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Intuition: Theory and Application in Counseling and Psychotherapy

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Intuition: Theory and Application
In Counseling and Psychotherapy

BY

Neva S. Calvert

Neva S. Calvert

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF

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In the year of 2000

I HEREBY RECOMMEND THAT THIS THESIS BE ACCEPTED AS FULFILLING
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Running head: INTUITION: THEORY AND APPLICATION IN COUNSELING,

Intuition: Theory and Application

In Counseling and Psychotherapy

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Abstract

This is a comprehensive literature review rendering over 300 references to articles, books, lectures, and websites that pertain to the subject of intuition and its relationship to human consciousness. The scope of this review includes (1) statistical overviews of intuition/intuitive-related websites, book publishing and professional documents; (2) overview of professional intuition/intuitive and counseling/psychotherapy-related documents; and (3) historical and current review of (a) women's, (b) children's, (c) religious, (d) delusional, (e) mathematical, and (f) scientific intuition studies. The author reviews intuition in relationship to (1) Husserlian phenomenology in modern science and psychology; (2) savant syndrome; (3) gaia theory and Native American views; (4) brain binaural beat technology; (5) quantum mechanics; and (6) anomalies and consciousness studies. New opportunities for research and application are suggested.

Dedication

I dedicate this document to all who have contributed to its actualization.

My Mother and Stepfather, Sue and Albert Rippey, who teach me about love and service,

Thank You, Mother and Al.

My Sister, V. Kay St. John, has shown me what it means to bring forth and nurture life,

Thank You, Kay.

My Son, Kris Calvert, inspires me with, “When life hands you a lemon, make lemonaid.”

Thank You, Kris.

My friend, Mary Virginia Petersen, fellow listener and teacher, has been love in action,

Thank You, Virginia.

My fellow traveler, Marjorie Wohler, has shared her indigenous soul with me,

Thank You, Marj.

The Rural Parish Workers of Christ the King have provided the needs of this project.

Thank You, RPWCKs.

My Sisters in Christ have been my family in every way, in hardship, and in joy.

Thank You, Doris Ann Bequette, LaDonna Hermann, Mary Virginia Petersen, Mary

Catherine Saffa, Mary Margaret Siegfried, I. Natalie Villmer, and Alice Widmer.

My vocation has provided the motivation for completing this project.

Thank You, Mary, Mag, Phillip, Benedict, Teresa, John, Alice, and all our neighbors.

“Intuitive thoughts and decisions” have contributed to the process of this document.

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The One, emanating intelligence, light, and life, love and joy,

Thank You, Good, Orderly Direction.

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Intuition: Theory and Application in
Counseling, Psychotherapy, and Research;
Introduction

The goals of this review of the literature about intuition are several. First the author will define terms that may have a specific application(s) in this text that may not be its popular usage. Second, an investigation will be made using the Internet that will attempt to place the findings from the APA's PsychINFO databased literature into the context of the world-wide, cross-cultural and multidisciplinary incidence of intuition-related human activities. This information may be of interest in terms of comparing the utilization of the concept of intuition in counseling, psychotherapy, and related research, to that of sectors external to those fields. These can be scanned over by the reader who is not interested in this data. Third, to give the reader a more specific historical and statistical overview of apparent interest in intuition in counseling and psychotherapy, an accounting of incidences and attitudes of studies within time periods will be made. Again, the reader who is not interested in these statistics can scan over them to the concluding paragraphs of that section.

Fourth, an attempt will be made to investigate and categorize, for the reader, the most representative studies as they relate to the phenomena of intuition across history, populations and disciplines. To reduce the risk of subjective selection of studies, all documents containing the word "intuition" in their titles that combined a focus on the specified category, and a study of intuition, were selected. There were 6 works that were eliminated for a misleading title. Each category of the literature review section will reference only documents accessioned into the American Psychological Association's

(APA, 2000) PsychINFO databases, unless otherwise stated in the text, as will occur when directing the reader to further elucidation of a category of study that either could not be found in the APA databases, or were outside the scope of this thesis.

Fifth, the author will attempt to comprehend the implications of this review, if any, and their relationships to the fields of counseling, psychotherapy, and research in these areas of science.

Terminology

Miriam-Webster Online (1999) renders the following information about the word **“intuition”**: *“noun; Pronunciation: “in-tu-`wi-sh&n, -tyu-; Etymology: Middle English *intuycyon*, from late *intuEri* to look at, contemplate, from *in-* + *tuEri* to look at; Date: 15th century; 1. quick and ready insight 2. a : immediate apprehension or cognition b : knowledge or conviction gained by intuition c : the power or faculty of attaining to direct knowledge or cognition without evident rational thought and inference –**intuitional** / -`wish-n&l, n – `wi-sh&n&l/ adjective.*

The word **“epistemology”** is defined as follows: *noun; Pronunciation: i-“pis-t&-`ma-l&-jE; Etymology: Greek *epistEmE* knowledge, from *epistanai* to understand, know, from *epi-* + *histanai* to cause to stand – more at STAND; Date: circa 1856 : the study or theory of the nature and grounds of knowledge especially with reference to its limits and validity –**epistemological** /-m&-`la-ji-k&l/ adjective –**epistemologically** /-k (&-) lE/ adverb –**epistemologist** /-`ma-l&-jist/ noun.*

The word **“heuristic”** is defined as follows: *adjective; Pronunciation: hyu-`ris-tik; Etymology: German *heuristisch*, from New Latin *heuristicus*, from Greek *heuriskein* to discover; akin to Old Irish *fo-fuair* he found; Date: 1821 : involving or serving as an*

aid to learning, discovery, or problem-solving by experimental and especially trial-and-error methods <*heuristic techniques*> <a *heuristic assumption*>; also : of or relating to exploratory problem-solving techniques that utilize self-educating techniques (as the evaluation of feedback) to improve performance <a *heuristic computer program*> - **heuristically** /-ti-k (&-) lE/ *adverb*.

The word “**keyword**”, for this thesis, is defined as a word or phrase that can be found in the text or subject heading of documents accessed by specified databases, and that are the key by which a citation will be retrieved from that database.

The word “**phenomenology**” is defined as follows: *noun; plural –gies*;
Pronunciation: fi-“na-m&-`na-l&-jE; **Etymology:** German *Phanomenologie*, from *Phanomenon* phenomenon + *-logie* –logy; **Date:** circa 1797; **1:** the study of the development of human consciousness and self-awareness as a preface to philosophy or a part of philosophy; **2. a (1) :** a philosophical movement that describes the formal structure of the objects of awareness and of awareness itself in abstraction from any claims concerning existence (2) : the typological classification of a class of phenomena <the *phenomenology* of religion> **b :** an analysis produced by phenomenological investigation; **-phe-nom-e-nol-o-gist / -jist/ noun.**

Literature Overview: Intuition/Intuitive

An overview of the literature indicates that interest in intuition, as a useful resource, has grown significantly across the full spectrum of academic, professional and popular sectors. Amazon.com Books Search Results (2000) yielded over 270 matches for books currently marketed by them, via the Internet, containing the word “intuition” in their titles and with the word “intuitive” there were 169 matches. On September 20, the

Google Internet Search Engine (Google, 2000) produced over 561,000 websites displaying keyword “intuitive” while 296,000 sites were found that focused in on “intuition”. As of November 5, 2000, the number of web pages increased to 610,000 and 315,000, respectively. That is, the number of web pages nucleated by concepts of intuition or the intuitive increased by 160,000 new sites in only 45 days.

By clicking on Google’s advanced search, the major sectors that are utilizing the phenomena ascribed to intuition were determined. By typing in the word “intuition”, in combination with the following descriptors, these resulting matches were made: business, 92,100; counseling, 9,670; engineering, 26,500; math, 19,300; medical, 41,300; psychology, 40,500; psychotherapy, 4,940; social, 83,700; religious, 45,300, and spiritual, 73,100. The term “intuition research” yielded 90,800 matches and the term “intuition studies” obtained 58,700 web sites across all fields.

A similar search was made for the word “intuitive” with the following results: business, 293,000; counseling, 13,500; engineering, 83,500; math, 41,800; medical, 71,800; psychology, 43,800; psychotherapy, 5,510; social, 97,300; religious, 41,600; and spiritual, 63,600. The term “intuitive research” yielded 155,000 matches, and the words “intuition studies” obtained 90,900 web sites across the fields. There were 159,000 matches for the root verb, “intuit”.

The Ovid Search Form (library access code required) was used to access the Illinois Bibliographic Information Service (1998) via the Internet. From the resulting list of databases, PsychINFO, 1887 to 1966, and PsychINFO, 1967 to 2000, were accessed (American Psychological Association, 2000). (Note that the term “to” in these databases includes the years depicted.) These databases retain professional and academic literature

in psychology and related fields including medicine, psychiatry, nursing, sociology, education, pharmacology, physiology, linguistics, and other areas. Coverage is worldwide and includes references to over 1,400 journals. Over 50,000 new references are added annually. Popular literature is excluded.

The American Psychological Association's (APA) PsychINFO (1887-1966) database yielded 393 findings for the word "intuition", and 354 matches for the term "intuitive" appearing in the texts published during those years. The PsychINFO (1967-2000) database matches for "intuition" as a keyword numbered 1,328 in late September, and 1,346 in early November, 2000, adding 16 new professional documents, in less than one and one half months, that utilized one of the concepts of intuition. For the keyword "intuitive, there were 1,815 and 1,835 displays, respectively, indicating 20 new exposés in that brief time.

Title-matches (APA, 2000) for the years between 1886 and 1967 were 69 for "intuition" and 30 for "intuitive". A similar search in the PsychINFO database in titles for the years from 1967 to 2000 revealed an equivalent trend of 219 matches for the word "intuition" and 287 for "intuitive", in September, with an increase, in November, to 222 and 290 in less than a month and one half, respectively. This reveals that 6 authors explored or utilized the concepts "intuition" or "intuitive" enough to so title and publish their documents within those six weeks.

The above trend in the increase of interest in intuition and the intuitive differentiates by the following increments in searches for titles using the term "intuition". For 1887 to 1915, there were 0 matches; for 1916 to 1920, there was 1 match; for 1920 to 1930, there were 20 matches; for 1930 to 1940, there were 21 matches; for 1940 to 1950,

there were 12 matches; for 1950 to 1960, there were 14 matches; from 1960 to 1967 there were 8 matches. For use of the term in titles from this database for the years 1967 to 1980, there were 89 matches; and for 1990 to 2000, there were 113 matches (APA, 2000).

A similar trend appears in differentiating the citations obtained, for the title-word “intuitive”. For the years 1887 to 1928, there were 0 matches; from 1929 to 1930, there were 6 matches; from 1930 to 1940 there were 4 matches; from 1940 to 1950, there were 4 matches; from 1950 to 1960, there were 8 matches; and from 1960 to 1967, there were 8 matches. For the use of this term in titles found from this same database for the years 1960 to 1970, there were 18 matches; for 1970 to 1980, there were 49 matches; for 1980 to 1990, there were 115 matches; and for 1990 to 2000, there were 126 title-matches (APA, 2000).

Literature Overview: Intuition/Intuitive and Counseling/Psychotherapy

When the words “intuition” or “intuitive” were combined with the words “counseling” or “psychotherapy”, there were 0 matches in title searches from 1887 to 1966, although there were 1,679 title-displays for the word “counseling” and 3,415 title-matches for the word “psychotherapy”. The titles-database for the years from 1967 to 2000 rendered only 7 matches for documents combining the word “counseling” with either word “intuition” or “intuitive”, and 6 citations were found that combined the word “psychotherapy” with either word in their titles, though there were 11,063 title-displays for the word “counseling” and 14,220 matches for the title-word “psychotherapy”.

When the search was expanded to include documents that hyperlinked and focused on the subjects of intuition and counseling or intuition and psychotherapy, but

not to the extent of titling them as such, the results were slightly increased with 2 and 23 matches, respectively, from the 1967 to 2000- database. The word “intuitive” was dropped from this specific search due to its adjective usage in most of the literature. It did not qualify as a focus hyperlink in the PsychINFO database, but was subsumed by its noun “intuition” (APA, 2000).

Neither term “intuition”, nor “intuitive” qualified as a hyperlinked focus-term in the APA’s PsychINFO database (1887- 1966). However, when sought as keywords in the text of articles published in those years, the respective 393 and 354 matches for the words “intuition” and “intuitive” plummeted down to 8 matches for the word “intuition” when combined with the term “counseling”, and 26 matches when the words “intuition” and “psychotherapy” were combined. The word “intuitive”, combined with the term “counseling”, linked to 4 documents, and with the word “psychotherapy”, to 3. When the word “intuition” was combined with a hyperlink calling for works that focused on counseling and psychotherapy, the results were 0 and 1 match, respectively, from the years 1887 to 1966.

Literature Overview: Differentiation 1887 to 2000

The American Psychological Association’s (APA, 2000) PsychINFO 1887 to 1966 database provided 8 citations wherein their authors used the keywords “intuition” and “counseling”. These are preceded with a double circumflex symbol (^) in the references section of this paper. Of these 8, there were 5 that used the term “intuition” to connote a positive adjunct to counseling, with 1 objecting, while 2 utilized the word in the context of the Myers-Briggs Type Indicator (Myers-Briggs). The documents that actually studied intuition were 0.

From the above database, 26 citations were found that combined the keywords “intuition” with “psychotherapy”. These are preceded with a double asterisk (**) in the reference section of this paper. Of these 26, there were 21 that used the term “intuition” to connote an essential heuristic in the process of psychotherapeutic training and practice, with 0 objecting, while 1 utilized the term in the context of Jung’s 4 factors that later structured the Myers-Briggs. There were 4 documents that made a study of intuition as a heuristic component that is germane to psychotherapy in context of creativity.

The APA’s (2000) PsychINFO 1966 to 2000 database yielded 30 citations that combined the terms “intuition” and “counseling” in their texts. These are preceded with a circumflex (^) in the references section of this paper. Of these 30, there were 19 that used the term “intuition” to connote a positive adjunct to counseling, with 1 objecting, while 8 utilized the concept in context of the Myers Briggs. Of the above 19 studies, 2 mentioned intuition in context of right-left brain imaging and related neurological research, and 1 author referenced intuition as a denominator common to cross-cultural spiritual phenomena during his study of energy fields. There were 2 authors that studied intuition and recommended it as an area of promise for the field of counseling with the provision that empirical technologies support and guide its application.

From the above database, 75 citations were found that combined the terms or concepts “intuition” and “psychotherapy” in their texts. These citations are preceded by an asterisk (*) in the references section of this paper. Of these 75, there were 46 that used the term “intuition” to connote a positive heuristic technique. Its degree of importance to these authors comprised a continuum. Most concluded that intuition was the essence of psychotherapy, while fewer judged it to be a positive, adjunct to psychotherapy, and very

few, believed that the psychotherapist would be more effective to rely only on empirical means. Of these 75 authors, 4 objected to the application of intuition in psychotherapy as unscientific and unethical. Jung's concepts of typology and/or the Myers-Briggs were applied in 5 of the 75 studies, while 3 authors focused on the promise of brain imaging and left-right hemisphere research, and 3 writers recommended the study of energy fields as possible sources or transmitters of the experience of intuition. There were 20 of these 75 documents that provided a major study or a definitive focus on intuition as it relates to psychotherapy.

In summary, all the authors in the above 139 studies accessioned by the APA (2000) seemed to agree that intuition represents a state of consciousness and/or a valid component of knowing, excepting the 10 who cautioned against its use on the basis of its unreliability, or the potential delusion and deception of the client and/or the psychotherapist.

There appeared to have been historical and current trends in acceptance or rejection of the application of intuition as a valid and reliable resource in counseling and psychotherapy. Both fields seemed to develop their early clinical theory upon a heuristic intuition (i.e., intuition that informed learning through a trial and error feedback relationship) (James, 1895 & Macnamara, 1999). Later, the two fields seemed, with few exceptions, to reject less objective theories (Royce, 1957), and to move toward a greater reliance on an empiricism (Kearsley, 1976 & Royce, 1978), that was reticent to invoke broader epistemologies (Hilgard, 1982 & Campbell, 1989). As Campbell predicted, the current trend seems to be moving toward a validation of alternative psychological epistemologies, that had some roots in phenomenology and philosophy of science, and

now are being resurrected by multidisciplinary teams of scientists (these are to be addressed in a later section of this thesis). Newer data has prompted a review of widely accepted empirical assumptions about “intuition” (Tversky & Kahneman, 1983, Gigerenzer, 1991, Brown & Siegler, 1993, Kimble, 1998, & Mitchel & Bever, 1999). An expanded theoretical and empirical epistemology appears to be emerging in psychology. It may be a paradigm shift that can incorporate available historical perspectives as well as investigate current discoveries to explicate and apply its findings to future research and practice (Kitchner, 1984, Shweder & Haidt, 1994, Gopnik, 1998, Wiseniewski, 1998, DePaul & Ramsey, 1998, & Osbeck, 1999).

Literature Review: Historical Perspectives

“Women’s Intuition” Studies

The APA’s earliest citation for a work with intuition in its title was by George Dearborn (1916), wherein he reviewed various usages of the term, and etymologically defined it as “insight”. He attributed to its nature the following: (1) uncommon affective experience, (2) comparative and inferential thinking, (3) comprehensive apprehension of a situation, and (4) “effective instinct” to trust the impression presented “in the mind”. Intuition was considered outside the range of physiology and neurology and was viewed as primarily an unconscious process of the mind. Dearborn deduced that this subconscious perception of a whole situation was more evolved in the female mind, and that since intuition is a criterion of practical intelligence, he wrote, the female mind is more intelligent than that of the male.

In 1928, the subject of feminine intuition was breached again by Dunan (1928) who understood intuition as a type of “divination” (i.e., the faculty of completing an act

without consciously considering intermediary stages of it). He described it as immediate contact, or collapse, between a point of mental departure and an intellectual conclusion. He sexualized (feminine) intuition and (masculine) reasoning as two distinct forms, while granting that both are logical methods: “the one (reasoning), slow and prudent, the other (intuition), rapid and leaping over obstacles. Both sexes possess both methods, but man needs to use reasoning more, and intuition is sufficient for women”.

These observational studies of “feminine” intuition were followed soon after by Rodier, in 1928, who elucidated the superiority of feminine intuition over male logic based on its apprehension of a “complex and illogical” reality that is “not simple” and “not constructed like the brain of a man”. Choisy followed in 1929 to depict intuition as a “special mental condition” endogenous to the female.

No later titles were found whose authors explored intuition in the context of sexuality until the quantitative studies by Snodgrass (1985) seemed to support the subordinate-role-explanation for female superiority in interpersonal sensitivity and intuition. While a significant correlation was found between the variables, the author may have overstated a cause and effect relationship between them. That same year, Fallik and Eliot (1985) failed to find sex-related differences on intuition, among other variables, but found a correlation between field-dependence and intuition, and complicated associations between handedness, sex and cognitive organization in 200 undergraduates. The authors utilized brain/body sensing technology for 3 measures, two tests, and a questionnaire. Though levels of significance were not impressive, the study contributed to an expanded research technology.

It was another ten years before investigators began to carry out intuition-titled studies. These were survey and interview types of information gathering wherein women who were eminent (Skaret, 1995), administrative (Watts, 1997), or focused on leadership development (Burton, 1999) attested to the benefits of acting on their intuitions in achieving success in their fields. Though the subjects were few, Burton used the qualitative software program, Ethnograph v4.0, for data analysis to record 8 themes that were consistent throughout the experiences within the group. These themes were as follows: (1) intuition as an innate ability that can be developed; (2) positive benefits from attending to and acting on intuition; (3) consequences for not acting on intuition; (4) socialization to attend to authority-figures; (5) intuitive and rational knowing; (6) insight into leadership from experience; (7) women's gifts, related to motherhood; and (8) future vision. In 1997, Graham and Ickes performed a discriminating literature review to conclude that women's intuition is superior to that of men when functioning within a certain range of experience that are relational, and that men's intuition is preeminent in other domains, such as abstractions.

The nature of these studies, over time, seemed to evolve from a conceptualizing of stereotypical relationships between intuition and other variables, through a quantitatively-based rationalization about them, into a time of rejection of them as unquantifiable by an emerging empiricism, and now, perhaps, into an expanded capacity to operationally define and quantify the variables presented by them. Psychology may be in a defining sub-stage of this paradigm in relation to intuition and related anomalies.

The interested reader may find two works elucidating: (1) Now a classic in psychosocial and personality development, intended for the student of psychology and

professional research, by Belenky, Clinchy, Goldberger, and Tarule, reprinted in 1997, that projects an interdisciplinary view of “women’s ways of knowing”; and (2) a work influenced by the first, is a critical study of research on sex differences and women’s ways of knowing, or a feminist empiricist vs. a feminist interpretation, for the same audience.

“Children’s Intuition” Studies

The APA’s (2000) first intuition-titled citation was by Fischbein (1967) who concluded that children’s intuition increased or decreased with age, contingent on the complexity of probabilistic cognitions they were called upon to emit. The youngest children were best at predicting outcomes when all possibilities “were” (or appeared) equal. The displacement of one form of cognition for another, as unequal probabilities arose, was indicated by this study, though both forms were termed “intuition”.

Another intuition-titled article was not cited by the APA database until 1983 when the linguistic study by Barblam concluded that teachers must exercise intuition about the lingual intuitions of children for optimal teaching. The study demonstrated that pre-school age children have a well-developed intuitive paradigm for language. In 1984, Hanson, Silver, and Strong, using the Murphy-Meisgeier Type Indicator for Children, performed a more quantitative study of 176 gifted, and 134 normal suburban 3rd, 4th, and 5th graders. Nearly 70% of the gifted (2-3 years advanced) students were found to have dominant intuitive-feeling perceiving and thinking styles, compared to nearly 40% of the normal students. The implications for differential modalities of teaching were stated.

The same year, Dreyfus and Dreyfus (1984) recommended a differential, or 5-stage model for skill-acquisition that balanced computer-assisted learning with relational

and intuitive skill-enhancing modalities. They advised that the computer be used only for drill and practice for the young, so that they would develop their intuitive learning skills. The author concluded that children who use computers should learn to program them in order to take advantage of that learning metaphor and become able to differentiate and master both intuitive and cognitive modes of information processing.

Wimmer, Gruber, and Perner (1985) contributed to the literature by studying 4 and 5 year-olds to find that they had a well-developed moral intuition about lying that seemed to function as a variable that was independent of the advancement of their lexical judgment about what it means “to lie”.

Kuhn’s (1989) introductory discussion of “Children and Adults as Intuitive Scientists” referenced the “highly influential volume” by Nisbett and Ross (1980), which contains a chapter by Tversky and Kahneman that has promoted the metaphor. She referenced the general theory of induction proposed by Holland, Holyoak, Nisbett, and Thagard, and objected to its application to all forms of induction, particularly the thinking of scientists. She pointed out that the “intuitive scientist is one who errs”, but she did little to discriminate the diverse processes and stages involved, and moved on to investigate the respective skill levels of older subjects in terms of their ability to “metacognitize”, or comprehend, relationships between theory and data. While the study was informative about metacognition as a developed skill in the expansion of scientific theory, it yielded little focus on children’s intuition.

In 1995, Resnick argued that young children intuitively possess the sophisticated cognitive ability to reason mathematically and asks why they have such a difficult time learning mathematics in school when they know so much naturally. Implications for the

role of schooling in sociocognitive development, the nature of knowledge and redefinitions of cognitive competence were discussed. Harris (1998) used the Murphy-Meisgeier Type Indicator for Children to assess cognitive styles, sensing or intuitive, of children in grades 2-8. These results were compared to scores on standardized tests and grades to determine whether cognitive style related to achievement level. Statistical significance was not achieved, but it was found that all students achieved higher mean grades in classes of intuitive teachers.

For an interesting report about developing intuition in pre-school children the reader may see an article about the work of Shichida Makato, by Coral Lee (2000), and surf the website of the related e-publication. His book, “Superbrain Revolution”, a best seller in Japan, was not available for reference. Though Makato’s work is controversial, 300 Shichida schools have opened in Japan to accommodate the demand for the application of his methods to developing both creativity and superior learning abilities in children. The China Productivity Center has consorted with him and his methods have begun to be applied in that country. The efficacy and long-term effects of his methods were not reported in this popular article, though such questions seem to provide a fertile field for further psychological investigation.

“Religious Intuition” Studies

A similar pattern seemed to manifest when intuition was studied in the context of religious or metaphysical experience. The APA’s second-earliest citation for title-searched documents investigating intuition (Masson-Oursel, 1926) theorized a cause-effect relationship between social and economic conditions and the practice of intuition as an escape from the ego, similar to the function of ecstasy, but in the context of Indian

systems of religion. The next year, Goblot (1927) criticized science for confusing intuition with experience. Because of its “mediacy”, he distinguished it as a pseudo-experience and compared it to religion, which he defined as intuition. Kamait (1929) postulated that the believer’s “claim to the possession of a self-certifying intuition may be a defensive device” to deal with doubts. Wendt (1935) defined intuition as an affective-primitive and superstitious way of thinking, systematically taught by the Christian church.

The next intuition-titled article to be found was a discussion by Van Eelen (1966) who concluded that the term intuition should be expunged from both scientific and secular vocabularies in that it continues in use because of (1) apathy, (2) justification of self, (3) need for mysticism, and (4) resentment of the incompleteness of rational thought.

It was not until 1989, when David Loomis studied the “mediating influence” of intuition in the relationship between religious faith and imagination that the concepts were combined and titled in an APA-accessioned document. His was a singular work in 34 years as no other document could be found with that dual focus to date. This is not to construe that other studies have not been carried out that investigated and expressed conclusions about the relationship between intuition and religious experience. Those that did combine the two concepts did not focus sufficiently on intuition to so title the document, and in the 500 or more citations read by this author, the term was almost always grouped into related, but poorly defined concepts.

Another trend in the literature appeared to be that concepts of religious experience were subsumed into a more universal and cross-cultural experience of multi-level or trans-qualitative states of consciousness. The field of transpersonal psychology

proliferated in the 80's to accommodate the demands for the development of a scientific technology that could investigate and appropriate these phenomena that were considered to be outside the scope of credible empirical research. For a comprehensive outline of the field of transpersonal psychology, and its inculcation by intuition, the reader may see the collaborative work of Boucouvalas (1980).

“Delusional Intuition” Studies

From 1928 to 1955 the psychological literature abounded with studies that cast intuition as a form of delusion. Dupouy (1928) wrote of intuition as generating the “erotomania” of the schizophrenic. It was thought to be a form of psychopathic variation in “normals” by Dide (1929), and the self-certifying defense against doubt in believers (Kamait, 1929). Delusional intuition was described by Targowla & Dublineau (1931), Grimbert (1934) and Targowla (1936) as a psychotic symptom, though a less disintegrating psychopathology, than the true sensory hallucination. To Wendt (1935), intuition was an affective-primitive superstitious way of thinking, and to Berne (1955), it was a “distant derivative of the primal image of an infantile object relationship”, that is, the use of the “function of an erogenous zone for social expression”, that manifests more profoundly in schizophrenia, borderline conditions, and neuroses. Though some contemporaries made the distinction between intuition and other mental phenomena, as previously addressed in this paper, confusion about its nature and role in ways of knowing abounded, and several authors discouraged giving it any credence or attention at all. There were no more intuition-titled studies after 1955 that generalized it into the framework of psychopathology. This may be due, in part, to some of the redefining contributions that follow.

“Mathematical Intuition” Studies

The earliest available intuition-titled citation from the APA’s PsychINFO (1887-1966) database was an article, “Mathematical intuition, its mechanism and various aspects”, written in French, by Bouligand in 1929. The other was a book, penned in Russian, by Asmus in 1965 as a historical survey of the problem of intuition in philosophy (17th-20th century) and in mathematics at the turn of the 19th-20th century. There were 4 citations combining the keywords “intuition” and “mathematics” that studied mathematical intuition as “an essential quality” in “arithmetic prodigies” (Taton, 1955). Roback (1943) focused on the psychologist, William James, a mathematician by training, and explored the seminal role intuition played in his thinking.

Jacques Hadamard, an auspicious mathematician in his day, elucidated “the psychology of invention in the mathematical field” in two of his books (1945, 1949). In the first work he presented a rational analysis of the creative thinking process, different kinds of mathematical minds, focusing on “intuitive minds”, and “paradoxical cases of intuition”. His studies of his students and the writings and biographies of other mathematicians led him to include a questionnaire that subsequently gave him data, terms, and insights for writing the next book. It was a more differential treatment of discovery as a synthesis of a multiplicity of functions toward the “intuitive grasping of a complicated mathematical argument”, which he equated with the act of recognizing a person (e.g., “The whole argument has to be experienced as a unique thing, having a certain physiognomy.”). Included was a letter from Einstein about his own thinking/intuitive processes.

A common denominator of these studies were anomalies the scientist termed “paradoxical cases of intuition” and “exceptional cases of intuition”, respectively. To accommodate them, he differentiated two distinct genres of intuition, one, being a heuristic epistemology endogenous to the human as a liminal plus subliminal feed-back system of learning, the other, apprehended in a transrational manner from an inexplicable source. Einstein reported utilizing both genres, while the later gave him his most prodigious theorems. His example illustrated a distinguishing characteristic of Hadamard’s “exceptional cases of intuition” in the cognitive distance between the known data and the data apprehended intuitively.

Later intuition-titled works (APA, 2000), from the 1967-2000 PsychINFO database, yielded little more about “exceptional” or “paradoxical” intuition, but tended to limit its role to that of an “instinct” that is experientially developed and primordial in a continuum of cognitive processes (Wilder, 1967; Fischbein, 1972, 1987; Leinhardt, 1988; Cooney, 1991; Resnick, 1995; Stolzenberg, 1997; & Longo, 1999). Nolt (1983) objected that mathematical intuition was not a unique perceptual mode, but just another “way of conceptualizing what is ordinarily seen or imagined”.

Smith (1975) recommended Husserl’s phenomenological theories of perception to 20th century musicology for use of their musical analogies and metaphors that illustrated the psychological processes of intuition and time-consciousness. To explain what mathematical and cognitive science could not, thus far articulate, he called for an interdisciplinary approach between psychological empiricism and phenomenology.

“Scientific Intuition” Studies

The earliest intuition-titled document retrieved from the APA’s PsychINFO database to focus on scientific intuition was written by Leuba in 1928, wherein he studied “scientific inspiration” as one form of intuition, which, he said, is standard in all productive thought, the improvement of which, depends on periods of rest. In 1932, Goblot penned an essay on the role of intuition in science as a “pre-motor-, or, action-inspiration” actualized by the scientist. Bahm (1960) went further, through an “organic” theory that integrated self- and object awareness, to present intuition as an “immediate apprehension” that undergirds the inferential reasoning of science. He believed he had laid a foundation for discerning the following: (1) the nature of error and truth; (2) tests of truth; (3) intuition of objects at a distance; (4) subjectivity vs. objectivity; (5) appearances vs. realities; (6) dialectic experience; and (7) esthetic experience. The contribution of his defining theoretical framework was not apparent in later psychological documents until the late 1990’s.

True to a pattern in psychology, there was a 10-year gap between the former unifying groundwork by Bahm and the reductionism that followed for nearly three decades, until the later 1990’s witnessed a reintroduction of the previously rejected epistemologies. One exception, from outside American psychology, was accessioned by the APA after Pushkin & Fetisov (1969), experimental psychologists, discussed the experimental approach to “the problem of intuition” as they considered (1) the theory of intuition and modern science, (2) the transposition of abstract relationships in comprehending “endlessly varied situations”, (3) the links of an intuitive solution of a

problem, (4) the registration of visual activity when a new task with viewing components is being cogitated.

Other fields contributed to the literature with comprehensive approaches to the study of intuition. The educator/mathematician Efraim Fischbein (1987) from the University of Tel Aviv, Israel wrote an extensive work that drew on copious experimental data from a variety of research contexts and elucidated the underlying mechanisms of intuition with the hope that all the sciences would achieve better problem-solving strategies by its systematic application. Fischbein classified intuition into categories by virtue of their characteristics. His focus was on the development of “inferential intuition” and its importance in mathematics, but he also gave advice to “the beginning psychic” about discerning intuition from other cognitive processes.

From elementary education, came the thesis on the efficacy of intuition development in improving higher levels of learning and reasoning in elementary physical science students. The results of his experiment led him to conclude that intuition development would benefit related educational curricula (Spickler, 1984).

From medicine came the article, “Where science and intuition meet.” by Mayer (1988) who applied the concept of Erickson’s “unconscious mind” to the context of recent advances in the life sciences. The resulting theoretical framework transcends reductionist models of human intelligence as the body-mind dualism is superseded in light of new evidence from the (1) neuropeptide revolution, (2) neuroimmunology, (3) cellular communication mechanisms, (4) influence of self-image and attitudes toward life on health and longevity, and (5) the complexities of the placebo effect. Mayer proposed a

new concept of living organisms as complex, information-processing entities, endowed with “astonishing” immanent intelligence, or intuition.

From parapsychology came the work of William Kautz (1993) that examines intuition in relation to scientific inquiry. He indicated that many parapsychological phenomena could be subsumed under the larger concept of intuition. Some of his topics were (1) the intuitive process, (2) development of intuitive skill, (3) achieving success in intuitive inquiries, (4) expert intuitiveness, (5) intuition and parapsychology, and (6) the role of science in society. Kautz demonstrated that intuition is the “mind process” that underlies and makes possible “receptive parapsychological performance that is the foundation of all scientific progress”.

In 1994, Cosmides and Tooby, evolutionary psychologists, argued that cognitive psychology could not be a theoretically rigorous science as long as “intuition and folk psychology” set the research agenda. They said that cognitive scientists must free themselves from these “blindness” and be informed by evolutionarily rigorous theories of adaptive function. Because the human mind developed its functional organization through the evolutionary process, theories of adaptive function specify which problems these mechanisms were designed, by evolution, to solve. Thereby, they supply information about their design features and the “architecture of the human mind”.

From philosophy via the University of Colorado, came the chapter in DePaul’s and Ramsey’s “Rethinking intuition: The psychology of intuition and its role in philosophical inquiry” by George Bealer (1998), who addressed the relationship between science and philosophy and the role of intuition in that interplay. He elucidates this kind of intuition that applies, distinguishing it from belief or judgement, stating that is not

infallible, but does have a strong modal tie to the truth. He asserts that the complex theoretical intuitive systemizations apprehended in high quality cognitive conditions will be reliable, and that these high quality conditions can only be achieved collectively, over time, and not individualistically.

Finally, from British psychology, Guy Claxton (1998) performed an analysis his literature review and colluded with the studies and practitioners in questioning assumptions that have underpinned much of the prior research performed by cognitive science over the last 30 years. The variables he analyzed were extracted from studies of (1) “subthreshold priming”, (2) creativity and incubation, (3) the relationship of confusion and intuitive learning, and (4) the development of “hunches” over time. Claxton observed a trend in cognitive science toward resuscitating the concept of the “intelligent unconscious” and its seminal faculty of intuition. He asserted that the subtle interplay between confusion[^]clarity and incubation[^]elaboration by which artists and creative scientists have performed their “amazing feats”, may be about to be generalized to “wider areas of achievement”.

Wider Areas of Achievement

Intuition and Husserlian Phenomenology

Several APA citations, in addition to Smith’s (1975), above, mentioned the work of Edmond Husserl, and a variety of others, highlighted in this thesis, have predicted the current multidisciplinary interest in phenomenology as a resource in past and future scientific advancement. Again, to professional, or applied, and research psychology, Smith demonstrated that human experimental psychology could benefit from both psychological empiricism and phenomenology.

To, history and systems of philosophy, Edie (1987) recommended Husserl's treatment of the phenomenological and transcendental foundation of logic and, among other related concepts, his distinctions between perceptual and eidetic, intuition (i.e., information, usually multisensory, that suddenly, vividly, and elegantly appears in totality, as though in memory).

To counseling and psychotherapy, for application and research, Heiselbec (1988) described the existential philosophical foundations of Dasein analysis (e.g., intentionality, intuition, phenomenological reduction), as elucidated by Husserl and Heidegger.

To educational psychology and counseling, Hanna (1993) recommended the work of Husserl and Heidegger for its phenomenological method that involves "direct intuitive seeing". The author examined their writings in light of classical transpersonal sources from Hinduism, Buddhism, and Taoism.

To professional psychology and personnel health, Walker (1994) wrote a series of articles about the influence of Edmond Husserl on Karl Jaspers. He asserted that Jaspers' psychopathological theories grew out of his understanding of Husserl as an "empirical descriptive psychologist" during his early work in phenomenology, and have had an impact on psychological thought thereafter. Jaspers and Walker had been most influenced by Husserl's "intuition of essences, (i.e. essential nature) as a rigorous philosophical science".

To health and mental health treatment and prevention, Naudin, Maurel-Raymondet, Wiggins, Mishara, Schwartz, and Azorin (1998) reviewed the international literature to describe an "astonishing" renewal of interest in the work of Husserl and Jaspers in fields of diagnosis, classification, psychotherapy, and the neurosciences. They

recommended the value of intuition and Husserlian reduction as a way to improve the attitude of psychotherapists, and not as a system to apply to the patient.

To cognitive psychology, Petitot, Varela, Pachoud, and Roy wrote and edited a book that attempted to fill the explanatory gap between the phenomenological mind and the brain. The authors elucidated the relationships between Husserl's investigations and the development of scientific theories of cognition. An integral theme was the concept of continuums in all aspects of cognition, particularly in the mathematical continuum: from intuition to logic.

To professional, cognitive, and research psychology, Follesdal (1999) wrote about the historical relationship between mathematics and Husserlian phenomenology, highlighting its influence on Kurt Goedel, whose theorems, were fundamental to discoveries in modern quantum physics. "Goedel's proof" ended nearly a century of attempts to establish axioms that would be basic to all mathematics. Husserl's concepts of eidetic intuition, and the importance given them by Goedel were emphasized. For a concise explanation of Husserl's phenomenology, the reader may read a translation of "Husserl: Shorter Works" edited by McCormick and Frederick (1981), or log on to a web resource maintained by Scott Moore (1999) for his students at Baylor University. The website given in the references will provide the reader with immediate access to Husserl's own lecture, of 1917, that defines and describes phenomenology, its methods, and its field of investigation. It is titled "Inagural Lecture at Freiburg im Breisgau". The interested reader can surf the "Notebook for Continental Philosophy" from there.

The following is a quote of concluding thoughts from that lecture. Again, the disinterested reader may scan over them, but may miss some of the ideas that are also

germinating in the literature. Forbearance is asked, for the benefit of the interested reader, of this and further quotations that seem integral to this thesis:

“Now, just as pure analysis does not treat of actual things and their de facto magnitudes but investigates instead the essential laws pertaining to the essence of any possible quantity, or just as pure geometry is bound to shapes observed in actual experience but instead inquires into possible shapes and their possible transformations, constructing ad libitum in pure geometric phantasy, and establishes their essential laws, in precisely the same way pure phenomenology proposes to investigate the realm of pure consciousness and its phenomena not as de facto exists but as pure possibilities with their pure laws. And indeed, when one becomes familiar with the soil of pure reflection, one is compelled with the view that pure possibilities are subject to ideal laws in the realm of pure consciousness as well. For example, the pure phenomena through which a possible spatial Object presents itself to consciousness have their a priori definite system of necessary formations which is unconditionally binding upon every cognizing consciousness if that consciousness is to be able to intuit spatial reality. [Raumdinglichkeit]. Thus, the ideal of a spatial thing prescribes a priori to possible consciousness of such a thing a set rule, a rule that can be followed intuitively and that admits of being conceived, in accord with the typicality of phenomenal forms, in pure concepts. And the same is true of every principal category of objectives. The expression ‘a priori’ is therefore not a cloak to cover some ideological extravagance but is just as significant as is the ‘purity’ of mathematical analysis or geometry.”

The following is a sampling of Husserl's thought on the relationship of psychology and phenomenology:

“Pure phenomenology's tremendous significance for any concrete grounding of psychology is clear from the very beginning. If all consciousness is subject to essential laws in a manner similar to that in which spatial reality is subject to mathematical laws, then these essential laws will be of most fertile significance in investigating facts of the conscious life of human and brute animals.”

An example of Husserl's concern for the direction of psychological research was taken from his concluding remarks about intuition:

“The critique of reason and all philosophical problems along with it can be put on the course of pure science by a kind of research that draws intuitively upon what is given phenomenologically but not by thinking of the kind that plays out value concepts, a game played with constructions far removed from intuition.”

This section ends on his prophetic closing statement:

“ It is utterly beyond doubt that phenomenology, new and most fertile, will overcome all resistance and stupidity and will enjoy enormous development, just as the infinitesimal mathematics that was so alien to its contemporaries did, and just as exact physics, in opposition to the brilliantly obscure natural philosophy of the Renaissance, has done since the time of Galileo.”

Intuition and Savant Syndrome

In 1999, Yewchuck studied the extraordinary abilities of savants, disabled individuals who can be highly intuitively creative without being able to explain the source of their abilities. She defined intuition as the apprehension of knowledge without

conscious analysis, and concluded that some levels of intuitive awareness and some functional types of intuition are inexplicable when assessed in context of severe dysfunction. No other investigations of this field of anomalies were found among the PsychINFO databases.

Darold Treffert (2000) has written a comprehensive sourcebook on Savant Syndrome with history, case examples, theories, research findings and future directions for the interested reader, or the website is given for direct access to his introduction and reference materials.

Intuition and the Gaia Theory

The Gaia Theory of intuition evidences the role of the planet, earth, as another manifestation of this quantum consciousness, or intuition. The theory explains that earth has maintained an improbable homeostasis by the consecutive evolution of organisms and, of late in its history, has been evolving human consciousness and consequent intelligence, toward higher states of functioning over time. “Mother Earth”, named after the Greek goddess, “Gaia”, presents herself, through her evolution, as a living organism, expressing qualities such as intuition and intelligence. The theory was first publicly hypothesized in 1979, by James Lovelock, an atmospheric geologist who invented several devices for NASA’s space flights. It was supported from that time by Lynn Margulis, a distinguished microbiologist. The theory has been controversial, but seems to be gaining attention from scientists as complementary theories have developed in other fields of research. See the Amazon.com website in the references section for these authors’ books. Some of the theory’s supporters advocate the importance of a post-modern awakening to a relationship with the natural world that holds it sacred. This sense

of the sacred is viewed as an essential component of the mental and physical health of the species, and a spiritual connection, or intuitive practice is considered important to the survival of the entire planet. Many proponents call for a return to indigenous values and spiritualities whose beliefs and rituals synchronize with those of “the Great Spirit, and “Mother Earth”. Several links to the website “Gaia Hypothesis (2000)” are given that discuss the implications of the theory, and direct the viewer to some native indigenous North American historical and contemporary contributions. The site also links to scholars who contributed to, and/or are referenced in the text.

Intuition and Binaural Beat Technology

Another area of research and practice that relates to intuition, memory, and emotional development, is “binaural beat technology”. Several institutes are utilizing the brain’s natural “frequency-following response” to the auditory introduction of two distinct, but similar frequencies, one to the right, and the other to the left side of the head. The result is a third frequency emitted by the brain that equates with the desired EEG-detected theta brain wave. Combined with other variables such as intention, belief, and emotional characteristics of the subjects prior to the application of the technology, these theta and alpha-theta twilight states, apparently, provide the conditions for creative intuition, plus a full range of cognitive benefits for the subjects. Atwater’s (1997) comprehensive, article with references can be accessed by a website given under this reference. Also see the Centerpoint Research Institute (2000) website. These are commercial websites whose, references were not confirmed by this author. There seem to be sufficient numbers of these claims to warrant further investigation by researchers who may be able to examine these studies.

Intuition and Quantum Mechanics

To date, it has not been conclusively determined whether the role of intuition in the processes that are under discussion has its origin from within the individual, or whether it emanates from an unknown source such as a unified field of consciousness, or both, or much more. The answers to these quandaries may prove to be more quantum (i.e., energy/matter based) than is current psychological science evolved to apprehend them. No single discipline seems to possess the comprehensive technology that can conclusively investigate these phenomena. However, knowledge-gaps between disciplines may be closing, as dialogue among them appears to be occurring on an increasing scale. Transcripts of multidisciplinary professional discussions about these, and other, intuition-related questions and discoveries can be accessed by logging on to the Intuition Network (2000).

It is also beyond the scope of this paper to adequately discuss current investigations into quantum mechanics by physicists, mathematicians, cosmologists, chemists, biologists, geologists, psychologists, and phenomenologists, that have implicated a unified field underlying everything, that emanates, or is radiated by, a quantum consciousness, and that is received and transmuted into sensorium by human consciousness. In the literature, this theoretical consciousness is depicted as evolving human consciousness toward a quantum intelligence or functional eidetic intuition. Superstring theories that have suggested the existence of 10 –12 dimensions of reality that are accessible to human consciousness, will be referenced in this section. Remarks that Steven Hawkins (2000) gave at the 1997 State of the Union, USA, convey the rudimentary concepts of quantum mechanical dynamics. A White House (2000) website

is given for a reading of this address. This eminent mathematician, whose first love was physics, maintains websites for both the public and graduate students. They may be accessed by the website given for Hawking, (2000). Another reference is to the website of Scientific American (1999) for a graphic article by Steven Weinberg that clarifies quantum physics. Other websites of the renowned scientists who have contributed to current understandings of the superstring and related theories with vivid metaphor and clarifying analogy, are referenced under “Websites (2000)”, (1)-(4). Their models expand existing concepts into the realm of possibilities of the quantum nature and function of intuition.

Intuition and Multidisciplinary Anomalies Studies

Recently, academic and professional organizations have been spawning interdisciplinary research teams to study the large body of anomalies that seemed to beg scientific investigation. Intuition has had a seminal function in some of these endeavors. Robbie Davis-Floyd and P. Sven Arvidson (1997) edited a comprehensive treatment of interdisciplinary perspectives related to these investigations. This consortium emerged in response to the growing interest in consciousness studies across diverse disciplines. In 1994, The Princeton Engineering Anomalies Research (PEAR) Laboratory (2000) hosted the Fellows of the Academy of Consciousness Studies comprised of contributors who were formally trained in physics, computer science, engineering, psychology, environmental studies, anthropology, education, and other fields. Floyd & Arvidson (1997) introduced this work in their forward:

“The Academy’s purpose is to advance the creation of an international interdisciplinary community of scholar/practitioners who address the

interrelationships of consciousness and environment in the construction of reality, acknowledging the dynamic complementarity of science and spirituality.

Recognizing the scientific method as a powerful approach to the acquisition of truth and the growth of wisdom and knowledge, members of the Academy engage in collaborative interdisciplinary research that respects the viewpoints of diverse cultures and traditions. The Academy seeks to cultivate an expanded view of reality that embraces the subjective and interpersonal, as well as the objective and analytical, in a responsible way.”

The PEAR Lab (2000) at the School of Engineering and Applied Sciences, Princeton University has issued a report on the development of the Academy of Consciousness Studies with research activities and links to extended activities. The website is given in the references section of this paper. Since this event, similar interdisciplinary consortiums have formed, including the International Academy of Consciousness Studies.

The PEAR Lab, as previously stated, was formed to investigate engineering anomalies that indicated a relationship between intuition, experimenter consciousness and data outcomes. Some independent variables of human consciousness were intent, motive, love, and joy. When the subject could experience a peaceful, loving sense of unity with the objects being measured, the results were greatest. These data represented physical occurrences that violated probabilities to significant degrees in the courses of research at the School of Engineering and Applied Sciences at Princeton University. The website for direct access to the report on those Engineering and Consciousness studies is referenced

as “PEAR Lab (2000)” in this document. A quote is given from that e-document that defines the purpose of the Lab:

“...to pursue rigorous scientific study of the interaction of human consciousness with sensitive physical devices, systems, and processes common to contemporary engineering practice. Since that time (1979), an interdisciplinary staff of engineers, physicists, psychologists, and humanists has been conducting a comprehensive agenda of experiments and developing complementary theoretical models to enable better understanding of the role of consciousness in the establishment of physical reality.”

The implications for the future design of information-acquisition and processing systems are beyond the scope of this paper, and are addressed as referenced. The psychological impact of this movement can be positive, particularly via the fields of counseling and psychotherapy. When values, priorities, sense of responsibility and lifestyles of all the players are altered by a new self-concept that is built on clear evidence that consciousness plays a role in establishing reality, the fields of counseling and psychotherapy can be at the forefront of the movement. Their role in reducing the confusion and charlatanism that generally accompany such cultural renewal is eminent. The empirical research technologies of the psychological sciences are more applicable than ever, as these “wider areas of achievement” grope toward closing the gap between the so-called hard and soft sciences; between inductive and deductive reasoning; and between research and practice. The call to a new generation of professionals who are willing to collaborate, consult, publish and read outside their traditional disciplinary

boundaries seems to be ringing out, particularly from the promising domain of consciousness and intuition studies.

Intuition and the Author's Questions

Several investigators discovered that human will, emotion, and belief influenced statistical outcomes. The PEAR Lab and the binaural brain re-entrainment, and some of the children's intuition studies explicated these as independent variables with high levels of significance in the impact of human consciousness on sensitive machines, and on subjects' creativity, learning, and memory. Almost all the savant syndrome and some of the children's intuition studies implicated care-giver qualities that equated with faith, hope, love, and joy as correlated with exceptional performance outcomes of children and severely mentally disabled individuals. Several of the women's intuition studies credited significant-other(s) permission, nurturing, and co-visioning with high achievement. All the studies that focused on the variables of individual vs. group will, emotion, and belief, and some that only seemed to imply a difference, appeared to uphold the axiom: "The whole is greater than the sum of its parts".

What is the source of transconscious, or transpersonal creative eidetic intuition? How is it that certain qualities of human consciousness seem to repel it, while others appear to magnetize consciousness to attract it? Is its nature always a benign creativity that evolves the species toward higher expressions of these qualities? If both the nature of intuition, and the nature of human consciousness that attracts it, are similar, then, is the nature of its source also similar to the human qualities of faith, hope, love and joy?

Concluding Remarks

The exponential growth of the study and utilization of intuition as referenced in business, engineering, mathematical, medical, psychological, social, spiritual, and religious literature is not equally represented in the annals of counseling and psychotherapy. Considering the sensate and cognitive, albeit, pre, or trans-lingual nature of the experience of intuition, it may be timely for the more empirically based departments of psychology to turn the technologies of their research and practice toward generating a scientifically spawned ethical basis for a systematic utilization of this prodigious phenomena. This document has attempted to provide a link in the process of developing a comprehensive view of historical and current definitions and concepts of intuition. Some controversial, yet germane, topics have been discussed as they relate to the subject in order to bring these aspects of intuition under the scrutiny and further investigation of the reader. Copious works have been reviewed that have utilized the terms “intuition” and/or “intuitive”, but few explicated these terms, and fewer, have investigated the experiences that the terms appear to represent. No article was reviewed that appeared to adequately incorporate the relevant interdisciplinary studies that the topic, by its nature, seems to require for its elucidation. This paper has addressed the compound challenge to make more available the multidisciplinary perspectives that are related to, and may enrich, current counseling and psychological literature. It has, also, highlighted some of the professional opportunities that may be available in intuition-related multidisciplinary projects. The author has attempted to provide the reader with comprehensive reviews,

references, and websites. This was done with the intent to instigate queries that may lead to more explicit qualitative investigations, as well as future empirical studies. The ultimate intention has been to incite the reader to contribute to an expanded theoretical base toward the ethical application of findings to the practice of counseling, psychological therapy and research.

Epilogue

From the PEAR Lab research team to their colleagues about the future:

“Two decades of intense experimentation and complementary theoretical modeling leave little doubt that the anomalous physical phenomena appearing in these PEAR studies are significantly correlated with subjective human processes, akin to such ineffable experiences as joy, wonder, creativity, and love. Yet, contemporary scientific rigor leaves no room for subjective correlates in its mechanistic representation of reality.

It follows, therefore, that science as we know it either must exclude itself from study of such phenomena, even when they precipitate objectively observable physical effects, or broaden its methodology and conceptual vocabulary to embrace subjective experience in some systematic way. It is to the proposition, development, and utilization of such a “Science of the Subjective” that much of the future empirical and analytical efforts of the PEAR lab will be dedicated.”

That page closes with a creation-scene that is captioned :

“Not once in the dim past, but continuously, by conscious mind
is the miracle of the Creation wrought.” -Arthur Eddington

The invitation is clear.

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