposed that each worker was to have 7 supervisors. But this design was never implemented anywhere.) Meanwhile, much of the work and context setting appropriate to level 3 - went undone. But 'efficiency' soon became the war slogan for everyone to get behind, not to challenge.

A missing piece here was the omission of an appeals process or inclusion from below. In practice, much of the feedback from the lower two levels was inarticulate and inferior to that from level 3, so it could be and was ignored as 'complaints.' As a result, both improvement suggestions and appeals were lumped together as challenges to managerial control. This approach advocated an executive structure without a legislative (representation) or judicial (appeals) formation. (Historically, this is anti-constitutional in the US.) This attitude shift also led some academic researchers in the 1930s to embrace 'Human Relations' theory as a counter. But HR theory was only an emotional palliative, not a sustainable solution.

Another defect is the current decline of social justice that was a major political driver in the Progressive Era. For example, French manufacturers adopted Taylorism solely as a technique and without the value and social fabric around it. As a result, it increased their control and became a cause for worker protests (Wren 2005). In the USSR it was embraced by Lenin to increase ideological top-down control and justify central planning (1914, 1918). The computer today has a similar effect of increasing managerial control at a lower level and decreasing the discretion of the subordinate employee.

Taylor also had a significant influence on the creation of managerial cost accounting. Many of the assumptions underlying it were critiqued in the 1960s-1970s by Dearden using R.O. theory. Johnson and Kaplan used Dearden to further describe them as 'irrelevant' in the 1980s. Kaplan has since developed the balanced scorecard (BSC) to try to undo some of this damage. Johnson has embraced activity based costing (ABC) to try to get at the real costs of an activity.

To put this in the perspective of R.O. levels in the workplace - Taylor was popular with engineers and managers at levels L3 and L4; he was disliked by operators and supervisors at L1 and L2; and despised by executives at L5-L8. This reality is a very different picture than the one that emerges from the Taylorists who portray him as popular with everyone and the font of 20th century productivity. He was neither (Collins, Dalton and Roy 1946). The management theory that preceded his was conceptually much more complete and involved strategy and organization design, not just the cost of product production.

Taylor's main contribution was to the lower and middle management. These managers carved out their own domain in the face of hostility and resistance from both manufacturers and workers. Taylorism gave them a rational, academic, and 'scientific' basis on which to base their claims as a profession. Until then, they had been accountable for results but not for setting policy. Taylorism enabled them to justify and to set policy within their own domain. This was a great boost to their self-image and public status, from that of a higher 'hired hand' to that of a professional. In this he was very successful.

Throughout the 1920s Taylorism was credited with providing the 'abundance' that lifted all the boats (Kettering and Orth 1955). 'Systematic Management' hung on until the Great Depression. Lapses in agency theory between the owners and executives, and executive 'discretion' (or self-dealing as in the Jock Whitney scandal), were seen to point to moral causes for the economic collapse. [The concentration of wealth and its consequences were more likely the causes (Reich 2010). We may recently have come full circle. Reich found the same percentage of concentration of wealth was reached in 2007 as in 1928.]

However, the greatest failure of Taylor's scientific management was seen at its beginning. It substituted data-producing mechanisms – cards, slide-rules, time and motion sheets, stop-watches – for leadership. Taylor increased the morale gap where the work gets done. He substituted managerial control for *esprit de corps* (Church and Alford 1912).

Europeans use the terms “Taylorism” and “Fordism” separately, which North Americans tend not to do. Ulrich Jürgens and his co-authors in 1993 gave a useful distinction. (1) The separation of planning and control from work execution was substantive of Taylorism, and (2) the principle of standardization was constitutive of Fordism. North Americans use the term ‘mass production’ for both concepts together and Taylor is seen by them as the father of both.

Parkinson's Law

Seymour Melman documented the impact of Taylorism on manufacturing costs and organization structure over time (1951). Taylorism generated bureaucracy and managerial layers of hierarchy (white collar). Taylorist shop floor ‘efficiency’ generated managerial ‘inefficiency’ and bloat. This was encapsulated in Parkinson's Law (1955, 1957) which showed that the administrative staff expanded even when the work diminished. Subsequent studies showed Parkinson was correct, that ‘work expanded to fill the time available for its completion.’ Mass production, Taylorism's pursuit of efficiency without a deadline, fed this dynamic. (But this exists beyond business. In IT ‘data expands to fill the available storage’ and in car transportation ‘traffic expands to fill the available roads and bridges.’)

Because R.O. in practice always operates with a deadline, it escapes this fate and serves to overcome it. Every assigned task always has a due date, an end-point, so Parkinson's Law does not come into play. Work does not expand and its partial-product at each stage must be coordinated with the activities of others to make a final product.

Graduate Business Education (U.S.) – a competitive sport

In 1959 two high-profile studies of graduate business education in the U.S. came to a similar conclusion: we must shift away from undergraduate vocational training and toward graduate level business education due to an anticipated increase in the complexity of business. The Harvard Business School (HBS) curriculum offered an academically valid alternative to the trade school training offered at most other places. It also offered the case method (taken from

the law school) and an ongoing case publishing house (highly profitable). The case method was then seen as a step forward. (It has been questioned more recently as lacking scientific method.)

At that time there was an enormously influential British commentator, C. P. Snow. He noted a distinction between the humanists and the scientists in academia. Their training and background of the two were so different that he found, "Literary intellectuals at one pole - at the other scientists ... between the two a gulf of mutual incomprehension." The Scientific Revolution separated them and they had lost the ability to communicate. It was as if at a faculty cocktail party, each group gravitated toward opposite corners of the room.

Both 1959 reports on graduate business education were deeply influenced by Snow and both favored the scientific approach over the humanistic. Herb Simon's 1946 essay against the 'proverbs of administration' and favoring a 'modern' and quantifiable approach to management showed the leanings of North American business academia. The academics wanted scientific quantifiability (Gil and Bennis 1968; Mulligan 1987). Other U.S. B-schools soon fell in line, pursuing the HBS-type curriculum and quantification as the new models. (Unfortunately, by itself quantification is not the scientific method. It is simply a measurement and thus only a part of scientific method. For a full discussion see, *Historian's Fallacies* by David Hackett Fischer.)

One study has been done on how some quantitative business techniques were being used. Operations Research techniques appear to be most frequently used in the manufacturing sector in the areas of quality control, scheduling, and inventory analysis. Almost half of the firms in this study indicated they perceived no need for quantitative methods. One issue was that B-schools appear to have been placing too much emphasis on techniques that were infrequently used in practice (Coccari 1989). On top of this, current CEOs say they often feel "ill-equipped" to compete in today's fast-moving, complex, volatile business world (IBM 2010).

Glacier Institute of Management (GIM) was begun in the UK in 1961. It offered a business education model similar to today's executive education and was based on the Glacier Metal experience and theory. This was very different from the MBA offered by HBS. GIM was affiliated with Nottingham and Brunel Universities. When Jaques moved to Brunel, it looked as if the GIM model would be used in starting a new type of business school. One competitive goal of HBS became to retake the intellectual initiative from the resurgent British (of course, they were not all Brits but they published there) - Burns and Stalker, Woodward, Vickers, Rice, Emery and Trist, Brown and Jaques.

Harvard Business School funded its own research program into organization theory in the 1960s, sponsoring at least seven PhDs (by Vaill, Picard, Lorsch [under Paul Lawrence, per Vaill 2001] and by Moment, Dalton, Hodgson [under Abraham Zaleznik, per Zaleznik and Moment 1964]) and Homa Hunt (plus perhaps PhDs by David J. Hall and Malcolm Salter). Homa Hunt was directly focused on testing this theory. Picard used TSD as part of a basket of measures. Lorsch used many time concepts from Brown and Jaques. The others used the theory in a variety of minor ways. These PhDs were retained at HBS and used to generate a number of books, articles, research notes, cases, etc. To cut to the end, HBS successfully retook the initiative with the publication of Lawrence and Lorsch's contingency theory in 1967. (HBS continued its

striving for pre-eminence long after this. See W. B. Gartner book review of Michael Porter's work, 1985 *AMR*.)

Some one-hundred and thirty-four Ph.D. dissertations worldwide have been earned on requisite organization theory across a half-century (1962-2012). I counted a dissertation if the author used, validated or extended this theory or else applied its measurement instruments or analytical frameworks in the research section. A discussion of the theory in the literature review section was not sufficient for inclusion. These doctorates were earned at 75 schools in ten countries. Thirty-three doctorates were earned at seventeen elite universities: Berkeley, Cambridge, Chicago, Columbia, Cornell, Duke, Harvard, London, Melbourne, Michigan, Monash, New South Wales, Northwestern, Oxford, Toronto, UCLA, and Yale. This is twenty-five percent of the total number earned.

Other schools where the Brown and Jaques' theory has been the subject of sustained research include: IIT-Kharagpur (1959-1962+), Berkeley (1961-1976), Nottingham (1962-1977, 1990s-Present), San Diego State (1962-1985), Buenos Aires (1962-Present), Brunel (1965-1995), Cranfield (1967-Present), IIM-Ahmedabad (1968-1981), Monterey NPS (1970-1985), London School of Economics (1982-Present), Southern Cal (USC, 1982 -Present), Baruch (1982-Present), Carlisle (USA, 1983-Present), George Washington (US, DC, 1985-Present), George Mason (US, 1990s-Present), West Point (US, 1990s-Present), ITBA (AR, 1990s-Present), Deakin (AU, 1990s-Present), and Melbourne (AU, 2000s-Present).

The financial meltdown of 2008-9 led to a re-examination of the MBA and the original curriculum reports of a half-century earlier. Academics have become aware of the problem and are casting about trying to find an answer. To become more practical-minded, perhaps professors could take their sabbaticals as managers (rather than doing more research). This experience would go a long way toward building trust between firm managers and academics. Trust is a precursor to sustained access, which is what academics most need and currently lack.

Much academic research needs to get back in touch with the world of business. Some observers feel professors of management must have business experience to be creditable for teaching their students, for their research to be realistic, and to hold status from other educators. At least one large private donor provided funds for faculty to acquire this experience and fill this gap - at one institution (Wren et al 1993).

But the academic world is very different from the business world. The academic culture is non-hierarchical, non-accountable, and anti-authoritarian. Yet, managers justify and legitimate their existence as coordinators of the work required to produce goods and services. This accountability requires authority and hierarchy. Instead many academics advocate their culture as the solution to business problems. Business managers resist and reject this to protect the legitimacy of their positions. The resulting and needless gulf between the two groups is in large part what we have now.

Also, academic teaching has not placed enough emphasis on real-world management (Gentile 2008). Here again, the increased trust and inside contacts would help the teacher.

Using R.O. theory of capability levels, the MBA students would be at Stratum II. Teaching materials and cases should be at this level. To write a PhD dissertation requires capability at Stratum III. Thus, PhDs should be at an ideal distance for teaching MBAs the skills required for the degree and their careers. But most of these students also want their teachers to have some real-world business experience. Thus, a sabbatical in business would also enhance credibility for the teacher. To arrange this would require changes to tenure requirements and sabbatical credits. Both can be done if senior academics were open to such shifts.

Studies by Woodward 1965 and by Burns and Stalker 1961 showed Taylorist firms had a high failure rate because they were inflexible toward changes in customer demands. Melman found a similar causal dynamic in 1951. The pursuit of efficiency under Taylorism lead to very efficient production facilities - but the loss of customers. This lead to bankruptcy. Any field that systematically excludes key parts of its system is defective. Ford's experience with the Model T in 1927 should be the practical proof of this. But today's over-reliance on the computer for customer-firm interface has led to a lack of feedback mechanism and a repeat of Taylorism on the Internet. This has also become an extension of the 'Iron Cage' of control. But the customer satisfaction survey on this one-way communication has acquired the name of the most common response: The 'Enraged' Survey.

Many US business academics also have become insular and provincial. To put a fine point on it, Americans cite other Americans and very little else (Hickson 1996). The drift in US business education has been toward economic and financial studies. Partly this has been to meet the demand from students and partly this meets the desires of faculty toward the quantitative. But there also has been a drift in US and Western society to reward 'financialism' more greatly than the creation of goods and services. Financialism involves the stripping of future cash flows for present consumption. NVP and DCF are both tools that abett this effort (Ross 1995; Keil & Flatto 1999; Tiwana et al 2006). At its worst, it can become a form of rent-seeking. Yet we have been warned that rent-seeking crowds out real economic growth (Shleifer and Vishny 1998.) It also leads to extended depressions and recessions (which are more recent, longer and deeper, and distinctly different from earlier 'panics,' which were of a shorter duration). This situation is aggravated by the retirement age elimination for faculty. Older faculty will likely protect the current economic models for years and years and years (Ashenfelter & Card 2002). [In 2014 I see no abatement of this.]

Is This a Theory or a Discovery?

Assistant Professor Gökçe Sargut then at City College of New York (now at Governor's State University in Illinois) asked, "Is this a theory or a discovery?" Is it a theory to explain the behavior of people in organizations put forward by Jaques? Or is it a discovery by Jaques of 'another country,' of the different behavior of people once they create and join organizations? Its size and the way it has cut across many disciplines suggests Requisite Organization is more than just another theory.

In the West over 300 organizations with over five million employees have now adopted parts of this theory. It is estimated that requisite organization concepts have been adopted robustly by up to 75 of these organizations and has generated a powerful increase in competitive effectiveness for them. (These figures do not include Japanese transplants.) A major reason why hard data is limited in this area is because many firms see using requisite concepts as a competitive advantage and, therefore, refuse to publicly acknowledge their use of it. This has limited the number of B-school cases on it and has served to keep down the profile of the theory.

While many of these companies cannot be named due to confidentiality, this author estimates that at least 30 of the 306 firms cited in the *Fortune* annual issue, "America's Most Admired Companies," (March 19, 2007), were robustly using Jaques' theory. (Up from 25 the year before.) That issue also contained a listing of the "World's Most Admired Companies 2007." At least 18 of the World Top 50 used this theory (there was some overlap). Three firms with their names on Manhattan skyscrapers used it. A recent Australian book on the most admired companies there, *The First XI*, included at least four firms in this list that were using requisite concepts. (The authors, all academics, were only aware one was using it.)

In the U.K. Jaques' key discoveries - that discretion was an essential part of every employee's role and the level of trust was key to every workplace - took hold largely due to Oxford don Alan Fox's 1974 books, *Beyond Contract* and *Man Mismanagement*. Fox stressed the impact of a high-trust versus a low-trust workplace on productivity. Where managers created a high-trust environment, the workers brought their discretion to the work greatly increasing productivity. Whenever an employment relationship is discussed in the U.K., the discretion of the role is now part of the discussion. But in the U.S. "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, has quite the same meaning that discretion does in the U.K.: *Discretion (judgment) is what the employee brings to the work*. High trust is necessary to allow that discretion to be sustained over time. As Alan Fox showed, contracts (between principal/employer and agent/employee) are not enough.

Requisite Organization theory was rejected by United States and British academics at the very end of the 1960s. The main expressed objections were the lack of supporting data and Jaques's use of the 'unconscious.' At that point, however, thirteen dissertations had been completed and over a score of studies had been published on the theory as books, chapters and articles. Three appeared as positive articles (Bell (3), Atchison, Shepard (1 then, 3 more later) and one as a positive book (Blauner). Two of the dissertations were negative (Goodman, Child) but both were published. An additional one was published as an equivocal book (Kelly). Three were never published (Picard, Shively, Homa Hunt). Two were published later as books (Richardson 1971, Shepard 1971). But Jaques' failure to keep a scrapbook on the contributing research left him - and his supporters - with little defense against his critics.

So the critics highlighted the skeptical findings. This was the height of the “management theory jungle” and most of the negative articles appeared in the period 1969-1972. But research on this theory has continued since and has produced powerful supporting results for many of the elements that make up the theory.

This Bibliography includes replicated high correlations of time-span of discretion to felt-fair pay, of time-span of discretion to hierarchy level, of felt-fair pay to hierarchy level, and of amount of discretion versus its length (or time-span). At least four of the academics who criticized the theory in the 1960s reversed themselves in the 1970s (Paterson, Goodman, Goronzy, Fox). The latter two also embraced it. Both Goodman and Kelly failed to understand or test the theory. Kelly’s advisor was Paterson (then a rival to Jaques). Child had an ideologically-driven misunderstanding of the theory. (He felt it was biased and pro-management.)

Some academics today still claim the theory was based on “unconscious” assumptions and thus will never have “empirical” research results to support it. (R.O. theory has moved beyond the “unconscious” to tasks - which can be objectively measured. Also, psychological studies have since proven the existence of the unconscious.) This Bibliography includes the replications and refutes such claims.

However, Brown was a great promoter of the Glacier Metal Co. and of the Glacier Project ideas. He was the front man for both efforts and he was very good at it. Jaques, on the other hand, can properly be described as the ‘principal investigator’ for the theory. When Brown entered the government in 1965 the sustained positive public relations effort Brown had generated simply stopped. Jaques tried to re-create the prior work and theorizing environment but created an academic and consulting one which was not the same. From a jaundiced view, the lack of sustained positive p.r. caught up to Jaques just before Brown left government in 1970.

Evidence Based Management

In recent years observers have noted a growing gap between academic researchers and business practitioners. The practitioners neither read nor used the research. (An entire issue of *AMJ* in 2007 was devoted to this divergence. See Rynes 2007.) This gap was seen as ‘amnesia’ caused by deeply held assumptions of scientific management, and by a search within business schools for academic legitimacy at the expense of practice (Sayles and Stewart 1995). A shift toward Evidence-Based Management has been advocated to close this gap and get the two groups back together again (Rousseau 2006, 2007).

But every piece of current research, every theory, has a factoid or case already under it. The real issues are context, the prediction accuracy, temporal spread, and the disprovability of each theory, not its underlying factual ‘evidence.’ If neither researchers nor practitioners have knowledge of scientific method, then the current situation will continue. In addition, the entire academic system of hiring, tenure, promotion, publication, values, and recognition will have to be changed so cumulative results take precedence over declarative results.

As early as 1961 Harold Koontz called this “the management theory jungle.” Michael P. Fogarty warned in 1963(a) of the “mounting confusion” that would result if “empirical” studies were employed that lacked testable theory. Deming maintained that all empirical studies were tests of theories. Thus far, these differences have been mis-framed as a power play rather than a science-based debate over facts and theory.

Maier's Law (1960) noted the tendency: "If facts do not conform to the theory, they must be disposed of." Thus, "the theory supersedes the fact." This is the reverse of scientific method but, accord to Maier, it is widely practiced in the social sciences. (In many of the "Main-Stream" [MS.] designations I have attached to articles and chapters the researcher has discovered facts that support R.O. - but has often placed them in the category: "Unanticipated Findings.")

Romme suggests both science and humanities can help bridge the gap. However, both should be subsumed in teaching organization design as an expansion of current organization studies. (Romme 2003).

Jaques had his own ongoing criticism of academics. For half a century academic researchers have been collecting data that omits critically important framing information about people and organizations. They have failed to collect data on the work level of the role occupied by the person and they have failed to collect comparable data on the work capability level of the individual. Their ‘empirical’ data has therefore likely been contaminated by the twin omissions of unrecorded role hierarchy level and unrecorded individual capability level. Both are knowable. (A parallel in marketing, for example, would be to conduct an external survey but fail to record the age or income of each customer.) Many of these studies would likely have yielded different results if the appropriate measures of work level and capability level had been included (Hunt, J., 1991).

Opinion

Information on the internet must be taken with a large grain of salt. Some may be reliable, some unreliable, but some also can be distorted. One need only step into the internet and search on *requisite organization* to find negative, biased, or innacurate opinions about this theory. A few examples -

- Jaques’ writing style is “too dense” (indeed, it can be - but these ideas are unusual and different, thus the ideas themselves are difficult).
- The theory is unrealistic (first claimed in 1963 by Paterson and retracted in 1972 - this theory is based first on long-term empirical research conducted at Glacier Metal Company in the UK for over 17 years, then by the US Navy for 10 years, by the US Army for some 15 years, and at Rio Tinto in Australia for over 12 years).
- The theory can not be validated in the field (claimed by Fox in 1966 and retracted in 1974; many studies have replicated it since and some 300 Western organizations have adopted it -

some with significant success. Some 14,000 Eastern organizations have also adopted it, mostly in Japan and India, with considerable success – documented herein. Or ask Detroit.)

- There is no research supporting it (this Annotated Bibliography contains 2,235 academic and professional studies on concepts contained within requisite organization and 3,015 mainstream studies with findings that support it – total of over 5,250 published research studies.) Other research, especially that conducted at Sears, Roebuck for 15 years, produced results similar to this theory.

- “Levels of capability” sounds like the mediaeval “Great Chain of Being” (this theory is not based on the divine right of kings but post-modern cognitive hierarchy theory and cybernetics - the CEO must work for his or her pay - the CEO is not a star, the CEO is an employee).

- R.O. theory is "rigid" and puts people into "boxes" (this confuses Jaques' prescriptive writing style with the effects of the practice. Jaques' wrote like an engineer or an architect to show precisely what has to be done to generate a specific outcome. He was a psychoanalyst describing in a prescriptive manner how to build the modern mental architecture of the workplace that would liberate people's abilities from the 'cave' they work in now.)

The Published Research (Academic and Professional)

In the 1970s the academic research on Jaques' and Brown's theory slowed considerably due to its rejection. The theory was set aside and looked on as a fad whose day was past. The bottom was likely reached when Patricia Smith noted that Jaques' UK findings needed a follow-up study in the US (1976). Over the following decades a thin stream of evidence supporting Jaques' and Brown's theory trickled in. Over time these results have constituted a substantial body of cumulative knowledge.

By March 2014 some 2,027 studies had been done directly using requisite theory, plus 2,702 mainstream results supported it for a total of 4,729 publications. Those published in peer-reviewed journals directly using requisite theory totaled 914, plus 1,356 mainstream results for a total of 2,270 articles. Of these, articles in first-tier (A-level) journals (required for tenure at elite schools) totaled 307, plus 677 mainstream results, for a total of 984 articles. Jaques' initial findings at Glacier Metal were probably replicated and confirmed.

Some 172 articles appeared on the theory in professional/ practitioner management reviews, such as the *Harvard Business Review*, *MIT Sloan Management Review*, *California Management Review*, *Ivey Business Journal*, etc. At least five became “HBR Classics.” (See below.) Mainstream articles that supported all or part of the theory came to 229 in professional/ practitioner management reviews. The total came to 401.

Many books, chapters and articles have documented company-wide implementation projects using the theory. Brown's and Jaques's books and articles documented its development at Glacier Metal. Jaques's and Rowbottom's books marked its later development at the National Health Services (NHS) in the UK. Billis similarly documented its implementation in the British social services and later in the voluntary sector. Dozens of professional publications by U.S. Army Research Institute (ARI) researchers were issued in the U.S. by the National Technical Information Services (NTIS). Jaques's book, *Requisite Organization*, grew out of

implementations at the U.S. Army and at CRA (later Rio Tinto) in Australia. The articles by Jacobs and Jaques have been on the development of leadership in the U.S. Army. Findings at Sears, Roebuck in its heyday by U. of Chicago researchers from the 1940s through the 1960s supported many of these findings. Today, many professional studies are ex-post examinations of R.O. after it has been installed in a firm, after it has become a fact of life, not just a theory to be considered but a method of organization with long-term consequences.

Scope of the Theory

What may have seemed to some as a minor theory of historical curiosity turns out to have an extensive and elaborate documentation. This Annotated Bibliography pulls together for the first time a comprehensive compilation of works directly on the theory and those related to it. The research that has been published on it include scores of dissertations/theses and books and hundreds of articles and chapters. These items were authored in at least twelve languages on six continents (English, Dutch, Spanish, Japanese, Swedish, Norwegian, Afrikaans, French, German, Portuguese, Brazilian, Italian, and Danish). I expect the next languages will be Finnish, Chinese, and Russian.

This research is spread across many academic topics, which becomes a double-edged sword for the theory. The theory has been explored across many academic disciplines – business, economics, psychology, sociology/social administration, education, nursing, health care, public administration, industrial engineering, library science, systems analysis, and complexity. This breadth and variety also can be seen as reinforcing the validity of the theory. But it too can be seen as a weakness.

The lack of prominence in any single topic is one reason Jaques' theory does not have a high profile. And its application across many types of organizations - the private sector, family business, non-profit, voluntary, religious, and government - tends to obscure its sturdiness.

Isaiah Berlin, the raconteur and Oxford don, had a famous metaphor where he compared Dostoevski and Tolstoy. Dostoevski, he said, was more a hedgehog who knew one trick - how to jump down his hole - but was master of that one. Tolstoy was more of a fox, the master of many tricks. Elliott Jaques would be classified a hedgehog rather than a fox. He knew one thing and he knew it well. He was not the foxy master of many tricks. Jaques had one central construct: time-span of discretion (TSD). He strove to re-order the world around that construct. The fascination is the surprising places his hedgehog holes suddenly appeared. All the holes emanated from the same burrow and they were all linked together (although how was often not obvious).

This Annotated Bibliography reveals the theory to be a multifaceted, wide-ranging and a dynamic approach to humans in organizations. It includes adult human psychology, not childhood psychology nor subhuman psychology. Most academics are simply unaware of it.

Let Me Count the Research Person-Years ...

One measure of R.O. theory would be the amount of research that has gone into it. Jaques worked on developing this theory for over fifty years. Wilfred Brown worked on it for over 25 years. Gillian Stamp and David Billis (and several others at BioSS) have practiced and written on it since the 1970s – over 35 years each. Fogarty and Behrend wrote on it from before 1960 into the 1980s – some 25 years. The 134 PhDs took about 4 years each: some 536 years of research. The 70 master's degrees took a year each. The 1,688 research, critical, and descriptive articles and chapters took perhaps half a year each - some 844 years in all. (The full books often took a year or longer, say 361 years.) Thus, how many human-years have been devoted directly to researching this theory so far? Say 1,645 years? Well ... its hard to tell. (Thousands of internal and proprietary company documents, white papers, unpublished surveys, conference papers, etc., and the book reviews - we won't try to count them here.)

If we count the 2,201 mainstream dissertations, theses, articles, chapters, and books which had findings that support the theory – or parts of it - we might add another 1,522 years. (However, these findings were accidental. They didn't mean to do it.) This would bring the total to some 3,167 person-years of research.

Long-Term Action Research

Much of the research on Jaques' theory has been 'action research' where the researcher implemented the theory at an organization, analyzed the process iteratively, and then wrote it up. (See *Grounded Theory*.) Glacier Metal was the first implementation of the theory (with a fair amount of trial and error) from 1948 to 1965. The Glacier Project did not end when the firm was sold to Associated Engineering. Research experiments by Jaques and others continued until 1977. The Allen Company in the US adopted the theory and set up an internal research unit to document it, 1963-1970s. (Even though Baxendale, Thornton's, and Kirloskar-Cummins used this theory starting in the 1960s, it is not known what in-house research they did. Two were then UK-based family-owned firms and the other was in India.) While head of the school of social science at Brunel, Jaques set up a consulting organization, BIOSS, with public and private units - in Health Services, Measurement of Capability, Social Services, Youth Services, Mental Handicap, Decision Analysis, and Policy Studies. Beginning in 1967 each unit was created when a client in that area was secured. Most units were headed by a faculty member and used Brunel graduate students as staff consultants and researchers. This gave them financial support and ensured many Brunel theses were action research/ case implementations.

The UK National Health Service used BIOSS as its main consultant to guide its reorganization in 1974. Lots of working and public papers, reports, official studies, etc., were generated in 1970-1985. The UK Department of Social Services also engaged BIOSS, and produced white papers and reports, 1970-1984. CRA in Australia (later Rio Tinto) adopted it with Jaques' consulting assistance, 1978-1990. (Working papers were confidential to the firm but several books and articles came out of this intervention.) As noted above, when the US Army adapted it, the Army Research Institute (ARI) acted as the research center (1979-1994) and scores of studies were published by the National Technical Information Service (NTIS) as

the project progressed, 1982-1995. At least seven of the PhDs at Brunel University (UK) and one at Monash University (AU) were developed from BIOSSE consulting assignments where the theory was implemented at client sites, including the UK National Health Services (NHS) (2), UK Social Services (2), Church of England, the Anglican Church of Australia (Monash), and Ontario Health District Councils. (See Introduction to PhDs.) This action research has documented many adaptations of this theory in great detail.

Again, however, all of this action research was a double-edged sword for the acceptance of R.O. theory. Action research was often considered by academics to be not “good science” since such studies are not controlled laboratory studies and was seen as being contaminated by the vested interests of the consultants/researchers. That US government sponsored studies are usually conducted by faculty members and sponsored by the universities is all well and good. But their findings are not peer-reviewed - so it does not raise them to the level of “good science” in the view of these academics.

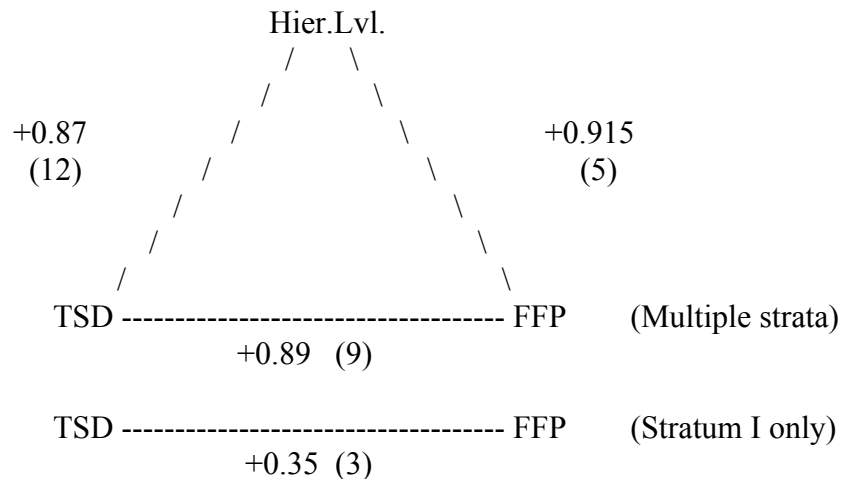
Jaques’ Replicated Correlations

The average correlation of the eight PhD dissertations and four studies on time-span of discretion and hierarchy level was +0.87. The average for the four published studies and five dissertations that replicated Jaques’ time-span of discretion to felt-fair pay correlation was +0.89. Four studies and one dissertation have appeared on the felt-fair pay to hierarchy level correlation, averaging +0.915. (This last one needs more support, which is underway.) This forms a triangle of correlations that strongly relate all three to each other.

Several studies that generated low TSD:FFP correlations around +0.35 have been held forth as disproofs of this theory. But closer examination indicates these were limited to a single-stratum and to non-managerial employees (Milkovich and Campbell 1972; Cameron 1975, 1976; Theocarakis 1990; McGee 1984). Within a single stratum the correlation may be low but across strata it can still be high. Jaques’ initial strong findings across the strata have been replicated and confirmed. (See the tally of results below and at the beginning of Part I. B.)

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The Replicated Triangle of Correlations



(Note: Number of studies in parentheses. TSD is not vision nor is it the psychological concept, FTP. Also, FFP is not AP.)

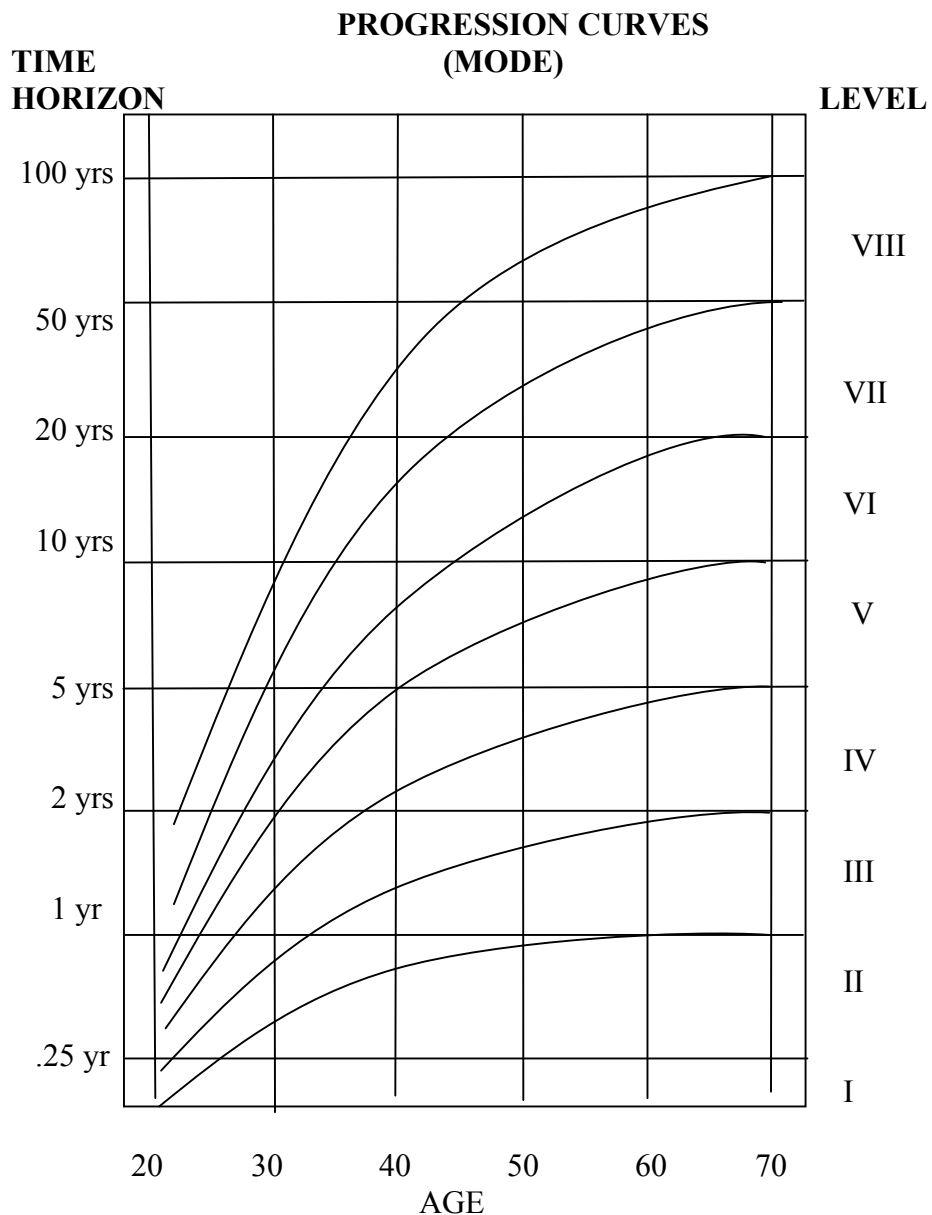
Kuhn's Reasonable Person

Thomas Kuhn (1970) addressed the general issue of the credibility of a theory. When would a “reasonable person” be convinced by independently created evidence that these correlations are what they say they are? When is a preponderance of evidence reached, allowing one to draw reasonable conclusions? Kuhn had first written about the shift in a scientific paradigm as if it were a conversion experience (a la religion). Later, Kuhn saw the shift as a rational change based on evidence, persuasion, consensus, and agreement.

The preponderance of replicated evidence for most of Jaques' correlations was reached during the 1970s. First, the time-span of discretion to felt-fair pay correlation became clear around 1973. Then the time-span of discretion and hierarchy level correlation results about 1976 would have become clear. Third, the felt-fair pay to hierarchy level correlation would have become clear roughly in 1979. Lastly, the anti-convincing, low correlation of a single, non-managerial stratum TSD:FFP could have been seen immediately for the flaw that it held. (But if not, it would have lingered longer, creating doubt, and been finally cleared up with evidence in 1990.)

Evidence backing the Progression Curves (“Age-Wage” Profiles) would have been reached also in the 1970s. As early as 1970 Laner and Crossman summarized the evidence as overwhelmingly positive and in a 1973 article Paul Nystrom and then Haruo Shimada (1974 Related PhD) provided data showing their existence using other sources. By 1974 the existence of the Progression Curves was clear. (Actually, this data was first developed in Japan in 1927. In 1928 the curves were published in *Harper's Magazine* by the CEO of AT&T. And they were also developed from US Census data for engineers and scientists in the early 1960s.)

One dissertation parsed the time-span of discretion's length of risk borne (TSD) from the amount and type of risk borne by the employee, confirming Jaques' definition of TSD (Richards 1978). But, as Jerry Gray (unpublished p.c., 2007) has indicated, this still left the capability level of the individual to be inferred from the other two measures - time-span and pay level. For an individual's mental processing skill to be fully valid, it must be determined independently. Jaques published a study with Cason in 1994 that showed how mental processing level can be determined directly. It no longer had to be inferred. (Gardiner 1998)



But in the end most academics do not have to accept this theory. Jaques' initial work of discovery (1956) was duplicated three times in the first year after it was published. J.M.M. Hill, Jaques' supervisor, replicated it at Glacier Metal in North London using a different sample of employees than Jaques. Norman Martin repeated it in the US that fall. The next spring Hilde Behrend duplicated it (probably in Scotland or perhaps in the north of England) with the help of Wilhelm Baldamus. All three studies were published. Only Hill stated he was replicating Jaques's study. In fact, only Hill cited Jaques and only Hill was not an academic. Neither academic cited Jaques: they each applied his ideas while taking credit themselves. A number of academics do not have to acknowledge this theory – and haven't – even while using the ideas.

In 1961 a commentator wrote a book on morale in the British civil service wherein he found a similar dynamic to that described by Jaques. Nigel Walker noted that employees sought out a level of work equal to their highest capability level. He was a Reader in Criminology at Nuffield College, Oxford. He did not cite Jaques or Brown. (Neither Jaques nor Brown seem to have been aware of this book.)

Useful Applications of R.O.

One indirect indication of validity would be the range of sustained applied scientific research showing that R.O. concepts work in the real world (empirical). Here is one (long) roster of useful applications that have resulted in books or articles: career crossroads, RAEW, levels and entrainment, *satei* assessment and the Japanese “miracle,” post-modernist organizations, human resources, and the defence mechanism test (DMT).

Career Crossroads

Walter Mahler was a consultant to General Electric beginning in the mid-1960s and later wrote several books advising firms on human resources and executive development. He described managerial levels as the “career crossroads model.” The levels corresponded closely to requisite strata without gaps or overlaps (see Mahler 1975). He read books written by CEOs and Brown was one of them. (He favored experienced executives rather than academics in his reading.) Mahler footnoted Wilfred Brown's 1960 book, *Exploration in Management*, as his source. He started with five strata, as Brown had, and later expanded this to seven. This theory was the basis for the unique General Electric executive succession process under CEO Reg Jones in the late 1970s and the renewed GE Crotonville management development programs beginning in the early 1980s under CEO Jack Welch.

Around 1975 Mahler was successful in selling these ideas to Reginald Jones, then CEO of GE, as a workable method for executive selection to solve his CEO succession problem. Jones and Ted LeVino, who was in charge of GE's succession process, brought in Mahler to assess the short list including Jack Welch. (Parts of this unique process have been written up in Harvard cases, *Fortune* articles, and books.) Jones said: “I looked ahead into the 1980s and 1990s and saw the need for a leader with very different skills from my own” and selected on

performance rather than relationships. Here was a twenty-year peek into the future by a capable CEO at stratum seven.

At each stage of the selection process Jones had to insert Welch's name. Welch, then viewed internally as a radical and revolutionary, was being systematically eliminated from the running by the GE bureaucracy. In 1981, when he succeeded Jones, Welch was at high stratum six capability. He matured into stratum seven around 1983-84 and at that point became capable of running a firm of GE's size and complexity. Thus, the sequence of ideas was Brown to Mahler to Jones to Welch. (I have discovered one reference to GE developing a succession system in the mid-1960s under CEO Fred Borch. This date coincides with Mahler's first involvement with GE. However, I have found no further references.)

Just before becoming CEO, Welch read German General von Moltke on the importance of concentration of force when meeting the enemy. Welch used von Moltke's tactical approach to immediately shift GE's direction away from the many but scattered SBUs to: "Be number one or two in your market - or fix, close or sell." Welch pulled back from marginal positions, reduced payroll, sold units, and funneled the savings into the executive development center. With the money he saved, Welch began managerial training programs for three management levels at GE's Crotonville campus starting in 1984 and since expanded (Charan et al 2001). These programs were the central channel for disseminating Welch's message and leadership throughout GE's managerial ranks.

As each manager grew across a boundary between strata, he or she was sent to Crotonville to be trained on the shift in leadership demands at the next level. Their training was not technical. It was presumed they got the technical training in college or while at lower functional levels. These executive programs were tied directly to the GE succession planning process. New programs were designed all the way down to the "New Manager" level. The training focused on how the leadership requirements changed at each level and on the skills and work values needed to perform the work at each new level. The training material used was from a GE division - a current problem or dilemma that would have real consequences for the firm (action learning). The divisional executives already at the next stratum who were involved in the issues taught the cases. Almost no academics were involved at Crotonville.

The inside story of how CEO Welch and the GE board selected his successor, Jeffrey Immelt, reveals that much in the process resembled that used 20 years earlier to select Welch. Welch gave his evaluations of each candidate but also insisted the board members meet each of them face-to-face. Immelt had been through the Crotonville development process and had the 'most expansive thinking' of any of the finalists.

The runners-up for the top job were eagerly sought by other firms looking for CEOs. (The same was true in Australia for Rio Tinto's top managers in the 1990s.) Over a dozen other major companies had adopted this executive development model before a bestseller, *The Leadership Pipeline*, was written on it. The number of companies using it today is not known,

but the second edition in 2011 claimed it was over one hundred. (See Charan, Drotter and Noel 2001, 2011; Drotter and Charan 2001; Kesler 2002.) Ironically, Welch produced an annual return on equity that was the same as his two immediate predecessors, Reg Jones and Fred Borch: 29%.

The Peter Principle

We are each promoted when we show we are competent. Only when we show we cannot handle a job, cannot do the duties, do the promotions cease. Thus, according to the Peter Principle, every incumbent job holder is incompetent and in time every post is permanently occupied by an incompetent. Every employee rises to his or her level of incompetence – and stays there. This was the claim by Laurence Peter.

Several dissertations have since found this to be so. In fact, the Markov Chain phenomenon bears out this finding. If each employee is reviewed using the same criteria for their review, there is a fast rise in productivity. But it peaks quickly - and then falls back to a steady and lower rate. This pattern holds when people are repeatedly reviewed for ‘competence.’

The only hope is class discrimination - which blocks advancement. This way, at least some are held back from reaching their ‘ultimate placement.’ These folks retain their competence and the organization retains the ability to function. Non-commissioned officers in the British army who started as common soldiers have this fate – and keep the place going. (Percy Sutton, as the Borough President of Manhattan in the 1960s-1970s, was one example of this phenomenon.)

R.O. reviews employees for their ‘ultimate placement’ and removes those who are not competent. The personal effectiveness appraisal (PEA) ensures each employee is competent for the role each is assigned. This is done by clear expectations and accountability from the incumbent’s manager and manager-once-removed.

Welch was well aware of the Markov chain dynamic which turns negative after three years. He still today publicly promotes the 'A-B-C' appraisal and ranking system for promotions - because non-GE managers follow and avidly apply it. Welch dropped it at GE after three years (1989-1991). [Competition does not stop at retirement. Sucker.]

RAEW and BPR

RAEW has been used as a consulting tool since the late 1980s. (The acronym is not pronounced. It is spelled out verbally: “R-A-E-W”.) Its origins are somewhat obscure. No one seems to be sure where it came from or who invented it. The earliest reference I have located is by Roger Crane (deceased 1992) at Texas Instruments. Crane was a consultant, a founding member of TIMs (now INFORMS) and an early president of that organization. In 1986 he wrote a paper, “The Four Organizations of Lord Brown and R.A.E.W.” The title appears to be a direct reference to the ideas of Lord Wilfred Brown (1960, p. 24; 1971).

RAEW stands for “Responsibility, Authority, Expertise, Work.” Every task or function delegated by a top manager or executive is analyzed to ensure these four elements are clearly assigned to someone (or some group/unit) in the organization to perform. As tasks get further delegated downward in non-requisite organizations these elements become fragmented and often get separated, so they are not assigned or are assigned to a person who does not have the requisite competence and the task fails. RAEW analysis is a structure and process diagnostic tool to achieve alignment between strategy and organization. It can be used at the role and unit levels to identify mismatches between what individuals and groups are being asked to achieve and who is accountable for those results. RAEW became a popular tool with business process re-engineering (BPR) advocates and was used during the 1990s by consultants worldwide.

The first two letters are clearly linked to Brown’s 1960 book: R = Responsibility/Accountability and A = Authority. But Expertise (E) is less clear. Expertise appears to mean individual capability in role. (Max Weber and Alvin Gouldner used “expertise” as a lesser type of authority rather than as pure knowledge.) Brown used the word “competence” in a sense similar to “expertise” (p. 50). And, the last letter: W = Work: Who is assigned to do it?

Talcott Parsons wrote a very influential (and long) “Introduction” to his translation of Max Weber’s major work in 1947. In it he accused Weber of confounding two types of managerial authority, bureaucratic and expert (long footnote 4, p. 58-60). Thus, Parsons split the manager’s position in twain with two sources of authority. As Parsons saw it, ‘bureaucratic authority’ came from the position alone. It commanded and was obeyed. (This was an uncited extension of Taylorism.) On the other hand, ‘expert authority’ came from the competence of the manager, from his/her problem-solving ability, and from his/her knowledge and education credentials. One or the other could be the source of managerial and organizational power. They could be separated. (This was a similar distinction-without-meaning to that by Zaleznik in 1977 when he split those in the hierarchy into ‘managers’ and ‘leaders’.) In all of this, Parsons was putting forth his own definitions of bureaucratic authority, not Weber’s. Other academics called him to account for this mis-attribution, but only much later - in the 1970s.

In short, Parsons created an intellectual distinction that has plagued researchers, organizations, and managers ever since. Peter Blau has been a major follower in this. It was not addressed as a source of dysfunctional task delegation until business process re-engineering (BPR) unearthed it around 1990 as the middle two parts of RAEW - Authority and Expertise. All four parts must be clearly assigned for a task or a process to be completed. According to Roger Crane the issue was not “either-or,” as Parsons claimed, but “both-and” in reality for tasks to be completed.

In Jaques and in Brown the authority of the supervisor is never split between position and person, between bureaucratic authority and expertise, between role and incumbent. Authority never exists by itself but must have discretion. Real Authority always includes the Expertise and the competence level of the incumbent. Otherwise Authority is not followed by subordinates.

Employees do not regard such Bureaucratic Authority figures as 'real' managers, only as 'empty suits,' and will by-pass them, creating an informal organization.

Parsons's distinction was intellectual only and was not part of the real world of people and organizations. Only the prior existence of Taylorism and its erroneous concept of the manager would allow this erroneous concept of management to be considered. (We obey the police officer directing traffic because he or she has superior knowledge of the situation - expertise - and not just because the officer has on a uniform and has the Authority to impose fines and tickets. We obey civilian volunteers directing traffic for the same reason.) Parsons's critique, if accepted, creates a bureaucracy without a soul, without any reason to be followed. For half a century this distinction was a false trail for researchers to pursue and very detrimental to management and organizations.

Roger Crane submitted his 1986 paper to Kennedy-Western University as a PhD thesis. The problem was that KWU was a "non-accredited" academic institution. Crane's paper was not seen by me. It can only be counted as an unpublished paper on the theory and not as an academic PhD thesis. But the story does not end here. A number of articles have since been published on RAEW and some were peer-reviewed (Bernhard 1998, 2001; Duehring 2001; Nieves and Sage 1998). RAEW has been taught as a module in many BBA-level and MBA-level courses on re-engineering. At least one (accredited) PhD used RAEW as a central analytic tool in its methodology (Nieves 1997). The impact of RAEW worldwide during the re-engineering craze in the 1990s was immense. Used appropriately, it can exist beyond the fad and can be a valuable method of analysis (Larsen and Myers 1999). (KWU refused to respond to inquiries and changed its name to Warren National University in Wyoming – WNU – in 2006. WNU has since gone out of business.) Crane died in 1992.

RAEW is a powerful managerial tool for identifying effective work delegation of all types. It can also be helpful in developing implementation plans for policy proposals in the government and non-profit sectors. Without the pull of the profit motive, the government and non-profit sectors can become managerially ineffective (not just economically inefficient). RAEW provides a design tool to identify the employees or organizational units that will be accountable for performing each element of an on-going process or program. This ensures against any of the RAEW elements being mismatched or disconnected and thus blocking completion of the work (Duehring 2001). Once the delegated work is completed, feedback and evaluation of the results becomes possible. The criticism by economists of social interventions because they lack evaluation of results can also be addressed (see Hayek 1945). This feedback will also allow us to discover which interventions worked and which didn't, to test hypotheses, to improve validation, and for the continual improvement of processes and policies. The current audit/accountability public mentality in the UK and US is a step in this direction, but it is misguided. Since it is driven by a re-awakened public Puritanism (Accountability as 'Scarlett Letter A'), it has nothing to do with managerial accountability.

Levels and Entrainment

Landsberger discovered that business decisions were not made one-off (in opposition to much of the academic and popular literature). Different types of decisions were handled at specific organization levels as Jaques indicated and were made and remade constantly (1961). Kriger (1983) replicated Landsberger's study and found six decision-making levels in major organizations. These findings have been backed by other research (Lindbloom 1959; Hunt 1966; McCall and Kaplan 1985).

Then in 1996 Ancona and Chong added another twist to levels of complexity: entrainment. Entrainment is the adjustment in the pace or cycle of one activity to match or synchronize with that of another. Especially important were macro-cycles that captured the pace and cycle of organizational activities (e.g. annual budget process). There was active interplay at different levels of analysis. This interplay kept the levels in relation to each other. The authors saw entrainment as a feature of chaos which resided at a fourth level of complexity. (Rather, it may reflect parallel processing at stratum four, of which they were unaware.) (Ofori-Dankwa and Julian 2001). The activities at each level inside the organization kept it moving yet stable, like a spinning top.

All of this research missed the development of *hoshin kanri* which began in the late 1960s among Japanese firms and linked strategy to operations annually. (See below for a fuller treatment.) This ensured entrainment of goals occurred in a deliberate, coordinated, and planned way. Entrainment was not due to chaos but to deliberate actions by management. If it led to chaos, it was due to thoughtless or conflicting actions by managers.

A Different Measurement of Discretion

Three PhD dissertations (and related articles) used a unique and different method of measuring discretion. Bell (1965/1967) interviewed nurses to determine the amount of discretion they exercised. Three parts went into the measurement of discretion – 1. Which tasks to perform, 2. How to perform them, 3. In which sequence to complete them. Bell's verbal interview technique produced a correlation of .45; but Tiffany's (1977) written methodology generated stronger correlations ranging .67-.97. Bell's was applied on a small number of nurses, whereas Tiffany used her written format with hundreds. (Her results were not published until 1988.) Gorman used Tiffany's written form in her own doctoral thesis (1982/1986). This was a completely different approach to work measurement than the time-based one taken by Jaques. This approach needs further exploration, in particular how it can be applied in other professions and jobs.

Satei Assessment and the Japanese “Miracle”

Thus far we have largely discussed the relationship between this theory and academic research. Starting in the late 1960s the Japanese *keiretsu* (groups of affiliated companies)

adapted this theory to their employment practices and implemented it internally. These changes were soon reported in Japanese and Western journals, both professional and academic, but aroused little interest in academia. The first step of the change involved a shift from seniority based pay to job classification based pay that included “degree of mental burden” and “rank-pay” (Marsh and Mannari 1973). (This was not “job classification” as used in the West, but was closer to ‘cognitive capability.’) However, functions and responsibilities did not follow “status” which appears to have been set by seniority. Promotion was through semi-annual appraisals by the Supervisor based on “ability, personal qualifications [education and credentials], competence level, and performance on the current assignment, and future potential.” The annual base salary increase was largely founded on this appraisal while the semi-annual bonus was based on the individual’s performance (in English: Yoshino 1968:238; Cole 1979:132-133; Yasui 1975:14-15; Nakayama 1972).

In Japan, unlike the West, highly skilled people were matched to highly sophisticated machines and the career focus was on assuring long-term commitments, responsibilities, and roles through lifetime employment (Hayes 1981 *HBR*). Organizationally, the company strategy was linked to operations directly through each managerial level. Top management ensured strategic consistency of operations thorough planning at every level. One key was to avoid false choices by fixing “time spans” for target tasks that blocked the reassertion of short-term flexibility over the long-term objectives. One common false choice: cost vs quality. (Crosby 1979; Wheelwright 1981 *HBR*).

In 1982 a book by an American who had run businesses in Japan for the prior 35 years came out explaining how the Japanese did it. He did not cite Jaques or Brown but explained the rationale Japanese managers used to achieve success. It was not magic. This was not an academic’s summer treatise nor a consultant’s quick-fix. He was sober, business-like, and level-headed. The book was largely ignored. (Gibney 1982).

According to Andrew Weiss (1984, *HBR*), there were “no mysteries” to Japan’s success: hire an elite workforce (high mode), pay them on merit, pay them by efficiency wage (pay them much higher and faster with steep wage increases/ profiles), promote them by capability level (not job title), support them with engineering help (the *andon* lightboard), add a unique capital structure which insulated operations from capital market pressures, arrange a differential pay range per job at 100% (the width of a stratum), and guide the employees’ career paths by an “age-wage profile” (progression curve).

Robert W. Moore went further (1984), noting that Jaques had spent his professional career pointing out that current U.S. and U.K. wage and salary administration was dysfunctional. It created bureaucracy, ignored a half century of behavioral research, was used selectively, and appeared objective while actually based on nothing more than “pooled opinion.” On the other hand, said Moore, the Japanese showed respect for their human resources. Western managers would have to make major changes and give up their own hedonism - the goodies. He had strong recommendations, combining Jaques’ concepts and Japanese practices. Otherwise, “we may even find some of the more pervasive Japanese practices can take root in our own foreign culture.”

In my opinion the amount of literature written in English reached a tipping point in 1984. After this, no one in the USA was excusable for ignorance of the Japanese methods for success. Even later, Robert Rehder's 1988 article "Japanese Transplants: A New Model for Detroit," in *Business Horizons* should have alerted car folks. Kenney and Florida documented the Japanese success of re-creating *kieretsu* inside the U.S. in their 1991 article, "How Japanese Industry Is Rebuilding the Rust Belt."

The Japanese, however, were and are using a paradigm which remains a mystery to Western managers even today. Three keys to the secret of Japanese management resulting in high productivity were: 1) managers were once workers, 2) managers and employees shared joint decision making, and 3) joint management-employee conferences were held on all topics and policies [q.v. Brown 1948, 1960, 1975 on participation]. The employees were the long-term members of the firm, not the shareholders, and had tenure. Tenure gave labor a high degree of authority and freedom and a vested interest in the future of the firm. Rule-book work was replaced by teamwork, rigidity by flexibility. By the end of the 1980s in Japan 54% of workers made suggestions, while in the US only 14% did. A million Japanese employees were in 100,000 QC-Circles, compared to only a few in the US, where QC-circles were introduced as a fad. Unlike in the West, the employee was not controlled by a supervisor because the work was not fixed and repetitive (it was designed to require discretion). Work in Japan was becoming increasingly complex. Between 1960 and 1982 Japan grew at twice the rate of the US, UK and Italy but a bit less than twice that of France and Germany. In 1958 Abegglen said he thought the Japanese, though different, would "converge" toward Western ways in business. But given much higher Japanese growth rates there was never any reason for "convergence" in this direction (Matsumoto 1982).

The Japanese developed the "age-wage profile" in 1927 (Koike 1997). When they saw Jaques' "maturity growth curves" the similarity must have grabbed them (Jaques 1956: trans. 1968; Brown and Jaques 1965: trans. 1969). The two charts display the same data in the same visual arrangement and the curved bands are very similar. The rest of the Japanese approach appears to have confirmed that they were on the right path and showed how the elements could be extended across the organization. In the late 1960s the Japanese sent a delegation to Alpert in North London to examine the theory on-site at the Glacier Metal factory (Moreton and Collyear in Wright 1997 BBC). This may have been one reason they implemented it so widely and so suddenly beginning in March 1969 (Nikkeiren 1969a, 1969b, 1969c). The Japanese age-wage profiles used four career trajectories (A - D) with the key difference being the effect of time on skills: (A) Craftsmen - high and flat curve; (B) Laborer - low and flat curve; (C) Internal Promotion - late and high ceiling for growth [favored, fast track, high mode] and; (D) Less Internal Promotion - less growth than (C) (Koike 1984; Endo 1998).

These concepts drove recruitment, career paths, organization structure, retirement, and the inter-organizational design of the major *keiretsu* groups of firms. The core group of lifetime employees recruited into the larger main firms were ALL type (C) high mode Internal Promotion

males. In the smaller firms that supplied the large main firms type Cs were only 5% to 20% and most employees were As and Bs. (This was likely the most they could recruit after the big guys finished hiring) (Koike 1984). This employment pattern also drove the inter-organizational division of income from continual improvements. The large main firms make most of the product and process improvements so they keep most of the financial rewards as well. [Deming did not discuss this in his writing, but did so verbally.]

Last, but very important, the Japanese firms based the bulk of the employee's current level of pay and rate of promotion on the employee's potential ability. This assessment, called *satei*, influenced the employee's speed of promotion, the "fast track" (maturation curves/ age-wage profiles), and the differential wage structure (Endo 1994). The final decision on the *satei* assessment was made by the manager's manager. Parts of the *satei* closely resemble parts of Jaques' *Personal Effectiveness Appraisal* (PEA). Jaques stated the PEA "brings together all of the major features of the nature of the Managerial Accountability Hierarchy" (RO, 1996, pp. 107). When Sony set up operations in the UK in the 1980s it hired the human resources chief away from Glacier Metal (per Alistair Mant 2005, p.c.).

However, these *satei* results were *not shared* with the workers - as Jaques had advised. Also, the worker's *satei* score was ranked against those of other workers and thereby created enormous competitive pressure amongst the workers (Endo 1994, 1998). Although Jaques was unaware of this aspect of *satei*, he condemned such non-sharing and ranking elements as abuses when he saw them elsewhere. The Japanese thus were not using the pure form of this theory but a variation. Even so, it is more highly effective and leads to rapid firm growth as Jaques predicted (RO 1996, pp. 127, Archimedes). But this variation can also drive people to work themselves to death. Apparently, Japanese managers are just as prone as Western managers to create incentives that are destructive to their employees. The Japanese today generally appear to be unaware of the origins of this *satei* system and only very dimly aware of any connection to Glacier Theory, RO/ SST, the PEA, Brown or Jaques (Karube, Numagami, and Kato 2009).

The research in Japan has been on organizations that have had a long-standing implementation of the theory. Thus, some of these findings should be viewed as confirmatory of requisite practices derived from the theory. Kagono *et. al.* 1985 is one such study. This research group started in 1976 researching contingency theory and evolved toward an information processing paradigm (see Nonaka 1972, 1974, and Kagono 1980 - in Japanese). They surveyed 1000 firms in the U.S. and 1000 in Japan to discern the differences in strategy and organization. U.S. companies focused on product uniqueness while Japanese firms identified domains of activities to explore and allowed employees the discretion to take the initiative and to follow emergent technology and customer preference wherever they led (Pascale 1984). Despite multiple cross-translations, certain English keywords still stand out as English in Japanese, such as: information processing paradigm, domains of activities, and employee discretion.

On Patrick Wright's BBC radio show in 1997, Bill Moreton and John Collyear, formerly with Brown and Jaques at Glacier Metal, stated the Japanese came to Glacier in the late 1960s. In the late 1980s they returned to the UK with their 'new' methods - proclaiming what they had learned at Glacier 20 years earlier. This was not an exaggeration. Jaques confirmed this verbally

in 2002. Jaques 1956, and Brown and Jaques 1965 were translated into Japanese in the late 1960s. Brown's books of 1948, 1960, and 1962 were listed in the libraries of Japanese universities and institutes. In Australia Blunt (1990) and Clegg (1990) said they thought the Japanese used Jaques' system. Also, Nonaka and Takeuchi (1995) gave key credit for the centerpiece of their 'sandwich' knowledge-creating organization theory to Jaques (1979). One academic article in the UK by Bratton (1991) explicitly connected the two approaches as one. Little has been done since to exploit this insight.

Haruo Shimada described the "Three Sacred Treasures" of Japanese industrial relations as lifetime employment, length-of-service wage system (*nenko*), and enterprise unionism. They were built up during the 1950s and 1960s. There is nothing 'ancient' or 'mystic' or inherited about them. These stereotypes have been spread by Ezra Vogel, Pascale and Athos, and Ouchi. The real purpose of Japanese business was to **accumulate intellectual capital within the firm**. Shimada had Age-Wage Profiles (on p. 50-51) in his 1981 book (1974 Related PhD) comparing Japan to the US and the power of technology and organizational factors. He speculated that enterprise unions with joint consultation (70 percent) and QC circles (more than one million participants) are likely unique to Japan. (He lacked knowledge about their sources.)

Not unique to Japan was an internal labor market (ILM). Shimada did not mention Glacier or Brown or Jaques but put the times absolutely dead-on - and at both ends: UK and US. (See Wright 1997 for Moreton & Collyear/ Glacier/ UK-to-Japan in the 1960s, see Nikkeiren 1969a, 1969b and 1969c for adaption within Japan, and see Shimada and MacDuffie 1986 for Japan-to-NUMMI/MIT/ US.) (Shimada 1985). Hirofumi Kohda of Toyo University, for example, has written about the significance of the Glacier Project and of Wilfred Brown's organizational concepts in Japanese (1986, 1994).

There are two words in Japanese to describe the division between illusion and reality: *tatemae* and *honne*. They reflect the illusion of the outsider versus the reality of the knowing insider. In the extreme, it is the delusion of, say, a Christian child's belief in 'Santa Claus' and the reality of his non-existence. It also can be more subtle. It may reflect avowed principles versus the actual sentiments that are held by someone. For example, *tatemae* can exist in the mind of the public by economic theory supported by media stories but which is greatly at deviance from the reality (*honne*) faced by business and by consumers.

Most importantly, the Japanese managers knew their secret had to be kept. The secret was the harmonious relationship between the manager and the worker. Sometimes they called this, 'wa'. But this differentiated the western and Japanese managerial systems and was based on the Glacier Metal arrangement. There was nothing culture-specific about 'wa'. It gave a competitive advantage to Japanese firms and the managers were fully aware of its importance. So far, the secret has been kept (Ford 1987).

While many Western academics were pursuing micro research agendas, the Japanese *keiretsu* went ahead and adapted Jaques and Brown's personnel and organizational systems

beginning at 1969. The competitive results and growth these Japanese firms have obtained from this approach have been significant and sometimes spectacular. The West has known the Japanese use this approach at least since 1984 when it had appeared in the *Harvard Business Review*, *Long Range Planning*, and other business publications.

Note: this section has been more heavily footnoted because I cannot otherwise document the connections between the Japanese management and personnel practices and RO theory. Decisions were made in the mid-1960s by top Japanese executives and the turn toward ‘abilities first’ received public union approval as early as 1965. Corporate archives may contain records of these deliberations but I have no access nor do I have Japanese language skills. The *keiretsu* groups were not named individually but were referenced collectively. There are six official *keiretsu* groups of companies: Mitsubishi, Mitsui, Sumitomo, Fuyo, Daiichi Kanyo, and Sanwa. Toyota is the de-facto seventh major *keiretsu* but is not officially counted as one. (My opening into this body of literature was through Leibenstein 1987.)

(There is a possible alternative explanation. In 1964 Gary Becker published his widely-read economics book, *Human Capital*. In it he had two age-wage profiles. It is possible that this book inspired the Japanese shift toward ability-based performance evaluations and promotions, although Becker stressed the role of formal education, whereas the Japanese and Jaques do not.)

Hoshin Kanri

Until recently *hoshin kanri* was nearly invisible to Westerners (Lillrank 1995), who like to think Japan does it all by TQM, dedicated employees, and a unique culture. But this is what the Japanese are transferring to the rest of the world as they internationalize. It is seven layers of on-going *hoshin* experiments implemented by four teams, each with its own time-horizon specified domain (Jackson 2006). Akao claimed this method of policy and strategy implementation was generally adopted in Japan in the late 1960s. Before then implementation was practiced piecemeal, segmented as in Western companies today (1991). It involves top management using the PDSA (plan, do, study/check, act) cycle (Lee and Dale 1998) vertically to set QCDE (quality, cost, delivery, education) targets (Witcher and Butterworth 2001). This includes the coordination of personnel, and of horizontal and vertical policy implementation.

Each firm has its own version of *hoshin kanri*, so it is a rather flexible approach to policy and strategy implementation. (I will use a generic description.) The PDSA cycle (Deming cycle), rotated vertically, became known as the FAIR cycle (Focus, Align, Integrate, Review). FAIR begins with the last or “Act” part rather than the “Plan” part in the Deming cycle. There are four planning layers. The top executive team begins by determining strategy for the next 5-20 year period. Most important for this process is the identification of what must be done in the next year to open strategic possibilities in the future (Focus). These often are quantum leaps. At most these are three top focus priorities. These are passed down to the middle management team. This group has a midterm 3-5 year focus and plays “catchball” dialogue with teams above and below. At each layer each managerial group engages the one above in a dialogue over ends and means. In short, the groups question the focus of the top managerial team as they move from

strategy to implementation (Alignment). This alignment is passed down to the next *hoshin* group, which has a time-span of 6 to 18 months. Again, it is reviewed using a “catchball” questioning approach. Finally, it is shared with the operational team leaders with a focus of 3-6 months. Here the strategic plans for the coming year are reviewed with an eye to feasibility and, again, catchball is employed. What has to be done now by the group? What by which individual? The action team leaders tie these to each person’s annual performance evaluation (Integration). This is also where it is integrated with operations and the continual quality improvements from QC-circles in the action teams (Endo 1994). The goal at each level is to standardize the changes and to incorporate them into its future ongoing processes (Jackson 2006). Its success depends on senior management leadership and effective communication throughout the process (Lee and Dale 1998; Brown 1962/1964).

But the strategy implementation circle is not yet complete. The “R” or Review portion is usually called the President’s Diagnosis. It forms the beginning of the next year’s FAIR cycle, after about nine months. What was planned? What was accomplished? What got in the way? What are the next steps? The results of this review create the next year’s objectives or Focus. (Some firms call this the ‘executive audit.’)

FAIR is not autonomy but the opposite of autonomy. The employees do not set or chose their own work activities. But strategic goals require input from every employee. Therefore, FAIR is participation in the implementation of strategy but not task-specific autonomy (see Bailyn 1985).

FAIR creates a completed circle, an opportunity to learn from the past year’s activities and from last year’s strategy choices, and to act on them - or to alter them - for the future. Because it is a closed loop, it is self-correcting and a learning process, and therefore a scientifically valid process. FAIR is not management by objective (MBO), which became unidirectional. At most it is management of the objective. (Deming complained privately to Drucker about this lapse and Drucker subsequently changed the MBO specifications to meet Deming’s critique.) The President’s Diagnosis is a study of the discretion used by top management and by each person at every level in the organization. Perhaps the strategy by top executives has been wrong. It is not a witch-hunt of accountability morphed into superstitious “accountabalism” (*HBR*, Feb. 2007). It is part of the ongoing strategy development process, the future. The strategy covers the training and education of each member to ensure the organization has the skilled personnel to achieve its goals.

After the first go-round, each team develops its own plans for the coming year at the start of the process. It is faster and less sequential, but with a catchball challenge and review approach it works. Lee and Dale (1999) added CRISP (check-reflect-improve-scrutinize-pass) as an inter-team methodology to ensure catchball between the levels and a closed loop.

Much of *hoshin kanri* can be traced to the vertical re-direction of the Shewhart/ Deming PDSA cycle. The time-spans imposed on each planning team at every level are close but not the

same as those specified by Jaques's and Brown's work levels. These requisite work levels remain in place inside Japanese firms while members are assigned to *hoshin kanri* planning teams. The planning and problem-solving time-spans of each team are quite rigid and set. They are part of the planning cycle but they are not MECE (mutually exclusive and collectively exhaustive) as are work-levels. A gap is left in the middle, at the 18 month-to-3 year planning period (some of stratum III and IV), but it does reach the operational shop floor. [A large component is the expected technology development and product life cycles.] The combination of time-spans and the PDSA/FAIR cycle leaves the impression that *hoshin kanri* theoretically joins together Deming and Jaques. In practice, it does.

Here the process also addresses the quantum leaps that are needed in the coming year to stay closer to the customer than the competitor does. *Hoshin kanri* forces the managers and the employees to plan to achieve results "outside the box" (but still on-target and aligned) beyond anything rationally expected of them, to meet the needs of the organization's future. (This is separate from the activities of the QC-circles and QC-review-committees.) Here, I think, is a link between quality processes and requisite structure (Landsberger 1961, Hunt 1966, Kriger and Barnes 1992, Kondo 1998). [By the way, the English translation of *hoshin kanri* is "strategic management" according to Genkichi Mishima, a student at City College of New York. All the fancy translations appear to be quite inaccurate.]

(There is a likely alternative explanation. In 1964 Joseph M. Juran came out with *Managerial Breakthrough* and stressed, as he had verbally since 1954 in Japan, that management must take the lead in the process of reaching for the next level of performance improvement. He was in effect calling on managers to use their higher levels of capability and longer time-spans. This book was seen by Lee and Dale 1998 as the foundation for *hoshin kanri* in Japanese companies.)

Scenario Planning at Royal Dutch/Shell

De Geus and Wack wrote several articles in the late 1980s and in the 1990s in the *Harvard Business Review* and in books (1997) on the scenario planning at Royal Dutch/Shell and the longevity of adaptable companies. Scenario planning has resonance with strategic visioning and strategic planning. According to Peter Senge the publication of this book was held up 15 years. Thus, the date this firm adopted Brown's operating philosophy, led by the MD Sir Geoffrey Chandler, would be about 1982. Jaques' RO approach was officially adopted there in 1993.

Strategic Human Resource Management (SHRM)

The combined impacts of intensive globalization, college-educated knowledge workers, business process reengineering (BPR), and "lean" production were devastating to human resource professionals in the USA and Europe in the late 1980s and early 1990s. HR staff were often seen by line managers as irrelevant to the business and HR as a function was seen as soft and intellectually bankrupt. Whole departments were threatened with outsourcing. HR viewed its own efficiency against that of HR functions in other firms and HR saw itself as having little

relationship to their firm's strategy. To fulfill the 'strategic business partner' role, HR concepts needed to be replaced with evidence, ideas with results, and perceptions with assessments.

As a response to these threats, strategic human resource management (SHRM) came into existence in the 1990s and was a major rethinking of the role of HR and of the employment relationship itself. Organizational performance was seen as a function of both people and systems. Appropriate HR systems were required to select, develop and reward employees in ways that produced strategic activity. This Strategic HRM has a number of new features including: the assumption of responsibility for HR implementation and some policy by line management, individual rather than collective employee relations, an emphasis on employee commitment and the exercise of initiative, with managers becoming "enablers", "empowerers", and "facilitators"; and personnel policies integrated with overall company strategy.

In some firms the relationship became more demanding toward employees. The employee would be employed only as long as he or she added value to the organisation. The employee was personally responsible for finding new ways to add value. Officially, in return, the employee had the right to demand interesting and important work, had the freedom and resources to perform it well, received pay that reflected his or her contribution, and got the experience and training needed to be employable elsewhere. Commitment, self-reliance, flexibility, and adaptability were in. Stability, permanence, predictability, fairness, tradition, and mutual respect were out (Hiltrop 1995; Behrend 1959).

Academics in their surveys discovered a move toward sophisticated HR methods in many firms but individually these methods had little effect. Only when they were combined with each other and came in sophisticated HR bundles did they have an effect that reached to the bottom line. These effects were dramatically positive. This shift in the literature took place in 1995 and centered on the discovery that Japanese-owned and -controlled businesses in the USA were significantly out-producing their domestic competitors. Real financial results could be shown and were. Mark Huselid and Brian Becker have been the academic leaders in this endeavor, which they called human capital management (HCM).

Thus, US employers became bifurcated since the mid-1990s. Some have increased the pressures under which their employees must labor. These pressures are in the workplace as threats from the computer and threats that jobs may be moved overseas - to Mexico, to India, or to China. Others have addressed their own managerial inadequacies and have relieved these same pressures. Current surveys of employee attitudes reflect these two types of employers starkly. On the other hand, Osterman 2006 claims the innovative, high performance work practices have become widespread. Productivity increases in manufacturing have led to very minor pay increases. (See AET below.)

Interestingly, the Japanese today have retained lifetime employment (the *nenko* system) and Toyota has shifted to a "humanware" approach in its job redesign (Ono 1973). This means machines are used as an extension of people, not the other way around. This incentive system is

the very different from Taylorism (Kondo 1999; Shimizu 1995, 2000) and job redesign goes beyond ergonomics. As Suze Orman, author of *The Courage To Be Rich*, said on a 1999 video (KTCA-TV), "I have found that when people feel more secure, they have more courage. When they have more courage, they create riches of all kinds." (Kinda like Brett Hart's short story of the burning boarding house.)

US employers have shifted their skill needs upward, not downward as claimed by many economists (Braverman 1974). As far as I can tell, companies have fallen in love with their sunk costs in computer software and have employed almost all the Stratum II people in North America. They are faced with a choice at the water's edge: either redesign their computers to enable them to use Stratum I employees (reprogram and simplify), or look abroad with the same design for more employees at Stratum II. They have chosen the latter course. [When I refer to the 'hedgehog holes' emanating from this theory, I am not kidding. The sunk cost of computer software links back to poverty levels in the US by way of this theory. The logical connections are there, but only if you follow them.]

CEO Influence at the Front Line

In the US the CEO has more power. That is, more immediate power. In contrast, in Japan the CEO has less immediate power over his subordinates. But in Japan the influence of the CEO declines less than in the US as we look at successively lower hierarchical levels. By the time we reach the lowest level – where the work gets done and/or the customer is met – the influence of the US CEO is between "some" and "little or none."

With a requisite organization structure and practices in place the Japanese CEO still has "quite a bit of influence" at the front line level (Kagano et al 1984). Does this help in implementing a strategy? Yup. (Of course, this could be due to cultural influences. Or maybe it is due to the water they drink in Japan. Maybe it's the *sake*.)

OTHER OFFSHOOTS OF R.O.

Several other trends and management insights appear to have been offshoots of Jaques' insights and assertions. Let's take a look at a few.

The "Level Five CEO"

In his book *Good to Great* (2001), Jim Collins set out to discover what made some companies "great" while others remained just "good." Collins did a paired comparison between many such firms and one of his key findings was what he called the "Level Five CEO." This executive was described in personality terms as a humble but self-assured individual whose business sense was aggressive. He was no gunslinger, no KITA-style, no one-man ego-show. He was thoughtful and careful and decent.

The five-level pyramid (*Good to Great*, p. 20) is a diagram of a stratum five company (SBU) almost exactly as described by Jaques in *Requisite Organization*. However, Collins

seems to have backed into this. He shows no awareness of other aspects of R.O. This may have been pure happenstance. His version of the future company was a “knowledge” company with “skilled” knowledge employees doing the direct output work of the firm at stratum 2. They may be working in cells or may not be. The FLMs are at stratum 3 (not stratum 2). In this model there are likely very few stratum 1 workers (Collins says as much). There are no direct references in this book to R.O. theory, so this structure may have been discovered without knowledge of the theory. Collins has here described the layering of one version of requisite organization at stratum 5, but not the company or role of the CEO/ MD when the firm is at other levels, say at 4 or at 6. The ‘greatness’ of the firm (and the CEO) thus comes from shifting its competitive position in the marketplace from stratum one to stratum two. This was confirmed theoretically by Fairfield 2002.

Affective Events Theory (AET)

In 1996 Howard Weiss and Russell Cropanzano put forth a theory of affective events in the workplace (AET). Instead of looking at the personalities of the employees, they focused on the working environment, the “hassles and uplifts” it held for employees. The accumulation of positive and/or negative affective events led to positive or negative affective states in employees. These, in turn, lead to attitudinal states and behavior responses. Ostensibly minor events cumulatively added up to impact both the individual job and organization performance. In plain English: if employees get “hassled” too often over work events and their role situation, they suffer job dissatisfaction, perform poorly, and may quit.

While “AET” has nothing to do directly with requisite theory, I believe AET holds promise as a methodology for documenting, measuring, and comparing the impacts of anti-requisite organization and requisite organization (the before and after). AET documentation is gathered through periodic employee surveys, as are other attitude surveys. But it also is gathered through employee diaries where specific events and their affects are recorded in an ongoing, immediate method. This documents the impact the extant system has on the employees within it. Like the Voice of the Customer and the Voice of the Process, this 'Voice of the Employee' can now be parsed out of the other data and noise. Several PhDs and studies have already been done on AET with positive results. More research is needed but this really looks like an exciting avenue to explore (Ashkanasy and Daus 2002).

Adult Cognitive Development

Bingham and Davis in 1924 compared IQ test scores to success in business. Giving an IQ test to businessmen they found the success in business did not correlate highly with the scores on the intelligence tests. There was, however, a test score correlation with the amount of schooling (+44; $p \leq .06$). “To some extent, the brighter the boy, the longer he tends to stay in school before entering a business career.” In meta-studies covering the 20th century the

correlation between IQ and success in business was 0.53. It was there, but the link was not strong. Better criteria were wanted.

After Jaques developed an awareness of the distinctiveness of each level within a hierarchy he recognized these levels were a direct extension of Jean Piaget's pioneering work on *cognitive development* in children. Piaget had discerned "stages" of cognitive growth. Jaques showed how this cognitive growth in children continued into adulthood. Other research connected this school of psychology and Jaques' findings. Kenny's masters thesis (1983/1984) under Fischer found Jaques' four levels in childhood and adolescence (ages 5-17). McCall (1983) found four levels in infancy (up to age 5), but did not identify them as Jaques' four logic levels. Other research further extended these findings: Piaget 1972, Isaac and O'Connor 1973 & 1976, Fischer 1980, Fischer and Kenny 1986, Humphreys 1984, Fischer, Kenny and Pipp 1990, and Wolfe 1999 Related PhD.

Michael Commons, Michael Basseches and Kurt Fischer have striven to identify and establish levels of cognition. (The neo-piagetians rename the stages as 'levels'.) Michael Basseches (1980) showed faculty in a college setting had a significantly broader dialectical schemata range than seniors - and seniors had a broader range than freshmen. Adult growth was thus supported. Herb Koplowitz and Glenn Mehlretter have tried to reconcile these cognitive levels with Jaques' theory of capability levels. There is a close fit on three of the first four adult levels. (That is as close as has been gotten by 2013.)

There are two types of intelligence. Fluid intelligence (gf) is measured by the IQ tests, but crystallized intelligence (gc) is not. Nikolaj Lunpe (Lunoe) of Copenhagen has raised the possibility (2009), that Jaques' cognitive levels measure crystallized intelligence. In this construct, fluid was linked to reasoning, while crystallized was linked to wisdom. Fluid intelligence declines in detectability as we get older as adults (above age 20-25). This phenomenon would coincide with Jaques' insight that we continue to grow but more slowly in adulthood since we are nearing our peak.

In contrast, Harald Solaas of Buenos Aires (2009) maintained the assessment of human capability is not a problem of measurement, but of coding. As he understood it, in Jaques' view, the ordinary human being was an excellent instrument for assessing capability, given the right references of levels of work, and carefully designed conditions for taking judgments. And the results of the *Human Capability* study pointed to their validity. [We have not heard the last of this issue.]

Promising Research Directions

Phenomenography

The Scandinavians have independently come up with an approach that closely parallels Jaques' theory. This one almost validates it. As of 1994 about 50 dissertations and 500-1000 articles had been written on phenomenography (Andersson 1994, not herein).

Phenomenography is an approach for identifying and describing qualitative variation in the experiences of individuals' reality. It began as an educational assessment tool. Instead of taking the researcher's perspective, this method adopts the learner's perspective. This is an interpretive approach and relies upon interjudge reliability. It has been successfully replicated (Sandberg 1997). The basic meaning structure of people's conceptions of their work constituted their competence at work (Sandberg 1994). The results have been arranged hierarchically into four layers of competence (Partington, Pellegrinelli, and Young 2005). In addition, four different conceptions of accountability, each with multiple attributes, have been arranged in a hierarchy of increasing richness and complexity (Lupson 2007 PhD). [One study found members of Chinese and Western cultures have fundamentally different conceptions (Chen and Partington 2004). Another found only three levels of conceptualization (Chen and Partington 2006).] Sandberg 2000's results are close to Jaques and Cason's 1994 findings. The links between the two approaches need further research articulation but they are close enough to indicate this is a potentially fruitful avenue of inquiry.

A Post-Modernist Organization?

Several Australian academics have written up Jaques 1989 as a post-modern blueprint for organization design. They based their insights on the definition by Scott Lash (1988). Lash argued that modernization is a process of cultural differentiation, while post-modernization is a process of cultural dedifferentiation. <http://dictionary.reference.com/browse/dedifferentiation> Post-modern "figural" signification takes place, not through difference, but through resemblance. Jaques' philosophy can be seen as dedifferentiated, and thereby post-modern and post-Fordist.

Peter Blunt, one of the Australians, used Jaques also as the means to enhance third-world organizations in his opening remarks to the *1989 Manchester International Human Resource Development Conference*. Others have taken up this additional approach to *Requisite Organization*, most notably Stewart Clegg (1990) and Graham Sewell (1998). They recognize that the Japanese already have this dedifferentiated system. (They are almost the only academics to do so.) Blunt, Clegg, and Sewell were then at different institutions in Australia.

The Defence Mechanism Test (DMT)

In the 1950s a Defence Mechanism Test (DMT) was developed in Scandinavia by Ulf Kragh to test susceptibility to stress. This was based on Kleinian psychoanalytical concepts but was different from "organization as a defence against anxiety" which Jaques had proposed (and later withdrew). The DMT was initially tested on naval attack divers, aviation cadets, and later on civilian airline pilots. The predicted deterioration in performance of people on jobs involving high levels of stress and danger was borne out by their accident and death rates.

Together, time-span (TSD) and DMT provide a selection tool-set for evaluating the responsibility of an executive position and the capability and resilience of the incumbent or applicant to remain stable under the stress of uncertainty. They make it possible to predict the

effectiveness of a person in a specific leadership position (Khaleelee and Woolf 1996). Almost all of the research on DMT has been done in Scandinavia (but much is published in English). This bibliography contains over a half-dozen foundation articles on this research plus some of the more recent studies. (The Swedish military adopted R.O. theory in 1996.)

A 'New' Old-Age Group

Jaques worked as well on adult developmental issues regarding the aging of baby boomers into retirement (Jaques and Zinke 2000, 2002.) The age bracket 62-85 was no longer shadowed by the certainty of death. This was no longer 'old age.' Due to advances in medical care and in public health, retirement for this group was an option, not a necessity. Harry Levinson has also shown an interest in this 'new' old-age group (2002). This shift could not come at a better time.

RELATED TOPICS: ACADEMIC AND BUSINESS

Several related academic and economic topics come close to aspects of this theory and offer varying degrees of support for it: aggregation of data in accounting, accountability in auditing, the horizon effect, segmented labor markets, the efficiency wage (the effort-wage bargain), the rigidity of wages in economics, requisite variety in cybernetics, the knowledge-creating company and management by objectives (MBO) in management, and autopoiesis in ecology. This theory also has direct links to business issues: Brown (works councils), Stamp (career path appreciation or CPA; well-being at work), and to Quinn (behavioral complexity).

The appropriate aggregation of data for presentation at 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 indicated support for various aspects of the theory.

John Dearden at Harvard wrote several articles (HBR "Classics") and textbook chapters linking time span of discretion to management accounting, ROI, and accountability. (HBR omits citations.) Johnson and Kaplan used Dearden as a keystone of their joint critique of the lost relevance of managerial accounting in the 1980s. Kaplan subsequently developed the balanced scorecard (BSC) and Johnson contributed to the development of activity-based accounting (ABC).

Several dissertations in Dissertation Abstracts International (DAI) on the "horizon effect" in *economics* may be related to the time horizons of individuals in the theory (See Levicki 1983 PhD, Shively PhD 1966. Also see Jennings 1985 and Wunsch 1992 Related Ph.D.s, Shleifer and Vishny 2003 article). Several dissertations have extended the theory to the economics of the

employment relationship (Krimpas, Kate Pankhurst, Theocarakis). The work of David I. Levine shows the strength of segmented labor markets theory. (See below for the Japanese installation of these concepts.)

Eleven Ph.D. theses are to be found on the “effort-wage bargain” in *industrial relations* and *labour economics*. This concept was first articulated by Hilde Behrend (1957) and was 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. 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. Behrend did not cite Jaques.

Wilhelm Baldamus worked on the same 1957 study with Behrend and wrote about the context of the ideas in it. He also did not refer to Jaques but pointed to earlier economic ideas, such as ‘wage-effort parity,’ that ostensibly contributed to the study. This concept, however, had not addressed the non-market internal pay equity, the specific effort-wage bargain sequence, or the differential wage scale uncovered by their study. (Their main study was completed first and later they went back in with a small pilot-like study using, I suspect, Jaques’ social analysis approach and got these findings.) In 1961 Baldamus published a book, *Efficiency and Effort*. At least four contemporaries noted the conceptual links between Behrend’s and Baldamus’ work and the Jaques-Brown-Glacier findings. Many articles since have been written on the effort-wage bargain, efficiency wage and on equity in economics, including numerous ones by George A. Akerlof and Joseph E. Stiglitz, who shared the 2001 Nobel Prize in economics. I have included three dissertations from this group as being on Jaques’ theory. (I am aware of the fragility of this connection.) Search on keywords: *effort bargain*, *efficiency wage*, *Baldamus*, and *Behrend*.

However, because Jaques’ research was omitted as the source of these concepts, economists have struggled to incorporate these ideas into their field. They have instead turned to the other equity theory developers, primarily Stacy Adams and Martin Patchen (and to Peter Blau because he dealt with ‘exchange theory’). But these equity theorists do not have an answer, for example, to the *efficiency wage* dilemma nor to why 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.) This means that Adam Smith is inaccurate in his description of the workings of the labor market, while Alfred Marshall’s 1920 efficiency wage is amply supported by the data (Rees and Schultz 1970).

In 1966 the Harvard economist Harvey Leibenstein proposed “X-efficiency” to identify an element that was missing from neo-classical economics that would explain what blocked the managerial achievement of ultimate outputs from inputs. The individual was his unit of analysis. He separated knowledge from “motivation.” Why didn’t managers adopt an improvement as soon as they learned of it? He used terms, as “managerial capacities,” and “discretion and

judgment” (1966). Over the years he expanded this insight to include concepts of “APQT bundles” (see 1973, 1974, 1975; Jaques 1961), “effort discretion,” and “effort responsibility consequence.” He seemed to be clear in his understanding of Jaques’ concepts and he used the same terms but did not cite Jaques until years later. His citations were entirely within the economics literature.

Rees and Schultz did a massive economic study of wage rates in the Chicago area (1970). They tested Adam Smith’s “compensating differentials” theory of wage rates (1776) and found little support for it, except regarding work location (a bad neighborhood). Also, they tested Alfred Marshall’s concept of “efficiency wages” (1920). The “weak form,” that there was a positive relation between wages and worker quality, was amply supported by the evidence. But in the 1970s, equity theory was being abandoned by many management academics – part of the ‘jungle’ churn. They thus missed this obvious connection.

Leibenstein also wrote a book in 1987, *Inside the Firm: The Inefficiencies of Hierarchy*. He did not note in the title that his book was a comparison between Japanese and western bureaucracies, rather than a condemnation of all forms of hierarchy. In fact, he praised the Japanese for reducing (and almost eliminating) x-inefficiency from their hierarchies. His citations are to many Japanese researchers who explored the new Japanese workplace. During the 1970s academics had discovered that Japanese businesses had changed the workplace to include the *satei*, or abilities first, personal assessment in addition to the *nenko* job assessment, based on length of service. Leibenstein praised the increased competitiveness and flexibility this gave to Japanese firms. He grasped the link between downward trust and the exercise of discretion. (This book had key Japanese references that opened Japan. He did not cite the 1969 adaption by Japanese firms of this theory.)

Thomas Mayer (1960) cited Jaques (1956) as “empirical support” for his theory of the “scale of operations effect” to explain the discrepancy between the normal distribution of abilities in the population and the skewed distribution of incomes. Mayer rested his theory on Jaques’ evidence. Others have extended Mayer’s concepts but the connection to Jaques has fallen away here too. Theocarakis (1990) attempted to validate Mayer in his PhD thesis but could not get the data needed. This data is not available from any business organization because it is considered too proprietary to allow any outsider to have it under any circumstances. This historically has included any and all academics. In short, only Jaques’ approach, developing the data from original, non-official sources, is viable. (Well, we have here a conundrum: Is this Mayer’s theory or Jaques’ theory?)

Several other articles have pointed to interesting impacts that Jaques’ equity theory has on mainstream economic theories. Goronzy and Gray 1974 noticed that Jaques’ (1956) concept of individual growth in capacity was an alternative explanation of corporate growth in contrast to Coase-Williamson. The findings of Ghoshal and Moran (1996) were consistent with equity theory and in conflict with the transaction cost economics of Coase-Williamson. (To explain, Coase (1937) stated that a firm will tend to expand until the costs of organizing an extra transaction within the firm rise to equal the costs of carrying out the same transaction on the open market. Then the firm will buy the item on the market. This gave a reason for the size of

firms. To Williamson (1964) 'discretion' was when a manager used his or her authority for self-dealing at the expense of the shareholders. Thus, positive growth by transaction cost economics was offset by the negative 'discretion' in the managerial hierarchy.)

Stiglitz (1987) toyed with the idea that the equity wage repealed the law of labor supply and demand, the law of the single price, and invalidated the theorem of welfare economics. Much of this was supported by Kate Pankhurst (1990). Wright (1964) showed how Jaques' ideas of executive capability levels and their impact on firm growth give strategic life to Edith Penrose's theory of the growth of the firm (1955, 1959). Byrne (1993) provided dramatic support for the link between growth in executive capability levels and firm growth. Levine's (1993a) findings supported efficiency-wage and conflict theories but not human capital (education level attained) or compensating differences theories in explaining labor market outcomes (G. Becker 1964; A. Smith 1776). One of Jaques' most important assertions was that the labor market was fundamentally different from the goods and services market in its dynamics. When the two are confounded together - as they are by many labor market theorists - it leads to great human distress and economic loss (1976, Ch. 24). Fox (1974a), Starkey (1989), and Harry Levinson (1994b) understood this dynamic (but they were not economists).

An extension of this approach by Japanese firms has been to institute shared risk rather than incentive wages. A bonus is paid to workers each six months that is about half the size of their total salary during this period. The amount of this bonus is based on a percentage of the profits of the firm during this period. Incentive wages were discarded except for non-judgmental work. This strikes at the heart of Western economics and its use of monetary incentives to explain worker motivation. Here, worker and firm are in alignment. Japanese firms get commitment; Western firms get compliance (Aoki 1988). And the customers.

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, X-efficiency, effort discretion, size of operations effect, the internal wage structure, shared risk vs. incentive wages, and globalization*. In the right hands these are fruitful areas for economic research.

The law of requisite variety in *cybernetics* is related to the hierarchical structure of organizations and to levels of information processing (Ashby). Employees follow this law every day in trying to solve the problems that block their work. In seeking out a 'real boss' the employees at each stratum create the hierarchy and levels which Jaques found. Perhaps three of eighteen Ph.D.s in UMI on requisite variety might be related to the theory. (See Samaras PhD, and Introna (1992) Related PhD.)

Nonaka and Takeuchi (1995) attributed the centerpiece of their three-layered theory of the 'knowledge-creating' company to Jaques (1979). As of March 2002 there were at least five

digital dissertations on this information and *management theory*. Three are included here, but as “Related PhDs,” because Jaques did not agree with this connection.

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

Developments in the field of *cognitive complexity* grew in the 1980s beyond Piaget’s initial investigations of mental growth in childhood and adolescence. These explorations extended into adulthood and were led by Kohlberg, Streufert, Fischer, and Commons. There was a halting attempt by both parties to link these results with Jaques’ theory of maturity curves. It was only in a 2009 PhD that an explicit call was made to examine both sides and look at the crossover points. As they stand now, these developmental theories are much alike but the developers have less in common.

Confucian Teachings Re-emerge: WSR Systems Approach

In the past decade or so, Chinese systems scientists have proposed a different approach to organization studies based on a combination of ancient Confucian teachings and modern management practices. Rather than being analytical it is synthesistic in nature. It maintains that one part of the whole cannot be isolated and studied by itself. Therefore, the interconnections must come to the fore to reveal the workings of the system. Instead of a focus on pieces and parts, we look at wholes and systems.

There are three domains in this institutional approach: the external material-rules; the psycho-cognitive way of action; and; the social-moral motivation. These three are human domains and cannot be separated. Each influences the other two and can not be studied in isolation to reveal this influence. Combined they form a whole which serves to guide and regulate human behavior within an organization. These are policy controls rather than direct, authoritarian controls. Members within an organization are allowed the discretion to adapt to them. These controls are not so close to the employee as to try to drive out discretion. But they are still controls. This may be in a business – or a society. They interact and change each other. The three Chinese names for these aspects of this systems approach are: *wuli-shili-renli* (WSR). (Gu and Gao 1999; Zhu 1999; Gu and Tang 2004. The University of Hull in the UK, MIT in the US, and the Institute of Systems Science in Beijing, P.R. China, have been centers of this development.)

Today, our mathematical tools, especially network analysis, allow us to examine these qualitative interactions quantitatively. They can be explicitly shown to the satisfaction of Western quantitative analysts. The higher levels of a human system can now be seen. They exist. (This brings to mind Deming’s observation on Jaques’ theory: “This is a system.”)

Constitutional Orders

In a couple of chapters Charles F. Sabel set forth Constitutional Orders as a third economic alternative to markets and/or hierarchies (1993, 1997). Orders are both internal to firms and external – encompassing economies. Economists are driven by pursuit of “self-interest and the fear of deception” he stated and found their conclusions formed a “curious circle around suspicion.” This critique of economics was largely in accord with the stated observations of Jaques, Brown and Deming. Often Sabel refers to the Japanese model. However, he does not cite Deming, Jaques, or Brown. Many of his observations echo Brown's on trust. At Glacier Metal three structures were put in place – execution, legislative, and judicial. In the middle was trust. Brown was looking for what trust created for the firm - creativity and flexibility. This was the threat the future held for the firm and trust gave the firm the means to respond. Brown and Jaques tried to promote a constitutional arrangement in the U.K. and the Netherlands, but were unsuccessful. (See Belanger 2000; Plesch 2004; Cliffe 1984 PhD; Gallivan & Depledge 2003; Babbage 2000 [Sloan at GM in the 1920s].)

SEVERAL UNRELATED ACADEMIC TOPICS

Several academic terms sound like they should be related to this theory but are not related. These include hierarchical production planning (HPP) in industrial engineering, vertical integration in economics, and future time perspective (FTP) in psychology.

“Hierarchical production planning” (HPP) in *industrial engineering* was developed in 1973 by Professor Arnoldo C. Hax of MIT and Harlan C. Meal of A.D. Little. HPP has strong parallels with strata and 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 (who was also in that department at Berkeley) and HPP was developed after he left Berkeley (email 18 Dec 2001). Hax and Meal 1973 did not cite Crossman or Jaques.

“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 Motors 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, the assembly lines where everything came together to make the complete car, and the Ford dealerships where the cars were sold (and Ford financing, 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 to tasks that extend over varying periods of time and

has nothing to do with FTP, which has more to do with the individual's envisioning of his or her own future state. FTP appears to have several different definitions depending on the researcher. (See Daltrey and Langer 1984; Goodman 1966, 1967.)

Norman Martin (1956) published an article in October with findings remarkably similar to those in the book, *Measurement of Responsibility*, which had been published in July. This article was reprinted as a chapter in a 1959 book he edited. The article had no citation of Jaques. The later chapter version had a citation of Jaques' 1956 book but without a location for the citation. This can be viewed as 1) an early confirmation, or 2) fast-follower research and an attempt to abscond with the credit for these ideas, or 3) was genuine research that simply coincided with some of Jaques' findings. Martin's article was cited by Argyris in 1957, who also mis-cited Jaques (1956). The 1959 chapter was cited in an article by Porter and Lawler (1965). Michel Crozier (book review, 1961) gave credit for these ideas also to Martin rather than Jaques. Martin never did any further research in this area. He simply confused things with what looks to be fast-follower research. (See Mack review, July 1956. Advance copies of Jaques's book apparently were in circulation before mid-1956. The advance buzz on Jaques' book was tremendous.)

HOW REQUISITE AND CURRENT ACADEMIC STUDIES FIT

The PhDs in Perspective

There were about 42,000 entries of PhDs entered in the DAI database each year between 1995 and 1999. The average between 1980 and 1994 was about 36,000 each year. This database includes over 90 percent of the total number of PhDs awarded in the US. In the UK the number of PhDs awarded in theses.com was around 15,000 a year, but this represents a lower percentage of the national total than does DAI. Thus, the PhDs related to R.O. theory are a tiny portion of the whole.

However, the number of theses and dissertations that are done before a new organization theory is dismissed as "disconfirmed" is, I estimate, usually about eight to twelve. Theories that are not dismissed and remain open to exploration often have scores of dissertations done on them. This can be seen in the hundreds of dissertations since 1980 done on "corporate culture" or on "emotional intelligence." Thus, the total number of PhDs on RO theory falls somewhere in-between these extremes.

Jaques and Brown and the Anti-Scientists

Elliott Jaques and Wilfred Brown often spoke critically about the academic field of organization and management, a situation they referred to as mumbo-jumbo alchemical thinking. They maintained there was no science in the field and no disprovable theory. In the 1600s and 1700s, after the development of scientific method, no alchemists became chemists. They were educated as alchemists, published widely as alchemists, achieved professional esteem as alchemists, attained academic tenure as alchemists, and died with their pointy-boots on. These

alchemists did not know how to ask valid scientific questions. One result was an array of bits and pieces of observation and research that made up in quantity what it lacked in quality.

Three hundred years ago the alchemists had to be suppressed by Law for science to take center stage. They, their practices, and their publications were banned. Sir Isaac Newton himself took a direct hand in their **suppression**. Only then could science, with the aiding help of the State, be introduced into education. (Of course, many alchemists are still around today. For example, in medicine peddling over-the-counter nostrums or in business consulting promising to turn dross into gold - for a fee.) Jaques saw alchemical practices as a serious ethical issue: fraud.

Much to the dismay of some consultants, practitioners, and academics, Jaques often identified alchemists in the management field as those who refused to consider his theory. He included among this brotherhood those who simply accepted the current power-based, popular paradigms and those who had no knowledge of scientific method. Alchemists come in several sizes and shapes - and in surprisingly large numbers. Some have good hearts and minds and even bring a helpful approach to current issues of management. Many claim scientific validity for their methods and results even though none exists.

But Jaques and Brown were not alone. W. Edwards Deming also verbally expressed chagrin and outrage at his academic colleagues who failed to grasp the dynamics of variation, who taught flawed statistics, and who set causation on individual employees when the accountability properly fell on managers for the design and operation of the system. During his Four-Day Seminars Deming denounced these alchemists as “hacks” who advocated “management by superstition.” His scientific model was from physics.

It was startling to hear Deming and Jaques, both eminent and learned men, excoriate their colleagues in such pejorative terms. They were outraged at the carelessness and mendacity of fellow academics who disregarded the real world impacts of their teachings on other people. Graduate students used these concepts on people. Ideas have consequences. When “hacks” teach “alchemy” the consequences are evil and spread pain, confusion and misery in all directions. As Max Planck, the scientist, put it, “New scientific propositions are eventually accepted not because the original opponents are converted to the new way of thinking but because they died.”

The Japanese have learned this and now require the retraining of their newly acquired Western employees and managers into the world of science. They have also set up their own private corporate universities (different from Western public business schools) to provide this training quietly. The Toyota CEO, in an *HBR* interview, took pride in the firm values transmitted to its managers by its corporate university and contrasted these values to those acquired by Western-trained MBAs (Watanabe 2007). (B-schools have responded by retitling their programs to sound like scientific training. This is a marketing effort aimed at continuing as they were.. We shall soon see whether these graduates can still command high prices for their employment. Note – This was first written before the recent downturn in the economy.) In

contrast, people in America believe business schools have become harmful to society, fostering in their graduates behavior that is self-interested, unethical, and sometimes even illegal. (Podolny 2009 *HBR*).

Thomas Kuhn believed in the cumulation of knowledge and the widespread training of potential professionals in scientific method. He believed these scientists would recognize new facts as a new human model for reality. His belief that a new truth would eventually be recognized by this community was founded on these beliefs. But, do his beliefs regarding revolution or progress have any standing where neither underlying belief holds? Where cumulation does not take place and instead knowledge fragments into hundreds of egoistic shards? Where statistical techniques have replaced scientific methods? Where qualitative context has evaporated in the presence of specific quantitative data?

For example, there is a serious backlash against the high cost of medical care. This has in some places resulted in the state takeover of medical care and in others the rise of HMOs to restrain costs. One impact is the questioning of the legitimacy of doctors' decisions regarding care. The province of Ontario claims that 'medical procedures' have no 'scientific justification' and this grants the State wider discretion to decide which ones will and will not be funded. In one instance, HMOs, while doctor-controlled, have a managerial hierarchy that limits the medical discretion of doctors. The form of most HMOs is corporate and this changes the relationships within them. The medical doctors have become employees. Thus, the patients have become customers. The relationships and the boundaries have been changed. Those running the HMOs in the name of cost-reduction are non-scientists - often business school graduates. The response of doctors is to retreat to 'evidence-based medicine.' They assume that data will provide them with the shield of science.

But the issue is discretion, not facts. Do the doctors still have the professional doctor-patient relationship? (Sometimes the actual medical care decisions are made by 'Debbie, the former cheerleader' in a back office, overriding the decisions of medical doctors. 'Debbie' was a fictional character invented by HMOs in NYC to attack one another in ads during prime enrollment periods.) In short, the alchemists have not gone away. They are waiting, ever ready, for scientists to fail. If scientists become greedy and will not control themselves, the alchemists will reenter through the marketplace (Coburn et al 1997). Right now some evidence indicates the businesspeople are willing to use the government to re-enforce their position against the medical profession using cost-control as their wedge. This is the opposite from the concepts of Isaac Newton and marks again the rise of the alchemists - but it is to be expected.

Danny Miller of HEC Montreal has asked a simple but embarrassing question: 'Why?' Why has the current organizational research failed to produce cumulative results? Why has each theory been put forward and then died without generating further research questions or alternatives? This has happened not just once (which can be expected) but has become a widespread pattern in the academic field of organizations. As he put it, "knowledge sometimes does not so much accumulate as replace one view with another" (Miller 2007).

Academics often accept findings that have little if any validity. In early 2004 a controversy erupted in the scientific community over “p values.” When associations between two variables are stated, the p value gives the probability that the findings could simply be random. Evidence had accumulated in the first decade of the 2000’s in biology research journals that the ‘p value’ could be off by a factor of 10. This means the ‘p value’ was giving a measure of certainty to many fluky results. Enormous amounts of time and effort were being wasted trying to replicate these fluky findings (Matthews 2004). (This problem does not exist for RO since its correlations are high.)

If anything, the situation in the soft, social sciences is more serious. This Bibliography documents an enormous number of unreplicated studies in management and organization studies. Certain researchers seem to have generated an inordinate number of fluky results. Most notable in this regard was the research of Lawler and Porter in the 1960s and 1970s who challenged James Worthy, Frederick Herzberg, and J. Stacy Adams in study after study. They then set forth their own ‘consistency model’ theory in 1967 and 1968 which was quickly found not to be valid (Gavin 1969 Interesting PhD; et al). Lawler's 1971 'discrepancy theory' also failed replication (Shapiro and Wahba 1978). Similarly, Maslow’s famous “hierarchy of needs” (1943) has been replicated when combined with other variables - and only once on its own (Oleson 2004). Andy Grove (1983) at Intel recognized (correctly, I think) this hierarchy was really a measure of money and how one is valued. It is only indirectly a psychological state.

Some of these alchemists persuaded firms to adopt their nostrums. Also, several firms that adopted the later concepts of Russell Ackoff on the ‘democratic’ or circular structure exploded or imploded – see Dow Corning and DEC. Other ideas failed at People Express, Xerox (in the 1980s-1990s), Corning, Enron, etc. With this failure in ideas also came the failure of the firm. The consequences can be very real and devastating for an organization that embraces ideas that originate from bad science.

Meanwhile, those in the human resources function have been undermined at every turn. Due to their own weakness, many in HR feel threatened by the development of clear, measurable concepts in organizational behavior. To put it another way, some in the HR field have survived (even prospered) in nature’s vacuum. But take away that vacuum and the need for the softer “touchy-feely” tools (often developed to cover over the vacuum) would vanish. (In 2001 for example four of the “Big Five” personality factors collapsed completely in regard to predictability of work capacity after a century of research on them, leaving only one - “Conscientiousness” (Barrick, Mount and Judge, 2001). The lesson of the children's story the 'Little Engine That Could' still has value. Unfortunately, the rest is intellectual bankruptcy.)

Academic Troglodytes

I have tried to be fair-minded toward the critics of this theory, and to understand the context in which they conducted research. Many academics originally dismissed this theory in the late 1960s and never reexamined their original views. As UCLA Professor Harold Koontz

put it years ago, many academics suffer from an “unwillingness to understand” this theory. But an alternative explanation may be that many academics have only two basic research strategies to make a name for themselves (and to get tenure): to discover something “right” or to discover something “wrong.” The truly gifted - or lucky ones – find something “right” (as did Brown and Jaques). The vast majority, however, pursue the negative strategy, which accounts for most of the published research that “disproves” something someone else has proposed as being “right.”

To make matters worse, Jaques’ personal approach, especially in his later years, was to dismiss his critics as alchemists, rather than attempt to open his tent to a few of the naysayers – and he was often rude in the process. The result was that criticism of Jaques and Brown was often harsh and personal. The language used was often startlingly violent - even today it still is. Among other things, they have called Jaques and Brown extreme and nasty names, including labelling them both fascist and communist. Both labels put onto the same idea. Both. See Art Kleiner’s (2001) article for examples he detected of this phenomenon.

Sumantra Ghoshal published a posthumous critique of academic management studies in 2005. He lamented that economics was taking over the field. He echoed many of Jaques’ concerns over the years. Braverman, in a commentary, offered no solace: organization academics had to defend their turf or face the consequences. In truth, economics has been a feeble adversary - not a hawk, more like a vulture. After half a century of floundering around, unable to provide answers to elementary questions, the management and organization academics have tenure but are so weak intellectually they invite the economists to move in.

Other observers sense this trend throughout academia, not just in the management and organization area. Academics have declined to engage in public debates and have become so narrow in their research that now no one listens to them. This intellectual hubris has a tragic effect. In a democracy our best minds are missing from the dialogue (Kristof 2014, newsprsr).

A list of many of the 20th century’s leading 'One Big Idea' books about organizations was provided by Marsh and Mannari (1988:283): scientific management (Taylor 1911); human relations (Roethlisberger and Dixon 1939); conflict (Gouldner 1954); technology (Woodward 1965); environmental contingency (Lawrence and Lorsch 1967); size (Blau and Schoenherr 1971); matrix or task force organization (Kingdon 1973); ambiguity (March and Olsen 1976); design (Mintzberg 1979); population ecology (Aldrich 1979); power (Pfeffer 1981); and taxonomy (McKelvey 1982). Since then the literature has gotten more frantic with works on the Japanese, excellence, executive coaching, culture, and emotional intelligence.

The cost of the confusion and changing nature of management thought has been enormous. The corporate scandals following the collapses of Enron, WorldCom, Global Crossing, Sunbeam, and their Wall Street enablers have been largely due to a lack of accountability. Even the huge oil spill in the Gulf of Mexico in 2010 by BP was in large part due to the lack of accountability among the network of subcontractors on the oil rig. No individual was in charge. Each person was a ‘professional’ and BP had contracts to hold each to performance and results. In theory this should have been enough. But there was reality. The

context had shifted and the BP contracts had left no one accountable for adapting to the changed context. (We must remember the title of Alan Fox's 1974 book, *Beyond Contract*.)

No, I do not mean a puritanical public liability but real business accountability that is linked at the hip to business authority and both are within a requisitely structured organization that embraces managerial leadership practices. A few organizations currently do this. Among other things, these firms have the advantages of having a trustworthy relationship with their employees, keeping the work focused on their key priorities, being able to implement their strategies, and detecting changes in their environments sooner than rivals.

The current corporate adoration of temporary project management and network organizational forms undermines managerial accountability and weakens the internal horizontal and vertical systems that hold organizations together while the work gets done. Combining these tendencies with narcissistic 'stars' as leaders can be devastating to a firm. Stars have fans; leaders have followers. There is a difference. Fragmentation will not work. Contracts do not replace accountable managers. As Sun Tzu noted many centuries ago, "He will win whose army is animated by the same spirit throughout all its ranks." All levels.

At the beginning of 2006 North American automobile corporations published their financial results for the prior year. General Motors had lost \$8.1 billion dollars. It planned to shut 12 North American plants, cut 30,000 operating jobs and 4000 managers. Ford set forth a plan to shut 14 plants and also lay off 30,000 employees and 4000 managers. DaimlerChrysler planned to cut 6000 jobs (20 percent of administrative staff) and relocate its headquarters from Stuttgart to a nearby suburb to save money. On the other hand, Toyota had expanded, was producing most of its cars in North America while using North American workers, had made a large profit, and was planning further expansion in the future. In 3Q2006 Toyota reported a 34% rise in its profits. GM, which once had 600,000 employees and almost 50 percent of the US car market, was looking at 25 percent of the market and listening to talk of a possible financial meltdown. (From the public statements of North American auto company managers, I did not sense they had any idea how Toyota was doing what it did, how to respond to it, or had any realistic idea of their own futures.) [However, if GM abandons capitalism altogether by selling its bonds to the politburo in Beijing, then all bets are off. The Chinese market will be open to GM to ensure the bonds will be repaid. Oh, gee]

In April 2006 Yorozu America, sole supplier of suspensions for several GM models, threatened to halt shipments if GM did not pay out \$3.7 million in disputed payments. This was deemed an "unprecedented show of effrontery" toward GM. For years, GM had followed Michael Porter's industrial economic model of competition. GM used its purchasing power to require its suppliers to give back part of their annual profits and lowering their prices so GM could make its numbers each year. (Walmart follows this same practice also.) In fact, the President of Yorozu America turned the tables on GM, describing the practice in financial and legal terms, "Yorozu must protect itself from the probability of further default by GM." GM had taken "unilateral actions to reduce retroactively the price of components produced and to be

produced for GM, which amounts to breach of contract.” In short, the Japanese were serving notice on GM that it was no longer the big man on the block. (With thanks to Alistair Mant and Peter Upton in the UK. SupplierBusiness.com Analysis 8 May 2006.) GM had followed Michael Porter’s ‘five forces’ I/O model and dealt with its suppliers like market adversaries, treating them to arms-length negotiations - contracts. The impact for years on those supplying GM has been personal and horrific, not just business (Gerry Davis, p.c.). Ideas have consequences.

In 2008 the response of U.S. carmakers was to fly to Washington and ask for billions in public money for a bail-out. In 2009 GM filed for bankruptcy. The US Government owned over half of the firm. By 2010 it had been shrunk from 93,000 employees the year before to 53,000. But it then went into the black, made money and sold an IPO to the public. The Chinese said they would buy part of GM. Meanwhile, the Board asked for a commitment of five years from the CEO, and Akers, who was a capable CEO (but aged 69), would not give it, and was replaced. (The GM Board may be at the heart of GM’s problems.) James Guinan indicated the firm’s problems may have been caused by the top FOUR layers of executives (McDonald 1994).

Before The Law: Discrimination and Agency Theory

It is essential to get this theory before the law - before judges. Using scientific data from his studies of measuring human capability, Jaques and Cason 1994 described a way to identify the reality of both sexual and racial discrimination. Judges have the opportunity to use this theory as a guide in making legal decisions but at present only a few have done so. This is in large part because the theory is not placed before them as a way of resolving many of the discrimination suits they face.

Discrimination in employment now can be measured. Its existence can be identified and measured and verified - and its absence as well can be identified and measured and verified. Once the theoretical concept of work levels is accepted by the court, the next step is to identify the number and size of any gaps between what persons are capable of doing and what they are assigned to do. If an organization has work that requires a particular level of capability, yet is assigning (and/or paying) the incumbents to work in roles at a lower level, it is *prima facie* an example of active discrimination. How deep and how widespread is the discrimination can also be established objectively by these findings. It can range from the individual role to a company-wide pattern.

Unfortunately, lawyers and many women’s and minority groups are focused on a political solution rather than a technical solution to this issue. This theory offers a technical solution based on facts that are discoverable and knowable in a court of law. As far as I know, work measurement and human capability have rarely been introduced into any court. If the courts were exposed to this theory as a technical solution to discrimination, the way then would be open to identify and resolve racial and gender discrimination in employment. Burke (1985) and Gardiner (1998) begin this task.

To date, the instances in which requisite concepts have been used in the law are few. Westcott (1983) cites one use of this theory in a case decision by a judge in Ontario regarding establishing personal worth. Shain's dissertation (Toronto, 1991 Related) is on the right of employees to participate in the organization and design of work, also in Ontario. This is close to discretion, but may not quite be the same. UK law, in particular common employment practice, may have to be consulted regarding 'discretion.' (Alan Fox may be one source here. Search the Bibliography on 'legal.')

(James' dissertation (Related 1995) confounded this approach to the use of discretion under U.S. law. But this concept was countered by Jaques who said James' denial of discretion was not valid and never was valid for any role he had examined.)

In 1993 the Supreme Court, in a decision known as Daubert, granted federal judges discretion in rejecting testimony from scientific experts. One result has been the challenge to some economists that they are practicing 'junk economics.' Prior to this decision judges left it entirely to juries to sort out fact from expert opinion or judgment. Now, judges can challenge the testimony – or disregard it entirely – that is to say, remove it from the courtroom. This could be viewed as 'discretion on discretion,' but it is also a recognition that alchemy has been masquerading as expert science in the courtroom. (Michael Freedman 2001).

In the U.S. the legislative arm has left it to the judicial arm to make case by case law decisions on affirmative action. But it has provided no guideline to the judges on which to base their decisions. This theory is the guideline the judges have been looking for. If ever there was a legislative call for judicial activism this is it.

Sen and Economic "Capabilities"

Amartya Sen won the Nobel prize in economics in 1998 in part for his evidence of world-wide bias against women. He saw their "capabilities" wasted in every society by this bias. If anything, this bias was at least as extensive in the underdeveloped world and was a major contributor to its weakness and lower economic status. He saw this situation as a social problem that limited freedom. But Sen resisted any attempt to make up a specific list of "capabilities." In his view their relative importance varied from society to society and changed over time. Sen thus wrote only about "general capabilities" and the need for a continuing public dialogue about those specifics that currently applied in each society. Although he focused on capabilities, he did not focus, as Jaques does, on work-related capabilities. (Or so he says.)

While feminists have been drawn to Sen's capabilities approach, they have also been put off by its incomplete and limited economic form (Nussbaum 2003/2005). Some have developed lists to help in implementation and methodologies for the development of further lists (Robeyns 2003/2005). But when it comes to today, some 90 percent of all people in developed countries earn their living as employees. Globalization extends the reach of corporations worldwide. A public dialogue is needed. Finding a social 'cause' for the anti-female bias may simply be a costly and potentially fruitless distraction when proof for its existence in the place of income and

the means for its actionable solution are at hand. Jaques' work-related capabilities already provide proof and solution to the issue of work-place gender discrimination.

Much current law (and economics) regarding organizational governance relates to agency theory. The principal (stock owner) hires an agent (the manager) to do his bidding, to build his wealth by running the business. (There is another problem with this simple view of agency theory. Its founder, Adolph A. Berle, Jr., seems to have switched sides in the 1950s and widened the responsibilities of the directors who are intermediaries between the principal and agent. Eugene V. Rostow wrote an essay (1959) detailing this transformation.)

But agency theory fails by itself under the question of time. *When* should the agent maximize the wealth of the share owner? It is immature to say 'All the time.' That is impossible and unwise. This is a task. Specify a date. Today? Tomorrow? Next year? In five years? Different answers will require different strategies. If a key job of the principal is to hire the agent, is it not then his own responsibility to align both the individual's time-span and the role's required capability level in that hiring decision? The principal sets the time span when he/she hires the agent.

Now we come to discretion and judgment. *How* do we get there? How do we get the result? Is it not the responsibility of the agent to get the result asked for by the principal? To what degree is the agent allowed his own discretion to get that result? If none, then why not hire a machine? But external reality intervenes: context does not stand still: it moves. The principal requires discretion from the agent to adapt the business to reality to get the result.

In short, by definition, the *when* and the *how* decisions are given over by the principal to the agent's hands. Can any contract detail every possible outcome or every path to an end? There are limits to the employment contract if it is to retain its legitimacy. Discretion and accountability for its use (after the fact, in the future) are already inside the authority of the contract itself. To deny them is to do what we have done - to create a crisis that threatens that authority, that legitimacy (Fox 1974a, Nonet and Selznick 1978/ 2001). We have confounded the contract of the marketplace for results with the contract of the workplace for accountability. The British, with their current craze for performance investigations (PIs) and audits, have turned accountability into the 'scarlet letter A' that Peter Scholtes foresaw and feared. The British public will exhaust its public sector workers if common sense does not intervene.

The Future of Organization Studies: The Business Curriculum

This theory might have had greater acceptance in the business curriculum if Brown and Jaques had placed their studies and findings within the greater tradition of others in the academy. That they found nothing in organization studies to be helpful in the early 1950s is understandable. A review of that material today reveals most of it was non-scientific pontifical. The trend of the mainstream research has not been much better since then. The 'Management Theory Jungle' has lived well and spread confusion throughout the field. It was so nicknamed in 1961. A map of scientific research on display at NYPL/ SIBL in 2007 showed there were two areas where there has been little-to-no agreement on basic terms and definitions. One of them

was management theory. Scattered results showed there has been little - if any - cumulative learning in the field. It just does not happen and the entire world knows this is the case. The emperor has no clothes. The field is naked. (You have already read some of my frustration, but underneath is a real vacuum created by the academics.)

Perhaps a more mature literary image of this academic pursuit would be that of the ageless portrait of 'Dorian Grey.' Academics today still advocate the need to allow each to follow his/her own research trail. 'Academic freedom' is their by-word. The marketplace of ideas will allow the best ideas to rise to the top like cream. Indeed, it all sounds wonderful. But after half-century, it manifestly does not work that way. There is an enormous amount of profusion and 'new' theories. This is exciting – but is declarative level thinking. Each researcher does his/her own thing. There is very little replication, few duplications. Learning would be cumulative level and would require each finding to be built on finding. Newton was referring to this aspect of scientific method when he wrote, "If I have seen further, it is because I have stood on the shoulders of giants." He was describing cumulative learning. Modern academics in management and organization have no incentive to build cumulatively and are awarded tenure, respect, esteem, and fame for conducting their own personal profuse, new theory development. After a half-century of such research, there has been lots of needless change, no agreed theory, and no development toward greater complexity. Is there any reason business people should look to these academics for guidance?

A gathering purpose of this Annotated Bibliography has become to offer a viable alternative curriculum to the current non-theory being taught to graduate business students. I do not expect any of the current faculty to accept these ideas as an alternative. Warren Kinston (1986) observed that academic faculty does not value accountability, central to all business results and to all hierarchies. Rather, faculty values the autonomy to pursue their own research. And in academia, they have a system which will give it to them (Oviatt and Miller 1989.) Academic values are very different from those of business. Also, I fully expect Max Planck was correct - they will hold their tenured positions (and their beliefs) until they die. With their retirements and deaths the field will begin to open up. Some faculty members will be an active obstruction until they disappear from the scene.

A realization by university presidents and boards of trustees is needed that their business schools in the future are not going to be the cash cows they have been in the past. Students are seen as being trained by academics who have little if any experience in business. Companies no longer expect the graduates have been given the equivalent of managerial experience. But before this is recognized by administrators and academics, the demand for graduates will have to drop and the salaries they command will have to fall. As one result of the recession of 2008-10, this is happening now. A few recruiters are already saying as much.

Many of the top ranked B-schools are struggling to revise their curricula to fit changes in demand-supply. Executives are saying the graduates are not able to shift from one task to another. They are being trained to be specialist analysts but are being required to be generalist

managers. This is a contradiction. If the recent-prior graduates stop having the authority to hire the current graduates, the game may be over. Or it may take a major bankruptcy, such as General Motors, for this to happen. But if the faculty has marginalized and silenced any viable alternatives, it may still be able to replicate itself and its concepts in the face of educational disaster. It may be able to stay in place even as the outflowing tide lowers all boats. B-schools may become academic Zombies, the walking dead.

The former president of the U.S., George W. Bush (2001-2009), held an MBA degree from a top school (Harvard). Human capital theory indicates a graduate degree holder would be one of our most capable Presidents. According to human capital theory he should be more competent to do the job than non-undergraduate degree holders - like George Washington, Thomas Jefferson, Andrew Jackson, or Abraham Lincoln. Bush's educational level was comparable to that of Harry Truman or Dwight D. Eisenhower. But Bush's education level had nothing at all to do with his ability to do an executive job. Nada.

Bush's highest type of logic was measured during the election debates in 2000. Using RO theory, he was found to be capable at mid-six level. The U.S. presidency is a role at level seven, at least as difficult as the CEO position at a NYSE top one-hundred company. Given the trajectory of Bush's mode, he will reach level seven capability in 2014, long after leaving the presidency. He couldn't do the job successfully before then (Brause 2000 PhD). (One argument is that he was elected too young. True enough. One practical observation is - that U.S. presidents are often elected too young to be fully competent.) Another string of under-powered presidents, like the five that preceded Lincoln (per Truman's evaluation in *Plain Speaking*), could lead to another national disaster. (In Jaques's view the political philosophy held by the incumbent is not relevant. But I think it has relevancy – in addition to the level of capability.)

THE NEXT RESEARCH STEPS:

The Future of the Theory

When Jaques died in 2003 he was in pursuit of the next layer of insights to extend the theory. Strata, levels of work, complexity of information, and potential capability levels were categories rather than measurements. The several types could be differentiated from each other but no way had yet been found to measure them on a zero ratio scale. Jaques expressed the hope that he would be able to reach this next insight about 2010, if he lived that long.

Deming noted all theory has the temporal element of prediction. RO theory makes several predictions about people in the future, including their ability to assume accountability for a position they have never held before, their rate of growth in capacity, and when they will reach the next level. (Opportunity and training are major factors here leading to growth.) It makes certain predictions concerning the growth - or lack of growth - in organizations. Research should look to find "empirical" facts to see if these predictions were accurate.

As a result, the size of this Bibliography has importance. At its core is the accumulation of data and tests of this theory and the predictions that come out of it. Its bulk does not just

confirm the theory. The replications of the major correlations were enough to confirm the theory. Causal findings showing that high-performance workplaces and reformed personnel practices do create higher profits and faster growth rates confirm many of Jaques' predictions. The volume of studies in the Bibliography extends the theory into numerous subtle and unexpected insights and will proliferate its future extensions. These linked extensions form a body of cumulative knowledge to which further scientifically valid research on people in organizations can at least contribute cumulatively.

This theory has generated results that are very strong. But some other studies produce results that are almost as strong. One real test of this theory is research that allows the re-introduction of longitudinal panel data analysis into organization, management and leadership studies. This in turn will allow precise measurements of the effects of various interventions and allow true empirical testing of this theory in practice. The controversy will not be decided based on the findings of one or two studies; rather it will take time to reveal the more valid set of first principles and the stronger firms.

Indices need to be gathered and published regularly. Adam Smith had to hand-calculate the influences causing fluctuating variations in the price of gold. Irving Fisher could create a number of economic indices in the early 20th century. Today we have the databases to allow us to follow the influences on the price of gold on a daily basis. This has not yet been done in the field of management and organizations. Instead, tenure and fame are awarded to those who develop brand new theories – who help contribute to the jungle proliferation, not those who create replication and cumulative experiments. (The current system has to be changed.)

Several additional indices could be created right now as duplicates of studies already completed. The data needs to be gathered and published regularly to provide a baseline to measure progress – or lack thereof. Most of these would benefit CEOs, workers, and policy-makers - but since they are measures of organizations, would often be seen as an evaluation of the middle-managers. These could be gathered on each firm now but the CEO would have to get this data from a reliable outside consultant. They would become indexes. Studies in the Bibliography that would be most practical and useful if regularly replicated include:

Maccoby 1976 (p. 156).

Kagono, et al, 1984.

Kinicki and Vecchio 1994.

Kono and Clegg 2001/ 2002.

Ashkanasy and Daus 2002.

McMurry 1942 (see others in 1938, 1946, 1960, 1961, 1970, 2003, et al).

Herzberg, et al, 1957.

There may be at least one additional way to the egress. Medical research with a finding that supports its main hypothesis has a chance of getting published. But a study that fails to support its main hypothesis has little chance of publication. As a result, these trials may be

assayed over and again because the researchers do not know about these prior experiments. The original experiments were not flawed and the non-results were thus valid. In many cases negative results are as important as positive results. Knowing where the deadends are is very important for furthering useful research. To address this gap the online *Journal of Negative Results in Biomedicine* was begun in 2002, published by BioMed Central.

Today many PhDs are awarded in organization studies even though they produce negative results. Only very occasionally are they published. A lot of studies with negative results are included in this Bibliography. The leaders in management and organization research need to examine the field's own negative results and identify its dead ends. (For example, this would include theories/ findings, such as Abraham Maslow's hierarchy of needs - which he himself questioned as early as 1959. His 1943 findings were not replicated until 2004 (Oleson). In the meantime, scores of studies herein were done on it – with repeated negative findings.)

This Author's Research: Deming and Jaques

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

Another theorist provides a direct intellectual link between these two men. Lawrence D. Miles developed value analysis/ value engineering (VA/VE) in 1961. He described a method of value analysis to uncover what product 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. It became known as quality function deployment (QFD), and focused on integrating customer requirements into product design. Value analysis has also become a foundation for 'conjoint analysis' in marketing. Miles was posthumously awarded the Emperor's Medal (third class) in 1986. In 1964 Brown and Jaques applied the Glacier Theory to pricing and wrote a book, *Product Analysis Pricing*, which is very close in conceptualization to Miles' value analysis. They had no knowledge of Miles. As far as I am aware, Miles had no knowledge of their work either.

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

These two gurus, Deming and Jaques, and their theories, are not adversaries. The two theories are quite different and have two differing intellectual disciplines as starting places. If their respective supporters would work together, we might find common ground and a common methodology. This would take time and many interventions before the pathways are found.

Taylor: His Three Mid-Century Widwives

As Peter Drucker has claimed, Frederick W. Taylor has been the dominant intellectual presence in American business across the twentieth century. His influence is more hidden today than it was at mid-century, but it continues to dominate through economics, accounting, sociology, and a value system that views people as costs and factors of production. People do not just have to be supervised to ensure their coordination as described by Adam Smith. But Taylor believed that their every move must be designed, controlled and supervised by managers to ensure they adhere to the "one best way" to increase their productivity. How we count things matters. How we value people matters even more. This is true in business as in life,

Most importantly, there was found to be a 21% variation in measured simple motions (Rodgers & Hammersley 1954). This means time-and-motion was itself seven times the rate indicated by Taylor's rhetoric. Thus, time-and-motion studies do NOT provide a "one best way." Therefore, something else must have increased productivity in the 20th century.

Drucker described himself as an admirer of Taylor. Drucker thought Taylor was to be credited with most of the progress and productivity gains of the 20th century. This included increases in the standard of living. One of the things Drucker is also credited with is early recognition of the 'knowledge worker.' This person works with the computer and deals with the creation of knowledge rather than things. But Drucker (1999) also showed he was unable to unscramble the nature of this work, and thus the convoluted working relationships he advocated between knowledge workers and managers. This was because he adhered to Taylor's concepts that denied discretion to lower level employees. He examined knowledge worker productivity, and saw that changes in the basic attitude of individuals and organizations as well as structural changes in work itself – innovation, not adherence to the one best way - were needed for increased productivity. This was the opposite of Taylorism but Drucker seemed to be unaware of any conflict.

The second mid-century midwife for Taylorism came in the form of Herb Simon in psychology, economics, and information science. Simon, like Drucker, was an advocate of Taylorism. Simon's Taylorism was as hard as his intellectual armor would allow it to be. He saw no contribution by humans in serving the computer save as an extension of its reach. (The computer was not considered in reverse – as an extension of human limitations.) Urwick (1965) took exception to Simon's lack of 'rational' definitions. Kilduff (1993) thought Simon was advocating a new 'technology of control' and had no definition for 'bounded rationality.' More recently, the financial limitations of NPV/DCF have been linked to Simon and have been labeled the 'bounded rationality bias' for their inability to include the future added value of 'real options.' Most MBAs have been trained to use NPV/DCF to evaluate projects (Tiwana et al 2007). Takeuchi compared Simon to Taylor in his rigidity (1998). Aoki thought Simon was the font of Western misguided concepts of vertical information flows (1986). There was no 'discretion' in Simon's decision-making organization - except at the very top.

The third mid-century midwife was Talcott Parsons in sociology. In a famous and influential (at least in the U.S.) 1947 Introduction he accused Max Weber of confounding two types of managerial authority, bureaucratic and expert. Parsons split the manager's position in twain with these two sources of authority. As Parsons saw it, bureaucratic authority came from the position alone. It commanded and was obeyed. On the other hand, Jaques saw expert or professional authority coming from the competence of the manager, from his/her problem-solving ability, and from his/her knowledge and education credentials. One or the other could be the source of managerial and organizational power. Under Taylor's scientific management the two types were separated. The manager/ engineer was the scientist, the problem-solver. In reality, the foreman/ supervisor at stratum II was the loser to the intervening manager/ engineer at stratum III. The intervener was not the employee's manager but that manager's boss or else a scientist/ professional (slant-andicular). The intervener was two work levels above the employee and set the scientific work rules. The intervener was the exception not the daily supervisor. (See Snow 1959; Gil and Bennis 1968 for the Taylor-like and Snow-like split between managers and scientists.) The result was lack of interactive communication, contempt downward, and resentment upward.

Parsons's distinction is one source of erroneous managerial succession planning that is still contaminating the selection process in many organizations. The assumption that 'all we need to pay for' is Bureaucratic Authority is also rampant in many financial M&A calculations. The consequences of this elimination of Expertise/ Discretion at level II are enormous. Employees do not regard such 'empty suits' as 'real' managers and by-pass them, creating an informal organization - because implementation problems are ignored or downplayed. The organizational crumbling begins immediately but the financial impact is delayed - often until intervening variables obfuscate the issue.

As a counter, one need only look at the work of Steven Wheelwright (1981-1987) to get some sense of the enormity of the challenge to US industry and these practices from abroad (then from Japan). He claimed the lack of competitiveness of American manufacturing was in its management and organization. The US was following the lead of the UK in late 1800s in adopting static optimization over dynamic evolution. The cliff-road offered by Taylorism beckoned before us. The immediate benefits felt good. The end of that road was foreseeable: it did not bode well for those that adopt statics. As Albert Einstein put it, "The significant problems we have cannot be solved at the same level of thinking with which we created them" (quoted in Eric B. Dent, 1997 PhD, p. 7). But ... if we have put such people in charge ... what can we expect?

The Move Beyond Taylorism

The first serious challenge to Taylorism was by Harold Smiddy, a top executive in the 1940s through the 1960s at General Electric under CEO Ralph Cordiner, and an intellectual businessman. Smiddy originated Management By Objective (MBO) and with it a focus on the end-point of a task. MBO was adopted by many *organizations* in the 1960s-1970s. (The Jaques and Brown theory shared several features with MBO - the end-point on a task element, the role of the manager-once-removed, the appeals system, etc. 1960, 1961.). Evan and House, who

were aware of Jaques' theory, proffered a path-goal theory of managerial leadership (1969, 1971). The research of Locke and Latham stressed the importance of goal clarity for the manager, the employee, work results, and work satisfaction (1975, 1984). Smiddy also created GE's Crotonville campus for executive training in the mid-1950s (the first of its kind), founded The Institute of Management Sciences (TIMS, now INFORMS), and began its chief journal, *Management Science*.

The second challenge was from the British researchers - Burns and Stalker, and Woodward. They discovered the firms that followed the 'one best way' of Taylor went bankrupt. These companies were ever more efficient but not flexible and failed to change when the external environment changed. It always changed. It never remained constant, everlastingly unchanging. They sensed there was something very wrong about Taylorism. It really didn't work long-term for the firms that adhered to it. Instead, it killed them. (This line of challenge was preceded by Seymour Melman's 1951 study of Coventry Motors which showed Taylorism generated bureaucracy and added managerial layers to the hierarchy. Parkinson gave an 'hilarious analysis' of the impact of goal-less work - it expanded to fill the time available (1957).)

The third challenge was in the form of contingency theory at HBS by Paul Lawrence and Jay W. Lorsch in 1967. They claimed that there was no 'one best way'. The contingency rested on an analysis of the situation and that analysis might well reveal multiple possible paths toward a goal. The work of the manager was to differentiate and integrate units in patterns that would produce the achievement of the assigned goal.

The fourth challenge to Taylorism was from John Dearden also at HBS on the budget and the length of time over which we hold executives accountable - with ROI for one year only (Dearden 1968; Johnson and Kaplan 1987). In reality, most executives have to be held accountable for goals well beyond one-year. The annual budget was not an appropriate tool at stratum III - and even at the operating level. Taylorism soon came under attack on many fronts.

The denial of R.O. theory by academics in organization studies, sociology, psychology, economics, and management can also be viewed also as self-protective. The stated issues are not the real issues, so any rebuttal is meaningless. As one prominent management professor and critic put it succinctly, "If Elliott Jaques is right, the rest of us are wrong." (This remark was made off the record and thus will remain anonymous.)

[In fairness, both Jaques and Brown themselves played into rigidity in the 1960s. They blocked the teaching of any of these approaches at GIM as half-way measures and gimmicks. They could have reached out to these researchers to make them allies, but they did not. They seem to have taken an 'all-or-nothing' approach which created its own barrier and soon rebounded against them.]

One essential for adopting Requisite Organization theory is that an organization must shift from Taylorist 'functional' jobs to identifiable task goals and objectives for every job (Jaques 1956, 1961; Brown 1960). Discretion and prescribed parts make up every job. This means incumbents will be assessed on these different criteria as well. RO presents an opportunity for cumulative learning and continual improvement in knowledge and practice.

Today, 'modern' Taylorist skepticism has prevailed. This skepticism is not wariness based on hard-won experience but the denial of knowledge. It is based on the belief that we already have the answer and we do not have to learn (Rousseau 2006). This belief prevailed in the U.S. until 1980 - and still holds a large sway today. It does not exist in Japan. Deming turned this attitude on its head and warned the North American manager, "Nowhere is it written that *YOU* are the one who has to survive." [emphasis added, but not much]

Recent research on Taylor and his findings has found that Taylor may have fudged his numbers. The outcomes of his experiments were not what Taylor claimed. Some observers think this was fraud or expediency, while others think he may simply have been swept up in his own enthusiasm. In any event, Taylor's management theory had no data under it and was more that of a fad-monger and was 'unscientific' even by the standards of his own day (Church 1908; Hoopes 2003; Wren 2005; M. Stewart 2009). The dis-enthralment of managers from Taylor's ideas is well-advanced. But his influence among academics remains strong and is bolstered most by economists.

In the current organization dominated by fear and incentives, change is not likely. Noone has yet allowed internal change at the top level incorporating this external context. Management leadership - not just the assumptions of economics and finance - is required. So long as the membership of public corporation boards is dominated by the votes of Wall Street money managers who vote blocks of stock "in street name" and whose ideology is current market economics and self-dealing, all attempts at long-term internal change will be thwarted. (They are still employees, but get a bonus paid annually of two or three times their salaries.) The external money managers can not generate internal changes even if they knew what to do competitively due to their own fears of potential rivals and the legality due to their external role. So far, family-controlled firms have been insulated from this fear within the marketplace (Miller, Le Breton-Miller, and Scholnick 2008). Publicly owned and traded firms have rarely adopted experimental or novel approaches to management. Only the government or the courts can currently shift this balance of fear-based power to create simultaneously externally competitive and internally equitable organizations. Such a constitutional order has already been achieved in the political arena - a republic. This can also be achieved in economics. Power and wealth need not rule alone. It is not easy.

The Role of the Chairman

The Chairman heads the meetings of the Board of Directors, sets the agendas, assigns members to special committees, etc. But that is only part of the Chairman's duties. Wilfred Brown made it plain that a firm should have three parts – executive, legislative, and judicial.

The first part is headed by the Chief Executive Officer, usually the President. This executive gets the product (or service) to market and sells it at a profit. He (or she) is awarded the authority by the Board to get that done and is held accountable for the result. The financial market has made plain its preference for the separation of the two positions. Since no performance difference exists between having them separate or unified, one-man rule adds an element of risk. It implies the lack of a succession plan and a reliance on that one person to perform. (Of course, sometimes the CEO does.) But the financial market has shown a preference for a team with a future plan.

The two remaining parts fall to the Chairman and Board to create. But many current Boards simply fail to create these two. A major result is that such firms become rigid, fail to stay competitive, and lose sustainability. The judicial involves hearing grievances and rendering decisions on them. In R.O. this is largely provided by the role two levels higher in the manager-once-removed (MOR), who hears employee grievances against the manager's decisions. The proper constituting of this role in the hierarchy gives a three-tier contact between the employee and every boss's manager. The linear 'chain of command' is breached for every role but in a way that does not undermine the authority of the team's boss.

At Glacier MD/CEO Brown and the union created a legislative body known as the 'works council.' This body had a unanimous voting procedure and created the operating by-laws of the firm. As a result, few by-laws were passed, but those that passed had complete support among the workers. The executives and managers were bound by these by-laws and were held to them. This increased their power. Increased. Many managers today - who have no experience with input from below - believe such input will decrease their power. In practice, this has not been the case.

Creating a sustainable enterprise is not done alone by the Board or by the shareholders. They bear the greatest responsibility but others must also be included if they are expected to contribute. The scope must include all contributors. Since future contexts will always change, the higher goal must be flexibility rather than efficiency. This was a form of Constitutional Order (q.v.).

A concentration on the present reduces decision-making to the shortest time-span at the highest level. These Wall Street money managers treat firms like piggy-banks – they want their money now, NOW. (At the extreme, there is no line in their heads between profits, future cash flows, and return of capital.) No firm can long survive if this short-term mismanagement lets competitors occupy future positions first. (See 'real options' reasoning. Remember the words of Ben Franklin, a businessman, from over 200 years ago, "We know the price of water when the well runs dry.")

Shares Valued by Outsiders

Corporations exist within a context. The context is social and legal. Under common law contracts incur other obligations beyond just the fiduciary. That is only one of many types of obligations. The current ownership of a share of stock entitles the owner to a dividend from the profits of the corporation and a vote on each member of the board of directors. The common law recognizes a multitude of legal relationships between various corporate constituents, and in the law the fiduciary duties are only one subset of these obligations (Marens & Wicks 1999).

One of the most important does not appear at all on the financial statements: reputation. Tomorrow's value of a share of stock comes from the next owner – how much someone other than the current owner is willing to pay for the stock. Security analysts are not stupid. This makes all corporations public, not private. It means that board members are holders of public valuations and values. It means the future must hold greater power over Board decisions than the present. The present becomes a temptation. And one that should be resisted.

The lure of the present exists much less in Japan and India than in the US. Cross-holdings of stock in Japan by other firms in each *keiretsu* means most stock is never on the market. Speculators exist in Japan, but they do not also control the vote for directors. In India a similar structure was created by 'trusts.' These were created years ago and own a large block of stock in many corporations. Thus, most of the voting stock is never on the market. In the US some CEOs are taking their firms private simply to remove the short-run focus of the short-term traders. To regain a long-term strategic perspective to which Boards must hold the CEO accountable, the structure of the financial markets in the US may need to be changed.

Presentism also means that Western board members must hold their managers to account beyond the contract. Alan Fox's book, *Beyond Contract*, is relevant here. He sets forth that the employment contract – with workers and with managers – is too complex to be set forth in writing. Something will always come up that changes it. At the very least, the paying customer will change preferences – perhaps monthly. Thus, employment contracts are 'loose'. They describe a relationship and a process, not a product. They are unlike market, arms-length contracts which specify end results. (The idea that firms are simply a 'nexus of contracts' is flawed.)

As a result, Boards must now closely ride herd on managers, but not just for results. Some managers deport themselves as private actors, not public. They have joined a firm to get ahead. Their career and remuneration are 'private.' Sometimes they consider their own behavior is 'private' too. At worst, they live off the reputation of the firm created by others who came before them. One reason for the Board to be involved with the development of future executives is to identify any 'bad apples.' If the firm is to have a next CEO who understands that it is a 'public firm' – to manage for the future - then the Board has to become familiar with today's managers.

Sumantra Ghoshal was interviewed shortly before his death. He said sustainable development in management practices is important and has been excluded from consideration. The relationship between managers and the board of directors requires mature discretion, not more control from above. The responsibility of managers is to the integrity of the institution, not

to any one group – such as shareowners, employees, or customers (Bernhut 2004). In many firms this is not happening now.

As the cracker-barrel U.S. comedian of the 1930s, Will Rogers, once observed,

“If stupidity got us into this mess, then why can’t it get us out?”

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(1) Portions of this Part I essay comprise part of a chapter in a book edited by Jerry L. Gray and James G. (Jerry) Hunt, 2007, [pages 5-12].

Support Groups

Melbourne Jaques User Group

A group of users of requisite theory in the Melbourne area are developing programs for study and knowledge sharing under Professor Douglas Kirsner of the Deakin University psychology department. dkirsner@optusnet.com.au

Austin Jaques User Group (TX)

A group of users of requisite theory in the Austin, Texas area are developing programs for study and knowledge sharing under Alison Brause, PhD. She can be reached at abrause@requisite.org

Global Organization Design Society

A group of worldwide users of requisite theory are developing programs for study and knowledge sharing. This organization is based in Toronto and the website is run by Ken Shepard. This website is designed for dissemination of information, news, discussion, and mutual support. This organization is host of a biennial conference on R.O. Its website is GlobalRO.org.

Requisite Organization International Institute (ROII)

Jaques 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:

Requisite Organization International Institute
1101 St. Paul St., Suite 1112
Baltimore, MD 21202 USA

Office Phone: 410-837-3429
Fax: 410-837-8652

(Your phone calls will be received by an answering service and ROII personnel will return your call. If for any reason you are having difficulty receiving a response to your call, please e-mail your concerns to Customerservice@casonhall.com)

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There are other localities where knowledgeable groups reside, including: London, UK, and Pretoria/ Johannesburg, ZA.

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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.

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3-25-14

INTRODUCTION TO THE BIBLIOGRAPHY

“The greatest need for leadership is in the dark... It is when the system is changing so rapidly ... that old prescriptions and old wisdom can only lead to catastrophe, and leadership is necessary to call people to the very strangeness of the new world that is being born.”

- Kenneth Boulding, 1985,
Human Betterment, Sage, p. 74.

“In the modern world, and still more, so far as can be guessed, in the world of the near future, important achievement is and will be almost impossible to an individual if he cannot dominate some vast organization.”

- Bertrand Russell
(in Donald R. Katz, *The Big Store*, p. 371).

"Those who are obsessed with practice, but have no science, are like a pilot setting out with no tiller or compass, who will never know for certain where he is going."

- Leonardo Da Vinci (c. 1470) in Bramley
Serge, 1994, *Leonardo the Artist and the Man*, Penguin, London, UK.

"...it is impossible to represent the organising principles of a higher level by the laws governing its isolated particulars."

- Michael Polanyi, 1966, *The Tacit Dimension*,
Routledge & Kegan Paul, Great Britain.

“One sees a certain prince today fortunate and tomorrow ruined, without seeing that he has changed in his character or otherwise.”

- Machiavelli, *The Prince*, 1513.
(Quoted in Odiorne, 1969:174.)

“The patient, treated on the fashionable theory, sometimes gets well in spite of the medicine.”

- Thomas Jefferson

“Every man takes the limits of his own field of vision for the limits of the world.”
Arthur Schopenhauer, *Studies in Pessimism* (1862, 2 ed.)

This Annotated Bibliography is focused on the organization theory initially developed by Elliott Jaques and Wilfred Brown during the second half of the twentieth century and into the twenty-first. One purpose is to show both academics and practitioners the full amount of research that has been conducted on these concepts over these years. This Bibliography has **9,835 items** with some 52 percent related to the theory (pro or con). It confirms an academic research base of substantial size (5,109 items) and a coherence that will allow cumulative additions. This includes 4,133 peer-reviewed research journal articles, chapters, and books (42%). Included also are works on the methodologies and experiments that gave rise to the theory as well as studies that challenge or validate its hypotheses. Much of this Bibliography was compiled from the bibliographies of the 134 Ph.D. dissertations done on the theory and should provide a resource for future research. (Counts are totaled at the end of this essay.)

One reason I started this Bibliography was because I became frustrated while preparing my masters thesis at Columbia University. Jaques (pronounced ‘Jacks’) and Brown did not cite works of other management academics. Thus, their books and articles were not helpful in locating the theory in its intellectual context. But Jaques and Brown often did not cite books and articles by other authors who wrote about this theory. Thus, their works were not helpful in identifying the full scope of the theory. (An exception to this was Jaques 1976.) They overlooked research that had created supporting data, including most of these dissertations on it. Conversely, this theory was not cited by other academics in their literature.

In the end, I experienced too many surprises, jolts and twists, as major important 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 was daunting enough by itself.

A second purpose was to see just how far the theory extended. Jaques always maintained it was universal across all human organizations with only a few exceptions. Brown died in 1985 and Jaques died in 2003. Perhaps this marked an appropriate time to find and establish the boundaries of the research on the theory. Only then will we be able to address the claim by Jaques that this is a general theory of organizations.

This sixth edition (6.0, March 2014) contains five main features. (1) It attains a significant size with 1,761 published research citations testing or extending the theory, including 134 PhDs on it, plus 2,200 published mainstream research studies, including 271 Related PhDs, with results that support the theory. [They weren’t looking for it, but they found it.] (2) This overall size enlarges the number of first-tier articles within specific academic disciplines to establish a significant sized body of knowledge in each. (But this discovery is inter-disciplinary, crossing management, psychology, sociology, and economics.) (3) This bibliography addresses the arguments that claimed to refute the theory due to low correlations (these studies involved only a single, non-managerial stratum). (4) It opens the literature on the Japanese *keiretsu*, which began using this theory around 1967 (officially in 1969), its domestic extension across Japan by 1979, and their subsequent transplanting of these management methods overseas into

their international operations in South-East Asia, North America, UK, Europe, India, and Asia. (5) Lots of cases. These make reading interesting and teaching more real. Cases have been written on many firms that have implemented this approach and they show its impact, how it was implemented, what went well, and where the greatest difficulties emerged. Each case is a snapshot of the 'afterward' and the practical.

Structure of the Bibliography

This Bibliography is in two files, each divided into sections. Part I is this introduction: essays, some series, lists and charts; sources for further research. Part II is the searchable Bibliography proper (including Ph.D. dissertations and other publications on the theory). Both parts are searchable. This online Bibliography is designed to be used with a computer. The intended users are - academic researchers, business analysts, consultants, policy makers, students, and journalists. The emphasis has been to show the size of the body of knowledge and its interconnections rather than to focus on each study by itself. Thus, I have inserted many cross-references and keywords.

Part II. is the Bibliography and is in three sub-sections: academic and professional articles, books, and chapters (ABC); book reviews, periodicals and non-print media; and dissertations. These sub-sections do not reflect academic disciplines but the type of material. In the first 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 sometimes cross-listed a work when the second author was well-known.) Most entries have annotations that include keywords, to help you find, sort and select items according to your individual research interest and need. These keywords can be used as cross-references. (Use word roots for searches [e.g. 'nurs' for nursing, nurses].)

This 'big tent' bibliography was designed to be used with a computer. Less than half of those published (42 percent) of the 9,835 items in Part II are directly on the theory. This total includes 1,404 articles, 284 chapters, and 361 books (21%). (Only a small minority of the books were fully focused on the theory. Those cited usually had specific sections on it which were individually noted.)

About three-fifths (60%) of the entries are on the theory, including 22% which are mainstream studies with findings that support the theory. An additional 6% are on alternative theories held up as rivals to this theory, including the refutations of these alternative theories. About one-third (30%) are a miscellany of business classics, on quality, business history, background, and Interesting PhDs. Some 4% were 'flotsam & goners'. (I have no idea what they were about, but a keyword or R.O. got cited.)

Thus, if you print Part II, it will not appear to be sharply focused on the theory. A keyword computer search, however, will select the items you are seeking. [Growth in Part II as

of : 1-1-05: 442 pgs; on 7-31-05: 490 pgs.; on 1-15-06: 560 pgs.; in 7-31-06: 650 pgs.; as of 3-25-07: 774 pgs.; as of 8-15-09: 1046 pgs.; as of 9-20-10 1530 pgs.; 6th edn: 3-25-14: 2221 pgs.)

When selecting items for inclusion here, I tried to be comprehensive - the whole haystack related to the theory. I leave it to you to decide what to use, what to disregard, and how to use your selections. A simple list of titles and authors would not give the reader enough guidance through the variety of literature. Therefore, the entries were annotated and have cross-links to 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.

I have included many articles, cases and profiles from the popular press. These are more easily accessible to students and can be used as classroom assignments. Most are from business reviews but some are from newspapers and magazines. (The contemporary newspaper articles are in their own separate section, arranged chronologically, because they were topical on current events or a process, a process, related to the theory or firms using it.) These should enable this Bibliography to be used to develop syllabi and reading lists at almost any student level – high school, undergraduate, masters, doctorate, and executive education. I have inserted the keyword 'Teach.' But each course will be different and these items are only a start.

The Entries

The Bibliography has some 9,825 total entries. Unlike Gaul wherein the three parts were separated, these published items were largely intermingled. The three are on the Jaques-Brown-Glacier theory, on mainstream organization theory that is supportive, and on flotsam and goners. (The following figures exclude the PhDs, MAs, etc.)

1. *The Jaques-Brown-Glacier Theory*

The largest group of academic and professional entries relates directly to the theory - research (1,462 items of research on RO; 90 critical, and 1,552 total), 297 descriptive, 435 book reviews, 344 unpublished research, and 72 conference papers: 2,909 total). This comes to 30% of the total. Here, the 'Big Tent' approach was taken to include extensions of the theory, such as time-span, SST, BioSS, RO, efficiency wage, career crossroads, *satei* assessment system, and others. The theory also has been covered in some 813 current newspaper articles, magazines, conferences, periodicals, broadcasts, websites, etc (8%). [These latter are not professional reviews.]

2. *Mainstream Organization Theory*

(A) These are results from mainstream published research that support the theory. A surprisingly large group of entries (2,086 items, 22%) since many mainstream academics are not aware of the research support for this theory. There is a lot of support - and it is theirs.

(B) Research works held up as an *alternative* to RO theory (Alt.) (151 alternates) and studies that *refuted* these mainstream works (Refu.) (457 refutations). [Note that the refutations were

THREE TIMES the alternatives. I have no explanation for this.] Together these were 6% of the total.

This collection of mainstream research should provide a solid base for future researchers in this area. I have also cited a few classic contemporary mainstream works on organization and management to place the theory in context or to show how this theory contrasts with them.

3. Flotsam & Goners

This small group is included due to the stupidity of the computer. It can not tell the difference between a meaningful, substantive citation and one that is padding to expand a reference list. They have been labeled - Lost/ Off/ Winger/ Broken Cite - and come to 345 (4%).

Some annotations include my own observations and biases. I hope these are clear enough to be self-evident. I put most in brackets or parentheses. For example, I do not admire Taylor or Taylorism much. I have come to believe Taylorism has become a drag on productivity. I also believe there is a complementary theoretical and practical link between Jaques and Deming. The adaption of these two theories by the *keiretsu* since 1969 offers academics a chance to find empirical validity. Also, Adam Smith and Thomas Jefferson were going in opposite directions in 1776. Both were reacting to the economic policies of Mercantilism as practiced by King George III. Smith worked with the King and became a Royal tax collector. Jefferson and friends pulled away, creating a state and an economy structured quite differently. I would hardly have taken the time to pull together this bibliography if I did not have strong feelings about the deficiencies of much current writing and research on management and organization. Even so, some of it I respect.

I have been able to locate and read the vast majority of the items in this bibliography. If an item has 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 you publish something on this theory, please send me a copy of it, including its bibliography. This bibliography is inter-active and will be updated periodically. I hope it will never be "finished.")

I have noted those items I have been unable to locate with: 'Not seen.' Sometimes I could peek into online library catalogues worldwide and look at references but the work itself remained inaccessible. Many are unpublished research papers that may have disappeared. But even so, most of them are in other languages such as Japanese or Dutch, a few are in Spanish, etc. I am limited to English. I hope someone else can use their fluency and intuition in these other languages to locate and summarize these items. I often gave the cross-reference to show the source of the citation which may be helpful. A large minority of unlocated items are in conference proceedings which I could not locate. Some were published - but by whom? Where are they? [A national consensus needs to be reached on how proceedings are to be handled. In the age of the internet something other than 'scattershot' needs to be developed.] Also, I have

been unable to see some of the theses/ dissertations on or related to this theory. These are identified as 'Did not see '. The depository for such works in the US and UK is in the university library and in the catalogue. Other countries may have different traditions.

Sustained searches were conducted at the libraries of Columbia University, City University of New York, and at the New York Public Library research division (with visits to the NYU Bobst Library). I have conducted research via internet databases in English and many countries were covered. My effort on the years before 1980 is not complete, especially on newspapers, non-academic magazines, and professional reviews.

Original works on this theory have appeared in many languages: Spanish, Japanese, Dutch, French, Danish, Swedish, Hebrew, Egyptian/Arabic, Brazilian/Portuguese, and Italian. I have collected items from the UK and the US, plus Australia, Argentina, India, Canada, The Netherlands, Japan, South Africa, France, Germany, Denmark, Finland, Brazil, Sri Lanka, New Zealand, Austria, Nigeria, Italy, Hong Kong, Sweden, and Singapore. Books on the theory have been translated from English into Spanish, French, Japanese, Italian, Danish, and Swedish. Spanish had a lot of citations and most of these were from Argentina. I have a few citations from other languages. (The English name of the language is in each description. For example, you can search on the word "Spanish" to find the articles, chapters, books, etc., in Spanish.)

Sources (Parts II. A. & II. B.)

This Bibliography was based on the bibliographies of: (1) Cason Hall & Company compiled by Alison Brause, (2) the Ph.D. dissertations on the theory, (3) other books, chapters and journal articles written about the theory, and (4) general literature on management and organization. However, this is not a bibliometric study, a study of bibliographies. No way. This is a bibliography and is to be used as a research source.

1. The 1996 bibliography at the Cason Hall website was the 'official' one since this was Jaques' publisher. This is an excellent place to start, but a 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, they did not overlap and greatly increased the size and scope of this Bibliography.
3. Several books on this theory had exceptionally extensive bibliographies and 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, formerly Dean of the I. H. Asper School of Business at the U. of Manitoba, included 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 (as of 1973) 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 bibliographies are each worth a look on their own.

Phillips and Hunt's book (1992) has 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 only partly incorporated Zaccaro's 39-page bibliography since it ranged well beyond this theory and many ARI items were included here already.

Berkowitz and Walster (1976) contained the Adams and Freedman annotated bibliography of 167 equity studies as well as its own extensive reference list of equity studies (p. 245-259). I included some items, but their focus was on equity theory. [Note: this book may be classified by author, title or series. It was very hard to locate.]

4. I searched online in CLIO (Columbia University), CatNyp and Leo (New York Public Library - later combined into one database), CUNY-wide (Baruch, City College, John Jay, etc.), NYU, British Library (UK), Brunel Library (UK), and other university libraries such as UCal-wide (Merlyn). Keywords were searched in JSTOR, ABI Inform, Dow Jones, WorldCat/ ArticleFirst, Elsevier Science Direct, Eureka, SSCI, Factiva, Google, PCI (to 1995), Scopus, ProQuest, Wiley Interscience, and research data bases on the Internet to pinpoint articles related to the theory. These searchable databases are being expanded and/or merged constantly. Many journals in JSTOR have blackout periods. I penetrated this blackout period via searches in ArticleFirst and ProQuest, which had the more recent issues. (As of 4/06 Google had become nearly useless. It is too powerful and abstracts of databases have oriented themselves to its methodology. As of this writing it can no longer find the needle. The 'Cloud' is producing haystacks. This has to be addressed by everyone on the Internet. It appears to be a tragedy of the commons.)
5. In early 2004 Amazon.com added a new search feature which allowed the entire text of a book to be searched for keywords. "Jaques, Elliott" was entered and produced 589 hits. # 1-18 were books by Jaques; up to # 110 the hits were directly related to Jaques; they then began to thin out and by # 200 Elliott Jaques had disappeared, displaced by Shakespeare's character, the music education theorist, and J.-J. Rousseau, among others. A very helpful feature but limited. (It has since been removed.)

6. In mid-2009 the NYPL combined its two catalogues (Catnyp and Leo) and embraced 'cloud' searches for its entire collection. Where scholars formerly had searched using a rifle, they now had to search using a shotgun, generating hundreds of semi-hits to be searched through a second time - by hand. The result was a disaster for the serious researcher, for the general public and for the staff. This is stupidity on the hoof. Money and donations are not the issue. Money and service here are being wasted. The financial cutbacks of 2010 are a direct result of such foolishness. NYPL has two sets of libraries and serves three main constituencies: the professional researcher, the general adult public, and the school-student. 'Cloud' searches do not serve the researcher or the general public. I am not sure the school-student is being served either. (The computer is also showing signs of internal collapse with its error rate on general circulation books skyrocketing.) Cloud searches are not appropriate for serious research and should not be the default search type. (The 'classic catalogue' was soon restored as an option.)

Book Reviews, Newspapers, and Websites (II. A.)

Included are several short sections separate from the main academic section. One contains book reviews, which are listed alphabetically by reviewer. (The title and author of the reviewed book are inside each citation so last name can be searched-on.) 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. Still other short sections are on websites and on non-print media.

Ph.D.s On Requisite Organization Theory

The doctoral dissertations have been grouped into three sections: those directly focused on the theory (II. B.), those related to it in some way (below the first group, also II. B.), and those that I found interesting or may be provocative for future avenues of research (in Part I.). The Ph.D.s are arranged by **DATE** (and then alpha by author) within each of these three groups.

I included a dissertation in the first section only 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. Those directly focused on the theory were also included in the main section of the bibliography (alphabetical by author). (This is a double listing of these items but they may be different, so always view BOTH listings.) Only a 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 doctoral NAMES so they can be cross-referenced to the year.

Each of the three Ph.D. sections has an essay included in this Introductory file (see below). The essay on those directly on the theory is the most detailed. Each entry is extensively annotated regarding discipline, area of study, publications, theme, type of subjects, number of subjects, and abstract. I have tried to shoehorn in as many keywords as possible to aid researchers in locating material, methods and data.

Glacier Project Series and Replications (I. B.)

This contains a listing of the Glacier Project book series, the Social Analysis article series, the BIOSS book series, and other series. It also contains comparative charts of the studies and dissertations that replicated the strong correlations of the theory.

The Published Research

Over the decades a thin stream of evidence supporting Jaques' findings has trickled in. These results taken together now constitute a substantial body of cumulative knowledge. They have appeared as articles in academic journals and professional/ practitioner reviews, as books and chapters, and as government publications. Many academics give credence only to articles in peer-reviewed journals. Thus, the peer-review process has become a gatekeeper, a validator.

Academic Journals

This Bibliography documents that 2,909 studies have been done directly using this theory. In addition, 2,200 mainstream studies have had findings that support the theory, bringing the total to 5,109 published academic studies. Of these, 2,398 were published after peer-review, with 1,144 in first-tier (A-level) journals and elite university presses issuing chapters and books. These are required for tenure at top-tier schools in the US and UK.

However, these published studies have been spread across several decades and over multiple academic disciplines. Many academics view it as weak because it is not prominent in any one subject area. Only when the observer steps back to look across all the disciplines does RO show strength.

Usually, the top-tier business academics will allow a limited number of journals onto their list of eligible publications to be considered in tenure decisions. Each discipline is different. (Also, each top-tier school has a slightly different list.) In management (and organizations) departments about 3 or 4. In economics and psychology about 8-10. In sociology the number is 4-5. But in industrial relations, human resource management, and labor economics each country is different, so its issues are unique. (Say 3 each.) In operations and decision analysis the number again is 3-4. However, in information technology and information systems much of the cutting edge is in conference proceedings rather than journals. They will allow 3-4 journals, but that is not reflective of the way they report research. In addition, there have been articles in miscellaneous business and other disciplines. Indeed, these are truly scattered but cumulatively they are as large as one of the smaller single areas.

The first-tier articles on RO have appeared most often in Management (and Organizations) publications. These include –

Administrative Science Quarterly, Academy of Management Journal, Academy of Management Review, Organization Science, Strategic Management Journal (UK), British Journal of Management, and the Leadership Quarterly.

Then comes a group of three disciplines, each of about half the strength of the above - Sociology, Psychology, and Economics.

Sociology (Note - There is overlap with general management publications here.) - *American Sociological Review, American Journal of Sociology, Social Forces, Sociometry, Sociology (UK), Organization Studies (European), British Journal of Sociology, Work, Employment and Society (UK), and British Journal of Social Work.*

Psychology – *Journal of Applied Psychology, American Psychologist, Psychological Review, Organizational Behavior and Human Decision Processes [formerly Organizational Behavior and Human Performance], Personnel Psychology, Psychological Bulletin, Journal of Abnormal Psychology [formerly the Journal of Abnormal and Social Psychology], and Journal of Personality and Social Psychology.*

Economics – *American Economic Review, Quarterly Journal of Economics, Journal of Political Economy, Journal of Economic Literature, Review of Economics and Statistics, The Economic Journal (RES, UK), Journal of the Japanese and International Economies, The Rand Journal of Economics (The Bell Journal of Economics), Review of Economic Studies, Economica (LSE), Econometrica, the Brookings Papers on Economic Activity, and the Journal of Institutional and Theoretical Economics (JITE) (European).*

The last grouping – again of three - are of lesser strength but still have a presence - IR/ HRM/ Labor Economics, and Operations/ Decision Analysis/ Information Technology/ Information Systems, and Other/ Miscellaneous.

IR/ HRM/ Labor Economics (See also the economics journals since many articles listed there also could be counted in this section, likewise for psychology journals.) -

Industrial Relations, British Journal of Industrial Relations, Human Resource Management, Industrial and Labor Relations Review, Journal of Industrial Relations (Australia), Journal of Labor Economics, and Industrial Relations Journal (UK).

Operations/ Decision Analysis/ Information Technology/ Information Systems - *Management Science, Journal of the Operational Research Society (UK), MIS Quarterly, Acta Psychologica (UK), Journal of Cybernetics, Cognitive Science, IEEE Transactions on Systems, Man, and Cybernetics, and Kybernetes (UK).*

Other/ Miscellaneous – *The Journal of Consumer Research, Journal of Marketing Research, Journal of Marketing, Marketing Science, Journal of Accounting Research, Accounting, Organizations and*

Society (UK), Journal of Business, Human Organization, Nature (US), Political Studies (UK), Political Quarterly (US), the Journal of Politics (UK), and the British Medical Journal.

With this edition of the Bibliography the number of peer-reviewed and top-tier articles has attained substantial size in several disciplines. One purpose was to establish bridges between these disciplines using this theory. The lack of an interdisciplinary approach among academics has been a serious impediment to the theory's recognition and its credibility.

This top-tier list is wider than that used in any single school and includes titles of continental European, Japanese, and Australian journals. This list is not limited to only the U.S. and the U.K. Some countries have top-tier universities and some have an educational system which blocks the emergence of outstanding schools. This is a policy choice which differs among nations. The top publications in those countries are usually those sponsored by national professional associations.

Conversely, the cross-disciplinary publications can be viewed as parallels to the “Imperialist Wedges” created by economists to establish beachheads in other disciplines. The large number of top-tier articles in Economics, for example, will allow agency theory to be re-examined in light of the resolution of adverse selection in the labor market. This alters the inappropriate use of incentives, sheds light on the tendency of incentives to generate perverse outcomes, and marks the boundaries of its practical effectiveness (Bebchuk et al 2002; Brick et al 2012).

(There is no formal classification scheme of academic articles in this Bibliography. Were there one, the journal categories of management, sociology, psychology, and economics would be large. Most other topics, however, being relatively small compared to these, would fall under ‘miscellaneous.’ But that category would be almost the largest, leaving the classification problem unsolved. Perhaps after another decade a more balanced classification scheme will emerge for this theory.)

Professional/ Practitioner Reviews

In addition to the top peer-reviewed academic journals, many articles on it have appeared in the *Harvard Business Review*. (Since the late 1960s *HBR* has stripped out references and footnotes. See my annotations.) At least five became “HBR Classics” – P. Hunt, H. Levinson (2), Dearden (2). Many others have been issued in the *California Management Review*, the *Sloan Management Review* (MIT), and the *Ivey Business Quarterly* (CAN.). These publications are professional – and not peer-reviewed. (Of course, numerous academics publish there). Other professional venues have included - *Consulting Psychology Journal*, *Technology Review*, *The Manager* (UK), and *British Management Review*. Others have included - *Canadian Business*, *Canadian Manager*, *McKinsey Quarterly*, *Strategy + Business*, and the *Academy of Management Learning and Education* (AMLE).

Books and Chapters

This research has located a number of non-peer-reviewed pieces. This normally indicates a lesser level of scholarly rigor since books and chapters are not as carefully scrutinized as peer-reviewed articles are. The theoretical disagreements do play a role here. A consideration has been to reach the public with material it can understand. The business public does not read most academic publications. So what would be their appeal to researchers and writers on this theory? In many cases, what has been written on this theory are research and case studies long enough to be a book. In other instances, the research piece is published as a chapter. In some cases, the research has not found publication in a journal and a chapter is the only way to find publication.

That being said, university presses (UP) use a peer-review process for the books and chapters (anthologies) they publish. Some academics still view these books and chapters as not equal to peer-reviewed journal articles - even though the process is largely identical. (The same people may be involved in both.) They grudgingly acknowledge them as publications in the tenure process, but give them little further credit. This theory has often appeared in books and chapters published by university presses. The totals are as follows – [A. = elite universities]

Rp. Ch. UP.	13	
Rp. Ch. UP. A.	8	
Rp. Bk. UP.	39	
Rp. Bk. UP. A.	23	
Cr. Ch. UP.	0	
Cr. Ch. UP. A.	0	
Cr. Bk. UP.	0	
Cr. Bk. UP. A.	0	
D. Ch. UP.	0	
D. Ch. UP. A.	0	
D. Bk. UP.	5	
D. Bk. UP. A.	5	
MS. Ch. UP.	15	
MS. Ch. UP. A.	14	
MS. Bk. UP.	48	
MS. Bk. UP. A.	45	

Most revealing here is the weakness of items critical of R.O. and among chapters that are simply descriptive of it. The review process may have an impact here. (Research needs to be done comparing the editorial processes.)

I have striven to find the Library of Congress catalogue call number for each book. Libraries using the LC classification scheme are throughout much of the world (especially North America and the former Soviet Union, but not Europe). In the LC system many of these books

fall into HB (economic theory), HD (economic history), or HF (commerce). The LC system is used widely in academic libraries. The Dewey decimal system is also a method of classification, and I have included that one where I can. It is used widely in the public libraries of North America.

I have not collected many ISBN numbers. They are assigned by the publisher and start with a code for country, publisher, and book edition. They are computer generated numbers, which are unique and sequential but not part of any classification scheme. ISBN numbers are not a classification scheme. Thus, they most closely resemble the numbering system of the research libraries of the New York Public Library (NYPL). Their retrieval is fast, the numbering sequence is unique, but it leaves the system isolated and without any context. The ISBN is very useful in distinguishing different editions of a textbook. Each edition has its own unique number. (Worldcat also overcomes library-unique classification or numbering systems.)

DOI numbers are unique and therefore helpful in locating a published item on any computer or catalogue. This can include articles in journals and chapters in edited books. But they are not part of any classification scheme – so they mean nothing else. They have no context.

Government Research

The U.S. government has been willing to fund pragmatic research on this theory since 1970. The government exercises control in the selection of the principal investigator but does not conduct a formal peer-review process before the research studies are accepted and published (by NTIS or the Superintendent of Documents). The results can be spotty or superficial and each study must be viewed on its own merit. Jaques himself had a hand in some of the research conducted for the U.S. government during the 1980s and 1990s.

Most U.S. government research is conducted by professors holding earned PhDs who are the principal investigators for these studies. Often the university is the contractor. This research often has been action research studies which document applications of this theory in government organizations, so these studies present a parallax view of the theory in action.

On the other hand, many U.K. government-sponsored studies were published by Her/His Majesty's Stationary Office (HMSO). Several in the health care field were reports of Royal Commissions (Cmnd.). These are referred to by their official names but in the press by the name of the lord who headed the commission. (To the non-Brit, all this is most confusing.)

Publishers of Works on the Theory

Jaques' early affiliation with the Tavistock Institute and its journal, *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 and others. In the mid-1960s Southern Illinois University Press in Carbondale, IL began to publish Heinemann books for the U.S. market.

At least thirty-six articles on the theory appeared in just one publication, *Human Relations*, which included both psychology and sociology. Jaques and other members of Tavistock published in it regularly. (It is now co-based in the USA.)

The U.S. government became a major publisher of Jaques-related research around 1970. The first round was sponsored by the Office of Naval Research. Many of these ONR studies were conducted at Berkeley's Industrial Engineering Department in the late 1960s and into the mid-1970s. A good number also 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, many of these studies also were issued by NTIS. JAI, a division of Greenwood Publishers, in Greenwich CT has published some of the ARI research. (These are listed by author so search on "Army," "ARI," "Naval," or "ONR.")

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. Search tip: NTIS uses only the initials of the author, not the first name, and no separation between the initials (Cambridge Scientific online, 2004).

Kathryn Cason set up Cason Hall & Company in 1986 to publish Jaques' new research and keep his earlier works in print. It is at casonhall.com.

Where Things Stand

There have been several sustained multi-year research efforts on this theory in business and over three dozen in academia (see list). Some twenty remain active. At Glacier Metal from the late 1940s to 1980, at IIT-Kharagpur from 1959-1962+, at Nottingham (UK) from 1962 until around 1977 under Professors Edgeworth Johnstone and Mary Robertson, at Berkeley (with ONR) in the mid-1960s into the mid-1970s under Professor E.R.F.W. (Ted) Crossman, at the Naval Postgraduate School in Monterey under Professor Wally Creighton in the 1970s and into the 1980s, at San Diego State University under Belcher and Atchison from the early-1960s into the 1990s, at Brunel from 1965 to 1995, at Minnesota in the late 1960s into the early 1980s under Dunnette and Mahoney (later at Vanderbilt), in the 1970s at Georgia under Fremont A. (Bud) Shull, at IIM-Ahmedabad in India under Professor Ishwar Dayal from the late 1960s into the 1980s and into the 1990s at IIM-Lucknow, at LSE (UK) from 1982 to the present under Billis, Humphreys and Phillips, at Rio Tinto/ RTZ/ Comalco/ CRA in Melbourne from the late 1970s to 1990 in Australia (AU), and at ARI from 1979 through 1995 under T. Owen Jacobs. Related current academic research continues at USC under Professor Catherine G. Burke, at George Washington with Professor Jerry Harvey and others, at UNISA in Johannesburg and U. Pretoria in RSA, at IMD in Switzerland under Professor Robert Hooijberg, at Texas Tech under Professors James G. (Jerry) Hunt (now deceased) and Robert Phillips, at U. Texas (Austin) with Professor Oscar Mink (now deceased), at George Mason (Va.) under Stephen Zaccaro and

Richard Klimoski, at Deakin in Melbourne under Professor Douglas Kirsner (AU), at U. Melbourne in AU, and in Buenos Aires at Universidad de Buenos Aires under Professors Aldo Schlemenson and Harald Solaas (AR), and at ITBA under Professor Ricardo Gutiérrez Krüsemann.

The Japanese version as adapted in 1969 was not the pure theory. Discussions with Japanese researchers can clarify what historical facts can be verified, what the completed research establishes, and the robustness of the theory (even when applied in a limited way). Many issues will have to be sorted out regarding causality. But on the bright side, the uniqueness of this application should enable us to establish some linkages with clarity.

Most Japanese researchers of the 1970s through the present are still active and this would be a new avenue for them to explore. Among them are Michael Yoshino (Harvard), Kazuo Koike (Hosei), Koshi Endo (Yamagata), Haruo Shimada (Hitotsubashi), Masahiko Aoki (Kyoto, Stanford), Ronald Dore (LSE, UK), Robert E. Cole (Berkeley), Andrew Weiss (Boston U.), Hirotaka Takeuchi and Ikujiro Nonaka (both at Hitotsubashi) among many others. Kazuo Koike's studies of Japanese organizations broke new ground from the late 1970s and they provide many starting points for examining the links to this theory. They also show the same gap as in the West existing between the practicing businesspeople and the academics.

Future Research (The Hot Stuff)

So far, most PhDs were discovered after they have been completed and were published online as part of DAI in the US and the Index to Theses in the UK. Those done in other countries are scattered (including the ADT in Australia). The same is true for research. When it is published, it is found through a search engine and discovered. Our knowledge of planned research is at best only fragmentary. There is presently no attempt at co-ordination of the research effort regarding this theory so it replicates findings and becomes more cumulative.

This Bibliography should begin a clearinghouse function. Given the significant amount of research findings, I believe a research center needs to be established to build a base of findings that is cumulative and to 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 and undertaken to verify his theoretical extensions. Some of these are noted below. 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) or TSD:HierLvl correlations again. They have been done and re-done – 9 times and 12 times! Q.E.D. Enough already! Future research should focus on the next level of questions (including FFP:HierLvl) and use the current correlations as springboards.

The theory unveils certain next steps which must be taken to advance the credibility of the theory. Hypothesis testing follows assertion. This theory has been installed in some 300-400 companies in the West and all seven *keiretsu* groups in Japan (2-3,000 firms each). Some of the

research in Japan now extends the implementation internationally. The research so far in India is based on cases of individual adopting firms rather than supplier groups. The major exception to this is Tata Sons, the largest conglomerate in India, with a bit over 100 business units. For the most part, Western research is still consumed with the validity of its theoretical findings, and thus whether they should be implemented or not. Western academics are still at the starting gate waiting for the bell. Doubt has led to inaction, lack of insight, gaps in research, and lack of proposals. Implementation, businesses and reality are now ahead of them.

The most serious omission is the before-and-after implementation study. This comes close to the action research at Brunel University under Jaques. But unlike photos of successful adopters of popular diet fads or acne remedies, these are not easy to do. (But they must be done.)

Other gaps which obviously call out for research, include -

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.

A study similar to Kinicki and Vecchio (1994) to test for the impact of inappropriate strata-distance on dyads needs to be done. This study should look at changes in levels of stress, satisfaction, behaviors, relationships, time-pressure, communications, problem-solving, frameworks, etc., as dyads are changed.

A study of Affective Events Theory (AET) both before and after the installation of requisite organization concepts. Ostensibly minor events cumulatively add up to impact both individual job and organization performance. In plain English: if employees get hassled too often over work events and their role situation, they suffer job dissatisfaction and quit. Does this behavior change when RO is installed? If so, how much?

A study of the lack of an appeals process in modern organizations and thus the dependence of employees on the manager's good will. This was proposed by William Evan in 1961 based on his reading of William H. Whyte's *The Organization Man* (1956). Taylor was aiming to eliminate the 'work gang' behavior at the operating level when he wrote at the beginning of the 20th century. He was not trying to simply move it upward in the organization. But this is what has happened and it impacts 'professionalism' deeply. It has not yet been examined. ('Clans' have been examined.)

Bewley (1999) outlines several scientific tests of old and new economic concepts (Chapter 22). A similar study needs to be done on requisite concepts.

Another study that needs to be done is literary in nature, a history of "requisite" concepts, especially "accountability," "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 edited the development and publication of a similar historical re-examination of quality, *A History of Managing for Quality* (1995). A history of requisite concepts and leadership practices in a country could be most helpful. It might start with Fogarty who traced some of these concepts back to St. Thomas Aquinas. Several presentations at the Toronto GO Conference in August 2005 set forth the introduction of requisite concepts in various countries. (Yes, Virginia, there is a place for Humanities majors!)

This is the sixth online edition of this Bibliography. The first edition was posted in January 2002 and was 192 pages long. The second was posted in October 2002 and was 314 pages. During the nineteen months the second edition was posted online it was downloaded by 643 people (10-02 thru 3-03: 343; 4-03 thru 9-03: 119; 10-03 thru 5-04: 181.) The third edition was 524 pages (plus a 132 page Introduction) and was completed in May 2004. Over its 34 months the Third Edition was downloaded by 1,142 people. The fourth edition had 1,008 pages in the Biblio (plus 208 pages in the Intro) and was completed in March 2007. (It was downloaded 2,422 times in first 18 months. Or so the computer says.) In August 2009 the fifth edition was completed with 1,350 pages in the Biblio, plus 248 pages in the Introduction. It had 30 downloads a month. The sixth edition was completed in March 2014 with 2,208 pages in the Biblio, 263 pages in the Introduction. This brings us to the present.

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 other 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. (1) 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 and waste – even fraud (Williamson 1964). (2) Another use of the word was by Donald Hambrick and Sydney Finkelstein (1987) who used it to mean “executive latitude for action.” This was degrees of freedom of choice on goals, methods and priorities. See Simon on authority and responsibility (1960: 47-50) where he distinguished between ‘programmed’ and ‘unprogrammed’ levels of work. There was no discretion in Simon’s decision-making organization except at the top where things were left ‘unprogrammed.’ James Thompson (1967) 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.” (3) On the other hand, Charles Perrow (1967) found managers allowed “discretion” for routine tasks but restricted it on key aspects of non-routine tasks. (I sense the Simon and Thompson books were based on Taylorist “armchair analysis.” Perrow focused on relationships as power interactions.) (4) Finally, in the law discretion means “prudence and commonsense.”

Jaques has used the word with a different meaning. Discretion is “judgment within prescribed task limits toward attainment of a goal” and every job always has some discretion. The goal has been assigned to a role by the manager as part of the 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 of overall profitability by the Board. This person could also be the night janitor assigned to clean the floors.)

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 with responsibility and wisdom.

Shakespeare’s character, Falstaff, was 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.) Of course, he used “discretion” to excuse his own cowardice on the battlefield.

As Jerry Gray notes, all of these earlier definitions for discretion have a common theme and are basically getting at the same thing - a mental process to deal with uncertainty.

An Emerging Purpose: Business Education

Earlier I mentioned the initial sparks that began this Bibliography. It has taken years to bring it to completion. During that time my purpose has shifted and expanded. It began as an attempt to identify the research and studies by Jaques and Brown and list them in one place. Other people produced research directly on this theory so they were included. Soon studies emerged from the mainstream research with unexpected findings that supported the theory, so I included them too.

This Bibliography can be viewed as a bull's-eye target. The central circle: The PhDs on the theory are at the center, along with the A-level peer-reviewed journal articles (including those critical of the theory). Next, mainstream articles that were peer-reviewed yet support the theory and Related PhDs surround them. The third ring would consist of Descriptive works, A-level book reviews, Conference papers, other media, websites, etc. The fourth is items on the theory in Professional or Popular publications. Beyond this are the flotsam and jetsam of Miscellaneous good works that are not related to the theory but still have validity and might be consulted in their own right. Finally, items that are confused about the theory and get it wrong are included – but each is marked so. (Unrelated junk I did not include, but I kept a separate file of the items I read and almost included. It's private.)

I noticed other theories were put up by consultants and academics as Alternatives to counter this theory and/or to promote their own. But I also noticed they each soon after were Refuted and were abandoned. Now I understand this was part of the churning of fads and fashions. This was amply documented in articles by Abrahamson (1991, 1993, 1996, 1997, 1999, 2003, 2011). Nothing sticks. Nothing is cumulative. I decided to include many of these theories (Alt.) but also to document their collapses (Refu.) through the jungle churning. This was only partly to do with RO. (The number of published studies which were refutations was three times the number of articles putting forth alternative theories. In short, the negatives were three times as numerous as the positives. Something is wrong here.)

Interestingly, the New York Public Library research branches between 2002-2005 weeded out their lesser-requested books and sent them to a warehouse across the river in New Jersey for offsite storage. Those sent to offsite included the books on business leadership - and on Egyptian sarcophagi. [Once a fad is over, no one ever again consults these books. QED.]

But some theories were real and linked to this one and extended it. They too are scientifically valid. I entered these related studies with a note explaining its link (Deming, Miles, Goldratt, Piaget, et al).

Along the way I found many non-quantitative business classics still held their intellectual value amidst the fad-churning. So I put them in too. (The ideas were valid, although the writing was dated.) In contrast, Herb Simon's position against "proverbs" in 1946 appears today to be itself outdated. Many of the quantitative studies he advocated have fallen by the wayside, too narrow to be of use to managers – and even by academics. (Yet his ideas have continued to win approval from other Nobel Prize winners in economics, such as Daniel Kahneman in 2003.) It is reported that HBS no longer requires quantitative decision-making as a core topic to be covered by all students in its MBA curriculum. HBS has discovered quantification may not help managerial decisions. To assume quantification will alone provide an answer is itself a fallacy that falls outside scientific method. Quantification, just like proverbs, is meaningless without knowing the context. Only human wisdom, the ability to handle uncertainty into the future, will provide the context. (Actually, Shakespeare knew that 400 years ago. Oops, that's a proverb, isn't it?)

As mentioned earlier, the size of this Bibliography matters. Here I have collected the core of scientifically validated concepts and methods around this theory. The vast majority of these studies confirm the theory. Some are critical and appear to point in the opposite direction. All are included. One hope is that this Bibliography will become a base for accumulating data and extending and testing the theory.

A Renewed Curriculum

In sum, this theory, the related theories, and the classics together present a range of effective business concepts different from the research that is presented in organization,

management and leadership curricula today. In a nutshell, we face a major problem: a general theory of organization that has more supporting evidence than perhaps any other theory, is not being taught in most business schools today. The present curricula are devoid of teaching requisite concepts and this hurts both businesses and students. The Bibliography is not a critique of those curricula despite the one-liners in it. It includes much of this broadly-accepted academic alternative that works poorly both in theory and in practice.

As I wrote earlier, the decline of Western business competitiveness is part of a wider decline, especially in its educational systems. Again and again we have heard statements from businesses that Western applicants do not have the skills they require. But we have to ask, are they referring to today's immediate skills or to the long range worker capability to be flexible, to learn, and to grow? Are future managers being educated in the realities of business? Or are they being exposed to past economic theories which have little basis in current and future business reality? The new Common Core curriculum (K-12) aims to address the deficiencies in children's education and shift it to help make them 'college and career ready.' What are executives doing in their own businesses? If Western managers have never been exposed to R.O., how would they know what is missing or what to ask for now in future workers, in future managers, or in future education?

Economists currently preach chaos and tumult as freedom, which is acceptable to the business public and those teaching in academia. This is, however, not a form of freedom, although it is a lack of centralized control. As Wilfred Brown (*HBR*, 1962) described, freedom must be designed into the business system - as it has been in law. Despite the dreamers, it does not occur spontaneously or naturally in a market economy or in a hierarchy. Both of these forms give rise to bullies who dominate through fear and pain. Only the bullies are free and everyone else is an underling or victim of their power. The citations for creating a cumulative, scientifically valid business curriculum that embraces freedom are also in this Bibliography.

According to at least one U.S. B-school dean, a broad consensus among deans and corporate executives has recently concluded that the current MBA curriculum is disconnected from the management profession. In large part this is because it remains compartmentalized by academic discipline. Therefore, a "new" MBA curriculum at his school will emphasize entrepreneurialism and the organizational role. While the observation is correct, this proposed "new" MBA would still be devoid of Requisite theory and practice. All MBA faculty must first understand RO both as application and as strategy for any curriculum change to be effective in meeting present business needs. This approach would show business students how to identify a requisite firm, how to get a job, how to develop a career, find a leadership training pipeline, and how to design and administer a business that is profitable. (Yes, it is really that simple.)

Bibliographic Style Issues

The APA Documentation Style is inadequate for many reasons and is in dire need of correction in the presence of the computer and the media. (Similarly, for the MLA and Chicago styles). For example, with the current size 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. Must. There are no exceptions.

Second, citations in texts are often in this abbreviated form: 'Coltheart et al 1993'. This format has been allowed as a valid citation. It actually contains only the last name of the first author and the year. So, in this bibliography I have alphabetized along these same lines: first author and year. (The second and "et al" authors do not influence the alphabetization order. They are invisible to it.)

Third, I have avoided using most abbreviations, such as ampersands (&), because the computer would use them in its searches. Other abbreviations avoided: GE for General Electric, and GM for General Motors, etc. A few corporate nicknames are too common to be useful in searches, so herein are spelled out. Fourth, misprints are included and noted. Once upon a time the data was entered by human keystroke and corrections were possible. Recently, vast amounts of data have been computerized by electronic readers, have errors, and are uncorrected. Also, no corrections after computerization are possible. Therefore, both the correct version and the misprint are included here. (What else can be done?) There are common misprints: Brunei for Brunel, and Jacques for Jaques. Clerks in charge of computers make clerical errors. I stopped trying to make corrections when I realized there was no feedback channel in place to make corrections in the online text. This was a quality issue and a management issue and pointed to a deficiency in each count. (Computer mavens have tried covering these errors through 'cloud computing' – the correct version is "in there" somewhere. But junk is still junk and any misspelling means it will be lost forever. No one looking for it will ever find it. The correction has to be made at entry or it never is made.)

Most bibliographies put the place or city of publication before the publisher's name. I have reversed this order. The old order was helpful to the Mediaeval bookbuyer. Most books were then sold by the printer / publisher who had one stall location with a picture sign, viz.: 'London, St. Paul's Churchyard, at the Sign of the Dove.' This was for illiterate clerks who were sent by their masters to purchase a book – or a cheese – at the sign with a dove on it. Well, today we use this thing called an internet. It is nice to know where the publisher puts his/her foot on this earth for spelling convention and style, but that is no longer how a book itself is located. (In retrospect, I probably should have left this item alone. It was not worth the effort.)

The internet database on which the citation was found should be noted and included. I often failed to do this. A consultant or researcher located in Podunk may have access only to the local library and to the internet. Knowing the database would allow the searcher to locate the electronic version of the article more easily. Some are fairly stable, like PsycARTICLES. But some sites are still being traded and renamed like pieces on a game board, but even this consolidation has slowed. (The title of the journal should be enough to locate its database.)

A general internet search today gives only partial information. In any event, the original information held by a researcher may be fragmentary or incomplete. There is no way for me to

know what any researcher has. Therefore, the bibliographer should include as much information about each citation as possible. For example, the tendency to save space by omitting the issue number (and including only the journal volume and page numbers) is dysfunctional. Some journal websites are organized by volume and issue, then by page. I have included the month wherever possible since we are dealing with both the northern and southern hemispheres – where the seasons are reversed.

I decided to press home this Bibliography now since internet firms have begun to charge fees for access to information, where they earlier dispensed information free to get market share. (This older business model was cracked, but great for researchers. The new model is equally cracked as the rental/ subscription bills will likely bankrupt many non-profit schools and libraries.) Linked to this are technical controls the websites have placed on downloads. A cover story in the *Economist* (9/4-10/2010) touched on this issue, “The Web’s New Walls.”

Recently, some search engines have become so powerful they are dragging in the whole undigested haystack. This is called ‘cloud search’ and results in hundreds of inaccurate semi-hits, where one correct hit would do. A shotgun search versus a rifle search. This largely defeats the purpose and becomes burdensome for the serious researcher. Hopefully, they will fix this to offer the OPTION. (The NYPL restored its ‘classic’ catalogue search engine rather quickly.) Hint: not every change is an improvement nor does it necessarily fit the customer’s needs.

An internet address and a date of access to 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.) Such useless data serves no purpose and is not a help to anyone. CYA only.

Likewise, some ‘databases’ purchased by cash-strapped libraries and schools include citations only, not the article text. Such circular citations are useless to their students and users. Such databases may be less costly but they have no data in them. The content is missing, the content is gone. I suspect this marks the beginning of the end for these libraries and schools. It is the beginning of a downward spiral. Rather than generate equality of information, the internet now adheres to the market model and has become an even greater differentiator based on cash and funding and budgets. The ‘quality cliff’ has been reached.

The APA Style sheet has become positively deranged when it comes to media and audiovisual citations. It asks for movies and TV shows to be alphabetized under the producer’s name. (When was the last time you thought of the producer of a media show?) Early in the movie, *Wag the Dog*, the producer, played by Dustin Hoffman, proclaims, “No one knows what a producer does!” Well, do you? There are no Academy Awards given for producing. The producers rather than the director usually take the award when it is offered for ‘Best Picture.’ Hold it – look at the order I just gave. Isn’t that exactly how people think about and remember media – title, star, director, and finally – if at all – the producer. No one remembers who the producer was. That would be akin to listing a book under the publisher. Only insiders who know the business do that. The APA is just unreal on this and should be ignored.

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 the Columbia University Press “Guide to Online Style” at <http://www.columbia.edu/cu/cup>. See www.apastyle.org for a discussion of these issues and suggestions by the APA. Good luck.

Since *DAI* (US), *theses.com* (UK) and ADT (AU) sell copies of PhD dissertations / theses to the few obscurantists who are interested, the PhDs are being “published.” Almost all the PhDs have bibliographies but scant few contain an Index. But most published books do have an Index. Since word processors can do this, I suggest an index feature be required henceforth for posting a PhD online. This feature would increase their usefulness enormously. [NOTE: The accreditation process in the UK has pushed many universities to post their recent PhD theses online. They can be downloaded for free.]

Further Bibliographic Research

During the development of this Bibliography I came across several other bibliographies worthy of note. The first was a book on “time” by Samuel L. Macey of the University of Victoria in British Columbia. It is totally professional, academically thorough, and had a wonderful introductory essay that clarified many issues for me (and for you, dear reader). [I admit I have cribbed from it shamelessly.] The second was a 1989 dissertation by Anne O. Kilpatrick at Georgia. She analyzed the research on burnout in five bibliographies. Someone else may yet do this type of depth analysis on the contents of this Bibliography. It would prove immensely informative:

Kilpatrick, Anne Osborne, 1986, *Burnout: an empirical assessment of the status and rigor of research*, D.P.A., dissertation in Public and Business Administration, University of Georgia, Athens, GA, 304 pages. (Biblio p. 149-196.) UMI AAT 8613498. *DAI*-47/05, p. 1876, Nov 1986. UGa/GIL Thesis: LXC16 1986 .K48. Unpublished. This dissertation was an analysis of five bibliographies with 661 citations on burnout. She classified them into three categories: research, description, and combined. Some 40 percent of descriptive works suggested ways to prevent or treat burnout. Used three scales to assess the research studies - internal/external validity, methodological rigor, and construct validity. More attention was paid to construct validity in these studies - but there was a positive correlation between the other two indices. Studied professions: teachers, nurses, and social workers. Related to bibliographic studies.

Another meta-study of literature reviews offered a clear and powerful framework for comparing and cumulative analysis of an agglomeration of reviews by their variables. It does not, however, deal with the deeper issues to be found in the alchemy-addicted studies on organization, leadership and management (but I suppose it could include that variable too).

Salipante, Paul, William Notz, and John Bigelow, 1982, "A Matrix Approach to Literature Review," a chapter (p. 321-348) in Staw, Barry M., and L. L. Cummings, eds., 1982, *Research in Organizational Behavior*, Vol. 4, JAI Press, Greenwich, CT. An annual series. Literature reviews are a principal means for extracting knowledge from accumulated studies. This piece was on methodology. They developed a matrix grid of independent and dependent variables from each study in their review. Methods presented were from a major review. (Srivastva, Suresh, Paul Salipante, et al., 1977, *Job Satisfaction and Productivity: an evaluation of policy-related research*, Kent State University Press, Kent, OH, 391 p. [Clio Offsite: HF5549.5.J63 J62 1977] Also see: *ibid*, 1975, *ibid*, Case Western Reserve, Cleveland, OH, 391 p. A lot on STS.) Agreement is not key when pulling together a literature review. Diversity may indicate a type of robustness. (Note: J. E. Hunter proposed a moratorium on the significance test as early as 1979.) See Light, R. J., 1977 and 1979. Clio Biz HD 58.7 .R47

Other examples of fine bibliographic efforts:

Grinyer, Peter H., and Masoud Yasai-Ardekani, 1980, "Dimensions of Organizational Structure: A Critical Replication," *The Academy of Management Journal*, Sept., 23(3):405-421. This is a bibliographic analysis of UK and US studies that supported the Aston and National findings on organizational structure. At St. Andrews in UK.

Davies, Philip H. J., 1996, *The British Secret Services*, Oxford: ABC-Clio, UK. This annotated bibliography is a standard reference source in the field. Dr. Davies is a political sociologist who specialises in the institutional development of national intelligence agencies and communities. With Professor Anthony Glees he set up the Centre for Intelligence and Security Studies (BCISS) in late 2003. Deputy Director and Director of Studies (BCISS). Email: Philip.Davies@Brunel.ac.uk Office: GB132. Direct Line: +44 (0)1895 266827.

Acknowledgements

My thanks to Alison Brause of Austin TX, the late Elliott Jaques and to Kathryn Cason of Gloucester MA, Paul Tremlett, Michel Desjardins and Ginty Burns of Toronto ON, Ken Shepard and Herb Koplowitz of Toronto ON, Nancy Lee of Sarasota FL, Glenn Mehlretter of Raleigh NC, Kelly Allan of Columbus OH, Ken Wright of Niagara-on-the-Lake ON, Kurt Sindelar of Grafton WI, Professor Kenneth T. Jackson of the Columbia University history department and head of the New-York Historical Society, Jim Coen and Jim Galbraith of Columbia University Libraries, Ken Delavigne of Coyote CA, Dan Robertson of CA, Barbara Hoyt of Cincinnati, Ben White of Sydney, and the late Samuel L. Macey of the University of Victoria in British Columbia. My thanks to Sonja Gensler, PhD, of Vrije Universiteit, Amsterdam NL, and Goethe-University Frankfurt DE, for her help with people and materials in Dutch.

The staff of the Inter-Library Loan department (ILL) of Columbia's Butler Library provided yeoman service in this research cause and have my deepest thanks. (Only once did

they fail, when they tried to get classified documents I had requested out of the Pentagon. Thank you.)

Former Dean Jerry Gray of the I. H. Asper Business School at the University of Manitoba, T. Owen Jacobs, former head of the U.S. Army Research Institute (ARI), and Ken Shepard, head of the Global Organization Design Society, went over these essays with the editorial pencil and corrected many errors of fact and tone. I thank them for their patience and fortitude. They have improved these essays greatly.

My special thanks are due to the late Professor John O. Whitney of Columbia Business School, Harvard Business School, and University of St. Thomas, Houston, TX, for being a beacon of civility, good nature, generosity, and an outstanding example of how a business executive and professor should deport himself. For good reason, *Business Week* named him one of the ten best business school professors in the United States.

My special thanks also go to Professor Michael C. Feiner of Columbia Business School, an outstanding teacher, writer, and raconteur, for his great and sustaining generosity. Both of these men have been awarded the annual Singhvi Prize as best teacher at Columbia Business School.

I also owe thanks to Professor and former social science division Dean Brett Silverstein of the City College of New York and to Virginia Warner, assistant to the Dean of Social Sciences at City College, for providing me the means to complete the 5th edition.

I have tried to obtain full citations and ensure against errors. If you discover an error or short-coming, or find any of my annotations misleading, please let me know for the next edition. The internet is expanding all the time and more sources are constantly being added to it. If you find any additional items or sources that should be included, please let me know about them - with your comments.

None of these good people of course is responsible for the results here. The responsibility for any errors is mine alone.

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BIBLIOGRAPHY TOTALS			6 th Edn.		As of: 3-25-14			
(Definitions follow these totals.)								
Academic and Professional -			Peer-Revd.	A- Jrnl Artls	Non-peer Jrnl	Profl Revs	Rep/ Pam	Pop
			/UP.	Level *				
Studies Directly Using R.O. Theory:								
Research-pubd. Rp.	1,181		816	253	55	162	141	7
Ch.	217		13	8				
Bk.	264		39	23				
	1,462							
Critical-pubd. Cr.	67		47	24	2	10	7	1
Ch.	6		0	0				
Bk.	17		0	0				
	90	1,552	16%	308				
PhDs	134			33 <	25%			
In progress	5			~				
MAs	70	209		2				
Subtotal	1,761	915	343	57	172	148	8	
		18%						
Descriptive D.	156		117	19	6	0	24	9
Ch.	61		0	0				
Bk.	80		5	5				
	297	3%						
Book Reviews (sec.)	435		435	99	0	0	~	0
Research-unpubd. Ru.	344						55	
Conference Papers	72							
	851	9%						
Subtotal	1,148	562	123	6	0	79	9	
		12%						
Subtotal	2,909	1,477	466	63	172	227	17	
		30%						
Mainstream (MS) Findings Supporting R.O. Theory (Unintended):								
Research Supt –MS.	1,600		1,295	621	18	229	50	8
Ch.	174		15	14				
Bk.	312		48	45				
	2,086	22%	680					
Related PhDs	271			93 <	34%			
Related MAs	43			4				
Subtotal	2,201	1,356	777	18	229	50	8	
		22%						
Academic Total: ^	5,110	2,833	1,243	81	401	277	25	
		52%						

6th edn. 3-25-14**Current Newspapers & Periodicals:**

(Subject is R.O. theory. Ests. based on the number of pages in each section.)

Newspaper Articles	384 e.	section.
incl. Obituaries		40 ~ [Jaques: 29]
incl. Brdcts, Videos		50 ~
Conferences	405 e.	section.
Websites	24	section. (in Part 1)
Subtotal	813	
		8%
<u>R.O. Total:</u>	5,923	
		60%

6th edn.

As of: 3-25-14

Academic and Professional -

Peer-Revd. A- Non-peer Profl Repl Pop
Jrnl Artls Level Jrnl Revs Pam
/UP. *

Alternative Published Studies:

(Academic: not on the theory but affecting it.)

Alternative Theories	113	86	52	0	20	6	1
Ch.	4	1	1				
Bk.	34	6	5				
	151						
Refutation/Non-Replc of Alt. Theories	374	322	166	0	44	2	6
Ch.	19	0	0				
Bk.	64	13	10				
	457						
Subtotal	608	428	218	0	64	8	7
	6%						

Other Stuff:

(Not on the theory. Business-Academics, Japan, France, Glacier, etc.)

Miscellaneous	1,872 **	1450	512	12	458	116	36
Ch.	292	16	15				
Bk.	639	56	47				
	2,803						
Interesting PhDs	156		~				
Subtotal	2,959	1522	574	12	458	116	36
	30%						

Other Matter:

Lost.	13	12	6	0	0	1	0
Off.	77	71	18	0	5	1	0
Winger ("W.")	231	198	60	2	23	8	0
Broken Cite ("??")	24						
Subtotal	345	281	84	2	28	10	0
	4%						

Not On R.O.: 3,912
 40%

BIBLIO TOTAL: 9,835 ***

2,219 p. II as of 3-25-14 260 p. I. = 2,469 p.

6th Edn. **As of:** 3-25-14

* 'A.' level publications are by definition all included in 'PJ.'

** The computer generated total for 'Misc.' is 3,111. I suspect this higher number contains references to entries, in addition to the entries themselves. [1,872 is 19% of the total entries.]

*** (The computer-generated Grand Total of paragraphs in this Bibliography is slightly over 13,000. Microsoft Word must be using a very different definition of 'paragraph'.)

General Notes: Co-authored items with Jaques or Brown were double-listed under both names but not double-counted. Most PhDs on the theory are briefly listed among the Research Studies but counted separately. The MAs on the theory are listed and counted separately. Only a few of the Related PhDs and Related MAs are listed among the Mainstream Research Support studies. Most of the PhD theses can be obtained through DAI (Digital Dissertations), Index to Theses, or the British Library. This is a form of publication. Most MAs are not published. Many conference papers are published only in conference proceedings (if you can find them). Definitions, explanations and descriptions of these categories follow.

^ ABC Academic Totals:

(These include Rp., Cr., D., and MS. by type of publication.)

Just Three: Direct

Articles	3,004	31%	1,404		
Chapters	456	5%	284		
	3,460		1,688		
Books	673	7%	361		
	4,133	42%	2,049	21%	

3-25-14

BIBLIOGRAPHY TOTALS

Definitions and descriptions for the figures in the Bibliography.

Academic and Professional -

Published Studies Directly Using SST/ RO Theory:

Research-pubd.	These are studies with the purpose to test this theory or parts of the theory and did so successfully. Included action research using social analysis. Articles, books, chapters (ABC: Bk, Ch.). Academic peer-reviewed journal articles (PJ/ NJ) and professional/practitioner journals (Pro). Reports and Pamphlets published by government or non-profit, some pamphlets and some online (Rep./Pam). A few do not cite Jaques but use the same definitions. Rp.
Critical	Studies that tested the theory and were critical of it. Cr.
PhDs MAs	PhDs that set out to test or validate the theory. MAs that did the same.
Descriptive	Studies that described the theory but did not test it. D.
Book Reviews	Reviews of books regarding the theory and reviews about the theory. Some are on alternative theories (q.v.). Book reviews in "A" publications are identified separately. BkRev.
Research-unpubd.	Working papers: university, corporate, consulting, online. (Tip of the iceberg since thousands of these are confidential and/or proprietary.) Ru.
Conference Papers	Unpublished presentation paper or in proceedings only. [See Conferences, listed separately.] Conf. [But I cannot explain this difference.]

MainStream Findings Supporting Jaques' Theory (MS):

Research Support	Mainstream findings that support the theory. Some are 'unexplained,' 'surprising,' or 'unanticipated' findings separate from the hypotheses being tested. Unaware of Jaques, Brown, or the theory. MS.
Related PhDs	Ibid.
Related MAs	Ibid.

Non-Academic -**Current Newspapers, Periodicals, & Ephemeral Media:**

(Subject is Jaques' theory)

News Articles	Descriptive journalistic pieces on Brown, Jaques or the theory. Or by Jaques or Brown, such as letters to the editor. These were of the moment, many on public policy issues. This listing includes Obits and Bcts/Videos. (All are Listed by Date)
Broadcasts, Videos	Items on Jaques, Brown, or the theory. Some training material. Tends to be ephemeral media. Oral and visual.
Websites	Ibid.
Conferences:	All were listed here. Some had 'Proceedings'. [Papers listed separately.]

Alternative Published Studies:

Alternative Theories	Studies of theories that were held up in opposition to this theory during the latter half of the 20 th century. Often adopted. Alt.
Refutation/Non-Replc of Alt. Theories	Studies that refuted or could not replicate the alternative theories, often revealing alchemists, superstitious learning, or fads. Refu.

Other Stuff:

Miscellaneous	Academic background works, on methodology, classics, theory history, and items on quality, Deming, AET, Japan, Worthy, Glacier Metal, etc. Related to business and its development. Works cited by Jaques. The basis for a future business curriculum.
Interesting PhDs	PhDs that may have relevance for the future direction of research on this theory. Purely my guesses. Intriguing ideas.
Lost / Off	They thought they were using the theory but didn't get it. WB & EJ's earliest writings, not on the theory.
Wingers	Reference/ citation stuffers. (Computer generated. Brown or Jaques is among the cited references but I find no evidence of the theory.) W.
Broken Cites ("??")	I am stumped. Not enough good data to categorize or find these items.
TOTAL:	The Subtotals. (Includes Lost, Off, Wingers, and Broken Cites.)

Types of Published Research (Columns) [Rp]:**Peer-Reviewed Journal Articles [PJ]:**

For the most part these journals use a double-blind review process. Proposed articles are stripped of author names and sent out to 2 or 3 reviewers, who are published academics themselves. These studies try hypotheses on different data-sets to see if and how these hold up for statistical methods. These journals are ranked/ grouped as A-level, B-level and C-level. (For A-level see below.) B-level appears to have 6-8 journals in each discipline. C-level may have 8-12 journals. Most journals are quarterly or bimonthly but some are annual. Annuals usually have longer articles in them. Business people usually do not read peer-reviewed journals because the articles are too narrow, too academic, too technical, or simply too irrelevant to address their concerns and needs. (See also UP. Below.)

“A-level” journals [A]:

The top-tier, peer-reviewed academic journals in a field, usually number 3-4, except in economics (10-12) and psychology (8-10). To earn tenure as a professor in elite schools a newly minted doctorate must publish in these first-tier journals, usually at least once a year. Academic disciplines that are journal-driven include: business, operations, marketing, finance, economics, sociology, psychology, anthropology, accounting, and management. Columbia Business School is in the top tier in all these fields so I used its department lists of “A-level” journals (mostly American) and added a handful of top European, Asian and other journals.

Non-Peer Reviewed Journal Articles [NJ]:

These are academic journals which do not select their articles on the basis of a peer-review process. Some are expressions of the editor-in-chief's agenda. Some reflect the sponsoring society or institution. Some serve as outlets to allow their members to get into print. Individual articles may be good, but the publication is not accredited by academics.

Professional Reviews [Pro]:

Professional reviews are not regarded as legitimate journals by academics. The articles often do not have footnotes, nor do they use as many, nor as complex, statistical methods. The issue is that professionals read these reviews and are influenced by them. These review articles have a much greater and more immediate impact on managers than the academic journal articles ever hope to have. Their status is low and academics make it a point not to read these professional reviews except if funding sources have grants for further academic research. However, academics assign

these articles to their business students to expose the students to the issue and start a classroom discussion. Also, many academics cite these professional articles in their research. This schitzo behavior amongst academics probably reflects their internal split over who they are loyal to: business or academia. Top officially non-peer reviewed examples include: *Harvard Business Review*, *California Management Review (UC-Berkeley)*, *MIT/Sloan Management Review* (some), and *Ivey Business Journal (UWO)*.

Chapters (Non-Peer Reviewed & UP.) [Ch]:

Authors may write studies that are too long to ever get into a journal. As a result such long pieces may become chapters in a book. Chapters may be grouped around a topic by the editor of the volume. The status of the collection entirely rests on the reputation of the editor, who may be highly regarded by the academic community. The editor(s) approves and accepts each piece. Some collections are designed as course readers. Some are highly technical, aimed at a practitioner silo, and move the field along.

Books (Non-Peer Reviewed & UP.) [Bk]:

The length of some studies warrant book-length publication. Most books lack a peer review process. Books, being largely free of editorial constraints and standards, are one way to side-step editorial or peer review scrutiny and put forth an author's private and deeply held message. Some books have been widely sold and the authors have started fads. Again, academics have often gone along for the ride. These include: contingency theory, excellence, and high-involvement.

Reports, Pamphlets, Monographs (Non-Peer Reviewed) [Rep., Pam]:

Many studies are published separately as stand-alones. The British do this more than the Americans. Many government publications emerge as reports. Non-profit organizations issue pamphlets. Publishers issue a series of monographs on a topic. The usual cut-off is 100 pages. Longer than this, the publication is regarded as a book. (Also, these have a tendency to be bound by staples and the pages are not sewn together.)

Conference Proceedings [Conf.]:

Some disciplines place their key findings in articles in conference proceedings. These include the more dynamic and emergent fields such as cybernetics, chaos theory, ergonomics, and information technology. Researchers often exchange findings and ideas not through reviewed journals but at conferences. These are held as an 'annual conference' by several discipline organizations, not just one academic organization. The result is 3-4 top conferences with presentations appearing as short articles

(2-10 pages) in the proceedings. These may or may not be “peer reviewed.” And they also may or may not be collected by libraries. Some are very hard to find. Using the old definition, I put most conference papers in their own separate section. (But I may have been wrong.) Conferences are in their own section.

University Presses [UP.]:

Books and anthologies published by university presses go through a peer-review process similar to that of journals. Some universities are elite ("A-level") but all have a peer-review process before publication. Academic respect given to this process is spotty. Some departments consider it acceptable toward tenure, while others do not. I cannot explain this variation.

3-25-14

Ph.D.s ON REQUISITE ORGANIZATION THEORY**Kenneth Craddock**(134, arranged by **date**)**INTRODUCTION**

As of March 2014 one hundred thirty-four dissertations have been earned on Elliott Jaques' requisite organization theory. Twenty-three have been published as books: Blauner, Hoof [in Dutch], Kelly, Child, Richardson, Kvålseth, Rowbottom, Krimpas, De-Haan (2), Borum [orig. in Danish], Dixon, Marsland, Schlemenson [in Spanish], Hughes (2), Stewart, Besser, McGovern, Svennerstal, Joss, Kirsner, Suchy, Leed, Hearn Mackinnon, and Glassop.

At least thirty-nine have been published as articles in peer reviewed journals: Atchison, Bell (3), Kelly (4), Wohlford (2), de-Haan (2), Tiffany (2), Goodman, Ashour, Kvålseth, Downey, Hull (2), Krefting (2), Borum, Carrell (3), Agarwal (3), Gorman, Kriger, Marsland (2), Peterson (2), Gould (2), Starkey, Lublin, Rolfe, Lavery, Besser (2), McGovern, DiPadova, Nir, Vinton, Briers, Densten, Haslop, King, Joss (2), Kirsner, Brause, Shrivastava, and Hearn Mackinnon. One was published on the internet (King). One is being developed into a book (Morgan). An honorary degree was largely based on an already published book (Low 2003, not counted). Another degree was awarded by a non-academic institution that has since gone out of business (Crane 1986, not counted). These two are listed but not counted. [Part II.B.]

I included a dissertation if the author used, validated or extended this theory or else applied its measurement instruments or analytical frameworks in the research section. *A discussion of the theory in the literature review section was not sufficient for inclusion.* Eighty dissertations have been done in the U.S., thirty in the UK, eleven in Australia, four in Canada, two in Israel and Sweden, one each in Holland, France, Denmark, and Argentina. Forty-four universities in the U.S. have awarded degrees, twelve in the UK, eight in Australia, three in Canada, two in Israel and Sweden, and one each in the Netherlands, France, Denmark, and Argentina. (That's 75 schools in ten countries on five continents.)

For quantity of doctorates honors go to - Brunel (UK, 13 +1), George Washington (US, 9), Minnesota (US, 6), Southern California (US, 5), Berkeley (US, 4), London (UK, 4), Cambridge (UK, 3), Harvard (US, 3), Southampton (UK, 2), Toronto (Can., 2), New South Wales (AU, 2), Monash (AU, 2), Deakin (AU, 2), Columbia (US, 2), Michigan (US, 2), Case Western Reserve (US, 3), Regent (US, 2), Penn State (US, 2), Texas (US, 2), George Mason

(US, 2), Indiana (US, 2), Alliant (US, 2), and Kentucky (US, 2). Six degrees were earned at four different universities in Melbourne (AU).

Twenty-five percent - thirty-three doctorates - were earned at seventeen elite universities: Berkeley (Blauner, Cavana, Kvålseth [Kvalseth], Wirth, Charness), Cambridge (Child, Pankhurst 1990, Theocarakis), Chicago (Peterson), Columbia (Gorman, Hull), Cornell (Goodman), Duke (Wohlford), Harvard (Picard, Homa Hunt, Kriger), London (Levicki, Chun, Small, Burnage), Melbourne (Hearn Mackinnon), Michigan (Friedman, Kaboolian), Monash (Allsop, Densten), New South Wales (Briers, Hackman), Northwestern (Osako), Oxford (McGovern), Toronto (Geary, Pankhurst 2003), UCLA (Lavery), and Yale (Bell).

From 1965 to 1970 Jaques was the founding head of a new graduate-level School of Social Science at Brunel University in Uxbridge (West London), U.K. In 1970 he became director of the Brunel Institute for Organization and Social Studies (BIOSS, Bioss) which provided research and consulting services to business, non-profit, and government organizations. Many staff researchers at Bioss were simultaneously pursuing advanced degrees at Brunel University. This sandwich work-study-work arrangement generated many doctoral and master's degrees on requisite theory for over two decades.

A full descriptive list including each PhD on the theory is in Part II.

Findings

Several studies explored time horizon and time span. One parsed the time-span of discretion's length of risk (TSD) from the amount and type of risk borne by the employee, confirming Jaques' definition (Richards). One matched the time horizon of the employee to the time-span of the role and to the time horizon of the manager to measure their impacts on employee satisfaction (Nyberg). One explored the effect of managerial time horizons on organisational performance (Levicki). Another focused on organizational myopia and the managerial requirement for intertemporal choice (Lavery).

Five dissertations focused on the correlation between time-span and hierarchy level (Atchison, Goodman, Kvålseth, Wirth, and Theocarakis) with findings of +0.81, +0.83, +0.93, +0.95, and +0.84. Four others supported these findings (Shively, Nir, Vinton, Popovich). Shively focused on the organizational hierarchy of individual temporal horizons. Nir examined the temporal-horizons of echelons for planning and implementation. Vinton compared the time span findings of Goodman and Jaques, disconfirming Goodman and confirming Jaques.

Six dissertations replicated Jaques' high correlation between time-span of discretion and felt-fair pay (Atchison, Richardson, Krimpas, Gould, Boals, Theocarakis). These TSD:FFP results ranged from +0.84 to +0.95. (Theocarakis also recalculated Krimpas's data and boosted it from the lowest to the highest, from +0.84 to +0.97.) At least two other dissertations (Bishop, Vinton) and two master's (Miller, Bestard) directly supported these findings.

Although several journal articles have been written on the correlation between FFP and Hierarchy Level, with +0.915 average findings, only one dissertation has yet covered it and

looked at the relationship between executive pay and job complexity (Agarwal). **This dimension needs more work.**

Three were directed toward discretion. The first was on the discretion of workers and their alienation from their work (Blauner). Another was on the discretion of team leaders (Haslop). The third was on the significance of learning by experience and Canadian inequalities in opportunities to learn this way (Pankhurst 2003).

Eight dissertations focused on the complexity of information processing (CIP) capability (Bucy, Perlmutter, Mehlretter, Brause, Crawford, Morgan, Visscher, Ivanov). Three dealt with the maturation of these processes (Homa Hunt, Macdonald, King). Two others also linked this maturation with stages of ego development (Stewart, Mehlretter - see also Laske Related). One examined the growth of complexity of information systems and the mismatch to human CIP (Diatlov). Another found that IT software was not infinitely flexible and the limitation was cognitive on the part of the user (Visscher). One found this theory held the process steady enough to make a correct ABC cost determination (Briers).

Four focused on the development of organization design (Rowbottom, Borum, Dixon, Kirsner). One discovered six decision making (managerial) levels in organizations (Kriger). One critically observed the organizational arrangements of this task approach at Glacier (Kelly). One tested the reasons for the level of discretion a manager assigned and found it was based on subordinate's level of capability not the manager's personality (Ashour).

The perception of environmental uncertainty in contingency theory [Lawrence and Lorsch] was found really to be related to individual cognitive processes (Downey). Another PhD examined the differences in problem definition and knowledge creation between an academic discipline and consultancy work (Norton [Dodd]). Two studied CRA management's strategies toward human relations policies (Hearn Mackinnon, Lynch). Three dealt with the implications of the theory for labor economics (Krimpas, Kate Pankhurst, Theocarakis). Two dealt with the issue of accidents and accountability for unanticipated events impacting worker safety on high-reliability oil rigs (Winston) and high-reliability organizations (Compton). This also involved matching the employee to the right job.

At least, six used Jaques' social analysis method to explore professionalism and its impact on government organizations (Cavana, Rowbottom, D.C. Anderson, Marsland, Øvretveit [Øvretveit], Byford). Two of these used Jaques' social analysis method to beset political rivals and elect a new British government (D.C. Anderson, Marsland). One used social analysis as a method for invention in a French rural milieu (Dubost).

Four explored Gillian Stamp's related application method, career path appreciation (CPA) (Bishop, Perlmutter, Suchy, Goldman). One documented the adoption of Wilfred Brown's design for works councils in a firm (Cliffe). One examined leader development problems in a requisite organization (Leed). Another explored leader behavior complexity in a

requisite organization (Bullis). One evaluated strategic leader cognitive development in distance learning methods (MCPA) (Myers). One adapted the requisite hierarchical structure to implement TQM (Joss). One examined how successful Swedish managers viewed their own executive development (Svennerstal).

One explored *kairos* as a form of vacation home ownership by the English in France. It was not vacation as a form of time succession (break from the routine) but the home was experienced as an immersion in another time, another culture, a form of renewed intention. This was an exploration of a human expression of *Form of Time* (Chaplin).

Research for academic degrees has been done in 12 countries. In addition to the ten countries where PhDs have been awarded, two more can be counted as scope for the cultural diversity where this theory has been examined. One at Oxford was on multi-national firms in the Republic of Ireland (McGovern). Yet another at Cambridge was done on a Greek oil refinery (Theocarakis). In addition, a Brunel UK thesis was on Ontario district health councils in Canada (Dixon). (Since then, several PhDs have been completed in Canada.) Another was on Argentine entrepreneurs (Schlemenson). (Since then a Ph.D. has been completed in Buenos Aires (Popovich).) Chaplin's was on British living in France but one had already been done in Paris (Dubost). Johnston did his in Australia on a worldwide voluntary organization. He was then head of Oxfam New Zealand and immediately became head of Oxfam International in the UK. Of course, Suchy's was done on art museums internationally but that is an entirely different country. (Masters theses have been done in three more countries - South Africa, New Zealand, and India.)

But "time-span of discretion" (TSD) has had some disconfirmatory findings. William L. McGee (1984) found a low correlation between TSD and FFP in public school administration (+0.314). However, two other studies on school administration directly contradict McGee. They are by G. J. Bestard (master's thesis, 1997) and by Derek J. Alison and Grace Morfitt (article, 1996). Nir's thesis supported both Bestard, and Alison and Morfitt on temporal-horizon in education administration. McGee may have misunderstood the definition of TSD, misapplied the instrument, or encountered true chaos as defined by Jaques. This study probably suffered from a combination of all three. (See Cameron and Theocarakis for similar findings and a different explanation.)

Impacts

Three off-shoots of this theory were established in economics. The first was by Hilde Behrend, Professor of Industrial Relations at Edinburgh, and in sociology/economics by Wilhelm Baldamus at Birmingham in 1957. Jaques, however, was not cited in either case. Behrend's "effort-wage bargain" and Baldamus' "efficiency wage theory" have generated many related studies and articles. At least eleven dissertations have been done on variations of Behrend's concept, mostly in the 1990s, and three are included here (Kaboolian, Small, Charness). None of these dissertations cited Jaques or used his terms for this theory. Five contemporaries pointed out the connections between Behrend's and Baldamus' studies and Jaques' work. Several articles were written on these concepts in the 1980s by George Akerlof and by Joseph Stiglitz, who shared the 2001 Nobel Prize in economics. The second, by Harvey Leibenstein (1966), also

used Jaques' concepts (1961) to develop his "X-efficiency" theory to explain managerial failure to reach the production frontier, but omitted any citations of Jaques while using his terms and even his acronyms. (Leibenstein also examined Japanese organizational effectiveness in the 1980s and contrasted this with the ineffectiveness of organizations in the West.) The third, "scale of operations effect" by Mayer (1960) explained the disparity between the normal distribution of abilities in the population and the skewed distribution of income in organizations and cited Jaques (1956) as his empirical evidence. (See Theocarakis PhD 1990 on the difficulty of obtaining data in support of this income-related concept.)

The academic subjects have ranged widely –

business administration (45), economics (6), psychology (28), sociology/social administration (23), other administration (24), education (13), industrial relations (10), Information Technology/ Information Systems (7); political science (4), industrial engineering (4), nursing (3), library science (2) and more. Several others were done on health related topics, on entrepreneurship and on organizational transformation. Unfortunately, of these 134 PhDs only forty-five were in business administration or management, where the theory can be put to use most directly for the benefit of people and organizations. Five of the ten done between 1962 and 1969 were in business; five in the 1970s and five in the 1980s were on business. Only in the 1990s did the number increase in business. I suspect this pattern was largely due to Jaques' loss of credibility in the late 1960s.

The wide variety of topic areas found among these studies is a double-edged sword. One reason Jaques' theory has not received the attention it deserves from managers and academics is due to its having been applied in so many areas - the private sector, the public/government sector, and in non-profit. From this perspective, the theory has been scattered. On the other hand, time-span allows many types of organizations and the people in them to be studied while revealing insights and relationships which could not be gained in any other way. This variety reinforces time-span as a genuine measurement instrument.

Some Limitations

Some of these dissertations actively researched the theory but did not use the definitions and terms developed by Jaques. One was unclear about the definition of "time-span of discretion" and its methodology (Goodman). [See below.] Three attempted to measure time span as part of a basket of other measures (Picard, Lublin, Wiswell). Two focused on "discretion" but used a problematic definition of it (Bell, Rolfe). Bell also examined the predictability of the work as a requirement for discretion. Two used Jaques' social analysis to help confirm someone else's theory (Øvretveit [Ovretveit], Byford). Two used a variant of the theory developed by Alan Fox, an Oxford don (Starkey, McGovern). Another used a variant developed by Lotte Bailyn at MIT (Haslop). One used the social analysis methodology from Glacier while referencing Brown, and Rowbottom and Billis, but not Jaques (Cavana). Two examined Robert Quinn's competing values framework through the theory (Bullis, DiPadova). One reviewed the Glacier Theory as part of a comprehensive criticism of British management

thought (Child). One used an aspect of organization theory that Jaques has since **withdrawn**, i.e., organization as a social defense against anxiety (Angelo).

I have not seen several of the following dissertations and have based their inclusion here on the descriptions in their abstracts. Until these dissertations are read they must be considered tentative candidates: Picard (1964), Shively (1966), Kaboolian (1990), Small (1995), and Charness (1996). Also, Rolfe's (1987) thesis may be less connected to the theory than was the article (1986) that came out of it. Two others, Lublin (1986) and Wiswell (1987), are tenuous. (I have not seen the bibliographies of these PhDs, so their bibliographic contents are not yet included in this Bibliography.)

About ten years usually has passed after Jaques developed a new concept until a dissertation was done on the new concept. This delay may be partly due to Jaques' prescriptive writing style and his reliance on inductive logic. Yet, Jaques worked within scientific method and thus was able to point to where data could be found to validate his logical extensions of the theory. (It took the rest of us a while to catch up to him. Note that many of his concepts have not yet been tested.) Jaques also changed his mind. From time to time he went down theoretical blind alleys, then backtracked and abandoned parts of his earlier writings. His writing style throughout remained assured, even pontifical. This can be confusing and infuriating for others. Yet the scientific issue is - Did he develop a testable theory?

Jaques' Theory: Not Testable?

Most of these dissertations have been examinations and surveys of current, non-requisite organizations to find empirical evidence of Jaques' theory. These organizations were not using the theory. Yet at least five studies were on consulting interventions and active installations of the theory. At least six others have been empirical examinations of the theory already in place.

A storm broke over this theory in the late 1960s. Several academic observers objected that it was not valid because it was not testable. Professor T. T. Paterson at Strathclyde claimed it was not practical and urged his student, Joe Kelly, to go into Glacier's Kilmarnock plant in Scotland to examine and expose the 'reality' of the theory. But Kelly's 1966 thesis revealed it worked and in a utilitarian way. A few years later Krimpas incorporated Glacier Metal data into his analysis of labour inputs (1973).

During the 1970s BioSS was deeply involved in consulting to the public sector, using action research methodology on the restructuring of the British National Health Service, the Social Services Department, and in the reorganization of the Church of England. This work generated numerous theses at Brunel University. Rowbottom's 1972 thesis documented the intervention in the NHS. Stamp's 1981 PhD described her work with the Church of England, as Allsop's 1996 PhD did with his in the Australian Anglican Church. Similar individual consulting interventions were described in Dixon 1982 (Ontario district health councils), Cliffe 1984 (works councils), Schlemenson 1984 (Argentinian entrepreneurs), and Joss 1998 (NHS). Action research involves implementing the theory at an organization, analyzing the situation before, during and after the intervention, and documenting it. (See Ovretviet MPhil 1984 on action research itself. Carter, MA 2000, was an action implementation.) Dubost 1973 set forth

his attempts to use action research in France. Other works since by him bring these efforts to the present.

A series of health-related reports, called the Centre Eight Papers, were published in the UK in the *Health and Social Service Journal* intermittently beginning Sept. 1977. They covered a myriad of areas over the next several years, of which the most salient for this theory was Health Administration. A Royal Commission was then looking into the operations of the NHS with an eye toward identifying and curing its ills. On Oct. 25, 1975, the *HSSJ* called for the resignation of the Minister in charge of the NHS. [A parliamentary election came about in Fall 1979. Margaret Thatcher was elected Prime Minister by the Conservative party in that election. Brown was incapacitated. Jaques left the UK in 1980 for projects in AU and the US.]

In contrast, many North American PhDs are ‘empirical’ and examine the current situation through surveys, experiments and statistical analysis. This comparatively passive approach largely holds true even on this theory. (Passivity is not objectivity. The two are not the same.)

Theory In Place

Whilst Bross’s work was influential at the structural level of the social services department, it was less successfully applied at the detail level. In 1988 Øvretveit (Ovretveit) brought further practical changes to one local social service agency. Byford did his thesis in 1994 on the same social work agency as Øvretveit. Thus, both Øvretveit and Byford were successive examinations of the theory in place. Other empirical studies of the theory in place include: Briers 1997, Hearn Mackinnon 2003, and Lynch 2004 at Comalco/ CRA/ RTZ/ Rio Tinto; Kelly 1966 at Glacier Metal; and Bullis 1992, Leed 2000, and Myers 2007 on the U.S. Army. Another in place examination was Jaques and Cason 1994, *Human Capability*, which examined the capability of employees at two organizations, one US and the other Australian (a penny for your guess). Pirnie and Gardiner’s 1996 RAND study, *An Objectives-Based Approach to Military Campaign Analysis*, described the meso-level analytical, planning and strategy method they discovered in the U.S. military. (They did not mention Jaques.) Lastly, we find the use of ABC accounting to find the true information aggregation level (and cost) in Briers 1997. R.O. theory in place held the process steady enough to make the ABC cost determination possible.

If we look at Jaques’ and others’ works through this same classification, *The Changing Culture of a Factory* (1951) was the description of an intervention. Jaques’ 1961 book, *Equitable Payment*, would have to be included as a description of the theory then in place at Glacier Metal. His 1976 magnum opus, *A General Theory of Bureaucracy*, mostly covered the theory at both Glacier and the two large BROSS public clients in the UK, NHS and Social Services. Jaques’ 1989 book, *Requisite Organization*, was on the theory as developed during installations at CRA in Australia and the US Army in the 1980s.

Oddly, there has been an ‘after’ without a ‘before.’ When Toyota built an auto plant in the US it chose a ‘greenfields’ site in Kentucky. They used Jaques’ model of management

hierarchy, operational rules from the Glacier Metal works committee, and it worked with US employees. But there was no 'before' (Besser 1991, 1996).

So far, there has not been a controlled before-and-after study of the theory. Given the nature of a living business that has to make a profit and stay in motion to get new revenue, this may not be possible. Lab experiments, particularly using college students as most of them do, leave much to be desired as valid studies of adult managers, knowledge workers, and organizations beyond Stratum I. These limitations hold true for every organization theory, not just this one (Sashkin and Williams 1990).

Armchair Analysis: John Child

In the U.K. John Child reviewed the history of British management thought and identified key shortcomings (Ph.D. 1967, published 1969). Since Child's whole thesis was a literature review (he seems to have read nearly everything), his treatment of the Glacier Theory was an integral part of the research. During the 1950s and 1960s many British social scientists had alleged most management thinkers were contaminated by a bias toward management. Child pointed out this nullified any claim to objectivity or science. Taylor's 'scientific management' had been revealed to rely upon subjective judgment and was "incorporating managerial ideology under the guise of science." Child did recognize the uniqueness of the studies at Glacier but lumped them in with the pro-management group because they stressed "managerial authority and hierarchy." He dismissed them with the rest. He feared Jaques' scheme was as prone to managerial manipulation as Elton Mayo's works had been. Also, Brown and Jaques had generalized from a single company that might be unique. (Child was unaware the theory had already been adopted by several other firms in the UK, in the US, and in India.)

Child summarized the criticisms leveled at the Glacier research in a powerful way that centered on its methodology (1969:197-203). He saw the equitable payment scale as unproven theory [despite several other PhDs]. He observed the piece-rate payment system had been abolished to increase executive control. He felt the theory "ignored the [legitimate] grounds for conflict between managers and other social groups." He felt the 'clinical' method of investigation blocked the comparative methods used in social science that allowed critics "to examine the validity of data and the strength of [statistical] associations." Thus, this method forced others to take Jaques' word for reported events. In Child's eyes, the Glacier studies also lacked any "comprehensive statistical reporting." "In short, the methodology ... is suspect."

In reality, Child was not looking at surveys but at the adaption of psychoanalytical technique to social analysis, a tool he had not seen before. He was right about this process not being testable by statistical method. But the validity of its insights could be tested in the real world. Jaques made "if-then" predictions from the theory and data could be sought to validate the predictions. Is the predicted data there? Is it found to be in the predicted direction and magnitude? What did other theories predict this data would look like? (Gordon 1969) Jaques was also asking a different set of questions: What arrangement of task-role-pay and role relationships does the worker need to enable him/her to focus his/her full attention on the work? This indeed was a very different approach to research from the "measuring sand dunes" (my term) 'empirical' surveys that were – and still are - used widely in social science research.

Child's dismissal of the Glacier work came once he placed it in the context of his comprehensive review of the literature of the field. Yet, by his own rule, Child should have known of the other published British academic studies, criticisms and tests of the theory - Clegg 1961, Fogarty 1961, 1963a, 1963b, Johnstone 1962, Brech 1965, Routh 1965, Fox 1966, Hickson 1966, and Kelly 1964, 1965, 1966. (Clegg was pontifically dismissive; Fox was negative, but reversed himself beginning in 1971; the rest were positive, even rhapsodic.) Child also ignored the published U.S. academic research on this British theory - Landsberger 1961, Strauss 1962, Evan 1963 and 1965, Kolaja *et al.* 1963, Lawler and Porter 1963, Wright 1964 (Australia), Kuethe and Levenson 1964, Koontz 1964, Urwick 1965 (Australia), Turner and Lawrence 1965, Bell 1965, 1966, 1967a, 1967b, Atchison and French 1967, Greiner 1967, Goodman 1967, and Hicks and Goronzy 1967. (All these U.S. studies supported the theory except the last two, which were reversed by their authors in the 1970s.) But Child cited none of them, even though most were in top tier academic journals and named Jaques. He also failed to cite any of the published Dutch research on the theory. (Wijnberg 1965, Lammers 1967. Thierry 1969 was critical but may have been published too late.) He also omitted the research in France/Belgium by Bolle de Bal.

Child looked only at the writings of Jaques and Brown, did his own analysis of them, and surmised that the theory was biased and untestable. (This was the reverse of Lammers' 1967 *AJS* article which was published within months of Child finishing his PhD but years before it was published.)

'Empirical' Rhetoric: Paul S. Goodman

Perhaps the greatest problem area has been with the early work of Paul S. Goodman. [Please note: this is *not* the humanist of the same name, but a professor of management.] Goodman claimed his Cornell dissertation (1966) was not on Jaques, yet he immediately published an article claiming his data was an "empirical examination of Jaques" that had disconfirmed Jaques' concept of "time span" (1967). Goodman claimed to have measured "time span" concepts in his research section and then published his low results (+0.10, +0.20). These correlations ostensibly were between "time span" and "organization level." But neither side of this correlation corresponded to Jaques' terms. Goodman used entirely different definitions and measures. Even so, some of Goodman's findings strongly confirmed Jaques' theory.

First, great confusion has emerged whenever "time-span of discretion" (TSD) was confounded with "future time preference/ orientation" (FTP/ FTO), a psychological concept. In reality, Goodman tested "time preference" concepts (TE, TVO) yet claimed these different ideas were substantially the same as Jaques' "time span concept". They were not the same at all.

Second, Goodman avoided claiming that he was testing Jaques' key concept, "time-span of discretion" by **never** using this exact phrase to describe what he was testing.

Theocarakis 1990 noted, "It is clear from Goodman's article that he had not made a fair test of Jaques' method."

Third, four dissertations and three studies have tested Goodman's claimed relationship between TSD and organization level (Atchison, Kvålseth, Wirth, Vinton) (Hansen 1973, 1974, 1975). All failed to replicate his low results. Each confirmed Jaques' strong correlation. Average: +0.87. (In a footnote, when Goodman changed his definition of "organization level" to correspond to Jaques' definition, he reported much stronger results (+0.75, +0.91). But he then dismissed these as "adjusted results.")

Fourth, six dissertations and three studies have replicated Jaques' TSD:FFP correlation with strong results (Atchison, Richardson, Krimpas, Gould, Boals, Theocarakis) (Jaques 1969, Goodman and Miller 1973, Mahoney 1979, Carraher & Chait 1999). Average: +0.89.

In sum, Goodman's claim - to have disconfirmed Jaques' "time span" concept - has not been replicated despite multiple attempts to do so. His study was not designed to test any of Jaques' concepts (TSD, FFP or Strata) and did not gather the data appropriate to do so (Bishop). Goodman's claimed low correlations have generated multiple difficulties and confusions in the minds of academics regarding the validity of Jaques' findings. His article greatly undermined Jaques' credibility and has distracted other researchers into spending years of work attempting to replicate its dubious findings. In 1973 Goodman quietly abandoned his findings (see *ASQ* book review by Goodman and Miller).

It is important to note that Jaques did - finally - publish the original results of his work at Glacier Metal. He referred to them briefly and vaguely in late 1969. George Krimpas' book in 1975 (on which Miller worked) contained Jaques' original findings. Please note a limitation: this was not a random sample but a research sample of those he had examined to determine their time-span of discretion and their felt-fair pay (TSD:FFP). Jaques' original correlation was +0.94.

Harvard's Contingency Theory

Harvard Business School sponsored at least seven PhDs in the 1960s that competed with the intellectual initiative from the British - Burns and Stalker, Woodward, Brown, and Jaques (Vaill 2001; Zaleznick and Moment 1964: vii). The programme of the Glacier Institute of Management (GIM) was a sharply different model of management education from that of HBS. It was based on a testable theory. The business school syllabus developed by Brown and Jaques in 1964 further delineated this divergence. HBR published articles on both sides of the issue. William Foote Whyte saw Jaques' stream of research tied to Zaleznick and Moment (1969).

Homa Hunt's PhD was on the theory, while the other Harvard PhDs used it in a variety of ways. These PhDs were retained at HBS and used to generate a number of books, articles, cases, etc. HBS achieved its victory in 1967 through the publication of Lawrence and Lorsch's book and articles on contingency theory. HBS's 1959 dominance over other U.S. B-school models was reaffirmed. Most important, the empirical case method of teaching business at the MBA-

level and the HBS case clearinghouse were sustained. (The adequacy of the case method in recent years has come under question, especially by Henry Minzberg. But that discussion is for the 21st century.)

Newly Discovered Ph.D.s

The eleven doctorates identified between the second and third editions of this bibliography (9/02-5/04) were: Agarwal 1975, Allsop 1996, Ashour 1970, Cliffe 1984, Joss 1998, Kriger 1983, Leed 2000, Levicki 1983, Lynch 2004, Starkey 1985/86, and Stewart 1989.

Thirteen PhDs were added to the fourth edition in 2006. Three PhDs were discovered between the third and fourth editions: Richards 1978, Nieves 1997, and Suchy 1998. A review of the Related PhDs revealed that four were actually on the theory and were reclassified: Blauner 1962, Bullis 1992, Laverty 1993, and Haslop 1997. In addition, six new PhDs were done between the two editions: Nyberg 2004, Crawford 2005, Diatlov 2005, Morgan 2005, Clarke 2005, and Ivanov 2006.

The fifth edition has added ten PhDs in 2009. Svennerstal 1996 was upgraded from related status and was the first of the Swedish theses. Dubost 1973 was discovered (French). Ken Pankhurst 2003 was the first dissertation of the Canadians. Densten 1997 and Johnston 2008 were both from Australia. Three Americans Krefting 1974, Carrell 1976, and Peterson 1983 were found. Three others were recent graduates: Glassop 2007, Myers 2007, Winston 2007. Ramiz 1982 which had been on the theory was reclassified as Related. [p. 1204 of 1-2Crad-Bib5-II-Biblio_2xxxxxx-save dated 5-10-2011. 90 PhDs reported in the 5th edition – but the real count was 91 PhDs.]

The sixth edition in 2014 has added 42 PhDs. Nine were upgraded from ‘related’ or ‘interesting’ status: (Weiner 1977 - UMin US; Friedman 1984 –UMich elite US; Besser 1991 – UKY US; Briers 1997 –UNSW elite AU); (Hull 1977 - Columbia elite US; Fleit 2008 – SUNY Stony Brook US; Solan 2008 - Regent US; Mora-Whitehurst 2009 - Barry US; Swofford 2009 - George Washington US.) [Lynch was moved from 2004 to 2011.] 33 doctorates were new. Newly discovered 17 (by date): Hoof, JAP 1963 – Radboud Universiteit Nijmegen, NL; Wohlford 1964 – Duke elite US; Shepard 1968, Michigan State US; Osako 1973, NWU elite US; de-Haan 1975 – Technion-IIT Israel; Tiffany 1977 - Indiana US; Gorman 1982 - Columbia elite US; Hansburg 1988, Temple US; Hughes 1989, Liverpool-John Moores UK; Hackman 1990, UNSW AU; Mu, DP 1993, USC US; Barnard 1997, McGill Can.; Geary 2000, Toronto elite Can.; Rapp, R. 2002, Webster US (Not in DAI.); Bebb, S. 2004 – Alliant US; Grady 2005 GWU US; Lupson 2007, Cranfield UK. Some 16 were completed since the last edition: Compton 2008, GWU US; Girczyc, 2008 La Verne US; Horn, ZNJ. 2008 GMU US; Shrivastava 2008, Swinburne, AU; Thurgood 2008, Capella US; Lindbergh 2009 unpub. Capella US; Lynall 2009 UWO Can.; McElroy 2009, Fielding Graduate US; Atalla 2010 Capella US; Bassarab 2010 Alliant Intl. US; Seidel 2010 Indiana US; Amsteus 2011, Linnaeus Sweden; Campbell 2011 Union Inst. US; Cunningham 2012, Capella US; Joseph 2011 Phoenix US; Weis, E. 2012 GMU US.

There are several oddments. Roger R. Crane submitted a paper to Kennedy-Western University as a doctoral thesis in 1986. KWU, however, is not an accredited degree-granting academic institution. KWU was not responsive to queries. (See elsewhere in both parts of this Bibliography for descriptions and comments.) The difficulty is that peer-reviewed articles were later published on Crane's extension of the theory and it was used by consultants worldwide during the 1990s as a basis of re-engineering methodology. An accredited doctorate was also earned using its concepts (Nieves 1997). Crane died in 1992. [KWU changed its name to Warren National University – WNU – in Wyoming in 2006 and then went out of business.] So where does this leave us? (I count Crane's thesis as an unpublished research paper on the theory – which I have not seen.)

Also, an honorary Doctor of Law (LLD) was awarded in 2003 by Queen's University of Kingston, ON, Canada, to Albert Low for his 1976 book on this theory. (Wilfred Brown was awarded some three honorary doctorates.)

Supporting Theses: 'Related' and 'Interesting'

A second separate 'Related' list includes Ph.D. and Master's theses with independent findings that supported or augmented the theory in some way or covered the theory in the literature review section. Some of these 'Related' theses may be reclassified as being directly on the theory, such as: J. C. McDonald 1958, J. W. Lorsch 1964, and Bradford 1998. The following also closely supported elements of the theory: Daltrey, 1982, Jennings 1985, Hirsch 1988, Paradissopoulos 1989, Introna 1992, Fotini-Paradissopoulos 1993, Kelleher 1993, Thoms 1994, Halliday 1996, P. Dawson 1997, Walters 1997, Bechky 1999, Vainiomäki 1999, and Piskorski 2001. (Since it is my call, these are listed as Related.)

There is a third list of 'Interesting' dissertations that shed some unusual and different views on these concepts and may indicate potential routes for future research. Several researchers say they have found stimulation here. (Some in this list are my own idiosyncratic choices.) Many French and Indian theses are listed among the Interesting simply because as yet I do not have enough data to classify them accurately elsewhere.

Sources and Keywords

Most of the US abstracts were found on the Digital Dissertations internet database of DAI (online). A few dissertations are not available or are available only through the school and they are noted. DAI does not have on-line abstracts of dissertations completed prior to 1980 but title, school, date and author are listed for all US dissertations back to 1861. The earlier ones were obtained from Dissertation Abstracts International (DAI) hardcopy. DAI covers most U.S. schools, plus some Canadian, Australian, British and European schools. Many dissertations were listed at ADD, which provides very limited information. Several U.S. schools have not allowed their dissertations to circulate, including Harvard, Chicago, and USC. Picard and Homa Hunt provided their own Harvard abstracts.

Many of the dissertations in the UK and Ireland were located through "Index to Theses" at *theses.com*. (I am guessing about 75 percent of UK Ph.D.s were listed each year in this

database. Until 2004 this UK data base terminated at 1970 - no data before then.) The classification system was by thesis topic and not by the academic discipline of the faculty. In 2004 *theses.com* was revised to go back to 1716, to include many additional theses, to include many abstracts not formerly included (totaling 460,000), and the search engine was upgraded. (Great Job! Way to go!) A large number of PhDs were found in the Brunel Library Catalogue. (Some UK abstracts describe the research process but not the thesis findings, which renders them nearly useless for the purpose of this Bibliography.) Australia has a centralized listing of its PhD abstracts, Australian Digital Theses (ADT), but inclusion is not yet complete. The theses in Argentina, Sweden, Denmark, France, Holland, and Israel came mostly through personal contacts.

During its development Jaques' theory has gone by several names (time-span of discretion, equitable payment, the Glacier Project, stratified systems theory, work levels theory, requisite organization, etc.) and has used different key terminologies. It was considered part of 'equity theory' in the 1960s. Terms of art for this theory were used as **keywords** in various combinations for the dissertation on-line database searches. (English and American variants in spelling were both explored.) These included: Elliott Jaques (var: Elliot Jacques, etc.), time span (time-span), discretion, task, goal, felt fair pay (felt-fair pay), equitable pay, actual pay, time horizon, capacity, capability, rank theory, level of work, work levels, work measurement, job complexity, discretionary content, cognitive complexity, mental complexity, level of mental processing, information processing, judgment (judgement), intention, intent, time, accountability, responsibility, leadership, managerial leadership practices, mutual recognition, organizational (organisational) effectiveness, social analysis, strata, multilevel organization, stratified systems theory, generative, manifest/ extant/ assumed/ requisite/ organization, level of responsibility, RAEW, and levels of responsibility. Also used were related terms: Glacier project, Lord Wilfred Brown, Melanie Klein, social defence, anxiety, Gillian Stamp, career path appreciation, joint consultation, works council, Brunel, Bioss, David Billis, healthy organisation, clinical sociology. Only two Ph.D.s had "Jaques" in the title and one had "Glacier."

The "effort-wage bargain" poses a difficult problem. The keywords to be used herein include Behrend, Baldamas, the effort-wage bargain, wage-work bargain, wage rigidity, the architecture of economic systems, fairness as a constraint, agency theory, unmeasured ability, segmented labor markets, the internal labor market, efficiency-wage theory, and gift exchange. George Akerlof wrote the most about this topic in the 1980s (some with Janet Yellen, Chair of the US Federal Reserve from 2013) but probably has not heard of Jaques. Joseph Stiglitz also wrote on the topic. Two other economic theories, "X-efficiency" and "scale-of-operations" effect, have far fewer keyword connections but are directly related to this theory.

The Doctoral Students

About a quarter of the doctoral students have been returnees to academia after a decade or more experience in a post-college career. These included Picard 1964, Schlemenson 1984, Lublin 1986, Bishop 1989, Macdonald 1990, Perlmutter 1990, Samaras 1993, Mehlretter 1995, King 1997, Kirsner 1998, Suchy 1998, Popovich 2002, Hearn Mackinnon 2003, Lynch 2004,

and Nyberg 2004. Several students were in their 40s. Several already have taught at the university level (Kirsner, Chaplin, Popovich). Several worked in CRA, a firm that adopted this theory in Australia (Macdonald, Hearn Mackinnon, Lynch). One had a previous doctorate (Samaras). Many of those at Brunel were in the study-work-study sandwich program with Bioss, which took a bit longer to complete but included consulting and research experience. One worked at Kogan's Centre for the Evaluation of Public Policy and Practice at Brunel (Joss).

The average age at graduation on this theory would appear to be about 34-36 rather than 26-28 for traditional Ph.D. candidates. This age difference means many of these students likely were at a higher level of capability than the average twenty-something doctoral student. (That is, at Stratum III-IV rather than II-III.) It should come as no surprise then that many chose business or consulting over academic careers. And many who stayed in academia went on to pursue careers in academic administration. This has not been only due to the theory, which gives them a boost, but some of these choices have been due to the increased capability levels of the individuals.

The Future of this Research

The continuing and even increasing number of theses means increased life for the RO approach. New questions are being asked and researched. I suspect they will lead soon to a new round of publications.

Even so, I confess to being troubled by the lack of cross-references between the dissertations that have so far been done on this theory. I can see this omission in their bibliographies. *This suggests their findings and questions were only accidentally being built in a cumulative manner and the research was not being woven together so methodologies were developed and cumulatively improved.* This became another motive for my development of this Bibliography.

If all of the works on the theory were placed together - so all the findings could be seen with one sweep of the eye - how much better would it be for replications and extensions? Wouldn't the gaps become clearer for prospective researchers? But, most important, we are facing a shift in focus: from justification of the theory to exploring the difficulties, the strengths and weaknesses of the theory as it is installed. It is a change from theory to practice. Many theses and dissertations tread the same ground, repeating each other, while the real need is to carefully replicate aspects of the theory. The need changed as the theory gained new adherents and adaptations. Now that hundreds of firms are known to have tried it, there are hundreds of possible study sites, thousands of people to interview, and scores of new questions to ask. Above all, we still haven't had a full before-and-after study of the changes this theory brings about - and the net impact of the changes. The 'Management Theory Jungle' has to be swept aside rather than defended against. The question shifts from whether it will work and whether it is worth the risk, to how well it works and under what circumstances it works best. What must management do and the employees do, and in what order?

Several students are currently enrolled in doctoral programs pursuing studies on four continents. (A list follows the dissertations.) Many of the early dissertations were published as

articles and books. But this has tapered off, largely due I think to the enormous volume of dissertations that are now awarded each year. Thus, candidates must consider their topics carefully. This means the research question must be considered at the beginning from the perspective of its eventual publication audience. (“Must!” - It is a cruel world out there.)

I am certain there are a few more theses and dissertations as yet undiscovered. Other countries that look promising for further searches (probably by someone else) include Australia, The Netherlands, Belgium, India (e.g. Ahmedabad), South Africa, Japan, Finland, Sweden, Denmark, Norway, New Zealand, and Canada. Soon Brasil and Russia will join the list. (If *you* become aware of any additional Ph.D.s, would you send me an email with the abstract and bibliography? I would be happy to include them here.)

Jaques’ 1951 Harvard dissertation is in Part I.A. (below).

###

3-25-14

Ph.D.s ON ELLIOTT JAQUES' ORGANIZATION THEORY

PhDs by Year, Alpha within Year.

1962-2012

PhDs By Decade

1962-1969	13
1970-1979	19
1980-1989	24
1990-1999	35
2000-2009	34
2010- 2012~	9

Total:	134

1960s:

Blauner, Robert (Bob), 1962
 Hoof, Josephus Adrianus Petrus van, 1963
 Picard, Laurent Augustin, 1964
 Wohlford, Paul Frederick, 1964
 Atchison, Thomas Joseph, 1965
 Bell, Gerald D., 1965
 Kelly, Joe, 1966
 Goodman, Paul Samuel, 1966
 Shively, Stanley Edward, 1966
 Child, John, 1967
 Homa Hunt, Edna Beatrice, 1967
 Shepard, Jon Max, 1968
 Richardson, Roy, 1969

1970s:

Ashour, Ahmed Sakr, 1970
 Cavana, Gordon Raymond, 1971
 Kvålseth, Tarald Oddvar, 1971
 Rowbottom, Ralph, 1972
 Dubost, Jean, 1973
 Krimpas, George Elias, 1973
 Osako, Masako Murakami, 1973
 Downey, H. (Howard) Kirk, 1974
 Krefting, Linda Ann, 1974
 Agarwal, Naresh Chand, 1975

de-Haan, Uzi, 1975
Borum, Finn, 1976
Carrell, Michael Robert, 1976
Wirth, Itzhak, 1976
Anderson, Digby Carter, 1977
Hull, Frank Montgomery, Jr., 1977
Tiffany, Constance Helena, 1977
Weiner, Nanette Joan, 1977
Richards, Roy Martin, Jr., 1978

1980s:

Stamp, Gillian Penelope, 1981
Burnage, Anne Bernadette, 1982
Dixon, F. Maureen, 1982
Gorman, Sheila Ann, 1982
Kriger, Mark Phillip, 1983
Levicki, Cyril Jeffrey, 1983
Marsland, David, 1983
Peterson, Kent D., 1983
Cliffe, John, 1984
Friedman, Stewart David, 1984
Gould, Donald Porter, 1984
McGee, William Lawrence, 1984
Schlemenson, Aldo Eduardo, 1984
Boals, David Michael, 1985
Starkey, Kenneth P., 1985/86
 Crane, Roger R., 1986. (not counted)
Lublin, Stuart, 1986
Rolfe, Heather Kathryn, 1987
Wiswell, Albert Knute, 1987
Hansburg, Freda Kelner, 1988
Øvretveit, John Arne, 1988
Bishop, Wilsie Sue, 1989
Bucy, J. (John) Flynn, 1989
Hughes, William Paul, 1989
Stewart, Steven Richard, 1989

1990s:

Hackman, Beverly Katarina, 1990
Kaboolian, Linda, 1990
Macdonald, Ian, 1990

Pankhurst, Kate, 1990
Perlmutter, Sybil, 1990
Theocarakis, Nicholas J., 1990
Besser, Terry Lee, 1991
Bullis, R. (Richard) Craig, 1992
Chun, Ki-Jeong, 1992
Lavery, Kevin Joseph, 1993
McGovern, Patrick Gerard, 1993
Mu, Dan Ping, 1993
Samaras, George Michael, 1993
Byford, Ian MacDonald Aubrey, 1994
DiPadova, Laurie Newman, 1995
Mehlretter, Glenn William, Jr., 1995
Nir, Adam E., 1995
Norton, Joanna Dodd, 1995 [Riddick. Fitzgerald.]
Small, Ian Christopher, 1995
Vinton, Donna Elizabeth, 1995
Allsop, Ian E., 1996
Charness, Gary Burton, 1996
Svennerstal, Hakan, 1996
Angelo, Nancy Heath, 1997
Barnard, Geoffrey Alan, 1997
Briers, Michael, 1997
Densten, Iain Leonard, 1997
Haslop, Dennis, 1997
King, Sandra West, 1997
Nieves, Jose Manuel, 1997
Hemman, Eileen Ann, 1998
Joss, Richard, 1998
Kirsner, Douglas Alan, 1998
Suchy, Sherene, 1998
Goldman, Loren Lee, 1999

2000s:

Brause, Alison, 2000
Chaplin, Davina Mary, 2000
Geary, Susan Elizabeth, 2000
Leed, Maren, 2000
Popovich, Maria **Raquel**, 2002
Rapp, Randy Roland, 2002
Hearn Mackinnon, Bruce William, 2003
Low, Albert, 2003, *Doctor of Laws, **honoris causa***
Pankhurst, Ken V., 2003
Bebb, Sheri S., 2004

Nyberg, Beverly J., 2004
Clarke, Janine L., 2005
Crawford, Douglas B., 2005
Diatlov, Vladimir V., 2005
Grady, Victoria Marie, 2005
Morgan, John Howard, 2005
Visscher, Bart-Floris, 2005
Ivanov, Sergey, 2006
Glassop, Linda, 2007
Lupson, Jonathan M., 2007
Myers, Susan R., 2007
Winston, Edmund W., III, 2007
Compton, David S., 2008
Fleit, Shelley Arrian, 2008
Girczyc, Patricia A., 2008
Horn, Zachary N. J. (Nathan Joshua), 2008
Johnston, Keith Norman, 2008
Shrivastava, Samir, 2008
Solan, Ann M., 2008
Thurgood, Keith L., 2008
Lindbergh, Lori B., 2009
Lynall, Matthew D., 2009
McElroy, Richard Lee, 2009
Mora-Whitehurst, Rina, 2009
Swofford, D. Milynn, 2009

2010s:

Atalla, Adam D., 2010
Bassarab, Christine, 2010
Seidle, Brett, 2010
Amstéus, Martin Nils, 2011
Campbell, Edgar E., 2011
Joseph, Ronald G., 2011
Lynch, Ronald Paul, 2011
Cunningham, Glenn K., 2012
Weis, Eric J., 2012

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3-25-14**Ph.D.s ON ELLIOTT JAQUES' ORGANIZATION THEORY**

PhDs Alphabetical Listing
1962-2012

PhDs By Decade

1962-1969	13
1970-1979	19
1980-1989	24
1990-1999	35
2000-2009	34
2010- 2012~	9

Total: -----
134

Agarwal, N., 1975	*
Allsop, I., 1996	*
Amsteus, Martin Nils, 2011	new
Anderson, D. C., 1977	*
Angelo, N. H., 1997	*
Ashour, A. S., 1970 [aka Ashur, A. S.]	*
Atalla, Adam D., 2010	new
Atchison, T. J., 1965	*
Barnard, Geoffrey Alan, 1997	new
Bassarab, Christine, 2010	new
Bebb, Sheri S., 2004	new
Bell, G. D., 1965	*
Besser, T. L., 1991	upgraded
Bishop, W. S., 1989	*
Blauner, R., 1962	*
Boals, D. M., 1985	*
Borum, F., 1976	*
Brause, A., 2000	*
Briers, M., 1997	upgraded
Bucy, J. F., 1989	*
Bullis, R. C., 1992	*
Burnage, Anne Bernadette, 1982	new
Byford, I. M. A., 1994	*
Campbell, Edgar E., 2011	new
Carrell, M. R., 1976	*
Cavana, G. R., 1971	*

Chaplin, D. M., 2000	*	
Charness, G. B., 1996	*	
Child, J., 1967	*	
Chun, K-J., 1992	*	
Clarke, J. L., 2005	*	
Cliffe, J., 1984	*	
Compton, David S., 2008	new	
Crane, Roger R., 1986 (not counted)		#
Crawford, D. B., 2005	*	
Cunningham, Glenn K., 2012	new	
de-Haan, Uzi, 1975	new	
Densten, I. L., 1997	*	
Diatlov, V. V., 2005	*	
DiPadova, L. N., 1995	*	
Dixon, F. M., 1982	*	
[Dodd], see Norton - - -	-	
Downey, H. K., 1974	*	
Dubost, J., 1973	*	
Fleit, S. A., 2008	upgraded	
Friedman, S. D., 1984	upgraded	
Geary, Susan Elizabeth, 2000	new	
Girczyc, Patricia A., 2008	new	
Glassop, L. I., 2007	*	
Goldman, L. L., 1999	*	
Goodman, P. S., 1966	*	
Gorman, Sheila Ann, 1982	new	
Gould, D. P., 1984	*	
Grady, Victoria Marie, 2005	new	
Hackman, Beverly Katarina, 1990	new	
Hansburg, Freda Kelner, 1988	new	
Haslop, D., 1997	*	
Hearn Mackinnon, B. W., 2003	*	
Hemman, E. A., 1998	*	
Homa Hunt, E., 1967	*	
Hoof, Josephus Adrianus Petrus van, 1963	new	
Horn, Zachary N. J. (Nathan Joshua), 2008	new	
Hughes, William Paul, 1989	new	
Hull, F. M., Jr. 1977	upgraded	

Ivanov, S., 2006	*
Johnston, K. N., 2008	new
Joseph, Ronald G., 2011	new
Joss, R., 1998	*
Kaboolian, L., 1990	*
Kelly, J., 1966	*
King, S. W., 1997	*
Kirsner, D., 1998	*
Krefting, L. A., 1974	*
Kruger, M. P., 1983	*
Krimpas, G., 1973	*
Kvålseth, [Kvalseth], T. O., 1971	*
Laverty, K. J., 1993	*
Leed, M., 2000	*
Levicki, C. J., 1983	*
Lindbergh, Lori B., 2009	new
Low, Albert, 2003, <i>honoris causa</i> (not counted)	#
Lublin, S., 1986	*
Lupson, Jonathan M., 2007	new
Lynch, P., 2004	*
Lynall, Matthew D., 2009	new
Macdonald, I., 1990	*
Marsland, D., 1983	*
McElroy, Richard Lee, 2009	new
McGee, W. L., 1984	*
McGovern, P. G., 1993	*
Mehltretter, G. W., 1995	*
Mora-Whitehurst, R., 2009	upgraded
Morgan, J. H., 2005	*
Mu, Dan Ping, 1993	new
Myers, S. R., 2007	*
Nieves, J. M., 1997	**
Nir, A. E., 1995	*
Norton, J. Dodd , 1994 (1995)	*
[Riddick. Fitzgerald.]	
Nyberg, B. J., 2004	*
Osako, Masako Murakami, 1973	new
Øvretveit, (Ovretveit), J. A., 1988	*
Pankhurst, Kate, 1990	*
Pankhurst, Ken V., 2003	*

Perlmutter, S., 1990	*
Peterson, K. D., 1983	*
Picard, L. A., 1964	*
Popovich, M. R., 2002	*
Rapp, Randy Roland, 2002	new
Richards, R. M., 1978	*
Richardson, R., 1969	*
Rolfe, H. K., 1987	*
Rowbottom, R., 1972	*
Samaras, G., 1993	*
Schlemenson, A. E., 1984	*
Seidle, Brett, 2010	new
Shepard, Jon Max, 1968	new
Shively, S., 1966	*
Shrivastava, Samir, 2008	new
Small, I. C., 1995	*
Solan, A. M., 2008, US	upgraded
Stamp, G. P., 1981	*
Starkey, K. P., 1985/86	*
Stewart, S. R., 1989	*
Suchy, S., 1998	*
Svennerstal, Hakan, 1996	*
Swofford, D. M., 2009	upgraded
Theocarakis, Nicholas J., 1990	*
Thurgood, Keith L., 2008	new
Tiffany, Constance Helena, 1977	new
Vinton, D., 1995	*
Visser, B-F., 2005	*
Weiner, N. J., 1977	upgraded
Weis, Eric J., 2012	new
Winston, E. W., 2007	*
Wirth, I., 1976	*
Wiswell, A. K., 1987	*
Wohlford, Paul Frederick, 1964	new

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3-25-14

Ph.D. TOPICS (over 100%, multiple counts)*Business Administration:* (53) [All but those noted were in private sector.]

Agarwal, 1975

Amsteus, 2011

Ashour, 1970

Atchison, 1965

(mix: government and private)

Bassarab, 2010

Bebb, 2004

Borum, 1976

Briers, 1997

accounting (ABC)

Bullis, R. C., 1992

(leader behavior, military)

Campbell, 2011

Carrell, 1976

Child, 1967

(intellectual history)

Compton, 2008

Densten, 1997

(Policing)

DiPadova, 1995

Downey, 1974

Eary, 2000

Grady, 2005

Hackman, 1990

Hansburg, 1988

Haslop, D., 1997

Discretion

Hearn Mackinnon, 2003

Homa Hunt, 1967

Horn, 2008

Hughes, 1989

Surveying, Real Estate, Construction (UK)

Ivanov, 2006

Kelly, 1966

King, 1997

Kriger, 1983

Laverty, K. J., 1993

Levicki, 1983

Lynall, 2009

McGovern, 1993

Mehltretter, 1995

Nyberg, 2004

(Non-profit social service agency)

Perlmutter, 1990

Picard, 1964

Popovich, 2002

Rapp, 2002

Richards, 1978

Samaras, 1993

(theory)

Shrivastava, 2008
 Stewart, 1989
 Svennerstal, 1996
 Swofford, 2009
 Thurgood, 2008
 Vinton, 1995
 Winston, 2007
 Wiswell, 1987

(state academic)
 (Oil refinery)

Other Administration: (26)

Allsop, 1996	Anglican Church (AU)
Atalla, 2010	Non-profit
Bell, 1965	Community Hospital
Boals, 1985	Library (Public)
Borum, 1976	Hospital
Cunningham, 2012	
DiPadova, 1995	Public Administration
Dixon, 1982	Health (Local Government)
Goldman, 1999	Public (Local Government)
Gould, 1984	Library (Academic)
Hemman, 1998	Hospital
Johnston, 2008	Environmental
Joseph, 2011	USAF
Joss, 1998	Public, NHS, UK
Kirsner, 1998	Psychoanalytic Institutes (Voluntary Assoc.)
Lupson, 2007	
McGee, W. L., 1984	Education (Local Government)
Mora-Whitehurst, 2009	
Morgan, J. H., 2005	Church, religious.
Mu, 1993	
Nir, 1995	Education Administration
Peterson, 1983	Education Admin.
Rowbottom, 1972	Hospital (Public and Private) ???
Seidel, 2010	
Stamp, 1981	Church of England
Suchy, 1998	Museum Administration (Arts)

Economics: (6)

Amsteus, 2010	
Barnard, 1997	
Bell, 1965	(Community Hospital)

Charness, 1996	(Experiments)
Krimpas, 1973	(Companies, Local Authority)
Levicki, 1983	
Pankhurst, Kate, 1990	
Theocarakis, 1990	(Oil refinery)

Education: (14)

Bebb	
Brause, 2000	(government)
Cavana, 1971	(Local Government)
Geary, 2001	
McGee, W. L., 1984	(Local Government)
Mora-Whitehurst, 2009	
Myers, 2007	
Nir, 1995	Central Ministry
Pankhurst, Ken V., 2003	
Peterson, 1983	
Solan, 2008	
Swofford, 2009	
Vinton, 1995	(state academic)
Wiswell, 1987	

Industrial Engineering: (4)

De-Haan, 1975	Private
Grady, 2005	
Kvålseth, 1971	(Private and Government))
Wirth, 1976	(Private)

Industrial Relations: (10)

Agarwal, 1975	US
Besser, 1991	US/JN
Cliffe, 1984	UK
Hearn Mackinnon, 2003	AU
Kaboolian, 1990	US
Krefting, 1974	US
Lynch, 2011	AU
Osaka, 1973	US/JN
Richardson, 1969	US
Small, 1995	UK

Information Technology/ Information Systems: (8)
[formerly - Statistics/ Decision Analysis/ Computers]

Bebb, 2004
 Campbell, 2011
 Chun, 1992
 Diatlov, 2005
 Lindbergh, 2009
 Lynall, 2009
 Nieves, 1997
 Visscher, 2005

*Library Science: (2) **

Boals, 1985	(Public)
Gould, 1984	(Academic)

Nursing, Health Science: (6)

Angelo, 1997	(Aids hospice)
Bell, 1965	Hospitals, Discretion
Bishop, 1989	
Gorman, 1982	Nursing, Discretion
Hemman, 1998	(all types)
Tiffany, 1977	Nursing, Discretion

Political Science: (4)

Brause, 2000	[Government]
Hull, 1977	
Leed, 2000	[Military]
Nir, 1995	Political control of education.

Psychology: (24)

Angelo, 1997	hospices
Bassarab, 2010	
Bullis, R. C., 1992	leader behavior, military
Bucy, 1989	
Charness, 1996	Experiments
Crawford, 2005	Home care industry
Dubost, 1973	
Friedman, 1984	Executive Succession

Goodman, 1966	private firm
Hackman, 1990	
Hansburg, 1988	
Horn, 2008	
Kirsner, 1998	psychoanalytical institutes
Lindbergh, 2009	
Lublin, 1986	
Macdonald, 1990	
McElroy, 2009	
Mehltretter, 1995	
Perlmutter, 1990	
Richardson, 1969	(private firm)
Stewart, 1989	
Vinton, 1995	(state academic)
Weiner, 1977	
Weis, 2012	
Wohlford, 1964	TAT test and time.

Sociology/ Social Administration: (24)

Anderson, D.C., 1977	(Government) UK
Bell, 1965	(Community Hospital) US
Blauner, R., 1962	Private, alienation (US)
Byford, 1994	(Government) UK
Chaplin, 2000	(Leisure) UK/France
Cliffe, 1984	(Works councils) UK
DiPadova, 1995	(State agencies) US
Fleit, 2008	Hospital Social Work US
Girczyc, 2008	US
Goldman, 1999	(Local Government) US
Hoof, 1963	NL
Joss, 1998	NHS, UK
Kaboolian, 1990	Ford, auto manufacturing US
King, 1997	(Private, Family) US
Marsland, 1983	(Government) UK
McGovern, 1993	(Multinational firms) Ireland
Norton [Dodd], 1994 (1995)	(Academia, Consultancies) UK
Øvretveit, [Øvretveit], 1988	(Government) UK
Rolfe, 1987	UK
Schlemenson, 1984	(Private, Entrepreneurial) AR
Shively, 1966	US
Stamp, 1981	(Church, Non-Profit) UK
Starkey, 1986	(Public Professionals) UK

3-25-14**Ph.D.s ON JAQUES' ORGANIZATION THEORY**

	# DEGREES	# SCHOOLS
United States	81	44
United Kingdom	30	12
Australia	11	8
Canada	4	3
Israel	2	2
Sweden	2	2
Argentina	1	1
Denmark	1	1
France	1	1
Netherlands	<u>1</u>	<u>1</u>
Totals:	134	75

Ten countries.
Five continents.

* Two Brunel PhDs were done on organizations in other countries: Canada, and Argentina. One at Lancaster was on the British living in France. One at Cambridge was done in the Republic of Ireland. An Oxford PhD was done on an organization in Greece.

Note: Masters degrees have also been earned in New Zealand, South Africa, and India.

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Ph.D.s ON JAKES' ORGANIZATION THEORY - SCHOOLS 3-25-14

Alliant Intl. (Cal., US)	2
Argentina de la Empresa (UADE) (Buenos Aires, AR)	1 *
Aston (UK)	1
Australian National (ANU, Canberra, AU)	1
Barry (US)	1
Berkeley (Cal.)	4
Brunel (West London, UK)	13
California School of Professional Psychology (LA)	1
Cambridge (UK)	3 *
Capella (US)	4
Case Western Reserve	2 *
Chicago	1
Columbia	2
Copenhagen Business School (DK)	1 *
Cornell	1
Cranfield (UK)	1
Deakin (Melbourne, AU)	2
Duke	1
Fielding Graduate U. (US)	1
George Mason (US)	2
George Washington (DC, US)	9 * *
Georgia	1 *
Harvard	3 * * *
Hebrew U. (Jerusalem, Israel)	1
Henley (UK, Brunel)	1 *
Indiana	2
Iowa (Iowa City)	1 *
James Cook (Cairns, Qld, AU)	1 *
Kentucky	2 *
La Verne (Cal., US)	1
Lancaster (UK)	1
Linnaeus (Sweden)	1
Liverpool-John Moores (UK)	1
London (LSE, LBS, and QMW) (UK)	4 *
McGill (Can.)	1
Melbourne (AU)	1 *
Michigan	2
Michigan State (US)	1
Minnesota	6 *
Monash (Melbourne, AU)	2 *
New South Wales (UNSW, Sydney, AU)	2

Northwestern	1
North Carolina State	1 *
Oxford (UK)	1 *
Paris 10, Nanterre (FR)	1
Penn State	2 *
Phoenix (US)	1
Pittsburgh	1
Portsmouth (UK)	1
Radboud Universiteit Nijmegen (a public university, formerly Katholieke Universiteit te Nijmegen) (NL)	1
Rand Graduate School (US)	1
Regent (US)	3
Seattle University	1
Southampton U. (UK)	2
Southern California (USC)	5
Southern Illinois University (SIU)	1 *
State University of New York (SUNY, Albany)	1 *
State University of New York (SUNY, Buffalo)	1
State University of New York (SUNY, Stony Brook)	1
Stockholms Universitet (Sweden)	1
Strathclyde (Glasgow, UK)	1 *
Swinburn, U. T. (AU)	1
Technion-IIT (Israel)	1
Temple (US)	1
Texas (Austin)	2 *
Texas Tech	1 *
Toronto (Can.)	2
Union Institute (US)	1
UCLA	1 *
Walden (US)	1 *
Washington (Seattle)	1 *
Webster (US)	1
Western Ontario (UWO, Can.)	1
Western Sydney – Nepean (AU)	1
Yale	1
Total Ph.D.s:	<hr/> 134

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Ph.D.s ON JAKUES' ORGANIZATION THEORY
(134, by multiple *academic descriptors*, over 100%)

Business Administration, Management Sciences, Industrial Administration.	45	
Other Administration:	24	
Public (7), Church (3), Hospital (4), Vol. Assoc. (4), Library (2), Community Medicine (2), Education (2).		
Economics (Labor)	7	
Education -	14	
Adult and Continuing (8), General (2). [Administration (3)]		
Industrial Engineering	4	
Industrial Relations	10	
Information Technology/ Information Systems	7	
Library Science (Plus a master's)	2	
Nursing, Health Science	3 *	
Political Science	4	
Psychology - (23)	27	
Industrial (8 *), Developmental & Cognitive (14), Social (4), Personality (3), Psychometrics (2).		
Sociology/ Social Administration - (20)	23	
Sociology (13), Social Administration (8), Social Studies (1), Social Work (3).		
Total Count:	170	[1.27 each]

* Includes Angelo. Statistics, Decision Analysis, Computing Science was moved into IT/IS. Over 100% because many are cross-disciplinary.

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Ph.D.s ON REQUISITE CONCEPTS**Management Related Theory:**

Social Analysis (1951-1965): 1967 - 1994	10	All but one cited Jaques.
Time-Span of Discretion - Felt-Fair Pay - Stratified Systems - Requisite Organization - (1956-2002): 1964 - 2005	85	All but two cited Jaques.
Works Councils (Brown 1960)	1	Cliffe.
RAEW (Brown 1971, 1960)	1	Nieves.
The Form of Time (1982): 1995 & 2000	3	Nir, Chaplin, Lpson.
Human Capability, Mental Complexity (1994), Information Processing, Levels of Abstraction (1978): 1978 - 2008	30	All cited Jaques
Evolution and Learning (2002): 2007	2	Cited Jaques. Glassop, Grady.
Organization as a Defense Against Anxiety (1953-55, 1974) [withdrawn]: 1997	1	Cited Jaques. Psychology. Angelo.

TOTAL:	134	

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Ph.D.s ON JAQUES' CONCEPTS
(arranged by concept)

The Changing Culture of a Factory (1951)	110 e.	(UMI, theses)
Psycho-Analysis (1950s)	2	(UMI) (many more)
Death and the Midlife Crisis (1965)	66	(UMI, theses - ?)
Social Analysis (1951-1965)	10	
Time-Span of Discretion - Felt-Fair Pay - Stratified Systems - Requisite Organization - (1956-2005)	85	
Works Councils (Brown 1960)	1	(stet)
RAEW (Brown 1971, 1960)	1	
The Form of Time (1982)	3	
Human Capability - Mental Complexity - Information Processing, Levels of Abstraction (1978-2008)	30	
Evolution and Learning (2002)	2	
Organization as a Defense Against Anxiety (1953-55, 1974) [withdrawn]:	1	

Organization Theory:	134	(UMI, theses)
=====		
TOTAL Ph.D. CITATIONS:	313	(est.)

(This is a rough count of the theses generated by the concepts of Elliott Jaques. In his 1951 book he created the concept of corporate culture. This book remained in print until the topic took off in the mid-1970s. I estimate 110 PhDs then cited Jaques before he was forgotten. The midlife crisis has also generated many PhDs. His contributions to psychoanalysis fall into the Kleinian camp, are most important in the UK, and are far more than the two counted here. But this is what the computer finds.

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Data Source: UMI Dissertation Database OnLine.

UK Index to Theses: theses.com

Ph.D.s ON JAKES' ORGANIZATION THEORY*(by Business-Related Topic)***SUGGESTED KEYWORDS***(not in any order)*

Management Practices
Transformational Leadership
Executive Selection
Strategic Intent
Project Management / Heidegger

Hierarchy
Entrepreneurship
Venture Capital
Family-Owned Business
Organizational Transformation

Work Discretion / Alienation
Personal Effectiveness Appraisal
Work Recognition
Mentoring
Equitable Pay

Pay Differentials
Recruitment
Cognitive Complexity
Succession
Talent Pool Development

High-Stress Organizations
Joint Ventures/ Alliances
Mergers & Acquisitions
Authority and Responsibility
Accountability and Feedback

Business Excellence
Continual Improvement
Ego Development
Rigidity of wages
Equity/ Equity theory

Behavioral Complexity
Social Analysis
Stratified Systems
Organization Design
Organization Performance

Learning Practices
Management Sciences
Industrial Administration
Computing Science & Technology
Management Theory

Quality of Labour
Control of Knowledge Workers
Adult Training and Education
Employee Development
Ethics/ Ethical Reasoning

Social Administration
Community Medicine
Ethnography
Con-Scripting Organisms (sic)
Temporal Horizons / Intertemporal Choice

Voluntary Associations / Environmental
Community Hospital
Authoritarian Groups (with a leader)
Competing Values (R. Quinn)
Job Content

Power-Strategy Change
Perceived Environmental Uncertainty
Coaching
Works Councils
Decision Making Levels

British management thought	Assigned Level of Discretion
Public Administration / School Administration	Professional Discretion
Internal wage structure/ Internal labor market	Museum Administration (Arts)
Efficiency Wage Theory	TQM
Strategy	Market Window / Marketing
Executive Recruitment	Hyper-Growth
Level of Work	Job Complexity
Job Evaluation	Work Strata Selection
Effort bargain	Effort-wage bargains
Sequential effort-wage bargaining (also, work-wage)	

JAQUES' EDUCATION CREDENTIALS

Jaques' Degrees:

Jaques, Elliott Louis, 1937, B.A., University of Toronto, Toronto, Ontario. Per University Archives, Fisher Rare Book Library, University of Toronto, Toronto, ON. 416-978-5344. [see Elliott L. Jacobs (b. 1913, typo?)]. U of T confirmed 2-6-02. EJ confirmed 1-29-03.

Jaques, Elliott Louis, 1938, "The Concept of Insight in Kohler's *Gestalt Psychology*," M.A., thesis in Department of Psychology, September 1938, University of Toronto, Toronto, Ontario. Per University Archives, Fisher Rare Book Library, U. Toronto, Toronto, ON. 416-978-5344. U of T confirmed 2-6-02. [Kohler, Wolfgang, 1929, *Gestalt Psychology*, Liveright, NY, NY]

Jaques, Elliott, 1941, M.D. degree awarded to Elliott Jaques on June 3, 1941 per Johns Hopkins Medical School registrar. Verified 10-19-00. Telephone: 410-955-3080.

Jaques, Elliott Louis, 1951, *The Changing Culture of a Factory*, Ph.D., dissertation in General Psychology (Social Relations), Harvard University, Cambridge, MA. Harvard Thesis Depository Archives HU 90.5982.5. Published as *The Changing Culture of a Factory*, Tavistock Publications, London, U.K., 1951 and Dryden Press, New York, NY, 1952. Not available from UMI. [UMI AAG 0274524 (?)] ADD W1951, p. 130. Jaques' Harvard dissertation is listed in UMI for 1951 and the published book is on deposit in Harvard's dissertation archive as the dissertation. Jaques was Rantoul Fellow at Harvard, 1941-42. Introduced anthropology concepts, including "corporate culture," into organization studies. Described the impact of managerial innovations on the culture. A key innovation was his methodology, Social Analysis, a process of "working through" organizational issues with the aid of a social analyst. Others at Tavistock also used this method or variants of it. [Abstract not available on-line. See book introduction for abstract.] (A member of the Academy of Management and a visiting research professor at The George Washington University in DC. Other early works on culture in businesses were by Philip Selznick 1957 and James Abegglen 1958.)

No other dissertations listed in UMI were done on culture in a business, company, factory or corporation between 1951 and 1978. Then, starting in 1980 there were many hundreds of dissertations in UMI that responded to a search on corporate culture. A count of 392 in 2005 represents a subset that deals with the changing of a culture in a business. Those done in the 1980s often cited Jaques' book. By the 1990s this had changed and the dissertations tended to cite works from the 1980s. My best-guess estimate is that one-quarter of the subset cited Jaques. These total about 100 dissertations. In the UK database theses.com I found an additional 38 theses on culture in corporation/ company/ firm/ business/ factory. However, they could not be easily examined by date, so I used the same estimate as for the UMI database. Let us count 10 UK theses.

Elliott Jaques' own Harvard dissertation (1951) might be considered to be 'Related' since it laid the groundwork for the emergence of his organization theory a few years later. It covered the development of social analysis, authority, accountability, the managerial accountability hierarchy (MAH), works councils, and many other elements.

Jaques, Elliott, 1965, "Death and the Midlife Crisis." (Paper read 1965. Article published 1965)

No dissertations in UMI were done on the midlife crisis between 1965 and 1975. Between 1976 and 2000 sixty-six were done. Most of these were in psychology. All cite Jaques' midlife crisis article. I could find none in the UK database *theses.com*. This is not believable. It may be a function of the database or my inexperience with it. Also, in the U.K., psychiatry is not certified by a Ph.D. degree.

Jaques, Elliott, 2000, Designacion del Dr. Elliott Jaques como Profesor Emeritus de la Universidad de Buenos Aires. Conferencias: Dr. Carlos Silvani, Dr. Aldo Schlemenson, Dr. Francisco Suarez, y Dr. Carlos Anibal de Grossi. 17 de abril de 2000. Buenos Aires, Argentina. Tambien, Elliott was appointed honorary professor at Universidad del Salvador (1998).

DISSERTATIONS ON JAKES' CONTRIBUTION TO PSYCHOLOGY

The following dissertations are not related to Elliott Jaques' organization theory but cited his work in psychology and psycho-analysis. Three are described here but are not included with the tallies elsewhere. (Two did not get the spelling of his name correct.) There are many more than these.

Serkin, Emily Jane, 1980, *Personality Development in Highly Educated Women in the Years Eighteen to Forty-Five*, Ph.D., Psychology, The Wright Institute, Berkeley, CA. Not Available from UMI. DAI-B 42/02, p. 752, Aug 1981. Focus on the development of personality in women during the early adult years up to and including the midlife crisis. "Elliot Jacques."

Feak, Marcus David, 1995, *Aspects of a Kleinian Life Span Psychology (Aging)*, Ed.D., dissertation in Developmental Psychology and General Literature, University of Toronto (Canada), Toronto, ON, Canada, 153 pages. Adviser: Otto Weininger. UMI: AAT NN02895. DAI-B 56/12, p. 7062, Jun 1996. ISBN 0-612-02895-X. Partly on the midlife crisis. "Eliot Jaques."

Flack, William Frederick, Jr., 1993, *Emotions in Schizophrenia*, Ph.D., dissertation in Clinical and Social Psychology, Clark University, Worcester, MA, 218 pages. Advisor: James D. Laird. UMI AAT 9323639. DAI-B 54/04, p. 2197, Oct 1993. (MA Thesis at Wesleyan University, Middleton, CT, 1987, under Daniel R. Miller.) See Jaques and Miller 1970; Miller and Jaques 1988.

(Angelo, 1997, was in psychology but also included organizations.)

(Hambleton, 2001, Hertfordshire, was on Jaques 1955 and also on the NHS in UK: withdrawn.
See Hebe Comerford)

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Data Source: UMI Dissertation Database OnLine

UK's theses.com was not included here.

New Books on R.O. in 2013

The following nine books were scheduled for publication in 2013. Those that I was able to locate are in the bibliography.

Capelle, Ronald G., 2013, *Optimizing Organization Design: A Proven Approach to Enhance Financial Performance, Customer Satisfaction and Employee Engagement*, Jossey-Bass, San Francisco, Cal., 496 p. Cases. Published in November 2013. Rp. Bk.

Clement, Stephen D., and Christopher R. Clement, 2013, *It's All About Work, organizing your company to get work done*, not yet seen. Forthcoming. Rp. Bk.

Connor, Russell John, 2013, *It's About Time, creating sustainable organizations that promote trust-inducing behaviour*, not yet seen. Rp. Bk.
(In now – dupe. See this on Amazon. Date 2012 ?)

Connor, Russell John, 2013, *The Future is Imagined*, not yet seen. Forthcoming. Rp. Bk.

Forrest, Nick, 2013, *How Dare You Manage? Seven Principles to Close the CEO Skills Gap*, BPS Books, Toronto & New York. Not yet seen. To be published November 2013. Rp. Bk.

Lee, Nancy R., 2013, *The Practice of Managerial Leadership*, not yet seen. Forthcoming. Rp. Bk.

Mackenzie, Fred, 2013, *7 Paths to Managerial Leadership*, not yet seen. Forthcoming. Rp. Bk.

Reilly, George, 2013, *Finding Our Way, from the past to the present in personal growth*, not yet seen. Forthcoming. Rp. Bk.

Trainor, Norm, 2013, *The Entrepreneurial Journey, a handbook for building your business*, not yet seen. Forthcoming. Rp. Bk.

In addition, a revised edition of Whitney's 1993/1994 book is due out in April 2014:

Whitney, John O., and Miguel Martinez-Zavala, 2014, *The New Economics of Trust*, Beard Books, Beard Group Inc., c. 235 p.+

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**SUSTAINED RESEARCH AT ACADEMIC INSTITUTIONS
ON REQUISITE THEORY**
(By Dates)

Institution	Country	<u>YEARS</u>	Departments
Birmingham	UK	1956-1961	Economics, Sociology
Edinburgh *	UK	1957-1970~	Sociology, Economics
Wales (Cardiff) *	UK	1959-1965	Industrial Relations (Fogarty)
UC-Berkeley	US	1961-1976	Indl. Sociology & Indl. Engrg.
U. Libre de Bruxelles	Belgium	1962-1966~	Sociology (Bolle de Bal)
Harvard U. (HBS)	US	1962-1968	Business (per Vaill & Zaleznik)
Nottingham *	UK	1962-1977~ 1990s-Present	Chemical Engrg., Social Science Business
Buenos Aires (et al.)*	AR	1962-Present	Psychology, Business, Sociology
Southern Illinois U.	US	1963-1971, 1989	Business (MA-only then), Council for Analysis of Organizl Structure
Strathclyde (Glasgow)	UK	1963-1972	Sociology (T.T. Paterson)
Washington (Seattle)	US	1963-1970s	Business, Sociology
Cal State San Diego	US	1964-1985	Business & Psych. (MS-level only)
Oxford	UK	1965-1980, 1993	IR: Alan Fox, Flanders, Goldthorpe.
Brunel U.	UK	1965-1998 1971-1995~	Soc., Econ., Psych., Pub. Adm. Brunel Management Programme (Bioss)
Cranfield U./ / Shrivenham	UK	1967-Present	Lewicki, Kakabadse, Brewster, Wilcox (MAs 1968, 1971)

U. of Georgia	US	1968-1979~	Business, Conference 1970, (Shull from SIU)
Minnesota	US	1967-1980	Industrial Relations (Mahoney)
IIM (Ahmedabad) *	India	1968-1981~	Management (Dayal)
Monterey (NPS)	US	1970-1985	Naval Studies (MS-level), Creighton
Toronto *	CA	1974-1980~	Health Policy(HPME) (Dixon, Leatt)
Open U.	UK	1980.	Alan Fox. IR.
London (LSE, LBS, Imperial)	UK	1982-Present~	Decision Sciences, Vol Orgs., Socly
Southern Cal (USC)	US	1982-Present	Public Admin., Planning, Policy
Texas Tech	US	1983-Present	Psych., Leadership, Strategic Studies
Carlisle Barracks (Army War College)	US	1983-Present	Strategic Studies (MS-level only) (Penn State for PhDs)
George Mason	US	1985-Present	Psych.
George Washington	US	1985-Present	Business, Soc., Psych.
Texas (Austin)	US	1985-Present	Business (Mink), LBJ Public Affairs (Ken Apfel, Wm. Spelman)
Naval War College *	US	1988~Present	War Studies (MS level only)
George Mason U.	US	1989-Present	Psych., Soc., Business (DRI)
National Defense U.*	US	1989-Present	NDU/ICAF, Strategic Studies (1-year post MS-level)
Henley Management	UK	1991~Present~	Open Executive Programmes (1971?)
Harvard Medical Sch*	US	1990s(?)~Present	(H. Levinson, J. Kraines)
Deakin U.	AU	1990s~Present	Psych., Business

ITBA (Instituto Tecnológico de B.A.)*	AR	1990s-Present	Engineering
SAFTI *	SG	1990s-Present	Singapore Armed Forces Training Institute
Air University	US	1990s	Maxwell AFB, AL (MA level)
Western Ontario (UWO)	CA	1995~Present	Education, Public Admin., Ivey Bus., (MA level)
Middlesex U. *	UK	1999-Present	Centre for Sustainable and Environmental Management (Masters)
del Salvador (B.A.) *	Ar	1990s - Present	Business
UNISA	RSA	1990s - Present	Business, Psychology (Johannesburg)
Pretoria U.	RSA	1990s - Present	Business, Psychology
National Defence Coll. Sweden		1996 - Present	Ofcr Selection based on EJ and GS.
Webster U.	US	2003~Present	Graduate Mgt, Tech. (R. Miller)
Regent U.	US	2000s - Present	Business, Religion
IMD *	CH	2000s-Present	Business. (Hooijberg)
Alliant Intl. U.	US	2004-Pres.	
Capella U.	US	2008-Pres.	

OTHER INSTITUTIONS:

Glacier Inst. of Mgt.	UK	1961-1965	Independent Teaching Inst.
<i>Continued as:</i>			
Associated Engineering Bus. Mgt. Sch.		1965-1977~1990	ibid

Office of Naval Research (ONR)	US	1965-1976	Funded research at Berkeley. Published by NTIS.
Economic and Social Research Institute	IRE	1966-1973	Dublin (Fogarty, Behrend)
Institute of Health Services Management	UK	1981-1990	King Edward's Hospital Fund for London (M. Dixon)
Army Research Institute (ARI)	US	1979-1994	US Army, Jt. Chiefs. Published by NTIS (1982-1995).
GE Crotonville	US	1984-Present	Private Corporate University
Laval U. (Q.C.)	CA	1990s-Present	(Used in university administration)
Windsor Leadership Trust	UK	1995-Present	On-going forum/ seminar for UK top leaders. (ask Gillian Stamp)
Cortijo-Romero	Esp.	1995-Present	Vacation Seminars in Orjiva.

[I have little data on academic teaching on this theory in Japan despite the extensive academic research on "age-wage profiles" and other features of their personnel systems, especially the *satei* assessment system. Prime candidates would be Hosei and Hitotsubashi universities. The reason is the recency of my discovery of all the activity in Japan – not its absence. In future I hope to address this lacuna.]

NOTES:

This comes to some 47 universities and nine other institutions. These have been the faculty-generated research and teaching efforts. It does not count many of the schools that awarded PhDs since these degrees were generated by the effort of the student. Once graduated, the student left. For example, neither Cambridge nor Case Western were counted since the faculty at neither seems to have sustained interest in the theory. Harvard's interest appears to have been competitive. Currently, some 20 universities and five other institutions continue to work with the concepts.

* Institution has not yet awarded a degree on or related to Jaques' theory as far as I can tell.

Research at Cal State San Diego, Berkeley, and Monterey in the 1960s-1970s was funded by the Office of Naval Research (ONR). Much of it was published by NTIS.

Research at ARI, Texas Tech, Carlisle Barracks (Penn State), George Mason, and NDU/ICAF has been funded by the US Army and the Joint Chiefs. Much ARI, Texas Tech, and George Mason (DRI) research has been published by NTIS.

Harvard Business School funded its own research program in the early 1960s, sponsoring at least seven PhDs (Vaill, Picard, Lorsch [under Paul Lawrence, per Vaill 2001] and Moment, Dalton, Hodgson [under Abraham Zaleznik, per Zaleznik and Moment 1964].) plus Homa Hunt (and perhaps D. J. Hall and Salter). The goal was to compete with the intellectual initiative from the British, which was achieved finally through the publication of Lawrence and Lorsch 1967. These PhDs were retained at HBS after graduation and used to generate a number of books, articles, cases, etc.

Jaques helped found GIM in 1961 and was founding head of the graduate school at Brunel, 1965-1970. He worked with faculty and students at Southern Illinois, Minnesota, Berkeley, and the University of Texas. He remained as an active professor at Brunel until 1980 and retired around 1985 as head of BioSS. He then became a Visiting Research Professor at George Washington University in Washington, DC. He was made an Honorary Professor at U. Buenos Aires in 2000 and at U. del Salvador in 1998. Nottingham and GIM shared personnel in the 1960s and into the 1970s.

The faculty group at SIU dispersed around 1970 and some are now at Texas Tech and George Mason.

In 1982 the London School of Economics (LSE) raided Brunel and absconded with two Jaques and BIOSS-affiliated units/departments, Decision Analysis and later Voluntary Organisations.

Alan Fox at Oxford was hostile to Jaques in the 1960s but reversed course in 1971, embraced Jaques and adopted the “radical” position regarding industrial relations, and introduced “discretion” into the UK workplace with his 1974 works.

Beginning with U. Buenos Aires (Aldo Schlemenson) in the late 1980s and ITBA (Ricardo Guiterrez) in the 1990s, an additional five universities in the metropolitan area are now offering courses and degrees in the theory including: UADE, U. Belgrano, UCES, IDEA, and USAL (Raoul Timmerman) (plus Harald Solaas and Maria Rachel Popovich).

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3-10-05

Internet searches on “Billis” and “Work Levels” turned up hits in syllabi at the following nine academic institutions on 3-10-05:

Carleton.ca	Carleton University, Ottawa, CA.
Brookes.ac.uk	Oxford Brookes University, Oxford, UK.
LSE.ac.uk	London School of Economics, U. of London.
Waikato.ac.nz	Waikato, North Island, NZ.
Une.edu.au	University of New England, Armidale, NSW, AU.
Crab.rutgers.edu	Rutgers U., in New Jersey, USA.
Leeds.ac.uk	Leeds, UK.
Bath.ac.uk	Bath, UK.
Jhu.edu	Johns Hopkins University, Baltimore, MD, USA.

doc

West Point
Annapolis
IIM-Lucknow
Swinburne UT
Johannesburg

3-25-14

2003

FURTHER RESEARCH MATERIAL & SOURCES

This section is for researchers who wish to delve deeper 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 research. 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 be in an off-site storage area. If you investigate any of these locations and people, please get back to me with a description of the materials you discover so it can be included here.

Working Papers and Unpublished Studies

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 used by editors to review and accept manuscripts.

Over 100 time-span studies have been done in 25 countries. Most have been done by companies for their own internal proprietary use and were not published. So far, they have been done everywhere 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 or reside on the shelves of 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 Brunel (BIOSS) until he relocated to the London School of Economics around 1982. 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 into the late 1980s. Some time after 1965, when Associated Engineering (AE) bought Glacier, it became a part of the AE Business Management School (moving from Ruislip near London to the AE research centre at Cawston House, Rugby in 1977). A. Derek Newman was head of GIM (q.v. 1964, 1968, 1973). Ralph Rowbottom worked there for a time. Another member was Brian Parkyn, per S. Cang (Jaques, ed., 1978, p. 278). Parkyn was Principal of GIM in 1977 (per Autumn 1977 GIM Programme) and of Associated Engineering Business Management School. (He was also a member of Parliament and Director of the Scott Bader Commonwealth. (Can I find him?? ask **Sir John Collyear**)

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. (As of November 2003 Dana had just successfully blocked a takeover bid by ArvinMeritor Corporation.) Sir John Collyear, Glacier's MD in the early 1970s, lives in London.

Lord Brown's personal papers are on deposit at the Churchill Archives at Cambridge. The librarians at Argyle House (with the Glacier Metal records), the Warwick materials above, and Brunel University library may be able to dig out links to Brown's papers 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 Baxi company archives 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. The first conference was mentioned in 1966 in *ASQ* Abstracts. In 1966 SIU awarded Wilfred Brown an honorary Doctor of Laws degree. 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 first encountered this theory while at SIU and then went to Texas Tech, where he maintained a vigorous schedule of research and publishing in the leadership field until his recent death.

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 they may have disappeared in a swirl of mergers and acquisitions. Allen Industries closed in 1993. 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 of Anna IL was a member of the Illinois Civil Service Commission; there was some connection and cross-pollination between this theory and the commission.) [See Laner and Crossman, 1970]

According to the late 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 Laner (in Berkeley/ Sacramento), or from Tarald Oddvar Kvålseth (Minn.) or Itzhak Wirth (St. Johns, NYC). Crossman's file-book in the Berkeley library is mostly published papers. Monterey Naval Postgraduate School and/or library may have some Berkeley research reports since Professor John W. "Wally" Creighton of NPS was connected with the Berkeley group. A half-dozen master's theses were done at NPS. (Most were jointly earned, usually with two authors). Kaiser Aluminum and Kaiser Steel in CA may have produced planning studies in the late 1960s – early 1970s using the theory. Kaiser was connected to the Berkeley research group. Also, the Office of Naval Research (ONR) in Washington may have related working papers in storage that were not released to NTIS for publication.

Five master's theses were produced at San Diego State University from 1965 into the 1980s under Professors David W. Belcher and Thomas J. Atchison, some for the U.S. Navy. Another six were on J. Stacy Adams' version of equity theory. No doubt there are working files and studies at the school. (This library website, "The PAC," is probably the most intuitive I have encountered.)

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 University conducted 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, the National War College archive/ library in DC, and at Carlisle Barracks in PA.

There has been a good deal of research related to 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 Jaques' working papers. Many are available for purchase. Arrangements have been made to deposit Jaques' personal papers with the Library of Congress. Some are there now but require permission for access (see Cason Hall).

In Australia and New Zealand:

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 linking Jaques' theory to Edith Penrose's economic theory of the growth of the firm. However, I have no knowledge of any further work by him or at Adelaide. (Later in the 1960s he moved to U. Melbourne.)

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, Australia, has written several papers critical of the theory. Bruce Hearn Mackinnon completed his Ph.D. thesis at Melbourne in 2003 and teaches at Deakin and Swinburne universities.

Comalco/ CRA/ RTZ/ Rio Tinto [one firm] of Melbourne, Victoria, Australia, has also internally 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 from 1995 to 2002.

See Paul Lynch who completed his PhD in 2012 at James Cook University in Cairns, Queensland, and Samir Shrivastava who completed his at Swinburne U.T. in Melbourne in 2008. (Frederick G. Hilmer, former dean of AGSM, became CEO of Fairfax Publications and is now Vice-Chancellor and President of UNSW, f.hilmer@unsw.edu.au.) See Julian Fairfield of Bach Consulting, a consultancy in the metropolitan Sydney area. Also see Professor Lex Donaldson of AGSM at the University of NSW in Sydney.

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 has some working papers on the theory.

Jerry Gray, who edited the 1976 book of Glacier Project papers, is former dean of the I. H. Asper School of Business at the U. of Manitoba in Winnipeg, MB, Canada. Part of this book was a Bibliography of published works on R.O. theory. He has some materials on the theory.

In Argentina:

Jaques consulted to a large privately owned Argentine steel firm and to the Argentine tax authority (AFIP) to align its functions and to combat systemic corruption that resulted in

widespread tax avoidance. The fiscal crisis there since 2001 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. Hoof did the second PhD on R.O. – in Dutch. Wijnberg also did a major study in 1965 (which I would love to see). Fogarty was published in Meij's 1963 book (in English [Mey?]). A number of Dutch firms were reported to have conducted TSD:FFP studies in the 1960s for their private use. Sir Wilfred Brown's pamphlets and other efforts in the 1970s on worker participation, works councils, and constitutions for corporations were driven by interest in these topics in NL and the possibilities of change there. 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 major Dutch firms have required sustained future-oriented leadership at the helm of the organization and the ability to execute. This Dutch connection may have been one source of the interest in South Africa in R.O. (see Cortis 1962 Related PhD, van Lennep 1968, Muller 1970).

In India:

Harvard Business School and the Sloan School at MIT had a faculty exchange and development program with the Indian Institute of Management (IIM) schools in India, especially the one at Ahmedabad. John Dearden went over in 1966-1967 and learned of Jaques there. Ishwar Dayal published articles and books extensively in India and the US about the theory from the late 1960s into the early 1980s. In the mid-1980s Dayal became the founding head at IIM-Lucknow. He continued to publish, but shifted to more popular and professional business media. In 1991 India began to import HR and organization concepts from Japan and has continued to do so since.

In Japan:

I am somewhat at a loss where to begin. Academia has been on the sidelines in Japan during the application of this theory there. The Japanese discovered the "age-wage profile" in 1927. The important research on skill formation by Professor Kazuo Koike was done first at Nagoya U. in Tokyo in the 1970s and 1980s and has continued at Hosei U. Professor Michael Yoshino at Harvard Business School has done key research on this theory in Japan since 1968 and it is unconnected to parallel lines of research at HBS. Research at Hitotsubashi U. under Dean Hirotaka Takeuchi is also important and evolving in new directions such as knowledge management under Ikujiro Nonaka and others. Professor Koshi Endo at Yamagata U. has critiqued the *satei* assessment system.

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PART I. B.

REPLICATION STUDIES

AND

GLACIER PROJECT SERIES

3-25-14

REPLICATION STUDIES

Jaques' first discovery that led into his theory was a new definition of work. After a multitude of interviews with hundreds of employees and managers at Glacier Metal Company Jaques discovered work was not the amount of effort (the popular definition) but the length of time that mental effort must be sustained. This was a sharp departure from the mainstream. Thus, the time of the longest task marked the size of a role/job. Many academics and practitioners even today do not accept this definition of work.

Jaques described this discovery in his first book on the theory, *The Measurement of Responsibility* (1956), and in many articles. Wilfred Brown also wrote an article on it in the *Harvard Business Review*, "What is Work?" (1962). Subsequently, some refinements were made to this definition and how to measure it, but it has always remained a time-span measurement and not amount of effort.

Martin Richards tested this definition in his 1978 Ph.D. at the University of Georgia. Richards compared two measures/parameters of risk-handling behavior - the length of time an individual was willing to bear risk (TSD), versus the amount and type of risk. Time span of discretion (TSD) was found to be the better predictor of success in both personal and organizational roles (subject to possible non-response bias). This was an important piece of validation, replicating Jaques' findings at Glacier Metal on the key definition of the size of a role.

In their 1965 book Arthur Turner and Paul Lawrence of HBS claimed there was a positive correlation between job satisfaction and time span of discretion at $p < .001$ level of significance. TSD had by far the strongest task attribute association with job satisfaction (p. 51). "Only Time Span showed a significant relationship with Job Satisfaction; low satisfaction was significantly associated with low (under one half-day) time span" (p. 55). However, the magnitude of this correlation itself was NOT published by them. (Their working papers may contain this data, if they still exist.) Hoof came to much the same conclusion in his 1963 PhD.

Jon Max Shepard's 1968 PhD at Michigan State replicated Blauner's 1962 PhD findings on alienation which were published in his 1964 book.

Tarold O. Kvålseth, in his 1980 article, presented some quantitative measures of job variety based on entropy statistics of information theory and on a modification of the Turner-Lawrence measure. By means of psychophysical scaling technique of magnitude estimation (Stevens 1975), subjective judgments of variety for a number of different job situations were obtained from a total of 42 subjects using an interval-scale measure of job variety. Power

models or linear models between perceived variety and its physical correlates were found to explain up to 99% of the variation in perceived variety. In his 1979 presentation, it was also applied to 18 shop floor and clerical roles of a previous empirical study in a steel firm. The variety measure and its evaluation procedure were related to the time-span of discretion (TSD) method of task analysis and job evaluation. (Not quite the same thing.)

3-25-14

THE TRIANGLE OF CORRELATIONS

There are three main correlations in Jaques' organization theory. They revolve around time-span of discretion set by the manager, felt-fair pay stated by the employee, and the hierarchy level of the role as designed by the manager's boss. I have developed tables to portray these studies along with several others related to the theory.

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, five dissertations and one master's degree. One other dissertation (on public school administration) was disconfirmatory (McGee) but I suspect it may have encountered organizational chaos. A master's dissertation questioned one Brunel Ph.D. study's results and claimed to reduce the correlation from +0.84 to +0.59 by using straight line method (Cameron on Krimpas). Theocarakis 1990 then reworked Krimpas' data but found an increased linear correlation of +0.97. The remaining study and dissertation results support Jaques strongly at +0.89. (See further comments in Part I.AB.: Introduction to Dissertations and Theses.) [And see below.]

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 seven dissertations. The major difference here was the low correlations reported by Paul S. Goodman (1966, 1967). But when Goodman used Jaques' definition for "organization level" the correlation rose sharply while still using the same time span data. Donna Vinton (PhD 1995) revealed Goodman hid his high results under rhetorical stratagems and pointed his written analysis toward his low results. Goodman's original findings have not been replicated in six other studies. (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 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 at +0.87.

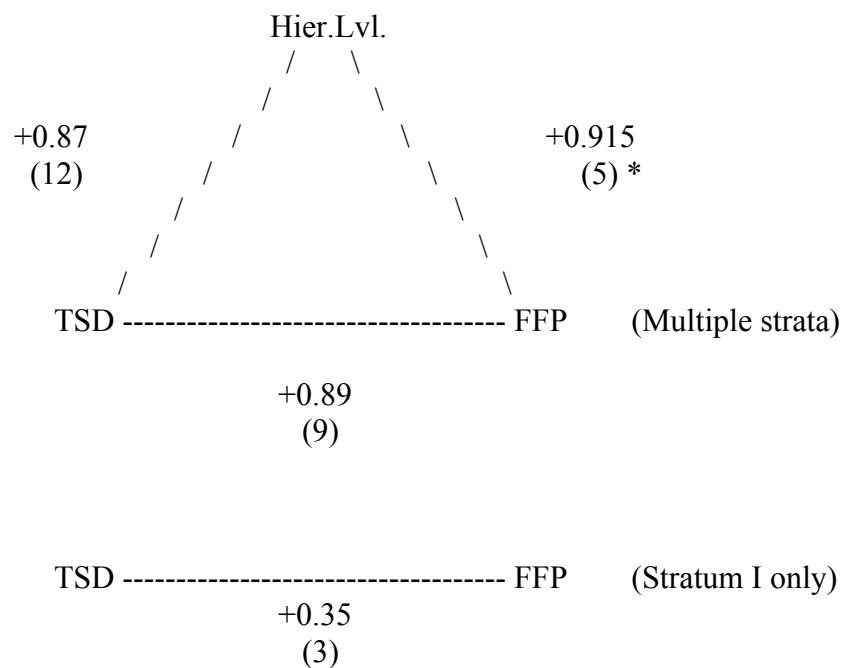
The third correlation is between felt-fair pay (FFP) and Hierarchy Level. The latter is the designed differential hierarchy level of the role. When combined, they form a measure known as "position worth." This was also the basis for the differential payment scale identified by Jaques. Here are four studies and one dissertation, two with reported correlations - averaging +0.915.

In the contretemps over Krimpas' results, Cameron also did her own TSD:FFP study within Stratum I and found a lower correlation of +0.32. Theocarakis found a parallel data set

inside Krimpas' data, where almost all the individuals in one firm were in Stratum I (Firm #6), and got similar results of +0.38 that was significant. (Milkovich and Campbell (1972) did a study of 167 female keypunch operations in several firms but they did not take TSD measurements.) The average for these studies was +0.35. The common factor in these studies was that they were within a single non-managerial stratum (Stratum I).

This closes the loop among these three elements. All three relationships were confirmed as predicted by Jaques (except the Stratum I only results). In sum:

The Replicated Triangle of Correlations



(Note: Number of studies in parentheses. TSD is not vision nor is it FTP. FFP is not AP.)

* (The FFP:HierLvl correlation is weak because the number of quantitative studies was limited to two and both were based on studies of Equity Theory that used college students. The second also used managers.)

See following pages for details on each correlation.

(Rev. 3/07)

STUDIES AND DISSERTATIONS ON TIME-SPAN**TSD:FFP****+0.89****1-2-10 3-25-14**

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

1969	Jaques	TSD:FFP	+0.90/ +0.94 #	70 General Manager to Hourly Workers (U.K.)	I - IV
1968	Evans, Krimpas, Miller (EKM)	TSD:FFP	+0.89	195 Mid-Managers to Hrly (Jaques 1969 & Krimpas 1973)	I - IV
1973	Miller	TSD:FFP	+0.84 ##	40 Profsnl Acad Librarians	II - III
1973	Nystrom ^	TSD:FFP	Explanatory	100 U.S. Population: Career Pay Levels (AP?)	All
1999	Carraher & Chait *	TSD:FFP	+0.86	42 Business School Faculty, 109 Nonsupervy empls.	I - III

DISSERTATIONS:

1965, 10/1967	Atchison **	TSD:FFP	+0.90	108 Profsnl. Scientists, Engineers, Mathematicians	I - III
1969, 1971	Richardson	TSD:FFP	+0.862	180 Middle Managers in Engineering, Factory, and Administration	II - III
1973, 1975	Krimpas	TSD:FFP	+0.84 #	125 Mid-Mngrs to Hrly Workers in 10 U.K. orgns	I - IV and VI
1975, 1976	<i>Cameron (MA) TSD:FFP</i>		+0.59 #	<i>See Jaques/EKM data (U.K.)</i>	<i>I - IV</i>
1990	<i>Theocarakis</i>	<i>TSD:FFP</i>	+0.97 #	<i>See Krimpas data (U.K.)</i>	<i>I - IV</i>
1984	Gould	TSD:FFP	+0.948	37 Librarians, Technical Staff, Clerks (Academic)	I - III
1985	Boals	TSD:FFP	+0.909	55 Clerks, Librns (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 (EKM). 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 (1976) reworked the Jaques and EKM data as a straight correlation coefficient (+0.59) in her master's thesis. [She did her analysis on 234 roles which appears to be 125 plus 109, which may be a double-counting error.] (See Goodman and Miller 1973 Book Review.) Theocarakis reworked Krimpas' data for a linear relationship and found an improved result, an unlogged corr. of +0.97. (See Theocarakis 1990, online p. 44, Ch. 2.)*

Robert L. Miller examined professional academic librarians (20) and assistant librarians (20) for TSD:FFP. 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 *ASQ* 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). Created random sample of 100. Nystrom found Jaques' theory of growth progression curves explained career pay.

* 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); two samples: Faculty $n = 42$; Nonsupervisory $n = 109$. Also see Carraher's 1992 PhD Related. However, a university is not an 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.

NOTE: Kenyon, Ralph Eugene, 1965, M.S., SDSU, was a feasibility study to test TSD:FFP.

NOTE: Wood (& Joransen), 1973, was a master's thesis at Monterey on 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 six dissertations on TSD:FFP with quantitative results (excluding Nystrom which did not have comparable numbers) is +0.89.

STUDIES AND DISSERTATIONS ON TIME-SPAN

TSD:FFP (*Stratum I only*)

+0.35

1-2-10 3-25-14

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

1972	Milkovich & Campbell	FFP:Stratum I #	No Corr. Possible	167 Key punch Operators (a single stratum)	I
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DISSERTATIONS:

1975, 1976	Cameron(MA)	TSD:FFP	+0.32 ##	185 Sub-Mgrl Level (UK)	I
1990	Theocarakis	TSD:FFP	+0.38 ###	46 in Krimpas' Firm #6 (UK)	I
1984	McGee #####	TSD:FFP	+0.314	62 US Public School Admins. II-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.

Milkovich and Campbell did not measure TSD. They assumed all the jobs had the same TSD since they had the same job title. USA. (See FFP:HierLvl.)

Cameron critiqued Krimpas' findings but she also did her own sub-managerial study (+0.32) on 185 employees in eight firms in her UK master's thesis. It was on stratum I sub-managerial employees (p. iii, 38) (log:log). Significant.

Theocarakis noted a sub-set of data where TSD was sub-managerial for almost all roles (at Stratum I) in one firm (# 6) in Krimpas' UK data (1975) (44 of 46). He followed Cameron, calculated the corr. and it was similar, +0.38 (online p. 47-48) and was significant at <0.000005.

McGee appears to have either misunderstood the definition of TSD, misapplied the instrument, or encountered true organizational chaos as defined by Jaques. This US study

probably suffered from a combination of all three. The average TSD for superior manager and subordinate manager was 12.3 months, on the border between Strata II and III. (Advisor was R. Oliver Gibson of Brunel/Bioss.)

The low findings in this set of correlations must be viewed in the context of the very strong findings among the many other studies on this theory. When placed together, it is clear they are not anomalies and their results are consistent. Each has a similar design of sampling in a single non-managerial stratum that generates a relatively low correlation. These studies did not test the full equitable pay scale. The findings indicate the TSD:FFP inside Stratum I is between +0.30 and +0.40. The TSD:FFP correlation within a single stratum falls in the +0.30s and is significant.

Jaques may have been amiss about the fineness of the TSD and FFP judgments of managers and workers. Since he worked in one firm for 17 years, those he worked with and studied would have become comfortable with these concepts. They may have compared notes, become proficient and gotten ahead of him.

Future TSD:FFP studies should be designed to collect data on a stratum-by-stratum basis so such sub-sets of data can be examined more closely. Some of this data may already be available and need only be looked for, the same way Theocarakis found it in Krimpas' study.

STUDIES AND DISSERTATIONS ON TIME-SPAN

3-25-14

**TSD: Hierarchy Level
+0.87**

Date (Pub'd.)	Author	Ratio	Corr. Coef. (R)	Population	Strata (Prob.)
STUDIES:					
1973	Hansen ***	TSD:Rank	+0.96	130 LtCol to Private (CanAF)	I - III
1974	Hansen ***	TSD:Rank	+0.84	c 100 Major to Pvt (CanArmy)	I - III
1975	Hansen ***	TSD:Rank	+0.74	95 Major to Private (CanNavy)	I - III
1999	Nir ^^^	TSD:HierLvl	Explanatory	Three Mgrl echelons (Israel) (149 Males & 161 Females)	II - IV
<u>DISSERTATIONS:</u>					
1965, 10/1967	Atchison #	TSD:C-S Grade	+0.87 & +0.75	108 Professional Scientists, Engineers, Mathematicians	I - III
1966, 5/1967	Goodman *	TVO:OrgLevel TE:OrgLevel	+0.75 & +0.91	141 General Manager to Foreman	II - IV
1971	Kvålseth **	TSD:RoleRanks	+0.93	29 Supervisor to Hourly Worker	I - II
1976	Wirth **	TSD:HierLevel	+0.95	121 CEO, Div. Manager, FLM (by dept. in 3 companies)	II - IV
1990	Theocarakis	TSD:Level logTSD:Level	+0.749 +0.934	49 div. mgr, dept. mgt, super- intendant, foremen, & ops.	I - III
1995 (not counted)	Nir #####	TemplHzn: HierLvl	+Straight [+0.86]	310 Central & District Admins & Principals (Israel)	II - IV
1995	Vinton ###	TH:OrgLvl	+Signif.	301 Professionals, clericals	I - III
2002	Popovich	TSD:HierLvl	+Signif.	34 Argentine CEOs/Chairmen	V-VII

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. Wirth noted Crossman 1974 had gotten his TSD:HL relationship by combining the results of Hansen 1973 (sic) and Kvålseth 1971.

Wirth's figures for multiple functional units in three transportation companies ranged mostly from $+0.93$ to $+0.99$. The average was $+0.95$.

*** Hansen, then a graduate student at Berkeley, used 'Index of Order of Association.'
 Kvålseth: see pages 82 and 93.
 Hansen: see page 45 of McGee 1984 PhD for "superior/subordinate pairs" measure of TSD:Rank. (1973 study at Canadian air force base.)
 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 152-156.
 Cameron: see pages 46-47. (1973 study described as "unreliable" but she reported TSD:FFP results 0.66 while overlooking TSD:Rank at 0.96.)

^^^ Nir 1999 article. Examined the differences between the sexes in three Israeli managerial echelons regarding individual role TSD. There was none. Figures not reported. See 1995 PhD.

- #### 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. The figure of +0.86 was in 1999 article and was for alpha Cronbach coefficient. Figures not reported in abstract. (Israel)
- ### Vinton. In contrast to Goodman, Vinton’s dissertaton 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: Ashour 1970 found the manager assigned a level of discretion to the subordinate based on the subordinate’s capacity. The correlation was +0.52. While a bit different, this comes close to the TSD:HierLvl relationship.

NOTE: The average ‘TSD:Hierarchy Level’ correlation of these five dissertations and three studies with quantitative results is +0.87.

STUDIES AND DISSERTATIONS ON HIERARCHY

3-25-14

POSITION WORTH
FFP: Hierarchy Level
+0.915

Date (Pub'd.)	Author	Ratio	Corr. Coef. (R)	Population	Strata (Prob.)
STUDIES:					
1963	Lawler & Porter	FFP:HierLvl AP:HierLvl	Strongly Rel. Clearly Rel.	1900 managers (survey) ibid	II – V+ ibid
1964	Kuethe & Levenson	FFP:HierLvl	+0.90	Experimental lab test using 110 college students.	I - III
1972	Milkovich & Campbell	FFP:Stratum I	No Corr. Possible	167 Key punch Operators (a single stratum)	I
1978	Mahoney & Weitzel	FFP:HierLvl	1.30	310 managers (Canadian manufacturers)	II - IV
1979	Mahoney	[FFP:HierLvl Reporting Lvl: No. Subords: Overall R =	[1.30] +0.88 - +0.94 +0.85 - +0.98 +0.93	98 college students in sociology and business admin; 58 corp. comp. admins. (3 studies)	I - II II - V
DISSERTATIONS:					
1971 (not counted)	Kvålseth **	AP:LoW	+0.96	29 Supervisor to Hourly Worker	I - II
1981 (1975)	Agarwal	FFP:MgtLvl AP:MgtLvl(R ²)	Consistent +0.789	168 CEOs. Insurance. Linked Job Complexity, Profit, and Company Size	V - VII
1990 (not counted)	Theocarakis	(AP:Level):logs (base & salary)	+0.90	49 div. mgr, dept. mgt, super- intendant, foremen, & ops.	I - III

Lawler and Porter (1963) did not publish the correlation numbers but plotted the results, which were clearly very strong. FFP was more strongly related to HierLvl than AP was. See Porter and Lawler 1968 also.

Haire, Mason, Edward E. Ghiselli, and Lyman W. Porter, 1963, "Psychological Research on Pay: an Overview," *Industrial Relations*, Berkeley, CA, Oct., 3(1):3-8. See Lawler and Porter 1963 (*in same issue of I.R.*) In this introduction to a symposium issue these authors called the L&P results on the close relationship of hierarchy-level to felt-fair pay "surprising" and "remarkable." Results reported in *Business Week*, March 2, 1963, p. 58. Evans 1979 felt this study strongly supported Jaques' findings. See Haire 1965. See Gaddis 1964, p. 140.

Milkovich and Campbell (1972). Surveyed 167 keypunch operators, presumably at stratum I. This did not test a profile of the equitable differential pay scale. It found the felt-fair pay range for only one title (not stratum). These findings did not support Jaques' claim that FFP data would vary only within plus- or minus- five percent. (Std.Dev. was 12.8 percent of mean pay amount. Range was wide.) Evans felt this result was due to Jaques' absurdly precise claims and that these results did support Jaques' equitable differential pay scale claims. No meaningful correlation could be calculated for one stratum. I believe the data here on FFP:tenure, FFP:age, and FFP:performance likely support Jaques' maturation curves (at +0.89, +0.82, +0.75).

Mahoney, Thomas A., and William Weitzel, 1978, "Secrecy and Managerial Compensation," *Industrial Relations*, Berkeley, CA, May 1978, 17(2): 245-251. Survey of 310 managers (S2-S4) in a large Canadian manufacturing firm. Felt fair compensation differential increased 1.30 between each level where Jaques' estimate was slightly higher, at 1.33 (c.f. Jaques 1965). [These findings were reported in Mahoney 1979.]

Mahoney, 1979: Compensation relationships between each level held at 1.33, except at entry levels where it was 1.25. These were the felt fair differentials. Thus, TSD is a dimension of job content that changes according to the hierarchy level of the role. Mahoney re-examined the Mahoney and Weitzel 1978 study and found an adjacent level compensation relationship of 1.30, which was close enough to validate Jaques. (In the 1979 study Mahoney cited Jaques.) Three additional studies were done on sociology students, business students and corporate compensation administrators. In these studies, correlations between reporting level and FFP were +0.93, +0.94, and +0.88. Correlations of FFP on no. of subordinates were +0.92, +0.85, and +0.98. Overall R = +0.93. Mahoney replicated the Kuethé and Levenson 1964 study. (Q.v. and Mayer 1960.)

The main focus of Agarwal's 1981 study was on Actual Pay (AP:MgtLvl) but his findings also were "consistent with" the Kuethé and Levenson 1964 results (FFP:MgtLvl). Did not cite Jaques or Mahoney, but thanked Mahoney for assistance. (AP:HierLvl R = +0.89) Based on his 1975 dissertation at Minnesota. [Replicated by Mary Bradley at Temple U. in 1989.] Theocarakis also used AP:Level. He correlated this with its log to show the strength of hierarchy level in setting Actual Pay (+0.90).

NOTES:

Carraher, Shawn M., 2003, "Felt Fair Pay, Democracy, and Leadership within Cross-cultural Entrepreneurial Organizations," *Academy of Management*, 2003 Annual Meeting, Seattle, WA, Tuesday, August 5. Program Session #820: Compensation and Incentives. Sponsor: MH. Facilitator: Angela K. Miles; Old Dominion U. Carolyn Dexter Award Nominee. Examined a portion of Jaques' theory of equitable payment, using 6 cross-cultural samples containing 834 financial information services managers and entrepreneurs employed in entrepreneurial organizations in the U.S., Germany, England, Colombia, Japan, and South Korea. Results supported Jaques' proposition about who would be satisfied with their pay level and who not. It was able to correctly predict in over 80% of the cases. Leadership and management levels are important to the relationship between income and pay satisfaction as are differences across democratic republics. FFP:HierLvl. At Texas A&M U. Abstract seen.

Tang 1996 discovered a difference in men's allocation of position worth vs women's allocation. Thus, **men's allocation of position worth** supports the Matthew Effect (them that has, gets). Cited Jaques 1965, Kuethe and Levenson 1964, Mahoney 1979. See also Tang 2000.

Gerhart and Rynes (2003, p. 95) misconstrued Jaques' equitable pay scale (1961) to support their version of compensation as the outcome of Tournament Theory due to a "convext pay structure" with compression at the bottom and extension at the top (winners get more). Cited Kuethe and Levenson 1964, Mahoney and Weitzel 1978, Mahoney 1979, (and Herb Simon 1957). See Tang 1996 to explain this odd interpretation.

Grubb, David, 1985, "Ability and Power over Production in the Distribution of Earnings," *The Review of Economics and Statistics*, MIT Press, Cambridge, MA, May, 67(2):188-194. "Individuals at the top appear to be paid according to the job they perform, rather than their ability." (Grubb's definition of pay for positional power is circular. It is excess pay for being #1, tournament-like. He has no definition for ability. At least he was trying to get at these key issues.) (This is somewhat related to AP:HierLvl correlation.) Grubb was at LSE. Cited Rosen 1982, not Jaques.

Peterson, Oscar Paul, 1968, M.S., SIU, was a study focused on TSD:FFP and/or FFP:HierLvl relationship. (Not completely clear.)

Belcher, David W., 1969, "The Changing Nature of Compensation Administration," *California Management Review*, Berkeley, CA, Summer, 11(4):89-94. Cited Jaques 1961, Atchison 1967, and Thomas' 1968 related master's thesis concerning equity. But equity alone does not produce motivation. Thus, it takes a "great deal of money" to change managers' attitudes and motivate their performance. But this also changes their attitude about the money. This is about FFP:HierLvl.

This correlation needs more work done on it.

3-25-14

OTHER STUDIES AND DISSERTATIONS**LMC:Scope**

Date (Pub'd.)	Author	Ratio	Corr. Coef. (R)	Population	Strata (Prob.)
1995	Mehltretter #	LMC:PracSize	+0.85	Physicians	III-V ?

Mehltretter used Hirsch data in his dissertation (Related PhD 1988) and found a corr. of +0.85 between the size of the medical practice and the level of mental complexity (LMC) of the physician. The doctors are entrepreneurs. (See Mehltretter 1995 PhD, chapter 3.)

IRIS:CLC

2000	Mauer ##	IRIS:CLC	+0.86	Employees & Managers	I-V
		IRIS:FLC10	+0.84	(Multiple firms)	
		IRIS:FLC15	+0.77		
		IRIS:FLC20	+0.76~		

Mauer used five years of Bioss Southern Africa data from Initial Recruitment Interview Schedule (IRIS) interviews. IRIS is a two hour semi-structured interview of the employee or candidate. Sample size of 3,848. Found little difference between genders or races (black/white) on Current Level of Capability, 10 years hence, and 15 years hence. The 20 years hence figure was more problematic (~) due to smaller sub-sample size. Presentation; not yet published. (See Kitching 2005 MCom. for database.)

CONTRACTION

Brown, Wilfred, 1964, "Management Theory from Management Practice: The Concept of Contraction," in Koontz, Harold, ed., 1964, *Toward a Unified Theory of Management*, McGraw-Hill, NY, NY and London, UK, Chapter 4A, p. 122-140. (From a 1962 UCLA symposium.) Wilfred Brown delivered an invited paper on 'contracting' the vertical lines of communication within a firm by reducing the number of layers and by executives meeting with employees face to face. (See CEO Jack Welch's Work-Out program at General Electric beginning around 1988.)

Davis, Keith, 1968, "Success of Chain-of-Command Oral Communication In a Manufacturing Management Group," *Academy of Management Journal*, December, 11(4):379-387. A test and validation of Wilfred Brown's 1964 concept of 'contraction' of lines of executive communication. Successful replication. (See Larwood *et al.* 1995).

Partly confirmed by Larwood *et al.* in 1995. One need only see Jack Welch's Work-Out program at General Electric beginning around 1988 to note the parallels.

HORIZONTAL WORK FLOWS

Henry A. Landsberger (1961) used Parsons (1958) and Jaques' TSD and hierarchy level (1956) to help him to develop a scheme of horizontal work flows, conflicts, decisions, and legitimate dilemmas at every managerial level. Professor Pearson Hunt (1966) wrote, "A company that denies the planning dimension of work to the lower levels of management obtains what it deserves -- [people] who, when promoted, are not able to plan ahead." See Kriger 1983 Harvard PhD for a fuller replication of Landsberger. Today, this theme is taken up by 'entrainment' and *hoshin kanri*.

THREE-YEAR DELAY / IMPACT OF CEO

That major changes to an organization take three years was first noticed by Jaques in his 1951 book. This three-year lag was recorded by Sandra King in her 1997 PhD and by Lieberman and O'Connor in 1972. This finding also led to the related one that even CEOs have an impact on the organization only after three years. (Guest 1962 book found results become evident in 2.5 years.) Related still is the finding that CEOs have a leadership impact of 42% to 47% on the profitability of the organization (Weiner and Mahoney 1981; Barrick, Day, Lord, Alexander 1991). These results are tangled up in these studies and form a single whole. Each replicates part of the others.

See Salancik and Pfeffer 1977. **WORDPERF**. This data also supports the impact of the CEO but after a delay.

Calnan and Firth 1970 based their study in AU on the correlation between TSD:State Award on the procedures outlined by Zedeck and Smith 1968. The correlations they found were 0.82 and 0.85.

THE GOLDBLOCKS PEOPLE PROBLEM

The people situation we are facing right now in most organizations is both simple and complex. Two U.S. PhD dissertations (Homa Hunt 1967; Goldman 1999), two published U.S. studies (King, Solomon, and Cason 1999; King, Solomon, and Fernald 2001) and an unpublished Canadian study (Capelle 1999, online) had similar findings: only half of the incumbent employees and managers were in the right role. This means the other half were in a role that did not match their level of capability. Capelle found the capability level of 23 percent of people was too high for the role and 26 percent was too low for the role.

R	23 Percent	Person Too High
O	50 Percent	Just Right
L		
E	26 Percent	Person Too Low

This situation is largely due to the current limitations of human resources (HR) and personnel concepts. HR has not given managers a valid and reliable framework for how to deal with people. The “error rate” in placing people into the proper role is 50 percent. (What is the sigma here? Do we dare to calculate it?) If this issue was placed on a Pareto Ranking Chart, how would it compare to other opportunities for potential improvement? I dare say, 50 percent would be very near the top at any time in any organization. The opportunity for improvement here is tremendous and obvious, yet it has persisted for at least 30 years in North American businesses without correction. Such stolid stability can only be produced by a stabile system. The system created by current HR is stabile.

Mehlretter recently did another study (which he and his colleagues are still working on). His sample of firms centering on his firm’s Raleigh, NC, cachement area, he says has found a misplacement rate of 47% - as opposed to 49% in the earlier studies.

EGO DEVELOPMENT

Three dissertations have examined Jaques' constructs in conjunction with ego development. Stewart and Mehlretter linked it to Kegan, while Laske used Kohlberg. These studies are not replications, but the results strongly indicate an area for further research. See also Allee 1997 book, Bucy 1989 PhD, Perlmutter 1990 PhD.

Stewart, Steven Richard, 1989, *Correlates of Problem Solving and an Evaluation of Training to Increase Problem Solving Effectiveness*, Ph.D., dissertation in Psychology and Business Administration, Southern Illinois University, Carbondale, IL, 217 pages. Adviser: Ronald Schmeck. [1971 M.A. at SIU was not related.] UMI: AAT 9022825; DAI-B 51/05, p. 2660, Nov 1990. Published by NTIS, Springfield, VA, 22161, USA. Army Research Inst. for the Behavioral and Social Sciences, Alexandria, VA, Oct. 1992, 193 p., Report: ARI-RN-93-01; ADA2587202. Combined Jaques' model with Robert Kegan's concept of ego development (1982) and found better explanatory power. Found that people could jump to a higher growth curve mode with appropriate training, education and coaching intervention. Interventions included training in a variety of process and problem solving. He also found Rollo May's *Courage to Create* (Norton, NY, NY, 1975) contributed risk propensity as a factor in individual development of cognitive facility. He redesigned Myers-Briggs test so it revealed how different groups solved problems. Lives in Burke, VA. (12-29-02) (Email: SStew22015 @ aol. com)

Mehlretter, Glenn William, Jr., 1995, *The Contribution of Complexity of Mental Processing and Stage of Ego Development to Transforming Leadership*, Ed.D., dissertation in Business Administration and Developmental and Industrial Psychology, North Carolina State University, Raleigh, NC, 133 pages. UMI AAT 9621946. DAI-A 57/03, p. 1223, Sep 1996. This study in a private company showed strong evidence that to bring about a transformation, the leader must be capable at least one stratum above that required to operate at the level of complexity of the role. Extended Jaques' theory. Mehlretter used Hirsch (see 1988 Related PhD) data and found a corr. of +0.85 between the size of the practice and the level of mental complexity of the physician. These doctors are entrepreneurs. (See chapter 3.) (Currently heads a consulting firm in Raleigh, NC, PeopleFit. Email: gmehl @ peoplefit.com) (See King 1997 PhD, and Kegan 1982 book.)

Laske, Otto Ernst, 1999, *Transformative Effects of Coaching on Executives' Professional Agenda*, Psy.D., dissertation in Psychology: Developmental, Cognitive, and Industrial; Business Administration, Massachusetts School of Professional Psychology, Boston, MA, 670 pages. Advisor: Samuel Moncata. UMI: AAT 9930438. ISBN 0-599-30551-7. DAI-B 60/05, p. 2386, Nov 1999. Examined the developmental preconditions of benefitting from a coaching relationship, and the dependency of coaching outcome on lifespan maturity. Found that development was something brought about by humans (agentic) and by organic change as humans mature (ontic). Both behavioral and psycho-dynamic approaches needed to be complemented by adult-development assessment (Kohlberg). Book forthcoming on executive development. Lives in Boston area. (Email: oelaske @ earthlink.net And his consulting website is: www. cdremsite. com) **Related.**

3-25-14

THE GLACIER PROJECT - SOCIAL ANALYSIS ARTICLE SERIES

(A series of eight articles in *Human Relations*, 1950-1952, Plenum Press, New York, NY.
Listed in Gray, 1976, p. 442. Plus two others, related. See Kirsner 2004.)

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. [Cited by Jean Dubost 1972, p. 296. See Behrend 1953 article for negative 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. See Kirsner 2004.

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. See Kirsner 2004. *

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.

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Hill, J. M. M., 1952, "Approach to Labour Turnover," *The Engineer*, UK, Sept 5, 1952, 194(5041):306-309. Suggestion of a new approach to problem, whereby labor turnover is studied as part of continuous social process instead of concentrating on single incident, employee's decision to leave. In work carried out by Tavistock Institute of Human Relations, with help of Glacier Metal Co, experiences of a group of employees from time of their engagement until leaving firm were followed. (Hill was part of the Glacier Project. On the theory.) Cited Lewin on methods; Jaques 1951; Glacier Series articles in HR 1950, 1951 and 1951. (No others.) City Col - Sci/Cohen1. Peer. MS. PJ.

Lane, K. F., and J. E. Andrew, 1955, "A Method of Labour Turnover Analysis," *Journal of Royal Statistical Society*, UK, 118, A, 296-323. Data came from Glacier Metal. See Bartholomew, D. J., 1973, *Omega*, April, 1(2):235-240 (cited reference). See Glacier Project articles in *Human Relations*, 1950-1952. An alternative view. # MS. PJ.

3-25-14

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 12 titles were published from 1951 to 1973.

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)	Elliott Jaques and Wilfred Brown
1964	Time-Span Handbook (# 7)	Elliott Jaques
1965	Glacier Project Papers (# 8)	Wilfred Brown and Elliott Jaques
1968	Progression Handbook (# 9)	Elliott Jaques
1968	Organization Analysis (# 10)	A. Derek Newman and Ralph W. Rowbottom
1971	Fair Pay and Work (# 11)	Roy Richardson
1973	Organization Design (# 12)	A. Derek Newman

Heinemann advertised several of these books in the *British Journal of Industrial Relations* between 1964 and 1971. (I searched 1963 through 1980, volumes 1 - 18.) These citations were:

March 1964, 2(1):150 (# 6); Nov 1964, 2(3):457 (# 6, # 7); Nov 1968, 6(3):414 (# 9, # 10); July 1971, 9(2):299 (# 11). See Lord Brown's 1971 *Organization*, Nov 1971, 9(3):451. See Alan Fox's 1971 *A Sociology of Work in Industry* (Collier-Macmillan), July 1971, 9(2):296. See French translation of CCF 1951/1972, p. 296-297. That list includes Jaques 1970, WCSJ.

3-25-14

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

These ten 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 also 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 |

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

Another group of Bioss books was spearheaded by Maurice Kogan, who then headed one of the Bioss research units and later became a professor of government at Brunel University. These books were not published by Heinemann.

- | | | |
|------|---|--|
| 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 James Terry. |
| 1974 | Advisory Councils and Committees in Education | Maurice Kogan and Tim Packwood. |
| 1986 | Education Accountability: An Analytic Overview | Maurice Kogan |

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OTHER GLACIER RELATED BOOKS

The following 25 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 U.K. publishers. Jaques knew Fogarty and helped him. Wilfred Brown had left the government by 1970 and was no longer associated with Glacier Metal/ Associated Engineering. Newman had headed the Glacier Institute of Management (GIM) from 1961 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 but published it in 1977/1979. He worked for Jaques at Glacier and later at Brunel. Some of these books are "Pre-Glacier" and some "Post-Glacier" and some "Post-Bioss."

1946	Principles of Organisation (pamphlet)	Wilfred Brown
1948	Managers, Men and Morale	Wilfred Brown and Winifred Raphael
1961	The Just Wage	Fogarty, Michael P.
1963	The Rules of Work	Fogarty, Michael P.
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	Is Scientific Management Possible?	Joe Kelly
1969	The Glacier Project: A Compendium	Andrew J. Grimes (ed.) (2 nd S.I.U. Conf. in Carbondale, IL, 1967)
1970	Work, Creativity, and Social Justice	Elliott Jaques
1971	Organization	Wilfred Brown
1973	The Earnings Conflict	Wilfred Brown

- | | | |
|------|---|----------------------------|
| 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.) [US] |
| 1977 | Matrix Management | Kenneth Knight, ed. |
| 1979 | The Management of Human Capacity (1977) | John S. Evans (1973) ** |
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- | | | |
|--------|--|--|
| 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 |
| 2001 | Accountability Leadership (U.S.) | Gerald A. Kraines |
| 2002 | Levels of Excellence, a management novel
(Australia) | Julian Fairfield |
| 2002e. | <i>La Estrategia del Talento</i> , (The Talent Strategy)
(Argentina, in Spanish) | Schlemenson, Aldo, y otros |
| 2003e. | <i>Evaluacion del potencial individual: la gestion
del talento humano en las organizaciones</i> ,
[Evaluation of individual potential: The
development of human talent in organizations.]
(Argentina, in Spanish) | Harald Solaas |

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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 or Monterey or Kaiser Aluminum . Jerry Hunt (Texas Tech) who may have had memory of them has died. Also, Kvålseth (Minn.), Cavana or Laner may remember them. (Call Laner in Berkeley.) (I know of no proceedings.)

1967 Proceedings, 1st S.I.U. San Francisco Conference, S.I.U. (with Berkeley? Kaiser?)
San Francisco, CA. (extant?)

1968 Proceedings, 2nd S.I.U. San Francisco Conference, S.I.U. (with Berkeley? Kaiser?)
San Francisco, CA. (extant?)

* 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). It was not part of a degree thesis.

3-25-14

Social Analytic Learning Society (SALS) Conferences

The Social Analytic Learning Society (SALS, 1982-1992).

Jaques decided to gather together people from US and AU who were using levels etc. for the first, informal conference in Monterey, Cal, USA. SALS held international conferences roughly biennially, drawing together those interested in the SST theory with a focus on its social analysis methodology. They were organized mostly through BioSS. SALS appears to have been more the name of a study group than an organisation. (I don't know the theme of each of the SALS conferences, the attendee lists, or their numbers. I have no knowledge of the whereabouts of the proceedings, if any exist. As far as I know, none were published. How do we get them into a library for cataloguing and future access, retrieval and use - especially the cases?)

Social Analytic Learning Society (SALS), 1982 (?), First Conference, Monterey, Cal, USA. Held at a hotel. (Per Gillian Stamp, email 7-2-05:) Organized by BioSS (?). "On the first day Elliott rang to say he was not able to be there at all. So there we were - some 20 or so people (I think, perhaps more) and no EJ. So we decided to make the most of each other and the experience - had what I recall as a good four or five days. In EJ's absence I sort of led that gathering with lots of help and support from everyone. The name SALS was suggested by George Harding a consultant from NY who worked with EJ but sadly died a few years ago. At that time the emphasis was much more on process, the way ideas were offered (hence social analysis) than on levels etc."

Social Analytic Learning Society (SALS), 1984 (?), Conference, Copenhagen, DK. Organized by Niels Busch-Jensen.

Social Analytic Learning Society (SALS), 1987, Biennial Conference, Oxford, UK. Organized by BioSS (?). At Jordans (What is Jordans? Hotel? Person? 'Quaker' place?)

Social Analytic Learning Society (SALS), 1989, Biennial Conference, Santa Barbara, Cal, USA. Prof. Catie Burke at USC pulled this conference together with help from Wilsie Bishop. Frequently referred to by practitioners in the US and Canada. Also attended by CRA folks from Australia who were implementing RO at the time and by Gillian Stamp. Rated by participants as both an eye-opening yet a disappointing conference. (Exact dates held not known by me. Catie may have the proceedings.)

Social Analytic Learning Society (SALS), 1992, Biennial Conference, St. Albans, UK. Organized by BioSS (?). Hakan Svennerstal of Stockholm presented materials on levels in the 1992 SALS conference which became part of his PhD and were published as a book (per Jack

Fallow, 3 July 05). Also presented: Prior, M., 1992, *The Development of a Learning System For Shell Canada Ltd.* This was the **last** SALS conference, per Jack Fallow. (No conference is ever listed as “our last one” - except perhaps the last OQPF.)

Gillian note: Jack, why did we not have another? was it because of decision to have that **'marketing' conference** at that place near Egham? I wonder where the papers from that are? (Have a feeling much of this material went **when Bioss left Brunel**. [when was that exactly? 1992?])

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1990 ?, Heia Ranch, RSA? See Pieter C. Don? Per Gillian. RSA.

2000, Oct., Bioss “Spring School” in RSA. (The one Ricky Mauer & Gillian presented at?)

Gillian's garage - Barbara Edmonds. SALS papers. Alan Saunders papers - publishable?
RTZ takeover of CRA in 1997.

ANY IN ARGENTINA ??? Yes.

1999 (Nov.) Gloucester, MA, USA Cases. No proceedings. EJ sponsored it.

Any others? Nancy Lee in Sarasota, 1992. ?

US military used MCPA from 1989 (?). Ask Steve Clement. ???

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NEW as of 6-30-05

3-25-14

CONFERENCES: MILITARY**US Military Conferences and Proceedings/Books:**

- | | | | |
|-------------|---|-----------------|---|
| 1988 | San Antonio (Mink? Draman?) | US Army? | Collection: Clark and Clark 1990. |
| 1990 | <i>Measures of Leadership</i> | | Clark, Kenneth E. and Miriam B. Clark, eds. |
| 1991 | Carlisle Barracks | US Army | Two collections: Barber & Jacobs 1991; Phillips & Hunt 1992. |
| 1991 | <i>Strategic Leadership Conference Proceedings, U.S. Army War College, Carlisle Barracks, PA, and U.S. Army Research Institute, Alexandria, VA.</i> | | Barber, Herbert F., and Jacobs, T. Owen, eds. |
| 1992 | <i>Strategic Leadership, A Multiorganizational-Level Perspective (U.S.)</i> | | Robert L. Phillips and James G. Hunt, eds. |
| 1994 | Carlisle Barracks | US Army | Collection: Cage et al. 1994. |
| 1994 | <i>Strategic Leadership Conference: proceedings</i> | | Cage, Jack Hays, Steven R Stewart, George B Forsythe, Philip M Lewis. |
| 1996 | Chicago | US Army | Collection: Hunt, Dodge, Wong 1999. |
| 1999 | <i>Out-of-the-Box Leadership: Transforming the Twenty-First-Century Army and Other Top-Performing Organizations (U.S.)</i> | | Hunt, James G., George E. Dodge, and Leonard Wong, eds. |

Additional Conferences since the death of Jaques:

2004	Melbourne (Dec.)	Deakin University
2005	Toronto (Aug.)	Global RO Society
2007	Toronto (July)	Global RO Society
(A book came out of the 2007 conference in Toronto. See Ken Shepard.)		
2009	Buenos Aires	Buenos Aires Jaques User Group
2010	Toronto (Oct.)	Global RO Society. Summit.
2012	North America	Global RO Society. Calgary, AB, Can.
2014	Melbourne	PeopleFit (No date set as yet)
2014	NYC, The IBM Palisades	Global RO Society July-Aug.

3-25-14

GLACIER INSTITUTE OF MANAGEMENT

(Courses Advertised, 1964-1966)

The Glacier Institute of Management (GIM) was founded in 1961 and offered instruction on the organization theory then under development at Glacier Metal Company in Alperton, North London. At the time there were few business schools in the U.K. A stream of books and articles had already been published on the theory, many of which were used as instruction materials. Initially, GIM served only Glacier Metal managers but within a year was expanded to offer public programmes. GIM was relocated in Ruislip, Middx., close to London.

GIM was headed by A. Derek Newman. Professors Johnstone, Robinson, and others from Nottingham taught at GIM. Johnstone and Robinson were thanked by Newman and Ralph Rowbottom of GIM in their 1968 book. Others who taught at GIM also had academic careers in UK universities and authored articles, books and chapters, many of which were on the theory.

GIM advertised its offering of "Glacier Project" courses in the *British Journal of Industrial Relations* between 1964 and 1966. (None were run in the July issue of BJIR and none were discovered by me in BJIR between 1966 and 1980.) These full-page ads ran as follows:

Nov. 1964	2(3):456.
March 1965	3(1):146.
Nov. 1965	3(3):421.
March 1966	4(1):Inside back cover.

The ads were very similar to each other. The range of public courses offered in each ad was almost identical. The range of session numbers, 1964-1966, are in parentheses. The titles of later course offerings that seemed to be updates of earlier ones are also in parentheses.:

Two-Weeks Course for Senior Managers and Specialists (A.30-A.46).

One-Week Course for First-Level Managers (B.23-B.33).

One-Day Courses on Specific Subjects for Senior Managers and Specialists (F.66-F.115).

Work in Terms of Prescribed and Discretionary Content - Role Specification.

(What is Work? How to define a man's job - Role Specification.)

(Realistic Job Definition)

The Manager-Subordinate Relationship.

(Managing Subordinates - Principles and Practices)

The Glacier Project and its Relationship with other Organizational Research.

Foremen and Supervisors - Problems of Authority and Responsibility.

(Foremen and Supervisors - Aspects of Authority and Accountability.)

Aspects of Appeals Mechanisms for Industry.
The Earning Progression Technique.
Managerial Authority and the Role of Representatives and Shop Stewards.
Payment Policies and their effects on Management.
The Manager and Communications.
Organization Structure and Communications.
Work and Authority Relationships between Specialists and Line Managers.
(Specialists and Line Managers - Aspects of Authority and Accountability.)
(What is the Specialist's Place in Management?)
New Thoughts on Salary Structure.

Two-Day Course on Equitable Payment and Time Span Analysis (E.19-E.27).
This course deals with the dynamics of organizations and of individual progress, based on the time-span technique for measuring level of work and assessment of individual capacity and equitable payment. The material is of particular interest to personnel and management development specialists and to consultants.

(GIM probably ran ads in other publications besides BJIR – including Engineering - but I did not look hard for them and did not come across any.)

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3-25-14

GLACIER INSTITUTE OF MANAGEMENT**(Training Materials 1977)**

The Glacier Institute of Management (GIM) and its post-1965 parent, the Associated Engineering Business Management School (AE) developed extensive materials for classroom instruction on the theory. AE bought Glacier in 1965. GIM operated at Ruislip near London and moved to the AE research centre at Cawston House, Rugby in late 1977 [see Gore 1977, in Newspapers]. The AE/Glacier institute seems to have lasted until about 1990. Some of the 1977 materials were:

AE Series: Ideas in Management

- #1 Barnes, Ron, 1976, "Appeals Procedure at the Glacier Metal Company," AE Business Management School, Cawston House, Rugby, UK. Originally published as an article in *Industrial and Commercial Training*, Wellens Publishing, Guilsborough, Northampton, UK, Oct76, 8(10):383-386, 4p; (AN 4634490). Ron Barnes was Assistant Managing Director of The Glacier Metal Co., Ltd.
- #2 (Unknown to me.)
- #3 Parkyn, Brian, 1977, "The Scott Bader Commonwealth," AE Business Management School, Cawston House, Rugby, UK. Originally published as an article in *Industrial and Commercial Training*, Wellens Publishing, Guilsborough, Northampton, UK, Feb77, 9(2):70-73, 4p; (AN 4637293). Brian Parkyn was then the Principal of the AE School. He was Founding Member, Director and Trustee of the Scott Bader Commonwealth, and was a former member of Parliament.
- ?? (I have no knowledge of other articles in this series. See below.)

Some articles that are prime candidates for inclusion at GIM in 1977:

Simpson, J. R., 1970.

Simons, L., 1972.

Wellens, John, 1977.

Wren, Alan, 1975.

GIM Courses Offered (Autumn 1977):

Managing Managers	(2 days)
Anatomy of Management	(5 days)
Selecting People	(3 days)
Managing People	(5 days)
Decision Making	(3 days)
Working with People	(3 days)
Supervising People	(3 days)
Finance for the Non-Financial Manager	(3 days)
Managing Money	(5 days)
Managing Production	(5 days)
Personnel Management	(5 days)
Measuring Responsibility	(3 days)
Participation and Industrial Democracy	(1 day)

Plus:

On-site lectures, seminars and presentations at your company.

See also:

Glacier Institute of Management, 1966-1971. Set of course syllabi and outlines on management issues; file also contains correspondence. See Cambridge University, Churchill Archives, Papers of Lord Brown, BRWN, Box 3/11/8.

Glacier Metal Company Ltd., 2001, company records are at: Argyle House, Joel Street, Northwood Hills, Middlesex, UK. HA6 LN... (last postal digit is missing)

Nottingham, 1962 -1969: University of Nottingham.

Glacier Institute of Management, 1966.

Glacier Project Papers, 1965.

3-25-14

WORKS ON THE PROGRESSION CURVES

The Progression Curves have gone by several different names as Jaques developed this theory: Pay Progression, Potential Progression, Maturity Curves, Earnings Progression Curves, etc. There are real differences among these curves - but they each look similar. This part of the theory Jaques set forth in 1956, 1958, 1961, 1968 and 1963 (chart). Brown had a chapter on this in his 1971 book.

Jaques often cited three of these studies (Homa Hunt 1967, Wijnberg 1965, Kohler 1986). Only Wijnberg's was published and it was in Dutch (maybe English also). Critics accused Jaques of hiding his data. But, as you can see here, Jaques was unaware of much of the supporting data and studies on the progression curves. (Homa Hunt's PhD is now posted on the web for this reason.)

Due to the differences among the curves Jaques developed, there was no "replication" study but discrete independent studies each showing that there is "something" there. Also, the "quantitative" results are not of the usual kind. Nystrom 1973, Evans 1977/1979, and Jaques 1961, 1976 produced mathematical formulas to show the pattern explaining the curves. Wolfe 1999 related PhD bridged Piaget and Jaques.

I have not yet been able to closely compare these curves with the "age-wage profiles" done in Japan since 1927. They appear to be nearly identical. This will take a while. For similar U.S. work and findings see Laner and Crossman 1970, Nystrom 1973, Creedy 1987 and Gifford 1928. For Japanese studies and similar findings (age-wage profiles) see Sumiya 1965, Shimada 1974, 1985 (both US and Japan), Koike 1983, 1983, 1984, 1988, 1997, A. Weiss 1984 (HBR), Tachibanaki 1998.

Jaques, Elliott, 1956, *Measurement of Responsibility: a study of work, payment and individual capacity*, Harvard University Press, Cambridge, MA; and Tavistock Publications, London, 143 pages. A tentative sketch of maturity curves.

Jaques, Elliott, 1958 (c), "Standard Earning Progression Curves: A Technique for Examining Individual Progress in Work," *Human Relations*, Tavistock, London, UK, 11(2):167-190. The first full piece on the growth curves.

Jaques, Elliott, 1961, *Equitable Payment: a General Theory of Work, Differential Payment, and Individual Progress*, Heinemann, London, UK; John Wiley, New York, NY; (Revised) Second Edition, 1967 Penguin/ Pelican, Harmondsworth, UK; Second edition, 1970, Southern Illinois U.

Press, Carbondale and Edwardsville, IL. Appendix 1 was a progression curve chart using data from seven US companies (salary:age).

Jaques, Elliott, 1968, *Progression Handbook: how to use earnings progression data sheets for assessing individual capacity, for progression, and for manpower planning and development*, Heinemann Educational Books, London, UK, and Southern Illinois University Press, Carbondale, IL. What the growth curves look like. The rates at which people grow in their work capacity. How to develop a “talent” pool for the organization’s future.

Brown, Wilfred, 1971, *Organization*, Heinemann Educational Books Ltd., London, UK, 400 pages. Chapter 29. The Progression-Curve Technique.

Some studies used nationwide data bases or historical (longitudinal) samples to validate the existence of Jaques’ pay progression curves. They have included The Netherlands (Wijnberg 1965), Britain (Routh 1965, 1980, Evans 1979), Ireland (Behrend et al. 1970) and the United States (Nystrom 1973). A mathematical formula was derived from the UK data (Evans 1979). A computer-generated formula was derived from U.S. census data to calculate the growth modes (Nystrom 1973). These formulas explain or fit the data and this curve better than others. These studies provide powerful support for the theory.

Studies based on nationwide data bases:

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 (not 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. [Summarized in Laner and Crossman 1970.]

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

and

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).

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 these authors were unaware of Jaques - but probably they were aware of Jaques.

Below dupe

Nystrom, Paul C., 1973, "Equity Theory and Career Pay: A Computer Simulation Approach," *Journal of Applied Psychology*, 57(2):125-131. Used United States census data developed by Haire, Ghiselli and Gordon 1967. This was suggested as a test of Jaques in Gordon 1969. Nystrom found Jaques' theory of growth progression curves explained career pay. Used a computer program to derive the mathematical formula underlying the progression curves from the census data. (See entry in Bibliography for links to many other streams of research.)

Evans, John S., 1979, *The Management of Human Capacity: an approach to the ideas of Elliott Jaques*, MCB Publications, Bradford, UK. [Originally published in 1977 as a double issue of *Management Decision*, MCB Journals, Bradford, West Yorkshire, England, U.K., 15(7/8):563-768. The 1977 magazine version lacks an index.] Chapter 7 was on the Progression Curves. Appendix IV sets out a mathematical formula to describe the growth curves.

Several Ph.D.s have been done on the progression curves:

Ph.D.s on the Progression Curves

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. Found evidence supporting the curves. Unpublished. Homa Hunt cited Los Alamos earnings studies 1962 and 1964. [Summarized in Fox 1966; Laner and Crossman 1970; Jaques and Stamp 1990.] Online 2005.

Shimada, Haruo, 1974, *The Structure of Earnings and Investments in Human Resources: A Comparison Between the United States and Japan*, Ph.D., dissertation in Economics, University of Wisconsin - Madison, 248 pages; AAT 7418957. DAI-A 35/05, p. 2499, Nov 1974. DAI Online document ID: 761318071. Supvsr: Gerald G. Somers. Published in U.S. by NTIS 1974: PB-238 194. Published as an article in Japan in 1975, "Nenrei-Chingin Profile no Nichi-Bei Hikaku," [A Japanese-American Comparison of Age and Wage Profiles], *Nihon Rodo Kyokai Zasshi*, [The Monthly Journal of the Japan Institute of Labor], July-Oct. 1975, vol. 17. Published as a book in Japan in 1981, *Earnings Structure and Human Investment: A Comparison Between the United States and Japan*, Kogakusha, Keio Economic Observatory, Tokyo, Japan. This is a comparison of "age-wage profiles" in the US and Japan which Shimada developed from different databases in each country. This will allow much better comparative analysis of each and both countries in the future. (These were the same as Jaques' maturity curves and used in the same way.) Several patterns pop out. Racial discrimination against non-whites in the US was immediately apparent. They were paid less across the board. The wage increases in Japan were steeper for people as they aged than in the U.S. Experience and training in the U.S. was rewarded in only a very minor way. (This likely reflected age discrimination.) Experience and training in Japan that was gained external to the firm was rewarded - but not that much. If it was gained internal to the firm, however, it was greatly rewarded (500% - 1000% increases in pay over a career). Cited 1975 in Koike 1978. NYPL HUM Microforms *XME-9746. NTIS.

Stewart, Steven R., 1989, *Correlates of Problem Solving and an Evaluation of Training to Increase Problem Solving Effectiveness*, Ph.D., dissertation in Psychology, Southern Illinois University, Carbondale, IL, 279 pages. Published by NTIS, 1992. Combined Jaques' model with Robert Kegan's concept of ego development (1982) and found better explanatory power. Found that people could jump to a higher growth curve mode with appropriate training, education, and coaching intervention.

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. Predicted the outcomes of CEO successions. Accurate - but there was a three-year delayed impact. Articles published and online.

Other Studies on the Progression Curves:

Evans, John S., 1970b, "Tracing Salary Patterns," *Personnel Management*, December, UK. Worked on 100,000 earnings profiles (growth curves). See 1971a also. Cited in Krimpas 1975, p. 136.

Evans, John S., 1971a, "Career Travel in Works Management: The 1970 Survey," *Personnel Management*, January, UK. Devised methods for observing average behaviour of earnings profiles. See 1970b also. Cited in Krimpas 1975, p. 136.

Evans, John S., 1971b, "Salary Patterns and the Language of Responsibility," *Personnel Management*, May, UK.

Brown, E. Henry Phelps, (Sir), 1977, *The Inequality of Pay*, Oxford University Press, Oxford UK and NY, NY, USA, 360 pages. Cited study (and graphs) that show the earnings progression curves for chemists (p. 270, Creedy 1974, UK data 1962). This was an update of the chemists' 1956 UK data. Also cited other studies on UK engineers (p. 270, U.K. Ministry of Technology 1967) and on French employees (p. 263, Blanchemanche 1968). See sources for details of calculations to be sure they discounted for inflation. See book review by Michal 1979.

Stamp, Gillian P., 1981, "Levels and Types of Managerial Capability," *Journal of Management Studies*, Basil Blackwell, Oxford, UK, July, 18(3):277-297. Growth curves, card sorting tasks, explanations, appreciation of capability. Grounded in Jaques' general approach to the structure of organizations. (Easier to find than Stamp 1980.)

Kohler, Adam Tom, 1984 (1986?), "The Development of Capability in Executives and Managers," UCLA. Dr. Kohler was a clinical psychologist with the VA hospital at UCLA Medical School. Unpublished paper analyzing Jaques' data from interviews over 10 to 20 years with each of 58 individuals on their careers. Whenever an individual was comfortable with the

assigned level of work, the point was plotted. The resulting “comfort curves” corresponded closely to earnings progression curves and stayed within a single mode. (Paper described in Jaques, E. and Stamp, G., 1990, pages C19-21. Cited in *Human Capability*.) See Kohler 1983. Not seen. (For similar U.S. work and findings see Laner and Crossman 1970, Nystrom 1973, Creedy 1987 and Gifford 1928. For Japanese studies and similar findings (age-wage profiles) see Sumiya 1965, Shimada 1974 (both US and Japan), Koike 1983, 1983, 1984, 1988, 1997, Weiss 1984 (HBR), Tachibanaki 1998.) (See Biblio Part I, “Works on the Progression Curves” for a listing of the many studies done in this area.) Not seen.

Raw Data (US) including Progression Curves:

National Survey of Professional Scientific Salaries, 1962 and 1964, Los Alamos Scientific Laboratory of the University of California, Personnel Department, Los Alamos, NM, The Laboratory, 1947-1968. Superseded by: *National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities*, prepared for U.S. Department of Energy, Office of Industrial Relations, by Battelle Columbus Laboratories, Columbus, Ohio: The Laboratories ; Washington, DC: For sale by the Supt. of Docs., U.S. G.P.O. ; NTIS, Springfield, Va., 1969-1981. This was continued by: *Report on National Survey of Compensation Paid Scientists and Engineers Engaged in Research and Development Activities*, Columbus, Ohio: 1982- (?). Homa Hunt 1967 PhD cited charts in the 1962 and 1964 editions that closely resemble Jaques’ pay progression curves. Graphs from the 1964 Survey were reproduced and presented as Exhibit 1 in **Homa Hunt 1967**. The 1969, 1970 and 1971 editions also had similar Age-to-Actual-Pay progression data and charts since the individual’s B.A. or First Degree. (See Act, 1962: p. 104-5, 108-9, 196-7, and 200-1.) [1972, p. J 7 and J 14 show yearly increments.] See Patton 1961. See Nystrom 1973. (See Gifford 1928 for ‘prior’ evidence.)

General Studies including the Progression Curves:

Fogarty, Michael Patrick, 1963a, “Portrait of a Pay Structure,” chapter 1 in J. L. Meij, ed., 1963, *Internal Wage Structure*, North-Holland, Amsterdam, The Netherlands, p. 1-114. [Jacob Louis Mey?] See Fogarty 1961 - a lot of overlap. The first half of this long essay is an extensive explication of Jaques’ approach to time span of discretion, felt-fair pay, and growth curves. Cited Behrend 1957, Royal Commission on Doctor’s and Dentists’ Remuneration (Cmd 939) (1960), and British Transport Commission’s Railway Pay Committee (1960), as confirming Jaques’ theory of differential pay structures (1956, 1958, 1961). Cited Royal Institute of Chemistry, 1956, “Remuneration Survey,” p. 57. Cited Copeman 1959, 1960. Pointed out the potential for “mounting confusion” by using purely ‘empirical’ explorations without theory in this area (p. 107). This is exactly what U.S. academics did. (See Koontz 1961/1962) This book may have fed interest about the theory in The Netherlands even though it was written in English. See E.H.P. Brown 1977 study.

Laner, Stephen, and Edward R.F.W. Crossman, 1970, “The Current Status of the Jaquesian Time-Span of Discretion Concept: Research and Applications,” September 1970, University of California at Berkeley, Department of Industrial Engineering and Operations Research, Human Factors in Technology Research Group Working Paper, ONR Tech. Rep: AD 715800, HFT 69-1,

National Technical Information Service (NTIS), U.S. Department of Commerce, Springfield, VA 22161. Research supported by the Office of Naval Research. Reprinted as a chapter in Gray 1976. A study of the background, development, research and application of TSD. Outlines TSD:FFP correlation, the progression curves, critiques of the theory, and empirical studies to date. Mentioned Allen Industries in Herrin IL and its use of TSD. Goodman's study "failed." Summaries of Wijnberg and Homa Hunt. He established the cumulative distribution of capacity in the workforce, and validated the growth curves. Delineated a common-sense method for triangulating individual capacity. Noted Dearden's 1969 reversal of Jaques' question regarding the manager's judgment on employee effectiveness (How *soon* can I know?). See Ramanathan 2004 M.A.; Stamp 1988. *****

The Link Between Piaget and Jaques:

Wolfe, Fancher Elbert, 1999, *Levels of Piagetian Development Among Adult Mathematics Students*, Ph.D., dissertation in Adult and Continuing Education and Cognitive Psychology, University of Minnesota, Minneapolis, MN, 115 pages. Adviser: Rosemarie J. Park. UMI AAT 9947011. DAI-A 60/09, p. 3239, Mar 2000. Unpublished. Classified adult college mathematics students into three Piagetian stages: concrete operational, transitional, and formal operational. Showed how Piaget's constructivist principles can help bridge the gap between traditional collegiate teaching and the cognitive needs of adult students. Extended Piaget's concepts of cognitive growth into adulthood (age 22+). This bridged the age of subjects between the Piaget and Jaques approaches. **Related PhD.**

Evidence Pre-dating the theory:

Gifford, Walter S., 1928, "Does Business Want Scholars?" *Harper's Magazine*, New York, NY, May, 156:671-674. Gifford was CEO of AT&T and Western Electric, 1925-1949 (selected by Theodore Vail, who was himself selected as CEO by J. P. Morgan). This study of 3,806 AT&T employees who were college graduates showed those in the top 10 percent of their classes were paid 55 percent above median of the group. Those in the top third were paid 20 percent above median vs 20 percent less than median for those in the bottom third. This divergence only began 5 years after graduation and increased across their careers. (See Gifford's chart.) Cited by Strong 1938, p. 567. (This predates Jaques' earnings progression curves (1958, 1961, 1968). Jaques noted this study did not correct the raw pay data by the Earnings Index and was based around a mean, so it did not produce the earnings progression curve. The details of this study are not available to answer Jaques' critique.) One final note: this article was written while Elton Mayo and his Harvard associates were conducting their experiments at Western Electric's Hawthorne (IL) plant. See Haire, Ghiselli, and Gordon, 1967. See Homa 1967 PhD. See Creedy and Hart 1979.

12 pgs. 170-182 p.

These next 12 pages are tentative.

847-859 xp. 824-x ... 833- 845 ...x

MAKE A CHART WITH JAPANESE AGE-WAGE (1927- on)::::

(JAQUES 1956-1975)

WAGE IS AP. US CENSUS, LOS ALAMOS SCI., GE? Also, Mincer's 1958, Jaques's, Marsh & Mannari 1976, etc. Make JES list: only prominent in the late 1970s. Not since & no

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Sumiya, Mikio, 1977, "Japanese Industrial Relations Revisited: A Discussion of the Nenko System," *Japanese Economic Studies*, M. E. Sharpe, Armonk, NY, Spring 1977, 5(3):3-47. Translated from the Japanese. Age-Wage Chart was from Mincer 1962 with 1936 census data. Nenko was not then scheduled to be phased out. CUNY Grad Ctr. Misc.

Sano, Yoko, 1977, "Seniority-Based Wages in Japan - a survey," *Japanese Economic Studies*, M. E. Sharpe, Armonk, NY, Spring 1977, 5(3):48-65. Translated from the Japanese. Wages are not set by the market but by the institution. Age-Wage charts on p. 52 from Shimada. Cited Haruo Shimada four times, all from 1975 articles. CUNY Grad Ctr. MS. PJ.

Magota, Ryohei, 1979, "The End of the Seniority-Related (Nenko) Wage System," *Japanese Economic Studies*, M. E. Sharpe, Armonk, NY, Sp 1979, 7(3):71-125. Translated from the Japanese. Age-Wage charts on p. 77 and 81 from 1976 Japanese Labor Ministry). Aggregated retirees. Nenko is ending (enough death of *nenko* already). CUNY Grad Ctr. Misc.

Koike, Kazuo, 1980, "A Japan-Europe Comparison of Female Labor-Force Participation and Male-Female Wage Differentials," *Japanese Economic Studies*, M. E. Sharpe, Armonk, NY, Winter 1980-1981, 9(2):3-27. Translated from the Japanese. Cited Koike Aug 1978, Fall 1978. Ref. to age-wage 1978. CUNY Grad Ctr. MS. PJ.

Yashiro, Naohiro, 1980, "Male-Female Wage Differentials in Japan: A Rational Explanation," *Japanese Economic Studies*, M. E. Sharpe, Armonk, NY, Winter 1980-1981, 9(2):28-61. Translated from the Japanese. Age-Wage chart on p. 45. (Unique. Showed learning curves at each place of work beneath the career learning curve.) Cited Mincer 1974 and Y. Shimada (undated) flnt 19 p. 61. CUNY Grad Ctr. MS. PJ.

Shimada, Haruo, Astsushi Seike, Tomoko Furugori, Yukio Sakai, and Toyoaki Hosokawa, 1982, "The Japanese Labor Market: A Survey," *Japanese Economic Studies*, M. E. Sharpe, Armonk, NY, Winter 1982-1983, 11(2):3-84. Translated from the Japanese. The entire issue. A survey

of the state of the labor market in Japan. Age-wage chart on p. 38. Cited M. Kuratani related PhD 1973, Phillips 1958, Shimada related PhD 1974, 1974, 1976, 1978. Baruch Pers. Misc.

Shirai, Taishiro, ed., 1983, *Contemporary Industrial Relations in Japan*, University of Wisconsin Press, Madison, Wis., 421 p. Lots and lots of detailed expositions about what was going on in Japan by nine contributors in 15 chapters, including Shimada (1 and 14), Koike (2 and 4), and Shirai (5, 13, and 15). Koike's also included many international Age-Wage profiles. Some published in Japanese elsewhere. Cited by Lincoln and McBride 1987. Bus HD8726.5 .C65 1983. Misc.

Shimada, 1. Japanese Industrial Relations - A New General Model? A Survey of the English-Language Literature.

Koike, 2. Internal Labor Markets: Workers in Large Firms.

Koike, 4. Workers in Small Firms and Women in Industry.

Shirai, 5. A Theory of Enterprise Unionism.

Shirai, 13. Japanese Labor Unions and Politics.

Shimada, 14. Summaries and Evaluation.

Shirai, 15. A Supplement: Characteristics of Japanese Managements and Their Personnel Policies.

Kagano, Tadao, and Kansai Seisansei Honbu hen, 1984, *Midoru ga kaita Nihon no keiei: Wa-Ei taiyaku* = *How Japanese companies work*, Nihon Keizai Shinbunsha, Showa 59 [1984], Tokyo, JP, 216 p. English and Japanese on alternating pages. P. 211 age-wage profile. Footnote to Shimada 1974. CUNY Baruch HD 70 .J3 M487 1984. Misc.

XX

Baker, George, Michael Gibbs, and Bengt Holmstrom, 1994b, "The Wage Policy of a Firm," *Quarterly Journal of Economics*, November 1994, 109(4):921-955. Salary data from a single firm are analyzed in an effort to identify the firm's wage policy and found: 1. Employees are partly shielded against changes in external market conditions; 2. Wage variation within a job level is large both cross-sectionally and for individuals over time, often leading to substantial real wage declines; 3. Wage increases are serially correlated even controlling for observable characteristics; 4. Promotions and wage growth are strongly related, even though promotion premiums are small relative to the large wage differences between job levels. **None of the major theories of wage determination can alone explain the evidence.** (Well, that means we're stuck then, right?) Age-wage profiles. (P. 941 close to Gifford 1928 curves!) (An 'empirical' study of chaos?) See Lima and Pereira 2003. MS. PJ. A.

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. [Paper No. 56 is by the same authors, "Views on Pay Increases, Fringe Benefits and Low Pay."] Michael P. Fogarty was Director of the Institute!

Their findings supported Jaques' **growth curves**. One question remains: Was this a deliberate replication of Jaques' Age-Wage Profile? (Cited in Evans 1977/1979 who thought Behrend was unaware of Jaques. Obviously, Evans was unaware of her earlier writings - 1953, 1957, 1959, 1960, 1961. See unlocated Behrend presentation at the Royal Economic Society annual conference in Durham in 1972. See Behrend 1973.) Cited in Barnard, G. A., 1997 PhD (in 1984: the '1969 Irish study'). Jaques not cited. Cited Behrend et al 1966; Behrend et al 1969; Behrend 1966; Behrend et al 1967. Clio Biz os HC257.E5 Ec74 no.53-57. # Rp. Rep.

Creedy, John, and P. E. Hart, 1979, "Age and the Distribution of Earnings," *The Economic Journal*, June 1979, 89(354):280-293. Examined life-cycle factors that create the age-wage profile, including the Matthew Effect. Followed the data on three cohorts. Created an age-wage cohort chart that was remarkably similar to the ones developed by Jaques 1961 and Gifford in 1928 (US, AT&T) (p. 286). Unaware of the theory. See Klevmarken 1982. At Penn State (US) and U. Reading (UK). MS. PJ. A.

Creedy, John, 1987, "Variations in Earnings and Responsibility," *Journal of the Royal Statistical Society, Series A (General)*, London, UK, 150(1):57-68. Used Royal Chemical Society data on age and responsibility. (See Fogarty's 1963 a and b cites of earlier surveys of the RCS membership earnings. See E.H.P. Brown 1977 study also.) A close relationship between the log of earnings and responsibility (on a cardinal scale) was found. Responsibility grows with age and can be integrated into the age-wage profile. Cited Jaques 1956, 1961. Creedy was at Uni. Melbourne and was on leave 2002-2003 to the New Zealand government. (An interesting extension to the theory.) MS. PJ.

Creedy, John, 1992, "Changes in the Responsibility and Earnings of Professional Scientists," *Labour Economics and Productivity*, W.A. Labour Market Research Centre, Murdoch University, Murdoch, W.A., AU., 1989-1996. [Vol. 1, no. 1 (Mar. 1989) - v. 8, no. 2 (Oct. 1996).] [not found] MS. PJ.

Higuchi, Yoshino, 1997, "Trends in Japanese Labor Markets," chapter 1 (p. 27-52) in Sako, Mari, and Hiroki Sato, eds., 1997, *Japanese Labour and Management in Transition: diversity, flexibility and participation*, Routledge: LSE, London, UK: New York, NY, 344 p. Page 49 is an Age-Wage Profile of male high school graduates and male university graduates in 1977 and in 1992. (In 1992 high school grads earned amounts very similar across their lifetimes to those in 1977. In 1992 university grads were earning comparatively less across their lifetimes than university grads in 1977.) Wage compression among the more highly educated was taking place in Japan. Bus HD8726.5 .J384 1997. Misc.

Huizinga, Harry, 2000, "Intrafirm information management and wage dynamics," *European Economic Review*, Elsevier Science, January 2000, 44(1):163-180. Firms continually have to decide what information to transfer to what workers. Better informed workers produce more, but they also demand higher wages reflecting improved outside options. The model can explain an upward sloping wage schedule or a return to tenure. (As screwy an explanation of the age-wage profile as we find. It has no bearing on reality.) At Katholieke U. Brabant, Tilburg, NL. Off.

Klevmarken, N. Anders, 1982, "On the Stability of Age-Earnings Profiles," *The Scandinavian Journal of Economics*, 84(4):531-554. Comparison of age-wage profiles between US, Sweden, and Japan. Charts. (Still caught up in human capital and market conditions as explanations but sees institutions as part of the answer. Pretty much gets it.) See Tigges 1988. Cited Creedy and Hart 1979, Shimada 1974 PhD, 1980. MS. PJ.

Koike, Kazuo, 1978, "Japan's Industrial Relations: Characteristic and Problems," *Japanese Economic Studies*, M. E. Sharpe, White Plains, NY, Fall 1978, 7(1):42-90. Originally Chapter 7 (p. 213-252), the conclusion, "Wagakuni Roshii Kankei no Tokushitsu to Mondosai," in author's 1977 book, *Shokuba no Rodo Kumiai to Sanka - Roshii Kankei no Nichibei Hikaku* (Labor Unions at the Workshop and Their Participation - Japan-United States Comparison of Industrial Relations), Toyo Keizai Simpo Sha, Tokyo, Japan, 252+ p. **Argued that neither lifetime employment nor the seniority wages were necessarily characteristic institutions in Japanese firms.** Winner of Mainichi Economist's award for best economics book. P. 66: comparison of US and Japanese Age-Wage Profiles. P. 67 and 69: comparison of British and Japanese Age-Wage Profiles. See this for full comparison of economic statistics between the US and Japan. Cited by David Friedman 1983, p. 264, ft. 36. *Time-series data* is "very scarce" (in the US and Britain). Even in Japan it was only after WWII that internal promotions took place for blue-collar employees. **American academics abandoned studies along these lines because there were "no dependable historical studies" on it.** Cited Shimada 1974 Ph.D., article in Japanese 1975. Cited Lupton 1963. See Itami in same issue. Contrast Koike 1977 book with Hashimoto and Raisian 1985 per Iwai 1995. Clio Offsite HC461 .J45. v.1 (1972)-v.23 (1995). CUNY Grad Ctr - Perdls., v. 1 (1972)-v.9 (1981). MS. PJ.

Koike, Kazuo, 1983, "Internal Labor Markets: Workers in Large Firms," Chapter 2 (p. 29-61) in Shirai, Taishiro, ed., 1983, *Contemporary Industrial Relations in Japan*, University of Wisconsin Press, Madison, Wis., 421 p. Lots of age-wage profiles. Part of this chapter was excerpted as a box-insert in Andrew Weiss's 1984 HBR article. NYPL offsite. In Clio Business & Lehman, also in Baruch HD8726.5 .C65 1983. MS.

Koike, Kazuo, 1983, "Workers in Small Firms and Women in Industry," Chapter 4 (p. 89-115) in Shirai, Taishiro, ed., 1983, *Contemporary Industrial Relations in Japan*, University of Wisconsin Press, Madison, Wis., 421 p. Lots of age-wage profiles. NYPL offsite. In Clio Business & Lehman, also in Baruch HD8726.5 .C65 1983. MS.

Koike, Kazuo, 1984, "Skill Formation Systems in the U.S. and Japan: A Comparative Study," chapter 2 (p. 47-75) in Aoki, Masahiko, ed., 1984, *The Economic Analysis of the Japanese Firm*, North-Holland (Elsevier Science), New York, N.Y., Amsterdam, 425 p. Article published in Japanese in 1977. This was a description of the HRM system in action in Japan, including the **maturity curves**, the **Archimedes** hiring and staffing principle, and the comparatively primitive approach in the U.S. 2/3 of the steepness of Japanese wage trajectories were attributable to the training of the internal labor market and rapid technology changes. Training was broad (horizontal job rotation) and deep (vertical managerial experience). In the US job classification

was adopted in the 1940s, but not in Japan. There were four inherent **career trajectories** with the key difference being **the effect of time on skills**: (A) craftsmen - high and flat; (B) laborer - low and flat; (C) Internal Promotion - late and high ceiling for growth [favored, fast track, high mode] and; (D) Less Internal - less growth than (C). The core group of key employees recruited in large main firms were all type (C) males. In small firms this group was only 5% to 20% and most were As and Bs. This was the Japanese description of the **growth modes** (that fed Jaques's structure for strategy and the implementation of Deming's production system). The US and the EC didn't do age-wage profiles in this way, if at all. Koike contended this was entirely rational and had nothing to do with any Japanese cultural exceptionalism. (Was Koike using Social Analysis? His micro-analysis was really hitting pay-dirt. The common points of this HRM system with RO/SST were extraordinary.) See A. Weiss 1984, Koike and Inoki 1990. Cited by Aoki 1990. Baruch HD70.J3 E26 1984. SIBL offsite. ***** MS.

Koike, Kazuo, 1987, "Human Resource Development and Labor-Management Relations," chapter (p. 289-330; 19-20; 624-5) in Yamamura, K., and Y. Yasukichi, eds., 1987, *Political Economy of Japan, Volume 1: The Domestic Transformation*, Stanford University Press, Stanford, CA. Koike rejected the socio-cultural explanations of Japan's labor practices and worker attitudes. A better explanation was the ways skills were acquired and used. Even inter-firm wage differentials were a statistical artifact: in Japan subcontractors did the unskilled work. Worker loyalty raised productivity and quality, skill sharing, and learning. The age-wage sloped upward due to the accumulation of skills, especially intellectual skills in both white and blue collar professions (not just tenure). Cited in Zeitlin 1994 syllabus, Clegg 1990:188, Aoki 1990. Not in NYPL. In Clio Lehman Res & Biz Course Res HC462.9 .P57 1987 MS. *****

Koike, Kazuo, 1988, *Understanding Industrial Relations in Modern Japan*, St. Martin's Press, New York, NY, 306 p. In English (trans. Mary Saso). Lots of age-wage profiles (p. 21, 23, 36, 41) contrasted among Japan, US, and Europe. See again. Cited in Deutschmann 1989. Clio Lehman & Barnard HD8726.5 .K548 1988. MS.

Koike, Kazuo, 1996, *The Economics of Work in Japan*, LTCB International Library Foundation, Tokyo, Japan, 289 p. LTCB international library selection; no. 3. Published in Japanese 1991. Professor of HRM at Hosei U. Age-wage profiles of workers in Japan, US, UK, European countries. Confronts the myths about workplace Japan, the central need for intellectual skills (Ch. 5), current approaches to HRM (Ch. 6), and the theory of stages (Ch. 14). An excellent summa of Koike's concepts about work, wages, and employment. (Hugh Patrick's copy.) In BIZ: HD5706 .K6871 1996g. MS.

Koike, Kazuo, 1997, *Human Resource Development*, Japan Institute of Labour, Tokyo, Japan, 143 p. OTJ training and Off-TJ training was designed to provide the employees with the intellectual skills to handle **uncertainty** and **change**. This was also done through deployment, job rotation, and mobility. Formal training was 2-5 days twice a year and focused on theory. The Age-Wage Profile for male blue-collar workers in **1927 and 1979** is on p. 122. It reflects the same early ceiling curve found on Jaques' **Maturity-Progression Curves** for Stratum I workers peaking in their early 50s. (See Shirai and Shimada 1978.) SEE AGAIN. In BIZ: HF5549.5.M3 K74 1997g. (Missing) In SIBL JBD 97-1291. MS.

Lefranc, Arnaud, 2003, "On the sensitivity of returns to seniority to the measurement of earnings," *International Journal of Manpower*, MCB UP Ltd, Bradford, UK, 24(7):789-811. The panel study of income dynamics (PSID) shows that estimated returns to seniority are very sensitive to the type of wage data used. Estimates based on yearly reports are typically twice as large as those using direct reports. Two sources account for this discrepancy. First, the inclusion of earnings from secondary jobs and overtime in the PSID annual earnings data tends to overestimate returns to seniority. Second, hourly wages computed from yearly measures include important measurement errors that tend to bias coefficients upward. (Used age-wage profiles.) This approach leads to panel data coming out - as expected. At THEMA, U. Cergy-Pontoise, France. Misc.

Livy, Bryan, 1975, *Job Evaluation: a critical review*, George Allen and Unwin, London, UK, 192 p. For the personnel professional. Covers all the job evaluation methods then prominent including Jaques, Paterson, Hay, etc. Recognized the importance and credibility issues of non-quantitative job evaluation. TSD described p. 98-108 including ranks/strata I-V but VI-VII may exist also in large organizations. Age-Wage curve/modes p. 105. Appendix II on incumbent evaluations in the UK Post Office, included: 2. Decisions at 25 % and; 3. Judgment at 40% (p. 173-178). In the end he rejected time span as impractical. Cited EJ 10 times: 1961, 1964, 1967 (EP2), 1967/1968, 1969, 1970; WB 1973; Adams 1963, 1965; Belcher 1963; Goodman 1967; Goldenberg 1968; Richardson 1971. He has MA Lond. At City U., UK. (Cited by Holmes 1981.) (Cited W. H. Auden in reply to Lord Kelvin on p. 153, q.v..) NYPL Hum Offsite - Request in Advance - JLE 76-1868 (HSSL). Rp.

Lydall, Harold, 1955, "The Life Cycle in Income, Savings, and Asset Ownership," *Econometrica*, April 1955, 23(2):131-150. Cited by Fogarty 1963b (p. 47, fnt 28, and p. 92, fnt 53) as providing the data on pay that validated Jaques 1956 (p. 95). The data to be able to conduct such surveys as this only became available a few years earlier. The part that linked most closely to Jaques' progression curves was Table III, Income Within Age Groups (1953 Oxford survey). Age-Wage Profiles. See also Lydall 1955 book. (See Nystrom 1973.)

Marsh, Robert M., and Hiroshi Mannari, 1976, *Modernization and the Japanese Factory*, Princeton University Press, Princeton, NJ, 437 p. M&M describe the consideration of the *satei* evaluation system for pay and promotion in 1969 but call it something else in the shipbuilding firm they examine (*shokuno kanri seido* or *shokkan seido*) (p. 130-141). There were three elements in deciding qualifications for pay and promotion: job classification, ability, and seniority. They also looked at employees at a sake brewery and an electric company. The attitude of the employees in the electric company toward seniority and job satisfaction was so high ($r = .82$) they had trouble differentiating pay. Appendix D, "Multiple Regression Analysis" (p. 365-422) contained a relationship of **Age-Wage** (p. 374-375, Table D.8) ($r = .85$). (But M&M ask so many questions and are so focused on cultural factors that many key points are buried in their data and only partly developed.) Clio Offsite HD6957.J3 M37 Baruch & Grad Ctr HD6957.J3 M37. See Leibenstein 1987. MS.

Mincer, Jacob, 1958, "Investment in Human Capital and Personal Income Distribution," *The Journal of Political Economy*, Aug. 1958, 66(4):281-302. Assumed identical abilities by everyone and so assumed the "differences in training result in differences in levels of earnings." A huge error. Included an **Age-Wage Profile** (p. 294) from the US Census of 1950. (See Japanese use of this profile since 1927.) Misc.

Mincer, Jacob, 1962, "On-the-Job Training: Costs, Returns, and Some Implications," *The Journal of Political Economy*, Part 2: Investment in Human Beings, Oct. 1962, 70(5.2):50-79. Found the investment in on-the-job (OTJ) training was more than half the size of the investment in formal schooling. Both investments had the same rate of return. (No age-wage profile here, just math. This is a big problem in economics: weak graphs and strong math. Everybody understands graphs.) (See Becker 1962 in same issue.) Misc.

Mincer, Jacob, 1974, *Schooling, experience, and earnings*, New York, National Bureau of Economic Research; distributed by Columbia University Press, [Human behavior and social institutions; 2], 152 p. Has Age-Wage profiles (p. 71) and Age-Experience profiles (p. 48-49, 66-67). Human capital development with an emphasis on education. United States - more mathematical models. Mincer set forth the quadratic function of age-wage profiles. He likes schooling as an investment and gets lost. Cited in Murphy & Welch 1990. Cited Becker 1964, Kuratani PhD 1973. See Krimpas 1973 PhD. Clio Bus H35.N25 [x Becker], Lehman Res & Milstein [Butler] HC110.I5 M55. SIBL JLL 74-476 [no.] 2. Seen. Misc.

Mincer, Jacob, 1975, "Education, Experience, and the Distribution of Earnings and Employment: An Overview," chapter three (p. 71-93) in Juster, F. Thomas, ed., 1975, *Education, Income, and Human Behavior*, McGraw-Hill, New York, NY, 438 p. For the Carnegie Foundation on Higher Education. (With chapters by Albert E. Beaton, Jacob Mincer, etc.) Mincer's Age-Wage Profile was U.S. data from 1959. (Graph on p. 74 was reproduced on p. 237 in Reynolds, Lloyd G., 1982, *Microeconomics*, 4th edn., Irwin, Homestead, IL., 424 p. Reynolds was discussing education as an investment in human capital. See p. 75 too.) Clio Bus LB2424 .J87. Misc.

Mincer, Jacob, 1997, "The Production of Human Capital and the Life Cycle of Earnings: Variations on a Theme," *Journal of Labor Economics*, Part 2: Essays in Honor of Yoram Ben_Porath, Jan. 1997, 15(1):S26-S47. A tribute to Ben-Porath's innovative 1967 essay in support of Gary S. Becker. Inadvertently confirmed a portion of Koike 1984 on increasing (with decreasing) returns to scale. Post-school training (human capital investment) was the primary factor underlying the age-wage profile. (Noted the link between ability and wages as the Simon-like limitation introduced in the use of test scores as predictors of formal education, earnings, and OTJ training (see Becker 1975 and Bartel and Sicherman 1999 [p. S41]). This link was there at .53. (Koike and Inoki 1990, and Koike 1997 almost completely eclipse this study.) See Mincer 1991 A-W Profile. Misc.

Murphy, Kevin J., 1986, "Incentives, Learning, and Compensation: A Theoretical and Empirical Investigation of Managerial Labor Contracts," *The RAND Journal of Economics*, Spring 1986, 17(1):59-76. Tested two hypotheses, incentives and learning (ability, skills, education), for

managerial labor contracts using “experience-earnings profiles” and the relation between compensation and performance. Sampled 1488 CEOs between 1974-1985. Mixed results generally supported the learning hypothesis over the incentive hypothesis. This article used managerial Age-Wage Profiles in the USA (expressed mathematically). See Shimada 1973 PhD. See Seijts, Latham, et al 2004. Based on his Chicago Related 1984 PhD. At USC. MS. A.

Above dupe

Nystrom, Paul C., 1973, “Equity Theory and Career Pay: A Computer Simulation Approach,” *Journal of Applied Psychology*, 57(2):125-131. The first published mathematical formula for the pay progression curves. **Nystrom showed that Jaques’ theory explained the empirical U.S. career pay findings** of Haire, Ghiselli and Gordon (1967), explains Brenner and Lockwood (1965) and confirms Saunders’ conjecture (Master’s 1968). Created random sample of 100. Powerful confirmation of continuing growth in capability throughout adulthood. See Gordon article (1969). Also see Guy Routh (1965, 1980) for an earlier linkage of Jaques to pay in Great Britain. (See Gifford 1928 for ‘prior’ evidence.) See Cliff and Andrade 1973. See Tang 1996 and 2000. See Sen 1966. See Gerhart and Rynes 2003. See Homa Hunt PhD 1967. See Japanese “age-wage profiles” since 1927.

Okochi, Kazuo, 1958, *Labor in Modern Japan*, Science Council of Japan, Division of Economics, Commerce and Business Administration. Economic Series; no. 18, Tokyo, Japan, 117 p. In English. According to Shirai 1983, this work contains some of the earliest “age-wage profile” data. It documents the wage levels of young men moving from rural to industrial employment. (Seen. I couldn’t find this data, but let it be.) Clio Offsite HD8726 .Ok5 HUM GenRes offsite. Misc.

Rebick, Marcus E., 2005, *The Japanese Employment System: adapting to a new economic environment*, Oxford University Press, Oxford, UK, 296 p. Outlined the prior 10-20 years of changes. Confirmed the **ability-qualification wage system** introduced in the 1960s-1970s (shokuno-shikaku seido). New trends were loosening things up: faster promotions, flattening of the age-wage profile (p. 48), weakening of the peer group, high youth unemployment, etc. (Unclear if these were trends or wobbles.) Concluded there was no great change effecting ‘standard employees’ except they were a declining percent of the total workforce. Firms were trying to develop the skills of their non-core employees but the dual structure of the labor market remained. Clio Bus HD5827.A6 R43 2005g MS.

Sen, Amartya K., 1966, “Education, Vintage, and Learning by Doing,” *The Journal of Human Resources*, Autumn 1966, 1(2):3-21. Developed Age-Wage Profiles by educational brackets in the U.S. from the 1960 census and in Canada from the 1961 census. The profiles were confirmed without exception. Sen assumed the curves were due to the individual’s educational base plus on the job experience/ learning by doing. MS.

Shimada, Haruo, 1985, “The Perceptions and the Reality of Japanese Industrial Relations,” chapter three (p. 42-68) in Thurow, Lester, ed., 1985, *The Management Challenge: Japanese*

Views, MIT Press, Cambridge, MA, 237 p. The **reality** is lifetime employment, length-of-service wage system (*nenko*), and enterprise unionism were built up during the 1950s and 1960s. Even though they are called the “Three Sacred Treasures” of Japanese industrial relations, there is nothing ‘ancient’ or ‘mystic’ or inherited about them. Such stereotypical **perceptions** have been spread by Ezra Vogel, Pascale and Athos, and Ouchi. Their real purpose was to **accumulate human capital within the firm**. He has Age-Wage Profiles (on p. 50-51) from his 1981 book (1974 Related PhD) showing the similarity of Japan to the US and the power of technology and organizational factors. He speculates that enterprise unions with joint consultation (70 percent) and QC circles (more than one million participants) are likely unique to Japan. (He lacked knowledge about their sources.) Not unique is an internal labor market. (Does not mention GLACIER METALS or BROWN or JAQUES but puts the time absolutely dead-on - and at both ends: UK and US. See Wright 1997 for Moreton/ Glacier/ UK-to-Japan in the late 1960s and see Shimada and MacDuffie 1986 for Japan-to-MIT/ US.) Comments by Thurow. (**This is as close to proof as I am likely to get.**) Clio Offsite HD70.J3 M264 1985. NYPL Hum JLD 85-1640 (HSSL). Misc.

Shirai, Taishiro, and Haruo Shimada, 1978, “Japan,” chapter (p. 241-322) in Dunlop, John T., and Walter Galenson, eds., 1978, *Labor in the Twentieth Century*, Academic Press, NY, NY, 329 p. This essay has data for the Age-Wage Profile for Japan from 1927-1973. The data from 1929 through 1938 came from the Office of the Prime Minister. (Did the Japanese take this seriously? Rather. The data is not in diagram form.) See Koike 1997. City Cohen & Barnard HD4854 .L26. MS.

Shirai, Taishiro, ed., 1983, *Contemporary Industrial Relations in Japan*, University of Wisconsin Press, Madison, Wis., 421 p. An excellent collection. Lots of detailed expositions about what was going on in Japan. Fifteen chapters by nine authors including Solomon B. Levine, Haruo Shimada, Kazuo Koike, Kazutoshi Koshiro, Norikuni Naito, Tadashi A. Hanami, Yasuhiko Matsuda, Koichiro Yamaguchi, and Shigeyoshi Tokunaga. Koike’s also included many international Age-Wage profiles. Some published in Japanese elsewhere. Cited by Lincoln and McBride 1987. Clio Bus HD8726.5 .C65 1983. Misc.

Sumiya, Mikio, 1965, “The Impact of Technological Change on Industrial Relations in Japan,” *British Journal of Industrial Relations*, London School of Economics, London, UK, July 1965, 3(2):210-218. Good short backgrounder in IR since the Restoration. (The impact on labor in Japan since the late 1960s has been to change the *nenko* wage system to one based on ability.) Chart on p. 216 showed the Age-Wage Profile and the size effect: bigger companies pay more. [Only his 1977 book is in this biblio now.] At Tokyo U. In City C. MS. A

Tachibanaki, Toshiaki, 1975, “Wage Determinations in Japanese Manufacturing Industries -- Structural Change and Wage Differentials,” *International Economic Review*, Philadelphia and Osaka, Oct. 1975, 16(3):562-586. Analysis of variance was used to determine which factors were important for explaining wage differentials. The study period, 1958-1970, corresponded to one of rapid growth. Being male matters most (sex). Experience and age matter next. Education matters (but more so in the US). One Japanese age-wage profile with an experience-

wage profile to go with it. Chapter 1 from his Related 1973 PhD at JHU. Available in French. MS.

This item does not have a-ws but it is important to the point:

Tachibanaki, Toshiaki, 1976, "Quality Change in Labor Input: Japanese Manufacturing," *The Review of Economics and Statistics*, Aug. 1976, 58(3):293-299. A labor quality change was discovered to be substantially higher than obtained in other studies due to "aggregation error." In the case of Japan, experience has been the prime source of error and has been largely ignored in the literature. The average quality total change in the U.S. (1948-1966) (Barger PhD 1971) was +0.31% while the average change in Japan (1958-1970) was found to be +0.85%. Chapter 3 in his 1973 Related PhD at JHU. Yup. Well, that'll do it MS. A

Tachibanaki, Toshiaki, 1982, "Further Results on Japanese Wage Differentials: Nenko Wages, Hierarchical Position, Bonuses, and Working Hours," *International Economic Review*, Philadelphia and Osaka, June 1982, 23(2):447-461. The study period, 1975-1978, was one of lesser growth than the earlier study. Was the nenko wage structure being adhered to? Position and promotion mattered a lot to wage level. One Japanese age-wage profile but with an experience-wage profile to go with it. Cited by Clegg 1990. At Kyoto U. MS.

Tachibanaki, Toshiaki, ed., 1998, *Wage Differentials: an international comparison*, St. Martin's Press, New York, NY, 378 p. Lots and lots of age-wage profiles from - Japan, Korea, U.S., Canada, Australia, UK, Germany, France, etc. Lehman Lib. HD4906 .W343 1998 MS.

Tigges, Leann M., 1988, "Age, Earnings, and Change within the Dual Economy," *Social Forces*, March 1988, 66(3):676-698. US age-wage profiles. Charts. Data in 1980 showed there had been a decrease in the earnings advantage of older workers due to changes in the US economy since 1960. (Tigges may be right about the changes but still did not cite Shimada or this theory. Missed it.) See Klevmarken 1982, Creedy and Hart 1979. At U. Ga. Misc.

Tsuda, Masumi, 1965, "The Japanese Wage Structure and its Significance for International Comparisons," *British Journal of Industrial Relations*, London School of Economics, London, UK, July 1965, 3(2):190-200. Age-Wage Profiles of employees by initial education levels: junior high school, high school graduates, and college graduates (**modes**). Composition of the firm by employee status: committed standard (key-core), non-standard full-time, temporary, and outside worker. Compared the Japanese 'basic wage' to international wages. Pre-SST/RO. (Baruch and CUNY Grad Ctr. start with vol. 11 in 1973.) SIBL JBM 94-990. CITY C. has it. Clio Offsite. Misc. *****

Weiss, Andrew M., 1984, "Simple Truths of Japanese Manufacturing," *Harvard Business Review*, Boston, MA, July/Aug 1984, 62(4):119-125. There were no mysteries to Japan's success. Contrasted Western Electric with Japanese competitors. Hire an elite workforce (**high mode**); pay them on merit; pay them by **efficiency wage** (pay them much higher and faster with

steep wage increases/profiles); support them with engineers (1:1) [error]; and add a unique capital structure. The “age-wage profile” of career progression (**maturity growth/ progression curves**) is on p. 123 & 125. **Differential pay range** per job was 100% (the width of a **stratum**). (Promote by **capability level**, not job title.) See box insert by Koike on **high mode career paths** that include wide ranging job assignments for skill and scope development. Unaware of RO theory. [Beware worker:engineer ratio. Krafcik 1988 found Toyota described everyone as “engineers.” See S. Wood 1990 also.] Cited Matsumoto 1982, Hayes 1981, Koike 1983. See Koike 1984, Shaw 1962, Torrance 1962, and Mincer and Higuchi 1988. In Clio Biz and in CUNY Baruch. ***** MS.

Weiss, Andrew, 1987, “Incentives and Worker Behavior: Some Evidence,” chapter seven (p. 137-150) in Nalbantian, Haig R., ed., 1987, *Incentives, Cooperation, and Risk Sharing: economic and psychological perspectives on employment contracts*, Rowman & Littlefield, Totowa, N.J., 239 p. Examined group and individual incentive schemes including piece rates. English worker collusion and soldiering was evident under piece rates: their results converged over time. The worst workers quit. Then the best ones quit. Examined Japanese seniority-based wages with steep wage-tenure profiles (Age-Wage Profiles). The quit rates dropped dramatically. Incentives fail. Clio Offsite HF5549.5 .C67 I56 1987. MS.

PhDs ::::

Lee, Sang Moon, 1969, *Salary Equity: its Determination, Analysis, and Correlates*, PhD, dissertation in Business Administration, University of Georgia, Athens, GA, 240 pages. UMI AAT 7001177. DAI-A 30/08, p. 3145, Feb 1970. UGa/GIL Thesis: LXC16 1969 .L4. Advisor: Robert H. Finn. Date on dissertation is 1968. Published as an article: Finn and Lee, 1972, in *Journal of Applied Psychology*. Discussed Jaques in the literature review section. Study of 170 professional scientific employees. Three key findings were - determination of equitable salaries is imperative to achieve favorable employee job attitudes and motivation, equitable salaries can be determined systematically through a quantitative decision making model, and salary perception appears to be a function of the employee's general emotional adjustment to work and the organization - as opposed to being a function of specific factors (p. 154, 156). Salaries seen as equitable were based on maturity type variables [age-wage profile?] whereas those seen as inequitable were based on performance evaluations. Derived a mathematical model for the current equitable wage ($R = .933$). Unfortunately, used null hypothesis testing. Cited Jaques 1956, 1961, 1962 HBR; Belcher 1964; Atchison and French 1967, Adams 1962, 1963, 1965, Herzberg, Vroom, Lawler, Festinger, Homans 1961, Elizabeth Lahan 1955 [*Job Evaluation*], George W. Taylor 1957 [*New Concepts ...*]. NYPL SIBL *ZT-999. As of 1972, Lee was at Va. Polytechnic in Blacksburg, VA. **Related PhD.**

Kuratani, Masatoshi, 1973, *A Theory of Training, Earnings, and Employment: An Application to Japan*, Ph.D., dissertation in Economic Theory, Columbia University, New York, NY, 83 pages. DAI Online AAT 7518401. DAI-A 36/03, p. 1704, Sep 1975. Advisors: Gary S. Becker and Jacob Mincer. Unpublished. The remarkable wage differentials between Japanese workers were associated with firm size and low labor turnover. Hypothesized a theory that this was due to on-the-job training level and type. In Japan a higher degree of specificity was associated with

training than in the U.S. As a result, the current employer would find such employees more useful than would other employers. Also, given the variance among Japanese firms in technology, equipment, management system, etc., the employee can have few alternative employers. In the US the training was more general and less firm-specific, resulting in more labor turnover but less employee earning capacity - from whatever employer. Used age-wage profiles (p. 54-55). (These arrangements were partly precipitated from Glacier Project organization design and practices. Keiretsu main firms hired high-growth, late-mode, "internal promotion" core employees (type C) and paid them more. They could absorb and utilize higher amounts and complexity of training. This increased the rate of innovation in the firm which also increased firm earnings and the specificity of technology and unique processes. This was a virtuous circle. Kuratani's correlations missed this system entirely and focused on immediate factors.) See Tan 1980 Related PhD. Clio Offsite LD1237.5D 1973 .K872. **Related PhD.**

Shimada, Haruo, 1974, *The Structure of Earnings and Investments in Human Resources: A Comparison Between the United States and Japan*, Ph.D., dissertation in Economics, University of Wisconsin - Madison, 248 pages; AAT 7418957. DAI-A 35/05, p. 2499, Nov 1974. DAI Online document ID: 761318071. Supvsr: Gerald G. Somers. Published in U.S. by NTIS 1974: PB-238 194. Published as an article in Japan in 1975, "Nenrei-Chingin Profile no Nichi-Bei Hikaku," [A Japanese-American Comparison of Age and Wage Profiles], *Nihon Rodo Kyokai Zasshi*, [The Monthly Journal of the Japan Institute of Labor], July-Oct. 1975, vol. 17. Published as a book in Japan in 1981, *Earnings Structure and Human Investment: A Comparison Between the United States and Japan*, Kogakusha, Keio Economic Observatory, Tokyo, Japan. This is a comparison of "age-wage profiles" in the US and Japan which Shimada developed from different databases in each country. This will allow much better comparative analysis of each and both countries in the future. (These were the same as Jaques' maturity curves and used in the same way. They were not corrupted by HR as were the earlier ones in the U.S.) Several patterns pop out. Racial discrimination against non-whites in the US was immediately apparent. They were paid less across the board. The wage increases in Japan were steeper for people as they aged than in the U.S. Experience and training in the U.S. was rewarded in only a very minor way. (This likely reflected age discrimination.) Experience and training in Japan that was gained external to the firm was rewarded but not all that much. If it was gained internal to the firm, however, it was greatly rewarded (500% - 1000% increases in pay over a career). Cited 1975 in Koike 1978. NYPL HUM Microforms *XME-9746. NTIS. **Related PhD.**

Tan, Hong Wee, 1980, *Human Capital and Technical Change: A Study of Wage Differentials in Japanese Manufacturing*, Ph.D., dissertation in Labor Economics, Yale University, New Haven, CT, 190 p. AAT 8109817. Hugh Patrick, Advisor. Unpublished. Examined Age-Wage Profiles across firms focusing on the relationship between technical innovation and the development of human capital. Developed and tested a human capital model to explain firm size and inter-industry wage differentials in Japanese manufacturing. The model found considerable support in a positive and significant relationship between **the rate of technical change and specific training wages**, but not general training wages. **The rate of technical change also was a function of workers' technology-specific skills**, in part because the 'residual' included these

unmeasured improvements in labor quality. Findings suggested that inadequate attention has been devoted to the conceptualization of skills, in particular, ones that embody new knowledge from innovative activities. As a result, **human capital aggregates have been constructed [in the US] that concealed** the very inequalities in demand and supply of these skills that determined both their **value and their contribution to economic growth**. See Kuratani 1973 Related PhD. (See MIT working paper: Shimada and MacDuffie 1986/87.) **Related PhD.**

Murphy, Kevin **James**, 1984, *Ability, Performance, and Compensation: A Theoretical and Empirical Investigation of Managerial Labor Contracts*, Ph.D., dissertation in Labor Economics, The University of Chicago, Chicago, IL, 132 p. Regenstein, Reading Room, A-Level, Dissertations: HD10000 Murphy. AAT T-29196 (ADD 1985). Advisor: Michael C. Jensen. Published as an article Murphy, Kevin J., 1986, "Incentives, Learning, and Compensation: A Theoretical and Empirical Investigation of Managerial Labor Contracts," *The RAND Journal of Economics*, Spring 1986, 17(1):59-76. Tested two hypotheses, incentives and learning (ability, skills, education), for managerial labor contracts using "experience-earnings profiles" and the relation between compensation and performance. Sampled 1488 CEOs between 1974-1985. Mixed results generally supported the learning hypothesis over the incentive hypothesis. This article used managerial Age-Wage Profiles in the USA (expressed mathematically). See Murphy 1985 article. See Shimada 1973 Related PhD, Seijts et al 2004. (Abstract and article seen.) Vice Dean for Faculty and Academic Affairs at the USC. Phone: (213) 740-6553. E-mail: kjmurphy @ usc.edu **Related PhD.**

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3-25-14

Draft: Not Complete

WORKS ON THE EQUITABLE WORK PAYMENT SCALE

See the Replication Studies on FFP to Hierarchy Level (“Position Worth”) for additional data on the equitable work payment scale. This scale is not only supported by the TSD:FFP correlation.

(in no order)

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

Behrend, 1957b. * Baldamus 1957 and 1961. MacDonald 1958 (related only).

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.

Theocarakis, 1990. Unpublished PhD. Cambridge. XXX ???

* Fogarty 1961 and 1963 cited these studies as validating evidence of Jaques’ equitable work payment scale. (Fogarty had an advance copy of Routh 1965.)

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 not been accepted by some academics, is it impossible to present the full differential wage scale to editors? Is this too big a leap by itself? Very likely.

3-25-14

This is Not Complete**WORKS ON THE 'EFFORT-WAGE BARGAIN' AND THE 'EFFICIENCY WAGE'**

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, efficiency wage theory, 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 more articles and books have been written on these topics.

I have not yet been able to closely compare the efficiency wage with the "age-wage profiles" done in Japan since 1927. The difficulty appears to be the delayed promotions in Japan. However, the lack of intermediate mini-promotions in Japan may be an optical illusion that disguises a real efficiency wage scheme. This will take a while.

(by date)

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:

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. Vainiomaki.

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.

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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. Effort-wage Bargain.

Barro, Robert J., 1989, "An Efficiency-Wage Theory of the Weather," (in Miscellany), *The Journal of Political Economy*, University of Chicago Press, Chicago, IL, Aug., 97(4):999-1001. A send-up of the economic explanations of the efficiency-wage phenomenon.

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 Kate 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.

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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. Effort-wage Bargain.

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. [Jacob Louis Mey?]

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. Managerial discretion is here defined as self-dealing by the managers as agents rather than serving the ends and purposes of the principals. (Kind of like 'shirking' by workers.)

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.

3-25-14

ONCE MORE – TRUST FROM THE TOP

A number of studies have found that accountability, trust and respect must start at the top of an organization, not at the bottom. When those at the top accept their accountability for results, those under them will focus on doing the work. Trust and respect work in a similar way - from the top. Alan Fox 1974 seems to be the font for this stream of research in the UK. See Ph.D.s: Starkey 1985/86 (article 1989), McGovern 1993 (book in SIBL), Roche 1987 Related, Watson 1989 Related, Kelleher 1993 Related, Jones 1997 Related (US), Kenmore 2002 Related (US). The latter two are the only ones in the US.

Fox, Alan, 1974, *Beyond Contract: Work, Power and Trust Relations*, Faber and Faber, London, UK. Fox built on Jaques' theory and extended the element of trust to the center of the workplace. An important, powerful book and very influential in the UK. It placed discretion at the center of the employment relationship. Fox deeply embraced Jaques, including prescribed and discretionary elements of work, TSD, the exercise of discretion, alienation, and equitable payment. He extended the theory to show that contractual relationships are low trust while social relations are high trust. Contracts are formal and specified. For work to get done in organizations more is required - more than an economic, contract relation can provide. This was also a challenge to the 'pluralist' industrial relations ideology and a shift by Fox to the 'radical' position. This book is almost unknown in the U.S. (Contrast with Fox 1966.) Cited EJ 1956, 1967 (2nd), Brown 1960, Adams, 1963, 1965, G. D. Bell 1965, 1966, Hickson 1966, Richardson 1971. References to S. Rountree. See Goldthorpe book review 1975. See responses by Clegg 1975 and Hyman 1978. See Ph.D.s: Starkey 1985/86 (article 1989), McGovern 1993 (book in SIBL), Roche 1987 Related, Watson 1989 Related, Kelleher 1993 Related, Jones 1997 Related (US), Kenmore 2002 Related (US). Also, c.f., Stinchcombe 1985.

Fox, Alan, 1974b, *Man Mismanagement*, Hutchinson, London, UK, 179 p. (2nd edition, 1985, 224 p. in USA, Brookfield Publishers, VT). A book for managers, drawing on the theoretical approaches developed in *Beyond Contract*, to show them the error of their ways in power bargaining, the importance of managing high and/or low trust workplace relationships, collective bargaining and employee participation. Described Glacier Metal's permanent employee representatives, the prescribed and discretionary aspects of work (Chs. 5 & 6), and enriched job descriptions. Discussed social and material technology at work but not Trist and Emery or STS/QWL. Discussed Seebohm Rountree. Cited Jaques 1967 (2nd). (Contrast with Fox 1966.) [1st edition SIBL; 2nd Hum-NYPL].

Starkey, Kenneth P., 1985/86, *Time and Professional Work in Public Sector Organizations: an Examination of Four Occupational Groups in Education and Medicine*, Ph.D., thesis in

Sociology and Social Administration (Industrial Psychology/ Sociology) (B9g), University of Aston, Birmingham, UK. LIS: Thesis, On Shelf. Theses # 36-2937 (date of 1986 ?). Abstract not online as of 3/04. Published as an article: Starkey, Ken, 1989, "Time and Professionalism: Disputes Concerning the Nature of Contract," *British Journal of Industrial Relations*, Basil Blackwell for the London School of Economics, London, UK, 27(3):375-395. Used Fox 1974 (*Beyond Contract*) to examine the recent extension of contracts to cover professionals. Low trust economic relations were displacing high trust social relations in the name of efficiency and accountability. The felt abuse of goodwill (off clock) contributions led professionals to embrace contracts. Occupational groups saw the contract as a means to control the effort-wage bargain (Baldamus 1961). But this commodification of time (length of time as the definition of work: F. W. Taylor) quickly degenerated into audits of efficiency and the reduction of professional discretion. Conducted four case studies - on schoolteachers, hospital physician consultants, general medical practitioners (GPs), and further education (college) lecturers (FEs). Confirmed Fox's view of contracts as a management device to reduce discretion that, over time, asymmetrically favored employers and managers. Reduction in discretion led to alienation, 'calculative expediency,' and a diminution in the moral nature of commitment to work. (The death of professionalism.) This 'welfare compromise' was dysfunctional (wrong half of the loaf) and precipitated a shift in public sentiment toward the needs of business and privatization. [Starkey seemed unaware that Jaques's concepts underlay both Fox (discretion, trust) and Baldamus (effort-wage, efficiency wage).] See Loveridge and Starkey 1990. See McGovern PhD 1993.

Riddell, Henry Shaw, 1987, *The Analysis and Design of Maintenance Administrative Structures*, M.Sc., thesis in Industry, Management - General, (B9a), University of Manchester, Manchester, UK. (John Rylands University Library, Thesis 14421, s3298649) Theses # 39-8565. This is "a structure of work roles established to ensure the physical assets of an organization are maintained in a condition which permits that organization's objectives to be achieved throughout the life of those assets." A little studied area of critical importance. Designed and successfully applied such a top-down bottom-up structure to one firm. (Riddell, PhD 1991, Not Related.) **Related.**

McGovern, Patrick Gerard, 1993, *Controlling Commitment: The Management of Technical Labour in Multi-National Firms*, D.Phil., thesis in Sociology and Business (B9d), Nuffield College, Oxford University, Oxford, UK, 267 pages. Theses # 43-8761. Article version in 1996: "Trust, Discretion and Responsibility: the Division of Technical Labour," *Work, Employment and Society*, British Sociological Association, London, UK, 10(1):85-103. Published as a book in 1998: *HRM, Technical Workers and the Multinational Corporation*, Routledge, London, UK, 192 pages. Has written working papers at London Business School, Aston, Trinity College Dublin and numerous articles. Examined the management of technical workers for discretion, recognition and accountability in four multi-national firms in the Republic of Ireland. Used John H. Goldthorpe's concept of a professional "service class" and Alan Fox's 1974 variant of Jaques' theory as the framework for analysis. [Fox was at Oxford.] Found that employers did not trust professional knowledge workers and managers to act in their best interest. The employers applied a range of bureaucratic labour control mechanisms to them, including appraisals and performance related pay, to such an extent that the work could no longer be described as a professional 'service contract.' The firms, however, still depended on the professional values

and commitment of these workers as evidenced by their emphasis on “management by expectation” based on shared values. When the commitment of the employees was not recognized and rewarded or was ignored, these workers did not revolt but perceived managerial incompetence and demanded more effective management. McGovern noted that employers were more concerned with the allocation of responsibility than discretion (professional autonomy). (See Storey 1980.) Currently in the Sociology department at London School of Economics (LSE). *Weak*.

Roche, William K., 1987, *Social Integration, Union Policies and Strategic Power: The Development of Militancy Among Electricity Generating Station Workers in the Republic of Ireland, 1950-1982*, D.Phil., thesis in Sociology and Business (B9c), Nuffield College, Oxford University, Oxford, UK, 469 pages. Theses # 38-3012. Examined Alan Fox’s ‘micro-sociological theory’ of the decay of social integration (the theory of ‘trust dynamics’). The union became more militant in its claims and demands as its power declined due to ‘social erosion.’ Roche argues that ‘social erosion’ theory poses major conceptual problems at the boundaries between sociology and economics. Fox built part of his theory from Jaques’ concepts of discretion and trust. [Fox was at Oxford.] **Related**.

Watson, Alexander R., 1989, *A Study of Supervisor-Manager Relationships in Manufacturing Industry: An Analysis of the Effect of Supervisor-Manager Interpersonal Relationships on the Amount of Authority and Influence Experienced by First-Line Supervisors in Manufacturing Industry*, Ph.D., dissertation in Business Administration and Sociology (B9g), Henley Management College (Greenlands, Henley-on-Thames, Oxon) of Brunel University, (West London), Uxbridge, Middlesex, U.K., 587 pages. Not in UMI. DAI-A 51/06, p. 2093, Dec. 1990. Theses # 39-3061. Findings published as a Henley Working Paper, *HWP 8/92*, by Dr. A. R. Watson and Professor David Birchall. [Note: Henley has since separated from Brunel.] Examined extent to which the interpersonal relationship between a supervisor and his/her manager in a manufacturing industry had an effect on the perceived authority and influence of the supervisor with the employees. (Attempted to validate J. Child and Partridge, 1982. However, NO such impact was found. Compare with opposite citation in Zaleznick and Moment 1964.) But there was an increase following the formalization of procedures by the firm’s executives. This change signals the professionalization of the operations of the firm. Trust and confidence in others appears to run from top to bottom in an organization. (See Holmes 1965 for a similar vertical legitimacy issue.) See Kenmore 2002 Related PhD. **Related**.

Kelleher, Michael, 1993, *Skills Shortages and Work Reorganization in British Manufacturing*, Ph.D., thesis in Personnel Management; Industrial Training, (B9d), University of Bath, Bath, UK. BLLD (mf) DX 176159. Theses # 43-8760. In the recession of the early 1990s work reorganization was rarely considered as a response to the problem of skills shortage. Barriers to devolving tasks to lower skilled groups of workers existed in systems of training, industrial relations and socialization of workers on work and tasks. Firms that developed systems of training and high trust relations between managers and employees may have been better able to successfully introduce new work practices that alleviated skill shortages. (Jaques’ system

promotes trust and employee development. This also enables the redesign of tasks so they can be completed at different strata.) **Related.**

Jones, Kathryn Ann, 1997, *CEO Trustworthiness: A universal or context-specific organizational advantage?*, Ph.D., dissertation in Business Administration and Psychology, University of Tennessee, Knoxville, TN, 202 pages. UMI AAT 9823094. DAI-A 59/01, p. 237, Jul 1998. Adviser: William Q. Judge. Strategic leaders are challenged to envision and enact a future that will ensure the survival and strengthen the competitive performance of their organizations. Leadership, at any organizational level, does not occur without the cooperation of constituents. Regression analyses of the data revealed a significant positive relationship between CEO trustworthiness and CEO accomplishment, between CEO accomplishment and organizational competitive performance, and between CEO trustworthiness and organizational competitive performance. CEO trustworthiness and organizational performance were more positively associated as organizational size, CEO tenure, and environmental uncertainty increased. Cited John O. Whitney's 1993/1994 book, *The Economics of Trust*. See Watson Related 1989 PhD. **Related.**

Kenmore, Robert Herbert, 2002, *Trust and Respect and Waste*, Ph.D., dissertation in Business Administration, Industrial Psychology and Economics, University of Chicago, Chicago, IL, 118 pages. Not available from UMI. DAI-A 63/01, p. 269, Jul 2002. ISBN: 0-493-52139-9. Adviser: Selwyn Becker. Trust and respect can be associated with final performance and changes in them across hierarchic levels are related to changes in waste. Instead of using profit as the primary measure of organizational performance, it is argued that waste may serve as a more complete indicator of outcomes than profit. Total Quality Management (TQM) offers the most developed framework available from which to investigate the assertions in this paper. Data from a three-year study of 17 divisions within two departments of a city government are used to test the hypotheses. A strong association was found to exist between high or increasing trust and respect and low or decreasing waste. Giving respect prior to trust increases the relationship between trust and reduced waste. Downward trust and respect are most strongly related to changes in upward trust and respect. Upward trust and respect are most strongly related to changes in waste. When waste is divided into two types – resource and opportunity – it is found that upward trust is most strongly related to resource waste and downward trust is most strongly related to opportunity waste. This may be the **first one in the US**. See Fox 1974. **Related.**

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Landsberger, Henry A., 1968, "Book Review of *Counseling in an Organization: A Sequel to the Hawthorne Researches* by W. J. Dickson and F. J. Roethlisberger" [Contains references to Jaques 1951 as an appropriate comparison], *American Sociological Review*, Sage, Oct., 33(5):826-828. ISSN: 00031224. Landsberger was the author of *Hawthorne Revisited*. (See also his 1961 article on Jaques.) D&R used **bottom-up** counseling that **failed** for the workers and organizationally. Landsberger pointed out that, in contrast, **Jaques used top-down** counseling at Glacier Metal that largely **succeeded**. [NOTE timing of this and its message.] #

Froissart, Daniel, 1971, "The Day Our President and MBO Collided," *European Business*, Paris, France, Autumn 1971, vol. 29:70-79. In English. MBO was introduced into the firm from the bottom up as a form of lower-management participation. But when a new product led to consumer complaints and dissatisfaction, the president exploded. The company was re-centralized and that was the end of MBO. A case study in what happens when participation/empowerment is begun bottom-up. See Dearden 1971. MS. *****

Zand, Dale E., 1972, "Trust and Managerial Problem Solving," *Administrative Science Quarterly*, 17:229-239. The lack of trust distracts people from being able to engage in problem solving with those they mistrust. They have increased difficulty clarifying goals, exchanging information, searching for solutions, and implementation. Trust is a "significant determinant of managerial problem-solving effectiveness." (Jaques' system places trust at the center. This article was right about the issue but not about the solution, advocating T-Groups, sensitivity, etc.)

Wood, Stephen J., and Ruth H. Elliot, 1977, "A Critical Evaluation of Fox's Radicalization of Industrial Relations Theory," *Sociology*, The Journal of the British Sociological Association, London, UK, 11(1):101-125. On Alan Fox 1973 article and 1974 book, *Beyond Contract*. Fox had adopted Jaques' theory as his starting point for establishing trust in the workplace. Article did not cite Jaques. Cited by McGovern in Ph.D.

Tse, K. K., 1981, "Harnessing Quality Circles for Higher Quality and Productivity," *Industrial Relations Assoc.*, Hong Kong, China. [pamphlet?] Described the vertical structure necessary to support quality circles at the operating level. The QC-circle (5-15 members), Leader, Facilitator (3 QCs each), Steering Committee (overseeing 10-15 QCs). And the Coordinator who acts as administrator for the Facilitators and the Steering Committee. Tse gets beyond bottom-up empowerment. Cited in Bank and Wilpert 1983 (q.v. diagram). Full article. Not Seen. MS.

Bank, John, and Bernhard Wilpert, 1983, "What's So Special About Quality Circles?" *Journal of General Management*, The Administrative Staff College, Henley-on-Thames, Oxon., UK, Autumn, 9(1):21-37. A comparison of QC-Circles with related Western participative organization structures, such as task forces, semi-autonomous groups, suggestion schemes, Lernstatt, Werkoverleg, and TQC. Noted similarities and contrasts. Included Tse's 1981 diagram for a vertical QC organization. Thanked Tavistock Institute for help on the article. Minor cite of STS. (With Tse, this gets beyond bottom-up empowerment, q.v.) NYPL SIBL JBM 94-1064 - 1983, vol. 9. MS.

Walton, Richard, 1985, "From Control to Commitment in the Workplace," *Harvard Business Review*, March-April, 63: 76-84. How managers can use psychology and teams to shift from formal control over workers to inducing a willing commitment from them. This is a shift in managerial tactics from push to pull. ('Commitment' links to Deming and to Jaques as well. It can lead to managerial manipulation with damage to morale and trust.) A very influential article. See J. Child 1969 on the abuse of the social sciences for managerial gain.

Armstrong, Peter, 1987, "Engineers, Management and Trust," *Work, Employment and Society*, The British Sociological Association, Sage, London, UK, Dec. 1987, 1(4):421-440. Lack of engineering representation in British senior management is partly a consequence of the prevailing conception of what management is actually about. British conditions have favoured such management activities as the search for long-term finance and strategic marketing over product and process improvement (quality). Aspirants to senior positions need to demonstrate their 'trustworthiness' in such terms. The profession has tried to overcome this by adding 'managerial' subjects to engineering education. Such a strategy can only place engineers in the position of amateurs competing with full-time 'specialists'. Distinguished between discretion for a task and a position. (A. Fox 1974 BC.) At Huddersfield Polytechnic. Cited by McGovern 1996. Unaware of Johnstone, Robinson. Teach. Lehman Lib. HD6951 .W67. MS. PJ. A.

Starkey, Ken, 1989, "Time and Professionalism: Disputes Concerning the Nature of Contract," *British Journal of Industrial Relations*, Basil Blackwell for the London School of Economics, London, UK, 27(3):375-395. Used Fox 1974 (*Beyond Contract*) to examine the recent extension of contracts to cover professionals. Low trust economic relations were displacing high trust social relations in the name of efficiency and accountability. Also used Baldamus 1961. This article from his 1985/86 PhD.

Roche, W. K., 1991, "Trust Dynamics and Organizational Integration: the Micro-Sociology of Alan Fox," *British Journal of Sociology*, London, UK, 42(1):95-113. Based on his 1987 Related PhD. Cited by McGovern.

Webb, Janette, 1992, "The Mismanagement of Innovation," *Sociology*, The Journal of the British Sociological Association, London, UK, August, 26(3):471-492. Trust was shattered when managers espoused human relations but used short-term instrumental controls. This created a morale crisis and the company failed. A case. Cited A. Fox 1974, 1985, 1985, and W. Roche. Solid. ****

Cohen-Rosenthal, Edward, 1994, "On Arrogance and Participation," *The Journal for Quality and Participation*, Cincinnati, OH, March 1994, 17(2):58-64. Discussed the struggle between QWL (quality of work life councils) and QC (quality circles). Author had an obvious pro-OD bias that favored "soft" QWL rather than Deming's "hard" TQ (total quality) and favored bottom-up social-group participation rather than top-down work-group oriented participation. (Jaques is not mentioned but might as well have been.) [See Davis & Trist 1972 - not herein.]

Mayer, Roger C., James H. Davis, and F. David Schoorman, 1995, "An Integrative Model of Organizational Trust," *The Academy of Management Review*, July, 20(3):709-734. For employees trust antecedents toward the manager are - ability, benevolence, integrity, and propensity to trust. Colquitt, Scott and LePine presented a meta-analysis test of this hypothesis at the 2004 AOM conference. Not on Jaques, but right on target.

McGovern, Patrick Gerard, 1996, "Trust, Discretion and Responsibility: the Division of Technical Labour," *Work, Employment and Society*, British Sociological Association, London,

UK, 10(1):85-103. Cites Fox 1974, Jaques 1956 and 1961, Barley and Bechky 1994, Armstrong 1987, Horrell et al. 1988, and Roche 1991. Based on his doctorate at Oxford.

Laverty, Kevin J., 1996, "Economic 'Short-Termism': The Debate, the Unresolved Issues, and the Implications for Management Practice and Research," *The Academy of Management Review*, July, 21(3):825-860. Intertemporal choice is basic to managerial work. Compared and contrasted three scholarly domains of sources for short-termism in intertemporal choice - the economic, organizational and individual. Showed that economic explanations are inadequate to overcome short-termism, Michael Jensen's 1990 Congressional testimony notwithstanding (q.v.). Maximizing shareholder value is quantitatively trivial and not practical. R&D expenditures also are inadequate as an indicator. Organizational trust, memory and density of future time perspective are negatively associated with myopia. Speculated that long-term projects are screened out by lower levels and never bubble to the top. (Note similar sentiment by Robert Stempel, Chairman of GM.) Cited Jaques 1976, Das 1986 (p. 847), and Bluedorn and Denhardt 1988. Based on his 1993 PhD at UCLA.

Jaques, Elliott, 2001, "Values, Mutual Trust, and the Attack on America," on line @ hr.com # 6. Elliott Jaques reflects on philosophical issues in light of recent terrorist attacks.

Jaques, Elliott, 2001, "Elliott Jaques' Musing on Trust and Terrorism," on line @ hr.com # 10. Dr. Jaques was drafting ideas about trust-inducing social systems when the terrorists struck. Here is some rough work and an invitation to comment.

Jaques, Elliott, 2002, *Social Power and the CEO: leadership and trust in a sustainable free enterprise system*, Quorum/ Greenwood, Westport, CT, April, 200 pages. The creation of a healthy workplace that will also improve aspects of social life is within the power of the CEO. High mutual-trust is essential for the sustenance of a free enterprise system.

Simons, Tony, 2002, "Behavioral Integrity: The perceived Alignment Between Managers' Words and Deeds as a Research Focus," *Organization Science*, Informs, Jan-Feb, 13(1):18-35. Found a stunning association between profitability and how workers perceived their managers' behavioral integrity - did they walk the talk?: +0.73. The ripples set off a powerful chain reaction impact on profitability. Integrity, reliability and trust are central to profits. Following shifting fads and fashions undermined trust. Following through on promises is another big key. 1/8 point on a 5-point scale increased profits by 2.5 percent of revenues. Compare with Webb 1992. Cited A. Fox 1974 *BC*. Cited E. Shapiro 1995 and Zand 1972. Simons at Cornell Hotel School. Reported in *HBR* 2002.

Simons, Tony, 2002, "The High Cost of Lost Trust," *Harvard Business Review*, Boston, MA, Sep., p. 18-19. A brief: see *Org Sci* article study. See website: www.people.cornell.edu/pages/tls11/

Solaas, Harald, 2003, "Why RO Theory Is So Difficult To Understand?" draft circulated August 2003. 30 pages. Jaques emphasized workplace trust as the purpose, not just mental processing and strata. Objective measuring instruments and subjective judgments refer to the same factual order. RO theory is refutable - and therefore is scientific. Someday it may be replaced. That's good. Cited Jaques 2000. Posted online at canadiancentre.com for download.

Bryan, John C., 2004, "Restoring Trust," *Organizations and People*, February, 11(1):33-39. Trust has been broken. To renew it, managers must demonstrate trustworthiness by knowing and performing the role of accountable managerial leadership. Consultant with COREinternational in Toronto.

#

3-25-14

Draft – not complete.**CASES ON REQUISITE ORGANIZATION**

This list is pulled from the Bibliography in the same order. I added the word “case” when I suspicioned a case was somewhere in the neighborhood. Some are anti-cases that show what goes wrong. (Some of these descriptions may be old: see Part II.) Herein are 84 articles/books, 17 PhDs, and 2 MAs. Additional but fictional illustrations of related points are in the papers, “All the World ...”.

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, and Arthur 1994 (anti-Simon).

Anonymous, 1964, “Management: ‘Playing Guinea Pig,’” *Business Week*, McGraw-Hill, New York, NY, November 7, 1964, p. 166-170. A short profile of the Glacier Project, Brown and Jaques. Jaques is not pronounced “Bakes” (as the article claims) but “Jacks”. Mentioned Pearson Hunt at HBS and a HBS case on Glacier Metal (not found). Reprinted in *Management Review*, Feb. 1965.

Anonymous, 1973, “Kaiser Aluminum Flattens Its Layers of Brass,” *Business Week*, McGraw-Hill, New York, NY, February 24, 1973, p. 81-84. Was this an adoption of strata and a flat hierarchy? (See connection of Kaiser VP HR to the Berkeley research group under Crossman, c. 1966-1976.) A case? **Look Into This** !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

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. This is the jidoka managerial problem solving practice.

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 immediately afterward blew itself to

smithereens. This was the opposite of what Jaques proposed. A negative case. (Note the date - weeks before disintegration.)

Billis, David, 1977, "Differential Administrative Capacity and Organisational Development: A Kibbutz Case Study," *Human Relations*, London, UK. 30(2):109-127. (See also, W. W. Powell) As people's levels of capability grew, they left the kibbutz in frustration if opportunity, challenge and recognition were not provided. A wonderful study. (See Billis' Interesting PhD, 1971-72)

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. Yet 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. (See Interesting 1989 PhD.)

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 has faced a similar set of personal issues since he left office.) In 2002 Carter was awarded the Nobel Peace Prize.

Burns, Ginty, 2001, "On the Road to Utopia, a call center applies Elliott Jaques' "Requisite Organization" principles," *Customer Management Magazine*, Quest Media Ltd., London, UK, August/ September, p. 40-46. Describes the consulting work with the customer service call center at CIBC Toronto Visa, including the change process and a before and after profile of the workplace, the manager and the people. A case. <http://www.coreinternational.com/articles.htm#>

Cang, Stephen, ed., 1992, *Elliott Jaques Festschrift*, Cason Hall, Gloucester, MA. Papers in honor of Jaques on his 75th birthday. Some were previously published as articles and some subsequently published. Some are cases. Several authors had more than one paper: Catherine G. Burke, Stephen Cang, Stephen D. Clement, Aldo Schlemenson.

List of Authors and Papers: (CASES) Rosemary A. Bova, "Discrete Applications of Stratified Systems Theory" (a case x 2); Catherine G. Burke & Daniel L. Smith, "Organizing Corporate Computing" (a case, DEC); Catherine G. Burke & Karl W. Stewart, "Putting Theory Into Practice" (a case, CRA); Joanna Riddick, "The Cult of Muddling Through" (a case, Dodd 1987); Aldo Schlemenson, "Partnership at Work and People in Partnerships" (a case x 3).

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. (See 1986, and Stroll and Cashman)

Chandler, Alfred Dupont, Jr., and Herman Daems, 1980, *Managerial Hierarchies : comparative perspectives on the rise of the modern industrial enterprise*, Harvard University Press, Cambridge, Mass., 237 pages. Harvard studies in business history; 32. History--Case studies. Seven essays from 1977 HBS conference by: Chandler, Daems, Leslie Hannah, Jurgen Kocho,

Maurice Levy-Leboyer, Morton Keller, Oliver E. Williamson. A nice selection of different historical and developmental views on a most interesting topic. None of the authors cited Jaques.

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. Unpublished. This was on the adoption of Wilfred Brown's works council structure in a firm, including employee participation. See Ph.D.s.

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.

Collins, A. C., 1983, "A management strategy for information processing. 1—The Segas case," *Long Range Planning*, October, 16(5):29-44. First of three articles. Article presents the Segas Case History and shows how it has tackled the implementation of Information Technology over the past 7 years. Director, Planning and Management Service, **South Eastern Gas**, Croydon, UK. A case (A).

Collins, A. C., 1983, "A management strategy for information processing," *Long Range Planning*, December, 16(6):21-28. Second of three. This paper discusses the methodology known as Business Systems Planning for assessing future computer systems requirements. Director of Corporate Planning and Management Services for South Eastern Gas, Croydon, U.K. (Q.V.) A case (B).

Collins, A. C., 1984, "A management strategy for information processing. 3—Management information requirements," *Long Range Planning*, February, 17(1):33-42. Third of three. Attempts to structure the basic needs of managers and professional staff for information technology in its wider sense for planning, control and operations. Examines the need for managements to have access to computing facilities. Describes decision support functions for five years ahead as portrayed by Wilfred Brown at Glacier Metal (p. 40). No footnote. A case (C).

Comalco, 1999, "PEP: Innovation Involving the Entire Workforce." (PEP: Performance Enhancement Program.)

www.isr.gov.au/industry/summit/scwg/human_dimensions/HDWGcasestudy9.pdf.

Connor Formed Metal Products. HBS Case 9-193-003. The 'andon' cord and jidoka. 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)

Cowden, Irene, 2004, "Shaping the Future Leaders at Securicor," *Strategic HR Review*, UK, March/April, 3(3):16-19. A UK-based world-wide provider of security services, Securicor, adopted Bioss's Career Path Appreciation (CPA) approach to organisation levels to assess its people and Luc Hoebeke's domains of work to structure its business units worldwide in 2001. It has since doubled in size to 100,000 employees in 50 countries through strategic mergers. This approach has allowed it to develop its leadership during this period of dramatic, complex growth. (It more than doubled again to 340,000 employees in over 100 countries through another merger in July 2004.) Cowden is a senior executive at the firm. A case. Online at Bioss.com.

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 get** chapter.] (See Zaleznik and Moment 1964.) NYPL HUM Genl Res D-18 8544. Seen.

Daniel, W. W. (William Wentworth), 1970, *Beyond the Wage-Work Bargain: a review of productivity bargaining with two case studies of workers' evaluations of agreements*, P.E.P., London, UK, 99 pages. Cited by Hyman and Brough 1975. See Behrend, Baldamus, Akerlof. Not in Clio or NYPL. In Brunel.

Dawes, Robyn M., 1977, "Suppose We Measured Height With Rating Scales Instead of Rulers?" *Applied Psychological Measurement*, West Publishing, St. Paul, MN, 1(2):267-274. Jaques commented on this article and what it did not address in *Form of Time* (p. 191n). Rating scales produce an estimate - in this case a fairly accurate estimate - but not a measurement. Rating scales collect opinions. We can tell these rating scales are reasonably accurate for height because we already have a measurement instrument. Otherwise, we wouldn't know how accurate these opinions were. They were off by 3%. Could you build a car if each part was "only" off by 3%? Not likely. How about building an organization with hundreds, nay, thousands of people?

Dayal, Ishwar, and John M. Thomas, 1968, "Operation KPE: Developing a New Organization," *Journal of Applied Behavioral Science*, NTL Laboratory, Washington, DC, Oct.-Dec., 4(4):473-512. Entrepreneurship. A JABS Case Study on an entrepreneurial joint venture, KP Engineering Corp. in India. Most of this article draws on Jaques' and Brown's experiences at Glacier Metal on roles, prescribed and discretionary elements of tasks, and the total company system, which Dayal called *Role Analysis Technique*. Formal comments by Rolf P. Lynton and Hollis W. Peter

(both very positive). Dayal was at IIM-Ahmedabad, India. Thomas at MIT. (Reprinted in 1970 book, Ch. 15). Reprinted in Dayal's 1977 book as Chapter 5. Lehman Lib.. A case.

Dayal, Ishwar, et al., 1981, *Managing Large Organisations: a comparative study in a developing country*, All India Management Association, New Delhi, India, 211 pages. Seven authors who taught at Uni. of Lagos. Five case studies of managements of large organizations in Nigeria, three managed by Nigerians and two by international expatriates. Commentary, analysis and implications for firms, managers and employees. Cited Brown 1971, Jaques 1956, 1976. (Contrast with Michael O. Ojo, PhD 2001, *Organizational Ineffectiveness: A case study of Nigeria's Ajaokuta Steel Company*, Walden Uni. Unrelated.) (Other authors: S. A. Bello, A. M. Fapohunda, T. Fashoyin, I. C. Imosili, C. N. S. Nambudiri, M. S. Saiyadain.) NYPL HUM Genl res JLD 85-2349. COPY pages noted (Ch 8).

Dive, Brian, 2002, *The Healthy Organization, A Revolutionary Approach to People and Management*, Kogan Page Business Books, London, UK, [Stylus Publishing LLC], 278 pages. Based on 31 years experience at Unilever and 2 years at Tesco. On hierarchy, accountability, career paths, work levels 1-8, and the decision-making accountability (DMA) model. General cites of Jaques, Billis, Stamp, Rowbottom, and even Wilf Brown. CD-rom disc included. An implementation-oriented book that brings theory along with it. A case study. See David Billis 1999a and 1999b for the original description of the healthy organization.

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 Bioss. 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. **Not seen. Lost?**

Fairfield, Julian, 2002, *Levels of Excellence, a management novel*, Random House Australia, Sydney, NSW, and Melbourne, VIC, Australia, 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 in practice to produce better outcomes for the business and its employees. (See Goldratt's *The Goal* for a similar novelistic approach to theory.) Fairfield heads Bach Consulting in the Sydney area. Fairfield was formerly a consultant with McKinsey. See Hilmer 1989 article in McKinsey Quarterly. 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.

Fallow, Jack, 2002, "The Gas Engineers ICS," and "The GasForce Story," *The Centre for Organisation Effectiveness*, London, UK. A case study and a letter. Cited Jacobs and Jaques 1991, p. 434. Presented at Cass Business School, City University, London, UK, Sept. 15, 2003 in David Sims' EMBA class.

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 alleged to have been written by Professor Pearson Hunt (by BW). However, HBS has no record of such a case. (Edna Homa Hunt confirmed it never existed. 1/05)

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 Williamson, 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. This is on how to think backwards from a multi-year goal. No citations of Jaques. A case.

Hubbard, Graham, Delyth Samuel, Simon Heap, and Graeme Cocks, 2002, *The First XI: Winning Organisations of Australia*, John Wiley & Sons Australia Ltd, Wrightbooks Imprint, Milton, Qld., Australia., 336 pages, pbk. (A\$34.95) ISBN 1740310659. A survey of Aussie firms a la *In Search of Excellence* and *Built to Last* by Mt. Eliza B-school faculty. Case studies and profiles. (See Dymocks books or Wiley to order.) **Rio Tinto** is one of the 'XI.' The 10 others are: Brambles, Harvey Norman, **Lend Lease**, Macquarie Bank, National Australian Bank, Qantas Airways, Salvation Army, **Telstra**, **Westfield**, and Woolworth's. Surveyed top execs to find the short list, then interviewed execs in each firm on how the firm became a balanced 'winner.' Structure was important only as a support for activities. Wrong definition of TSD (p. 109). Fred Hilmer is Deputy Chairman of Westfield Group retail property holdings. Telstra used the theory. See Stace 1997 for Bovis Lend Lease. (I am unclear about Harvey Norman.) At least four of the eleven use Jaques theory. The authors, all academics, knew of only one. (Ch 4 on role levels not read.) SIBL JBE 03-214

Hunt, James G. (Jerry), and Arja Ropo, 1995, "Multi-Level Leadership: Grounded Theory and Mainstream Theory Applied to the Case of General Motors," *The Leadership Quarterly*, JAI Press, Westport, CT, 6:379-412. (Note follow-up articles in book.) This is based on a case and builds a conceptual framework around the case. [Maybe it is an anti-case.]

Ivanov, Sergey, 2003, "Investigating the Optimum Manager-Subordinate Relationship in Global Managerial Systems: A Case Study and Report of Key Findings for Practical Use in Global IT Management and Organizations: A Trend for the Future," 14th IRMA International Conference Proceedings. Held in Philadelphia, PA. (IRMA = Information Resources Management Association.) <http://www.irma-international.org>

Jaques, Elliott, 1951, *The Changing Culture of a Factory*, Tavistock Publications, London, 1951; Dryden Press, New York, 1952. (Reprinted 1987, Garland Publishing, New York, NY; currently reproduced by Cason Hall, Gloucester, MA.) This book was Jaques' 1951 Harvard Ph.D. dissertation. Delineated managerial authority and accountability, and the structure of Glacier Metal's works councils. Described worker participation and the formal representative system, yet even so, most workers did not participate. Applied anthropological concepts to a business organization and structure for the first time. Book contains five case studies on change. It took three years for major changes to come about.

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 Andrew Duguid, 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.

Kennedy, Carol, 1993, "Changing the company culture at Ciba-Geigy," *Long Range Planning*, Elsevier Science Direct online, 26(1):18-27. See R. Waterman 1987. Work Levels. A case.

Kinnie, Nicholas, 1996, "Institutional Separation and the Management of Industrial Relations: Evidence from a Diachronic Case Study," *Employee Relations*, Bradford, UK, 18(1):20-35. An institutional separation in organization structure has emerged between the level at which management decisions are made and the level at which collective bargaining is conducted. Collective bargaining institutions in the UK are used to prevent union representatives from negotiating directly with local general managers and with central senior executives. Vertical separation was reduced as greater discretion was given to site level managers.

Kling, Manfred, and Charles Davies, 1997, "Organization Redesign of DND's Materiel Group: Operation Excelerate (Canada's Department of National Defence)," *Optimum, The Journal of Public Sector Management*, Minister of Supply and Services, University of Ottawa, Ottawa, FD, 22 September 1997, 27(4):25- . ISSN: 0475-1906. www.optimumonline.ca (Online since 1998) Operation Excelerate was launched in 1994 to redesign the business processes and organizational structure of the Materiel Group of the Department of National Defence (DND) in

response to continuing resource pressures. Dr. Elliott Jaques' Stratified Systems Theory (SST) provided the basis for the number of layers in the organization. (Exact cite not provided.) A case (?).

Kruger, Mark Phillip, 1983, *Executive Decision Processes and Decision Networks: A Longitudinal Study (Leadership, Decision Spirals, Incrementalism)*, D.B.A., dissertation in Business Administration, Harvard University, Harvard Business School, Boston, MA, 378 pages. UMI AAT 8511717, DAI-A 46/04, p. 1031, Oct. 1985. Adviser: Louis B. Barnes. Published as: Kruger, Mark P., and Louis B. Barnes, 1992, "Organizational Decision Making as Hierarchical Levels of Drama," *Journal of Management Studies*, Blackwell, Oxford, UK, July, 29(4):439-457. (Cited Jaques.) A study of complex, critical executive decision processes in a Fortune 500 primary metals company covering twenty years. A case.

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 public case.)

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. But Macdonald is right: social workers are accountable for their decisions not for outcomes. 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.

Martin, Stephen, 1995, "A futures market for competencies," *People Management*, Personnel Publications, Ltd., London, UK, 23 March 1995, 1(6):20-23. 3,727 words. (Includes related article) HR strategists at Chase Manhattan are trying to link the bank's future supply of competencies directly to anticipated customer demands and in the process, throwing the traditional concept of 'job lots' out of the 40th floor window. VP HR. A case. Cited Jaques.

McGee, Michael L., Maj. U.S. Army, (undated), "The Test," *Washington Army Guard*, online website. Accessed 4/18/2004. A case. How mutual trust is earned and established among officers. www.washingtonarmyguard.com/thetest.html

Milbourne, Robert and Ezra Rosen, 1995, "The W-I-N of change," *Business Quarterly*, [Ivey Business Journal], University of Western Ontario, Canada, 1 December 1995, 60(2):56-65.

ISSN: 0007-6996. (Stelco Group's management education process 'Winning in the Nineties') In mid-1992, a needs-analysis revealed that managers wanted greater clarity in the organization's overall direction and structure. In designing this phase of W-I-N, Stelco adapted the essential elements of "requisite organization," calling it "The Winning Organization." Milbourne was CEO of Stelco and Rosen was a consultant. Steel industry. An introductory case.

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.]

Moch, Michael K., and Jean M. Bartunek, 1990, *Creating Alternative Realities at Work: The Quality of Work Life Experiment at FoodCom*, Harper & Row, New York, NY, 444 pages. Documented failure of QWL in a case. QWL had been around for 20 years already. No agreement on expected outcome from QWL. It cost too much up front. It reduced current productivity yet only promised indirect future improvements. QWL was marginalized by supervisors and shop stewards as a threat to their power. Changes made were in the cafeteria food and the parking lot. Literally. Some alternative reality, eh? What a joke. A case, but anti. See Witte 1980. See sharp and positive AMR book review by Milliken 1991 (not herein).

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 ?

Pettigrew, Andrew M., 1985, *The Awakening Giant: continuity and change in Imperial Chemical Industries*, Blackwell, Oxford (Oxfordshire), UK, and New York, NY, 542 pages. Includes index and Bibliography. ICI used Jaques before this date. A case??? Clio offsite. HUM Gen Res. JLE 85-1713 Offsite. **Not seen.**

Philips, N.V., 1969, "Work Structuring: A Summary of Experiments at Philips - 1963 to 1969," *Philips Gloeilampenfabriek*, Eindhoven, The Netherlands. A pamphlet issued by Royal Philips Electronics. The "organization of work ... that ... job content accords as closely as possible with the capacity and ambition of the individual employee" (p.4). A case (?). (Is this on STS or TSD?) See Thornely, D. H., and G. A. Valentine 1969. **Not seen.**

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; this was a grounded theory study combining elements of Jaques and a reinterpretation of data merging the two perspectives (grounded theory study and Jaques).

Quaid, Maeve, 1993, "Job Evaluation as Institutional Myth," *Journal of Management Studies*, Oxford, UK, March, 30(2):239-261. It reveals the process is an institutionalized myth - a set of beliefs that can not be objectively tested. The article version of book. 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. Makes the case for participation for farmers in the development and management of a large irrigation system. Bureaucratic structures are necessary for large organizations to be efficient yet they can accommodate much participation also. (Cited Jaques 1976, 1990) A case?

Rago, William V., 1996, "Struggles in Transformation: A study in TQM, leadership, and organizational culture in a government agency," *Public Administration Review*, Washington, DC, May/June 1996, 56(3):227-234. Author cited W. Edwards Deming 1986 and Elliott Jaques (sp: Jacques) 1989 in describing horizontal and vertical barriers to transformation. A public 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*, Fall, 51(4):266-272. This case study reviews a CEO succession project. Cited Jaques R.O. 1996.

<http://www.psycinfo.com/library/displaypdf.cfm?document=CPB/1999/fall/cpb514266.pdf>

Reaction by Paul Winum:

<http://www.psycinfo.com/library/display.cfm?document=cpb/1999/fall/cpb514273.html>

Reaction by Richard Diedrich:

<http://www.psycinfo.com/library/display.cfm?document=cpb/1999/fall/cpb514275.html>

Instructions for Case Studies in CPJ:

<http://www.psycinfo.com/library/display.cfm?document=cpb/1999/spring/cpb512125.html>

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). A public case. SIBL JBM 97-384 no. 16-20 (2000-02).

Stace, Doug, 1997, *Reaching Out from Down Under: Building Competence for Global Markets*, McGraw-Hill, Sydney, Australia. A case book, some may touch on the theory. BHP Steel (Stace BHP Steel goes international, Working paper 055 Centre for Corporate Change; see also Chapter Three in *Reaching Out from Down Under*). Lend Lease's strategic shift into Asia (Stace, 1996. CCC Working Paper 057 (See also Stace 1997, Chapter Five). Telstra International Business Unit (Doug Stace, CCC Working paper 059, 1996; also Chapter Seven in Stace 1997.) See Maquarie course on International HRM. See Hubbard et al. 2002.

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, Australia, 21 pages. Yennora NSW aluminum plant. Case studies. **UNSW library. Natl Lib of Australia. Not seen.**

Stroll, David, and Paul Cashman, 1987, "Developing the Management Systems of the 1990's, the Role of Collaborative Work." Presentation at CSCW (Computer Supported Co-Operative Work) Conference, Boston, MA. Attempted to set up a complete management support system for the work of the group that one of the authors was managing at that time. DEC. A case. (?)

Thornely, D. H., and G. A. Valentine, 1969, "Job Enlargement: some implications of longer cycle jobs on fan heater production," *Philips Magazine*, May. Article on experiments on the capability level of workers at the Hamilton Scotland works. A case (?). See Philips, N.V., 1969.

Toffler, Barbara Ley, 1991, *Managers Talk Ethics, making tough choices in a competitive business world*, John Wiley and Sons, New York, NY, Chichester, UK, 372 pages. Intuitive description of time-spans by a manager who was unaware of the theory. See Chapter "Peter Lathan," p. 192-193. A case. Also see p. 281.

Webb, Janette, 1992, "The Mismanagement of Innovation," *Sociology*, The Journal of the British Sociological Association, London, UK, August, 26(3):471-492. Trust was shattered when managers espoused human relations but used short-term instrumental controls. This created a morale crisis and the company failed. A case. Compare with Simons 2002. Cited A. Fox 1974 (BC), 1985 (MM2nd), and W. Roche 1991. Solid.

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. See Related 1990 Ph.D.

Wilkins, Paul R., 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 Wilkins 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 in the 1960s?) 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). See Porter and Lawler 1964 and 1965 for "non-validation" of Worthy. See Alfred Chandler 1962 on Sears. A case.

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. See Alfred Chandler 1962 on Sears.

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(PhD Dissertations - In Date Order)

Stamp, Gillian Penelope, 1981, *Members One of Another: The Deanery in Synodical Government*, Ph.D., thesis in Sociology (also Church Administration) (A2e), Brunel University, (West London), Uxbridge, Middlesex, U.K. [Theses # 31-4156. BLL no. D39294/82., Uxbridge PH.D.S73, 356 pages] Unpublished. The relationship between the Church of England as a community of believers and as a formal organization was explored. The introduction of Synodical Government in 1970 highlighted this problem by giving a new role to the deaneries. This study examined the application of Jaques' theory to a Church of England deanery. The Church of England is not an executive hierarchy. A new institutional model is proposed incorporating five different configurations of the relationship between the fellowship and the order necessary for the preservation of the Church. Also, holds a D.Phil. degree. Unaware of the requisite organization restructuring of the Illinois Baptist State Association in the 1960s-1970s by John J. McCarty. (Later developed Career Path Appreciation, CPA, and consulted to the U.S.

Army. Director of Brunel Institute for Social Studies (Bioss) (c. 1986-2002), a consultancy firm in the UK. bioss-international.com)

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 Bioss. 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.] Dixon did her M.Phil. at Brunel in 1976. Dixon co-authored an article with Jaques in 1974. Jaques cited her six times in *GTB* 1976. This was an action research dissertation using social analysis. Dixon helped to develop three Ontario district health councils (DHCs) as requisite organizations (Hamilton-Wentworth, Kenora-Rainy River, Ottawa-Carleton). The first DHC was created in 1974 to serve the Ottawa-Carleton Region and there are 25 DHCs covering 88% of the provincial population by 1981. Worked with the Councils and their staffs to examine the accountability and authority of the roles, to establish goals, functions, and structures, to improve the effectiveness of the DHCs and to ensure public participation. (She was in the UK doing research and consulting in the early 1980s.) A case.

Kruger, Mark Phillip, 1983, *Executive Decision Processes and Decision Networks: A Longitudinal Study (Leadership, Decision Spirals, Incrementalism)*, D.B.A., dissertation in Business Administration, Harvard University, Harvard Business School, Boston, MA, 378 pages. UMI AAT 8511717, DAI-A 46/04, p. 1031, Oct. 1985. Adviser: Louis B. Barnes. Published as: Kruger, Mark P., and Louis B. Barnes, 1992, "Organizational Decision Making as Hierarchical Levels of Drama," *Journal of Management Studies*, Blackwell, Oxford, UK, July, 29(4):439-457. (Cited Jaques.) A study of complex, critical executive decision processes in a Fortune 500 primary metals company covering twenty years. Two main frameworks were developed (1) a model of six managerial decision-making levels varying along temporal and spatial dimensions; and (2) the concept of influence networks as mechanisms for actor-initiated change. Decisions were revisited by executives within each level numerous times as conditions changed and key management members mulled things over. This led to the further concept of 'decision spirals,' both positive and negative. The former moved the organization towards a decrease in entropy, while the latter towards an increase in entropy (i.e., more randomness). Executive decision processes involve dynamics along multiple time frames, multiple organizational levels, the interactions of individuals in multiple networks, and multiple frames of reference. Replication of Landsberger 1961. See McCall and Kaplan 1985. A case. Currently at Norwegian School of Management in Oslo.

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. Unpublished. (Cliffe worked at GIM. Jerry Gray says Jaques was Cliffe's advisor and Cliffe was on the faculty at GIM/AE. Cliffe died in 2001.) This was on the adoption of a company constitution

featuring Wilfred Brown's multi-level policy-making works councils structure in an American-owned manufacturing company in England in 1977-78. The predicted outcomes were generally realised. However, there were two unpredicted outcomes. Employees involved in the original dispute withdrew from the union, and representative participation was not universally desired by all employees. This led to the derivation of limiting conditions for their application. A case.

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 *Análisis Organizacional y Empresa Unipersonal, Crisis y conflicto en contextos turbulentos*, 1987, Ediciones Paidós, Buenos Aires, Argentina. (2nd ed. 1993, 3rd ed. 1998.) A longitudinal case study of a three-stratum entrepreneurial firm, a printing shop, was developed using Jaques' social analysis methodology.

Starkey, Kenneth P., 1985/86, *Time and Professional Work in Public Sector Organizations: an Examination of Four Occupational Groups in Education and Medicine*, Ph.D., thesis in Sociology and Social Administration (Industrial Psychology/ Sociology) (B9g), University of Aston, Birmingham, UK. LIS: Thesis, On Shelf. Theses # 36-2937 (date of 1986 ?). Abstract not online as of 3/04. Published as an article: Starkey, Ken, 1989, "Time and Professionalism: Disputes Concerning the Nature of Contract," *British Journal of Industrial Relations*, Basil Blackwell for the London School of Economics, London, UK, 27(3):375-395. Used Fox 1974 (*Beyond Contract*) to examine the recent extension of contracts to cover professionals. Low trust economic relations were displacing high trust social relations in the name of efficiency and accountability. The felt abuse of goodwill (off clock) contributions led professionals to embrace contracts. Occupational groups saw the contract as a means to control the effort-wage bargain (Baldamus 1961). But this commodification of time (length of time as the definition of work: F. W. Taylor) quickly degenerated into audits of efficiency and the reduction of professional discretion. Conducted four case studies - on schoolteachers, hospital physician consultants, general medical practitioners (GPs), and further education (college) lecturers (FEs). Confirmed Fox's view of contracts as a management device to reduce discretion that, over time, asymmetrically favored employers and managers. Reduction in discretion led to alienation, 'calculative expediency,' and a diminution in the moral nature of commitment to work. (The death of professionalism.) This 'welfare compromise' was dysfunctional (wrong half of the loaf) and precipitated a shift in public sentiment toward the needs of business and privatization. [Starkey seems not aware Jaques's concepts underlay both Fox (discretion, trust) and Baldamus (effort-wage, efficiency wage).] See Loveridge and Starkey 1990. See McGovern PhD 1993.

Rolfe, Heather Kathryn, 1987, *New Technology, Skill and Deskillling in Non-Manual Work*, Ph.D., thesis in Sociology and Social Administration (Industrial Psychology/ Sociology) (B9g), University of Southampton, Southampton, UK, [length c. 335 pages]. Theses # 36-7573. Article published as "Skill, Deskillling and New Technology in the Non-Manual Labour Process," in *New Technology, Work & Employment*, Blackwell, Oxford, UK, Spring 1986, Vol. 1, pt.1, pp. 37-50. In the literature she identified a lack of clarity in the definition of a skill and in the relation between skill and control. Skill has two dimensions: technical complexity and discretion. The introduction of new technology may change particular aspects of a job. But the

technology may need to be adapted to the workers [a la Toyota's human ware]. The discretionary content of a role was found to depend less on the technology than on the role and objectives of management and the hierarchy of decision-making and control in the workplace. Skill was influenced by many factors including social ones. New technology and deskilling impact class structure, divisions among workers and gender segregation. Included ten case studies. Used 'workplace' discretion, work toward a goal within prescribed limits (Jaques), and did not use 'executive' discretion, latitude for action (Hambrick, et al.). This also reflects the impact of Jaques' theory through Alan Fox on British workplace dialogue. (See McGovern 1993 on discretion.) Thesis may be weaker on the theory than was the article. Currently working at National Institute of Economic and Social Research, London, UK (3/03).

Theocarakis, Nicholas J., 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, 240 p. (250 p. online). Supervisor: Paul Ryan. Theses # 40-5404. BLDSC: D061482. Univ.Lib. PhD.16542. Theocarakis, Nikolaos (Nicos). "Mentor" at U. of Athens was George Krimpas. Jaques' time-span of discretion theory is contrasted with the neoclassical theories of pay differentials for differences in responsibility. The empirical evidence is examined for their existence. The ability of the neoclassicists to bear responsibility explanations is analyzed. The practice of job evaluation and TSD are examined through a case study of the pay structure of a non-RO Greek oil refinery with 865 employees. Interviewed 34 managers, engineers and supervisors regarding 49 jobs (S1-S3) in 1983. The author was skeptical of the theoretical justification of TSD (TSD:Level $r = .749$ and $\log TSD:Level r = .934$). He followed Krimpas' polynomial curve (1973/1975) producing $\log TSD:Salary R^2 = .864$; and $Adj. R^2 = .854$ (p. 6.11). (Also, Level:AP (base and salary) = .90. Highest $adj. R^2$ was BaseAP:Level+Seniority = .962.) Did not test FFP, only AP. Cited Jaques, Brown and numerous others on the theory. Examined Mayer's 1960 "scale of operations effect." As of 2005, at U. of Athens. (See Krimpas 1973 PhD, Agarwal 1975 PhD, and Kate Pankhurst 1990 PhD.)

Allsop, Ian E., 1996, *The Influence of Values and Beliefs on Leadership Behavior*, Ph.D., thesis in Business Management, Monash University, Melbourne, Vic, Australia, 434 pages. Matheson Rare Books: Theses Call Number: A442. Microfiche: 2475/3283. Supervisors: Geoff Lewis and Michael Knowles. Unpublished. An extensive participant observation of the Anglican Church, Diocese of Melbourne, that explored the relationship between an organisation undergoing change and the leader's responses to those changes. The contribution of Jaques and Stamp was significant. Those leaders who had relatively high cognitive capability and were not "captive" to the cultural values tended to conceptualise and work for the implementation of organisational change. But those leaders who were dependent and relatively "captive" to the organisational values and beliefs (as their personal values and beliefs) and had a cognitive capability that preferred to work within known frameworks tended to resist change. As the size and scope of the organisation moved from the local to the global there was an increase in the complexity of the issues and the length of the strategic planning period required. Thus, those leaders who are able to handle cognitive complexity and abstraction and can understand universal systems of belief

will feel comfortable operating and leading in larger geographic and cognitive domains. They will develop new organisational futures that reflect this cognitive capacity. They will enable new and different values and a new organisational culture to be developed. See also Kohlberg 1981, Berry 1976. Head of Bioss in Melbourne. Teaches at Monash and Swinburne. Bibliography not seen. See Stamp PhD 1981. Tel: (0)418 561 159 (mobile) Email: iallsop @bigpond.net.au

Joss, Richard, 1998, *An evaluation of total quality management projects in the National Health Service*, Ph.D., thesis in Government and Social Administration, Brunel University, Uxbridge, Midx., West London, UK, 333 pages, Advisor: Maurice Kogan, Brunel: PH.D.J6795. Theses # 47-10907. BLL. no. DX199299. Published as two articles: Joss, Richard, 1994a, "Converging Implementation Strategies in Commercial TQM Initiatives: Implications for the NHS," *International Journal of Health Care Quality Assurance*, MCB University Press, Bradford, UK, 7(2):4-9. Joss, Richard, 1994b, "What Makes for Successful TQM in the NHS?" *International Journal of Health Care Quality Assurance*, MCB University Press, Bradford, UK, 7(7):4-9. Published also as a book: Joss, Richard, and Maurice Kogan, 1995, *Advancing Quality; total quality management in the National Health Service*, Open University Press, Buckingham, UK; Philadelphia, PA, 215 pages. See Chapter 4, p. 49-68. This thesis was primarily focused on the implementation of TQM in the NHS. TQM was piloted at two commercial and two NHS sites. Weaknesses were detected at middle management Levels 3 and 4, so Jaques' hierarchy was adapted and introduced to strengthen TQM implementation. SIBL JBE 96-129.

Kirsner, Douglas Alan, 1998, *Unfree Associations: Inside Psychoanalytic Institutes*, Ph.D., thesis in Psychology and in History of Ideas and Philosophy, Deakin University, Melbourne, Victoria, Australia, 491 pages. Not listed in UMI. Not listed in theses.com. Published as a book: Kirsner, Douglas Alan, 2000, *Unfree Associations: Inside Psychoanalytic Institutes*, Process Press, London, UK, [Other Press/ Karnac Books, US], 324 pages. Through archival research and many interviews Kirsner detailed the inner political histories of the psychoanalytic institutes - voluntary associations - in New York, Boston, Chicago, and Los Angeles over a twenty year period. Used Jaques' organization theory to trace the consequences of the varied organizational arrangements on the vital functions of the institutes and to analyze their decline and crisis. Some institutional arrangements resembled those of a religion. "Dramatic insights into what has gone wrong with psychoanalysis." (He has taught at Deakin for several decades.) Email: dkirsner @optushome.com.au

Leed, Maren, 2000, *Keeping the Warfighting Edge: An empirical analysis of Army officer's tactical expertise over the 1990s*, Ph.D., dissertation in Political Science, Education, and U.S. History, The Rand Graduate School, Santa Monica, CA, 120 pages. DAI-A 61/03, p. 1146, Sep 2000. Not available from UMI. ISBN 0-599-70225-7. James Dewar, adviser. Published as a Rand book, (same title), paperback, 2001, ISBN: 0-8330-3130-9. Some observers argue that today's smaller Army is becoming increasingly strained in terms of how much it can do while still maintaining unit training effectiveness and personnel readiness. Found empirical evidence to support beliefs that current officers in warfighting brigades, especially at the most junior levels, are weaker tactically than were the officers who successfully prosecuted the Gulf War. Further, these declines suggest the existence of a growing "tactical gap," especially in Armor.

Recommended the Army bolster its ability to monitor the developmental content of assignments and its overall leader development system. [This was an analysis of problems within a largely requisite organization. This gap may have risen due to over-reliance on requisite selection and role-person matches.] Cited Dorfman, Howell, Cotton and Tate 1992; Jacobs and Lewis 1992; Jaques [sic], Clement, Rigby and Jacobs 1986; Lewis and Jacobs 1992; Malone 1992; Phillips and Hunt 1992; S. Stewart 1992 (Stewart and Angle 1992); U.S. Army TRADOC Pamphlet 525-100-2 1993; U.S. Army TRADOC Reg. 351-10 1997.

Hearn Mackinnon, Bruce William, 2003, *Strategic Management and Employee Relations: CRA/Rio Tinto's de-unionisation campaign 1991-2001*, PhD, thesis in management, Dept. of Management, University of Melbourne, Melbourne, Victoria, AU, 249 p. Located: UniM Baill T HEARNMA. On Conzinc Riotinto of Australia (CRA), Workplace Relations Act 1996, Collective bargaining, Strategic planning, Industrial relations, and Enterprise agreements in Australia. Published as a book in 2007, *Behind WorkChoices: How one company changed Australia's industrial relations*. Thesis involves an analysis and critique of the process of strategy formulation, employee relations policies, and implementation of Stratified Systems Theory (SST) by the mining company Rio Tinto (including Comalco/ CRA/ RTZ). "My thesis is an examination of CRA/ Rio Tinto's management strategies leading to the de-unionisation of much of their operations. My examination of Jaques and SST is important to the extent it informs my understanding of the company's rationale for their employee relations policies."

(email to J. Dodd, 3/19/02) The union was re-established in 2002. Returned to school after work experience at CRA. Email: bhmackin @ deakin.edu.au See conference papers and working papers. (He is teaching at Deakin Univ., Bowater School, and at Swinburne.) See also, Mackinnon.

Lynch, Ronald Paul, 2011, *Carnegie, Jaques and Requisite Organization: A meeting of minds at Conzinc RioTinto Australia 1977 - 1993*, PhD, dissertation in Business, James Cook University, Cairns, QLD, AU, Nov., 334 p. [Formerly listed as 2004.] Viewed the ongoing and relentless Organisation Development intervention at CRA as a unique journey undertaken at a specific intersection of the principals' working lives that, over nine years, resulted in a restructured global mining house and the subsequent birth of Requisite Organisation as a book in 1989. The study aim melded the core parameters into a meaningful research challenge, to analyse the Carnegie/Jaques OD intervention at Conzinc Riotinto Australia (CRA) through the lens of John Kotter's eight step Organisational Change Process. This thesis builds on mining industry research undertaken by Swain (1995 Related PhD), Ludeke (1996), and Hearn Mackinnon (2004 PhD). A qualitative research template was chosen to embrace a case study model with a study narrative. Embedding a change management on this scale can involve strategy realignment, structural and organisational transformation, process redesign, culture realignment, organisational behaviour, and leadership learning and development. Company change usually requires a considerable period of time. The melding together structure, organisation processes, and people at work is integrated seamlessly into the process. Kotter notes that successful change begins when individuals look at a company's competitive situation, market position, technological trends and financial performance. Cited Brause 2000 PhD; Brown, W., 1960,

1965; Burke, C., 1992, 1998/2003, 2007; Campling 1998, 1999; Carnegie 1992, 2005; Cason 1992, 1994, 1996; Craddock 2002, 2009; Creelman 1997, 1998, 1999, 2000, 2002; Dunphy & Stace 1990; Ellem 2003; Fox 1966, 1973, 1974 (BC); Harvey 1981 PhD; Hearn MacKinnon 2004 PhD, 2009; 1996, Hilmer & Donaldson 1997, 1998; Jaques 1951, 1956, 1967, 1976, 1985, 1986, 1989, 1990, 1991, 1995, 2000, 2002, etc.; King et al 1997; Kirsner 2005; Kliener 2001; Kotter 1992, 1995/2007, 1996; Lee 2005/2007; Ludeke 1996; Lynch 2001, 2003, 2004; Macdonald, Burke & Stewart 2006; Mant 2008; McMorland 1995; Ross 1992; Stamp 1981, 1986, 1992, 2000; Shepard, Grey & Hunt 2007; Swain 1995; Timo 1989, 1997, 1998, 2001. email: paul.lynch@jcu.edu.au OR (2/04) millstream@westnet.com.au **PhD on RO.**

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(Master's Theses)

Schlemenson, Aldo Eduardo, 1971, *Professional Work in Organizations With Special Reference to Partnership As an Organizational Model*, M. Phil., thesis in Sociology, Brunel University, (West London), Uxbridge, Middlesex, U.K. Not online at Theses.com. Partnerships of professionals are assumed to be non-hierarchical organizations. If this is the case, we can find in them an optional model. The lack of hierarchy is found in very small partnerships of professionals. In them the board organization and the work organization are performed by the same group of people. In practice when they begin to grow, as the result of expansion the emergence of a hierarchical model is observed, and it is possible to find in them the conventional stratification described by Jaques. However, even when this is the case, a clear cut accountability system is lacking and this undermines the effectiveness of the system. (Currently consults and teaches at Universidad Argentina de la Empresa (UADE) in Buenos Aires, Argentina.) [See his 1984 Ph.D. thesis at Brunel on Jaques.]

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(Related PhDs)

Hamilton, Laura Ann, 1988, *Structural Change, Paraprofessionals, and Urban Management: A Case Study of Successful Organizational Improvement*, Ph.D., dissertation in Public Administration and Sociology, University of Texas at Arlington, Arlington, TX, 188 pages. UMI AAT 8819437. DAI-A 49/07, p. 1957, Jan 1989. Unpublished. Advisers: Mark Rosentraub and James Cornehl. Improvements in the general assistance program of Tarrant County (Ft. Worth) included, clarifying roles, span of control, reporting channels, selection on merit, standardization of procedures for accountability, and defining the mission of the organization. Contrasted strategies for changing behavior (normative) versus changing the structure of the system (structural). Key criterion for selection of change strategy was level of organization (underorganized, overorganized). UTA library had 15 Jaques books: 1978 *Health Services* and 1974 *Social Services Departments*. **Not seen. Related.**

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' point-system job evaluation plan involving 1,200 supervisory, managerial and professional government employees.

Wilkins, Peter, 1990, *New Technology and the Job Definition Dilemma*, Ph.D., thesis in Economics (Labour and Wages, Industrial Relations), (B9c), University of Bath, Bath, UK. Theses # 40-7819. BLLD microfilm no. DX 92134. Published book: Wilkins, Peter (1961-), 1992, *Managing New Technological Change: case studies in the reorganization of work*, Avebury/ Gower/ Ashgate, Aldershot, England; Brookfield, VT [bibliography, but no index. Based on a 'three-year' study.]. (Not the 1993 pamphlet by Paul R. Wilkins.) This was six case studies on the impact of changing technology on job definitions. Economists have advocated division of labor and managers do it. This is deskilling. But there is an alternative and evidence that new technology generates demand for new skills. Cited A. Fox 1974. Did not cite Jaques or Brown. **Related.**

Pitcher, Patricia Cherie, 1991/1992, *Character and the Nature of Strategic Leadership: Artists, Craftsmen and Technocrats (Leadership)*, Ph.D., dissertation in Business Administration and Industrial Psychology, McGill University, Montreal, Qu., Canada, 275 pages. UMI AAT NN87531. DAI-A 55/05, p. 1319, Nov. 1994. Advisor: Henry Mintzberg. Published in 1996 as, *The Drama of Leadership*, John Wiley & Sons, New York, NY. (Also as: *Artists, Craftsmen and Technocrats*, 1995, Stoddart, Toronto, ON, Canada - ?). Pitcher explored the relationship between character and strategy. She slammed Michael Porter (1980) (p. 151) for claiming analysis was a substitute for vision. She restored Abe Zaleznik and slammed Warren Bennis. She grouped personality types into: Artists, Craftsmen, and Technocrats. On p. 95 she showed how a Technocrat CEO reduced the discretion of subordinates by shifting from strategic planning to annual ROI. She attributed this to personality type, but it may be due to theory-in-use or to a lack of level of capability. Chris Howard in a newspaper column mentioned this book had ideas similar to Jaques' on time-span and organization visionaries (*Creativity and Work*). She is a professor of leadership at Ecole des Hautes Etudes Commerciales (HEC) in Montreal. No mention or citation of Jaques but she clearly described the process of organization destruction by an under-capable CEO. A case. Maybe more than one. **Related.**

Fenwick, Peter, 1998, *The Formation of Management Strategy Towards the Labour Process - a Case Study (BL)*, Ph.D., thesis in Personnel Management and Industrial Training (B9d), University of Cranfield, Cranfield, UK. Theses # 48-741. BL: DXN019305. [Cannot access Cranfield Library to verify.] Unpublished. A depiction of what happens when top managers are not capable. Senior managers introduced major changes but then were unable to specify the 'competitive strategy' or the performance priorities that were attainable. Lower organizational levels (middle managers) had to determine a workable balance among the goals in light of corporate constraints and labour force capabilities - and resistance. Fenwick described this as a

“self organizing process of learning and action.” (Bull dinky! This was gross abandonment of leadership.) (See Findlay Related PhD 1990.) **Related.**

Johnson, William Harold Alexander, 2000, *Technological Innovation and Knowledge Creation: A study of the enabling conditions and processes of knowledge creation in collaborative R&D projects*, Ph.D., dissertation in Business Administration and Economics, York University, Toronto, ON, Canada, 354 pages. UMI AAT NQ59141. DAI-A 62/04, p. 1495, Oct 2001.

Adviser: Johnston, David A. Unpublished. Abstract seen. Knowledge creation and management was of paramount importance to the competitive advantage of organizations. This research extended Nonaka and Takeuchi (1995) into collaborative R&D projects. Participants included firms, universities and public laboratories (six case studies). Found that projects with highly specific goals and where management paid greater attention to environmental factors (requisite variety) had greater levels of knowledge creation and led to higher commercial success. Contrary to existing and popular theory, creative tension, redundancy and autonomy were not significant positive factors. **Related.**

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(Related 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. 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-wage bargain.

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Bibliographies on Related Topics

Australians, being on the other side of the world, have realized the value of not wasting effort, especially in looking for things and sources far away. They have taken the lead in developing several annotated bibliographies relating to employment, employee relations, technology, and worker participation. The Japanese have also been active in developing bibliographies, but with a somewhat different view. They realized their economic and business expansion overseas was threatened by misunderstandings. Theirs have included glossaries of terms and Japanese words so they are better understood.

Several bibliographies below are dated. Most come from several decades ago. Newer ones may be on-line, which makes them easier to use and more flexible. An article or chapter with a great bibliography is a big help, but it isn't enough to qualify it to be included on this list. These are the bibliographies.

Berkowitz, Leonard, and Elaine Walster, eds., 1976, *Advances in Experimental Social Psychology*: Vol. 9, *Equity Theory: Toward a general theory of social interaction*, Academic Press, New York, NY, 263 pages (a series). This volume contains essays on equity theory in the workplace, the law, intimate relations, and social interaction. Volume contains extensive Reference list of equity studies (p. 245-259). (See Walster, Walster, and Berscheid 1978 for similar and more recent bibliography.) [**Warning:** this book may be catalogued under editors, volume title, or series title.] (See negative book review by Morris Zelditch, Jr., 1981 - see Walster et al 1978.) (See Berkowitz, Interesting PhD 1951.)

Walster, Elaine, Ellen Berscheid, and G. William Walster, 1973, "New Directions in Equity Research," (from *Journal of Personality and Social Psychology*, Feb., 25(2):151-176.) (A correction to the Walster et al 1973 formula is in Appendix I of Walster et al 1978.)

Adams, J. Stacy, and Sara Freedman, 1976, "Equity Theory Revisited: Comments and Annotated Bibliography," (original). **An annotated bibliography and index of 167 equity studies is in this chapter.**

Brause, Alison, 1996, "Bibliography in Reference to the Work of Elliott Jaques," Cason Hall Publishers, 5 pages, online at the website, casonhall.com. This is the 'official' one since this was Jaques' publisher. The citations of Jaques' work fill three of the five packed pages of this bibliography. (The tight focus on Jaques omits the context of the theory, its scope and implications.) Online. Rp.

Dayal, Ishwar, ed., 1973, *A Survey of Research in Management*, Vikas Pub. House, Delhi, India, in 2 vols. (Dayal edited vol. 1, 1973. Vol. 2, 1977.) Sponsored by the Indian Council of Social Science Research, New Delhi. Also, wrote Chapter 1: 1973, "The Field of Research in Management, A Trend Report," Vol 1., p. 1-25. An **annotated bibliography** in two volumes. Overview of the field and intro to the readings. This comprehensive bibliographic survey was created to establish a counter-weight to the Western views of Indian enterprise (q.v. "Orientalism"). Cited Jaques 1951, Brown 1960, Brown and Jaques 1965, W.G. Scott 1965, Rice 1958, Miller and Rice 1967, Singh and Rudraswamy 1959, and Lawrence and Lorsch 1969! (An enormous number of cites of Dayal's work, including on pages: 187-8, 193-4, 196-7, 207?, 221-2, 234, 242?, 250* 300?, 347-9, 359-60, 381, 391, 400, 415, 451?, 460, 473~. Plus, Sharma 438; RN Banerjee 455; Sheth 420-1. This is from only some of the chapters in vol. 1, but none in vol. 2 yet.) NYPL SIBL JLL 74-40 (Vols 1-2).

Dunphy, Dexter C., and Bruce W. Stening, in association with Millicent Easter, Bronwyn Jones, Jeannette Shi, 1984, *Japanese Organization Behaviour and Management: an annotated bibliography*, Asian Research Service, Hong Kong (G.P.O. Box 2232), China, 214 p. Commissioned by Japan Institute of Labour. Part of a series. The other annotated bibliographies stayed clear of organisation behaviour and mainstream management to leave room around this one. See Ford 1984. NYPL Hum JLF 85-3016 (HSSL). Misc.

Ford, Bill, Margaret Coffey, and Dexter C. Dunphy, in association with Garry Cousins, et al, 1981, *Technology and the Workforce: a select, classified, and annotated bibliography of studies and citations published in the 1970's on the inter-relationship between technology and the workforce in industrialised countries*, Technology Research Unit, N.S.W. Ministry of Technology for the Dept. of Organizational Behaviour, University of New South Wales, Sydney, NSW, AU, Baker and Taylor (BTCP), 193 p. Effect of technological innovations on industrial relations, the labor supply, the quality of work life, and technological unemployment. (Presumably, also on up-skilling and down-skilling.) Part of a series. (CU. LC: Z7164.L1; HD6331.) Clio Offsite Z7914.M25 F67. Not seen. Misc.

Ford, Bill, [G. W. (Gordon William)], Millicent Easter, and Ann Brewer, 1984, *Japanese employment and employee relations: an annotated bibliography*, Australian Government Publishing Service, Canberra, FD, AU, 180 p., 536 items. Cat. no. 8408602. [Ann Maree Brewer]. Part of a series initiated by the Japan Institute of Labour in 1977. Very useful. Preface indicated English publications that look like in-house journals but are not: *The Wheel Extended: A Toyota Quarterly Review*, *Sumitomo Quarterly*, *Japan Labour Bulletin*, *Japan Echo*, and *Japanese Economic Studies*. See Dunphy 1984. Clio Offsite Z7164.L1 F67. Seen. Misc.

Ford, Bill, and Millicent Easter, 1991, *Technology, Work, and Change: an annotated bibliography of employment practices in Scandinavia and Germany*, Australian Government Publishing Service, Canberra, AU, 109 p. Australia. Dept. of Industrial Relations, Development Services Branch. The effect of technological innovations on employee participation and employment in Scandinavia and Germany. NYPL Hum JFF 92-2224. Misc.

Fox, Alan, 1971, *A Sociology of Work in Industry*, Collier-Macmillan, London, UK, 218 p. Quoted in Richard Butler 1991: "Ideology is a resource in the struggle for power. Management seeks an ideology to justify its behaviour" (p. 124) [i.e. legitimacy] (see esp. p. 124-132). Extensive annotated bibliography, p. 193-216. Included: Jaques 1951, Brown 1960, Brown and Jaques 1965, Baldamus 1961 (esp. Ch. 8: normative aspects of work), Behrend 1957. Fox seems to have encircled Jaques in his research. (Cited in John Child, 1981, *Sociology of Industry*.) [NYPL - Hum Gen Res JFD 71-1736]

Fritz, Jan M., ed., 1985, *The Clinical Sociology Handbook*, Garland, New York, NY, 292 p. Garland bibliographies in sociology; vol. 7. Garland reference library of social science; vol. 134. An annotated bibliography of works related to the newly emergent clinical sociology field of practice. Works were classified into 14 topics. The entire collection was housed at Georgetown University library. Several of Jaques' and Rowbottom's works were included, mostly under Organizations and the Workplace. Jaques 1962 (in HBR), 1978 (*Health Services*), 1980 (1976 *GTB*), 1981 (sic 1982 *Form of Time*), 1982 (in CSR). Rowbottom 1973 (*Hospital Organisation*), 1974 (*Social Services Departments*). See also Glassner 1982 - included.

Gore, William J., and Fred S. Silander, 1959, "A Bibliographical Essay on Decision Making," (in Research Notes and Comments), *Administrative Science Quarterly*, June 1959, 4(1):97-121. Contrasts an organismic approach to decision making (the organization and its environment) to a management science approach (mathematics, probabilities, game theory, linear programming). Cited Jaques 1951 in conjunction with the Lynds' and Warner and Low's classic studies to show "the invisible chain of interdependencies" that create a "more or less stable social system" inside an organization. Also cited Robert Dahl 1955 on the processes of decision making.

Jaques, Elliott, 1982, "Implications of Discrete Levels of Human Capacity for Military Organizations and Operations," Brunel University, Uxbridge, Middlesex, England. Working Paper(?). Not seen. Cited online at ONLINE BIBLIOGRAPHY OF MILITARY LEADERSHIP (accessed 2-1-04): <http://www.west.asu.edu/vanfleet/milbib/milbibj.htm>

Jones, Gregory P., 1978, *Worker Participation in Management: a select and annotated bibliography of worker participation in management in Australia*, Canberra College of Advanced Education Library, Canberra, ACT, AU. This publication is a useful source on Australian material of a kind which is not usually included in standard references. Contains a classification and a glossary of terms currently in use. Cited in Maley, Dunphy and Ford 1979. Not seen. Misc.

Macey, Samuel, L., 1991, *Time, A Bibliographic Guide*, Garland Publications, New York, NY, 426 pages. A comprehensive bibliography of temporal research across academic and professional disciplines. 6000 entries. A model Introductory essay. (J. T. Fraser was then planning a vast online database to be named "Timeline".) See T. K. Das 1990.

Maley, Barry, Dexter C. Dunphy and Bill Ford, in association with Maureen Ayers, et al, 1979, *Industrial Democracy and Worker Participation*, South Australian Dept. of Labour and Industry, Unit for Industrial Democracy, Adelaide, SA, AU, 303 p., 560 entries. Part of a series. A select classified and annotated bibliography of international citations on the theory and practice of industrial democracy and worker participation and their role in organizational change. Does not include Jaques, but does Brown (#80). Fogarty #197, 198, 199; Fox 1974 *MM*, #207; Emery, Trist and Davis; Bucklow; Paul Blumberg; Philips NV, job enrichment. A very thorough and nice job. NYPL Hum JLF 82-373 (HSSL). Misc.

Monchaux, Cecily de, and Gertrude H. Keir, 1961, "British Psychology 1945-1957," *Acta Psychologica*, Elsevier Science B.V., Science Direct online, UK, 18:120-180. An overview of the field. Outside view of formation of the Tavistock Institute (p. 155-157). Jaques 1951, Hill 1957, later Tavistock, et al, covered on pgs. 159-160. Lots of bibliographic references.

Vaill, Peter B., 2001, "An Annotated Bibliography on Foundational Literature in Organizational Behavior and Development," online at http://www.mnodn.org/about_OD/OD_bib.pdf Confirmed major HBS research effort 1962-1965 involving Lawrence, Turner, Vaill, Lorsch, et al, on blue-collar job satisfaction generated by Jaques' 1961 book. It then shifted to organization design and contingency theory (Lawrence and Lorsch 1967 and 1969). (I suspect we should include Picard in this effort also.)

Walster, Elaine Hatfield, G. William Walster, and Ellen Berscheid, 1978, *Equity: theory and research*, Allyn and Bacon, Boston, MA, and London UK, 312 pages. An 'encyclopedic review of past research' on equity theory covering exploiter/victim relationships, philanthropist/recipient relationships, business relationships, intimate relationships, major theoretical issues, and the future of equity theory and research. This goes well beyond equity in the workplace. Extensive Bibliography: p. 271-297. Includes a correction to Walster et al 1973 equity formula. A well-written explication of equity theory at the undergraduate level. Jaques 1961 and Adams, supporting research and critiques are in the business chapter. No citation of Alan Fox. [Elaine Walster at some point here became Elaine Hatfield.] [CU Law: GJ 282 W16 Cellar.]

Zaccaro, Stephen J., 1998, *Senior Leadership: An Annotated Bibliography of Research Supported by the Army Research Institute*, NTIS, Springfield, VA, 22161, USA, Army Research Inst. for the Behavioral and Social Sciences, Alexandria, VA. Jun 1998. 39p. Report: ARIRN-98-11; ADA3470879. This is an annotated bibliography of research on senior leadership sponsored by the Army Research Institute primarily between 1985 and 1994. This research has covered themes related to the nature of work and performance requirements at the executive level, the knowledge, skills, abilities, and other (KSAOs) characteristics needed to meet these requirements, the measurement of key senior leadership constructs, and the formation of development and training technologies for the inculcation of requisite leadership qualities. This research has proceeded from a single coherent theoretical framework.

3-25-14

SOME WEBSITES

The web site of Requisite Organization International Institute(ROII) is: requisite.org and/or roii.com This website contains a wealth of information on Elliott Jaques, Kathryn Cason, the theory, a quarterly newsletter, a timeline of research development and members of the organization. This links to Jaques' publisher, Cason Hall & Co. Publishers, in Gloucester, MA. casonhall.com

The Global OrganizationDesign Society (GO Society) has its website in Toronto: GlobalRO.org

Harald Solaas has a website on RO in Buenos Aires in Spanish: <http://harald.solaas.com.ar/>

Quote from Jaques: A quote on Knowledge versus Understanding from Work, Creativity and Justice: bus.orst.edu/classes/ba350d/Jaques.htm

An on-line weekly magazine, hr.com, has published a series of articles on Requisite Organization and interviews with Elliott Jaques, Tom Helton and others. See Creelman.

Ken Shepard has a website in Toronto, canadiancentre.org, that also has articles, a mailing list, and links to Association for Management of Design (AMOD).

The W. Edwards Deming Insitute (WEDI) website is: deming.org

The Baxi Group websites are: baxi.com and baxi.co.uk

The Bank of Montreal website is: bmo.com

Rio Tinto website is: riotinto.com

The Michael Allen Company of Westport CT counts Sir Roderick Carnegie of CRA as one of its network of executive consultants. Website is mac-island.com

Boyd, John R., Colonel, USAF, 2003, http://www.d_n_i.net/second_level/boyd_military.htm Defense and the National Interest website. This website is dedicated to Boyd, the OODA loop, and his other contributions to military tactical and strategic thinking. Lots of links to papers, books and studies. Boyd's contribution to business, organizations, and peace has yet to be adapted and written. See Jack Kelly 2003 news article and Robert Coram's 2002 book on Boyd.

Capelleassociates.com

economist.com, 2004, Business Encyclopedia, Business Profiles, from Bloomsbury Publishing Plc. 144 profiles of the most influential and controversial business writers, entrepreneurs and managers. Includes profiles of Elliot Jaques (sic, not seen), Wilfred Brown, and Glacier studies. EbscoHost. BUT - you will be charged a FEE for this. (11-17-04 & 2-13-08)

Leboutet, Jean-Paul, 2000, "Japanese Executives & Management Today: The need for clear coaching advice at all management levels," online article on this Australian-based coaching approach that uses Jaques, Harry Levinson, and Howard [S. ?] Schwartz. Leboutet is French and speaks fluent Japanese. tms.com.au

Theworkingmanager.com See "Elliott Jaques" page:
<http://www.theworkingmanager.com/articles/detail.asp?ArticleNo=263> This is a superficial reading of Jaques with a supercilious attitude.

GillianStamp.com is the website for Gillian Stamp, formerly head of Bioss. Among many other items, she has posted a series of online articles which she has written quarterly. Worth a visit.

EDAC (Executive Development Assessment Centre). 2000. The MCPA training manual. (Modified CPA.) [Online] Available from <http://edacen.com> [Accessed: 2003-11-10].

Howard, David, 1997, "FlowMap System," and "Only-Connect," Management-New Style, Hill House, Chislehurst, Kent BR7 5NB, England. Software design firm. Founded on the principles of the thought leaders of Quality. Cited in Michael Church 1997. Online.
<http://www.flowmap.com/>

Witcher, Barry J., 2000, "*Hoshin Kanri*: an annotated bibliography." Developed to overcome the drought in information in the literature and misinformation on this concept. E-mail: b.witcher@uea.ac.uk <http://www.mgt.uea.ac.uk/people/witcher-b.asp> (Site not found, 1/07.)

The Pinnacle, 2007, Breckenridge Institute, newsletter (downloaded 7/7/2007), Breckenridge, CO, USA. Discussion of Elliott Jaques' ideas on R.O. and this online Annotated Bibliography under the section, "What we're reading ..." Nice comments about RO theory.

Here are four RO-related blogs mentioned by Ken Shepard (12/19/07):

Michelle Carter blog <http://www.missionmindedmanagement.com/>

Forrest Christian blog <http://www.manasclerk.com/blog/>

Paul Holmstrom blog <http://www.managementunplugged.com/>

Tom Foster blog <http://www.managementblog.org/>

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BIBLIOGRAPHY TOTALS
(Definitions follow these totals.)

5th Edn.

As of: 8-15-09
wpd

Academic and Professional -

Peer-Revd. A- Non-peer Profl Rep | Ch. Bk.
Jrnl Artls Level Jrnl Revs | NJ NJ

Studies Directly Using R.O. Theory:

Research-pubd.	1,047 *	546			
Critical-pubd.	47	21	12 ~		
PhDs	90 *				(Sep. Sec., pt. II)
In progress	5				"
MAs	63 *				(Sep. Sec., pt. II)
Subtotal	1,252	567			
Descriptive/ Popular	582	153	--		
Book Reviews	325		105		(Sep. Sec., pt. II)
Research-unpubd.	202				
Conference Papers	111 *				
Subtotal	313				
Subtotal	2,472 *	720			

Mainstream (MS) Findings Supporting R.O. Theory (Unintended):

Research Supt -MS	1,322 *	786			
Related PhDs	239 *				(Sep. Sec., pt. II)
Related MAs	41 *				(Sep. Sec., pt. II)
Subtotal	1,602				

Academic Total: 4,074 1,506 473 *

Current Newspapers & Periodicals:

(Subject is R.O. theory)

News Articles	268				(Sep. Sec., pt. II)
incl. Obituaries (ibid)	33				"
Brdcts, Videos, Prestns	147				(Sep. Sec., pt. II)
Websites	20				(Sep. Sec., pt. I)
Subtotal	468				wpd

R.O. Total: 4,542

5th edn.As of: 8-15-09
wpd**Alternative Published Studies:**
(Academic, Not on the theory)

Alternative Theories	254
Refutation/Non-Replc of Alt. Theories	314
Subtotal	568

Other Stuff: (Not on the theory.)

Miscellaneous	1,312	(Biz.-Acads., Japan, Fr. & Glacier)
Interesting PhDs	89	(Sep. Sec., pt. I)
Subtotal	1,401	

Other Matter:

Lost/ Off/ 1953-55	101
Wingers	253
Broken Cites (“?”)	62
Subtotal	416

BIBLIO TOTAL: **6,927 ****

1,350 pages in II; 248 pages in I – as of 8-15-09.

(The computer-generated Grand Total of paragraphs in this Bibliography is higher. This includes oddments not in the Subtotals.)

* Total A-level journal articles increase 10 per year. In 2.5 years this figure will reach 500.

** Notes: Co-authored items with Jaques or Brown were double-listed under both names but not double-counted. The PhDs on the theory are briefly listed among the Research Studies but counted separately. The MAs on the theory are listed and counted separately. Only a few of the Related PhDs and Related MAs are listed among the Mainstream Research Support studies. Most of the PhD theses can be obtained through UMI, Index to Theses, or the British Library. This is a form of publication. Most MAs are not published. Many conference papers are published in conference proceedings (if you can find them). Definitions, explanations and descriptions of these categories follow.

doc

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Ken Craddock is a researcher, writer, and 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 consultants and 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 an 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 this on-line annotated research bibliography on *Requisite Leadership Theory* after his M.A. in Business History at Columbia University. His thesis was *Requisite Leadership: A Model of Organization Effectiveness*, which described the history and development of this theory.

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, accountability, and requisite organization design. At City College proposals were implemented to increase IT space and improve teacher evaluations.

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

###



GO Global Organization Design Society

GO SOCIETY PURPOSE AND VALUES STATEMENT

To support the organizing of work in a responsible, fair and healthy manner in which people are led in a way that enables them to exercise their capabilities.

The Society believes this requires applying a systems framework* emerging from reflective inquiry in which levels of work and capability are the initial paradigm and growth in human awareness is the essential process.

The benefits are organizational effectiveness, fulfilled people and organizations designed for value-creation, sustainability and social well-being.

Note: inspired by the work of Wilfred Brown and Elliott Jaques

The *Global Organization Design Society* was founded in 2004 to establish and operate a worldwide association of business users, consultants, and academics interested in science-based management to improve organizational effectiveness.

The GO Society fulfills its purpose by:

- Promoting among existing users increased awareness, understanding and skilled knowledge in applying concepts of Levels of Work Complexity, Levels of Human Capability, Accountability, and other concepts included in Requisite Organization and/or Stratified Systems Theory.
- Promoting among potential users of the methods, appreciation of the variety of uses and benefits of science-based management, and access to resources. The GO Society supports the learning and development of current and future practitioners by holding world conferences and professional development workshops, publishing books and a journal, and maintaining a resource-rich web site with related articles, monographs, books, videos, blogs, discussion groups, and surveys.

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