

## Alexander H. Leighton's and Jane Murphy's Scientific Contributions in Psychiatric Epidemiology: A Personal Appreciation

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**Abstract** This article introduces the special issue of *Transcultural Psychiatry* in honour of Alexander Leighton. A sketch of his research career is followed by a discussion of the work of his wife, Dr. Jane Murphy, first on St. Lawrence Island, near the Bering Strait, and later as a key figure in the Stirling County project. A brief conclusion highlights the main aspects of their joint legacy to cultural psychiatry and psychiatric epidemiology.

**Key words** biography • cultural psychiatry • research methods • social psychiatry

I am deeply honoured to provide the introduction to this special issue of *Transcultural Psychiatry*, celebrating the many scientific contributions of two pioneers in psychiatric epidemiology: Alexander Hamilton Leighton and his wife Jane Murphy. Originally, I had intended to write only of the contributions of Dr. Leighton. I felt, however, that I had to widen the scope so as to make it possible to give due credit to someone who has accompanied him almost from the beginning of the Stirling County Studies up to now.

I would like to begin by briefly sketching, from a personal perspective, some details of Dr. Leighton's career. It is, without doubt, a unique and

exceptional career, one which integrates facets of the many scientific disciplines in which he worked and the rare excellence he achieved in each of them. Of course, it will not be feasible to provide here a full account of *all* his many feats. Leighton's profile will be followed by a discussion of Dr. Murphy's research career, first on St. Lawrence Island, located near the Bering Strait, and later on, as she became a key figure in the Stirling County project. A brief conclusion will follow which will highlight the main aspects of their joint legacy, a legacy that is still growing, as they continue to build the analytic schemes and theoretical parameters required to provide a full and valid interpretation of the 1952–1970 Stirling cohort data.

### EDUCATION AND EARLY WORK

In attempting to define the major aspects of Leighton's legacy, I feel that I have to refer to his training, to the depth and breadth of his professional experiences, and to his personality. He is an internationally renowned scientist who has made his mark by the richness of his interdisciplinary training and through the innovative character of his scientific endeavours in a career that spans almost 70 years. He had the vision to become a pioneer, the questioning mind and the intellectual skills required to find satisfactory answers to multifarious phenomena, the health and stamina to persevere and achieve positive results in everything he undertook, and the type of charismatic personality to attract close collaborators from many different fields. And yet he still has a young mind, is a proficient actor professionally, and is truly at ease with members of different generations.

In order to understand the pioneering significance of his work, it is necessary to take into account the constituting elements of his training and of his experiences in psychiatry and cultural anthropology. Alexander H. Leighton was born in Philadelphia, and he was fortunate and talented enough to be trained at some of the most prestigious universities in the United States. He received an A.B. from Princeton in 1932, an M.A. degree from Cambridge in 1934, and his M.D. from Johns Hopkins in 1936. Shortly thereafter, from 1937 to 1941, he undertook his internship and later his residency in psychiatry at the same university, and was strongly influenced by the internationally renowned psychiatrist Adolph Meyer, whom he considered a mentor and from whom he borrowed for his theoretical outlook the pathological influence of biology and physiology among psychiatric patients.

It was during his psychiatric training at Johns Hopkins University that he was granted a Social Science Research Fellowship, under the sponsorship of Columbia University, allowing him to carry extensive fieldwork

among the Navajo in the American Southwest, and among the Yup'ik of St. Lawrence Island. These field studies allowed him to collect life histories and to examine how these were influenced by environmental conditions, cultural norms, institutional frameworks and the type of social organizations in which the people lived. The life story of *Gregorio, the Hand Trembler* (Leighton & Leighton, 1949), a Navajo medicine man, is typical in that respect. These early field experiences were to provide, as time went on, the kinds of theoretical and methodological tools that were to be used in Stirling County. Leighton was the kind of man to prepare himself to meet the challenges of his time, to cross the borders of disciplinary fields in order to find new pathways. In brief, he was the sort of scientist able to build new explanatory schemes to provide a better understanding of the many components of human reality.

It was during his Columbia years (1939–1940), that he had the opportunity to meet Bronislaw Malinowski, Ralph Linton and Abram Kardiner (who were associated with the concept of 'basic personality', which reflects the behaviour imposed on the individual by the group on account of economic and technical environmental conditions and type of education), Clyde Kluckhohn (the Navajo specialist from Harvard who promoted the notion of pattern, configurations and culture profile), Robert Redfield (a member of the Chicago School who carried out comparative studies on urban and small rural communities), Margaret Mead (the specialist of child-rearing practices on a comparative basis), and many others of the same professional standing. All of these individuals would prove to be very influential in his subsequent work.

### CLASSIC STUDIES

In 1941, Leighton joined the U.S. Navy Medical Corps, where he stayed until 1946, leaving with the rank of Commander. While in the Navy, he was invested with many functions of great responsibility. For instance, he became Chief of the Morale Analysis Division, which led directly to his studies among Japanese American evacuees at the Relocation Center at Poston, Arizona. This social experiment allowed him to write one of his classics, *The Governing of Men* (1945). One research question almost imposed itself in that situation: Was it possible to find out how a group of evacuees, sent more or less in disorder to Poston, reorganized the social fabric of their human relationships so as to function normally in an artificially created social environment? Years of observation by a multidisciplinary team made it possible to identify a number of principles which are still at the root of successful patterns of governing today. During these years, Dr. Leighton also became a member of the Office of War Information and served as leader of the Post-War Strategic Bombing Survey in



**Figure 1** Alexander Leighton, 1943: During the period of writing *The Governing of Men*, about the Japanese Relocation Center located in Poston, Arizona.

Japan, where he analyzed the impact of the atom bomb on Japanese civilians. After such exceptional field experience, he wrote *Human Relations in a Changing World* (1942). In 1946, he received two prestigious awards: A Human Relations award from the American Association for the Advancement of Management and a Guggenheim fellowship.

In 1946, Leighton was appointed full professor in the Department of Sociology and Anthropology at Cornell University. During his stay at Ithaca he taught also at the School of Labor and Industrial Relations and at the Cornell Medical School in New York. He remained at Cornell until 1966. I had the good fortune of registering as a doctoral candidate in

anthropology in the fall of 1950, through the recommendation of Dr. Leighton. I had spent the summer of that year as a research associate on the Stirling County Project, carrying out fieldwork among the Acadians of Saint-Malo. Upon registering at the Graduate School, Professor Leighton became the head of my Doctoral Committee and thesis director. During these two decades at Cornell, he was highly active in interdisciplinary research and led three significant research projects that became training laboratories for a large number of graduate students and young colleagues from various medical, social and human sciences. He headed the well-known Cornell Southwest Applied Project among the Navajos from 1948 to 1953. In 1948 he also began the Stirling County studies in which, 55 years later, he is still an active participant with his wife, Dr. Jane Murphy.

From 1956 until 1966, he was the director of the Cornell Programme in Social Psychiatry, which amalgamated the previously separate Mid-town and Stirling County Projects in psychiatric epidemiology. The success of that comparative venture led to his appointment as Professor of Social Psychiatry and Head of the Department of Behavioral Sciences at the Harvard School of Public Health until 1975. Then, for a period of 10 years, he became the Canadian National Health Scientist in the Department of Psychiatry at Dalhousie University. I lack the space here to enumerate the many awards he received between 1956 and 1996 (a total of 11 national and international ones), the organizational memberships which he holds (14 of them spreading over a wide spectrum of scientific fields), and the numberless functions he performed as a senior advisor to various foundations, government departments, advisory boards, and national and international organizations, including the World Health Organization.

### LEIGHTON'S COMMITMENT TO INTERDISCIPLINARITY

Perhaps the most striking contributions of Dr. Leighton's career has been the training of many young scientists and his lifelong involvement in interdisciplinary work. His training in biology, physiology, the natural sciences, psychology, psychiatry, anthropology and the social sciences opened up new scientific vistas and covered a wide, breathtaking spectrum of research endeavours, ranging from natural science research on the eyes of vultures, work relationships among beavers, and porpoise life habits, to social scientific work on Navajo religion and community management, and ethnomedical practices among the Navajos and the Yup'ik of St. Lawrence Island. Just as significant are his epidemiological studies and reports on mental illness in Stirling County, upstate New York, Nigeria, Sweden, and in other cross-cultural settings. These studies in psychiatric epidemiology were carried out with a theoretical framework which holistically integrated somatic, psychological and cultural components. *My Name Is Legion*



**Figure 2** Alexander Leighton enjoying a staff outing during the 1990s' field phase of the Stirling County Study.

(Leighton, 1959) is but one example of the valuable work that emanated from the Stirling County studies in Nova Scotia. His pioneering work in psychiatric epidemiology and cross-cultural psychiatry has yet to be fully assessed. We know, however, that many scientists, working in psychiatric research, have been strongly influenced in their research design, methodological procedures as well as in their measuring instruments, by the Leightonian perspective. This is a legacy that is likely to still become more important as it is rooted in scores of institutional settings.

Another feature of Alec's career in which he has been successfully engaged – and this is another facet of his legacy – refers to his ability to strike the right balance between fundamental research and applied projects. His daily field observations and analyses in Poston as well as those of his difficult mission in postwar Japan led him to express new principles on the governance of human societies and to underscore the emergence of new types of human relationships in a world that was changing at a fast pace. All his research work in the mental health field in his own country and in cross-cultural social psychiatry (e.g. Kaplan, Wilson, & Leighton, 1976) was as much an effort to reveal the etiological components of psychiatric disorders and to make synchronic epidemiological counts of the mentally ill as it was to formulate new therapeutic processes and to create an awareness for social prevention, taking into account historical configurations, culture patterns, individuals' life habits, people's health

trajectories and socioenvironmental risk factors. *Caring for Mentally Ill People* (Leighton, 1982) stands as a good example of his views on clinical practice. Leighton's teachings in applied anthropology are undoubtedly the best I have ever seen in my whole anthropological career. Indeed, he was among the handful of scholars who created the Society for Applied Anthropology.

A paramount aspect of the Leighton's commitment to science has been his concern for the publication of research results as articles in learned journals or as full-fledge accounts in book form. He has published extensively alone and also with his collaborators. Without exception, his books were imaginative in scope, conceptually derived from a framework of reference, rigorous and coherent in the development of their component parts and written in a clear and beautiful style that is accessible to scientists and informed lay people alike. His books and monographs remain standard reading in many course offerings throughout the world in diverse disciplines.

Dr. Leighton was among the first promoters of interdisciplinary team research in psychiatric epidemiology, anthropology, and in other social sciences. As the director of those research teams, he has always been a researcher with high ethical and scientific standards. At the same time, he was highly sensitive to individual researchers' needs and to the imperatives of harmonious social relationships with the team. He committed himself entirely to his research and his research associates. His keen interest in people and his altruistic ideals always kept him close to individuals and communities under observation. I was associated with the Stirling County Project from 1950 to 1960 on a formal basis and until 1964 on an informal basis. Upon returning to Laval University in 1956, I applied Leighton's formula for carrying out research to a number of different topics. When it came to dealing with health and health-related subjects, I invariably found the Leightonian theoretical paradigms very useful and stimulating. On a number of occasions, I asked him to provide a critical look at some of my research results. Within a short period of time I received from this very busy man detailed and relevant comments that enriched the content of my report as well as suggestions for further work to be undertaken.

Ending this brief profile, I would like to express to Dr. Leighton the high esteem and admiration I hold of him as an individual and as a scientist. He has been at the beginning and at the heart of my anthropological career. He reinforced my thinking about the imperative of making research results useful to the communities being studied. He continues to be a model and a source of inspiration. We have remained in close contact since I first met him in Québec in the spring of 1950, when he was looking for two French-speaking social scientists to carry out research assignments among the Acadians of Southwestern Nova Scotia. Needless to say, I was

the one who gained the most from such an inspiring relationship. The type of influence that Alec has had on me has been reproduced, with different colours and intensity, among hundreds of others. As a result, I take the liberty to say that 'My Name Is Legion'.

The assessment of Dr. Leighton's prolific scientific production – some 170 publications on a wide variety of topics, a very large number of which are based on cross-cultural work and published for international readership – will require the analytic skills of a whole team of interdisciplinary and interinstitutional researchers. I am aware that Professor Leighton is in the process of preparing a sketch of his intellectual evolution. I share the conviction with others that it will be a magisterial piece of work that will reflect his personality and his achievements and will have many lessons for generations to come. We are very much looking forward to reading it because we are confident that it will contain food for thought related to personality growth, dynamic equilibrium and human relationships in broad environmental contexts, all of these being drawn from a wide spectrum of disciplines.

#### **LEIGHTON'S PARTNERSHIP WITH JANE MURPHY**

All of what has been said about Alexander Leighton up to now has built the intellectual context into which we have to examine the many and varied contributions of his closest collaborator, namely Dr. Jane Murphy. Her second field experience was her work on the Yup'ik of St. Lawrence Island, where she carried a pilot study in psychiatric epidemiology with an emphasis on understanding Yup'ik concepts of illness, including mental illness. After getting her doctorate at Cornell with an anthropology major, she became a key person in the cross-cultural work of the Leighton interdisciplinary team. This included a study in Nigeria which several members of the team carried out together in 1961 and another study there in 1963 which she did on her own. Here, I would like to mention more specifically her contributions to the Stirling County study itself.

In 1964, Jane Murphy became the director of the social science part of the research team. This included serving in this capacity for the 1964 study in New York City and for the assessment of the community development project in Stirling County. Then the first county-wide effort in longitudinal work in Stirling County began in 1968 and went on through 1971. A second sample of the county as a whole was drawn which followed up all of the subjects from the earlier samples, while devoting a great deal of effort to update the procedures for studying community integration and disintegration.

Up to that time, the Stirling County researchers employed traditional key-informant and participant-observation methods to build community



**Figure 3** Jane Murphy and Alexander Leighton at the front door of their home in Boston, 1983.

models. One of the first tasks Jane undertook as the Social Science Director was supervising a new round of such investigations when they expanded the number of communities to include two outside of Stirling County. It was hoped that they would serve as comparison or control communities for the applied anthropology work in community development within the county. After the experience of trying to coordinate several community studies so that they would be comparable, Jane Murphy became convinced that it was necessary to move to a more structured approach that would synthesize qualitative and quantitative techniques. One of the tricky aspects she faced was that the study of community integration needed to be carried out in some communities in which researchers were also conducting psychiatric surveys. One of her decisions was to have the unit of study be the whole population, so that the assessment of the quality of community life would not come exclusively from those who were in the psychiatric survey. The hope was that this would guard against

interpreting that a community was in poor condition because the image of it came through the eyes of those who were depressed and who therefore tended to disparage their surroundings.

While the dualistic concept of community disintegration/community integration included a gradient from 'poverty' to 'affluence', it went much beyond that and concerned the relationships between people in terms of mutual aid and social support. Jane Murphy thought that the techniques available for assessing the economic resources of a community and its residents were quite satisfactory. What was needed was a more quantifiable approach to gathering information about social interactions.

Jane Murphy developed and implemented a scheme whereby each household in the five key communities in Stirling County – one of them being Lavallée which I studied in 1952 – was visited on a time-sampling basis. The group of students she recruited and trained did four rounds of such surveys in each of the five communities, so as to have information on how social interactions might vary by season of the year as well as by time of day and by weekends versus work days. In these households, both observation and interviewing was carried out. She also used the concept of 'behavioural setting' as put forth by Roger Barker (1968) for gathering systematic information about the functioning of both formal and informal aspects of social interactions. The data gathering for this was completed at the same time as the interviewing of the psychiatric samples and follow-ups in 1972.

The next 2 years were devoted to a study in Vietnam. While Jane and Alec had not intended to carry out anymore cross-cultural work, they believed that they should not turn their backs on a need related to the war in Vietnam, especially in view of the fact that they were able to recruit a number of anthropologists and political scientists who had extensive experience in gathering information in that country. While their ostensible objective was to assess the effects of using dioxin for defoliation as a military tactic, the research team was able to gather information about the war's impact on attitudes and economic resources. For her part, Dr. Murphy took responsibility for a psychiatric survey among groups of prisoners of war as well as civilian Vietnamese who had undergone different levels of war exposure. The outcome of that investigation was that the level of symptomatology among the most exposed groups was higher than anything the research group had seen in any of their other studies.

Shortly after the Vietnam study was written up, Alec retired from Harvard; Jane, remaining at Harvard, became the Director of the Stirling County Study as a whole in 1975. That year was an important dividing line in her life. She had finished writing the article 'Psychiatric Labeling in Cross-cultural Perspective' (Murphy, 1976), which was published the next year in *Science*. Her work on psychiatric illness had led her to

interpret that there were more similarities about the concept of 'insanity' in the groups she had studied than there were differences. This interpretation was not a welcome message to many anthropologists who were dedicated to cultural relativity, and she was strongly criticized by some. As more studies have been carried out, however, such as those of the World Health Organization, it has become clear that something very akin to schizophrenia is found virtually everywhere and that almost everywhere it is recognized as an illness. I think that most anthropologists now agree with this position.

As far as the psychiatric community in the United States is concerned, Alec told me, Jane's *Science* article brought an exceedingly positive response, and numerous people have told him that it is a 'classic'. Whenever she is introduced nowadays, some mention of that article is usually made. Jane, herself, viewed this article as bringing her cross-cultural work to a close and allowing her to turn to the longitudinal work in Stirling County. She felt, in this regard, that more was to be learned from following individuals and a population over time than would be true of carrying out more cross-sectional studies in different cultures. So, since then, she has taken the responsibility not only of planning the direction of the Stirling County study but also raising funds for it.

The late 1970s and early 80s were a difficult period for raising money for the Stirling study and it looked as if it was going to be difficult to get adequate funding to go on and analyze and publish the results of everything that had been done after the Family Life Survey of 1952, including studies on social interactions. Dr. Murphy evaluated this situation as due to what was going on in the psychiatric world, namely, United States' President Jimmy Carter's Commission on Mental Health, the evolution of the third *Diagnostic and Statistical Manual* (DSM-III) of the American Psychiatric Association, and the launching of the Epidemiological Catchment Area Program that employed the Diagnostic Interview Schedule. The Stirling study was perceived as a pioneering effort but now a little outdated in terms of its psychiatric approach. Anyone who knows Jane also knows that she does not give up easily. What she decided to do was to learn everything possible about the new DSM-III approach and how that approach was going to be implemented in the new round of epidemiological surveys. She was well-prepared for this as a result of a psychiatric clerkship she had undertaken at Cornell Medical School, focused on learning to interview patients and to formulate diagnoses. This psychiatric clerkship became available to Jane after Dr. Leighton had told Dr. Oscar Diethelm, who headed the Cornell Department of Psychiatry at that time, that what people trained in the behavioural sciences needed, if they were to contribute maximally to psychiatric epidemiology, was first-hand knowledge of what a psychiatric disorder is and how it can be diagnosed. Dr. Diethelm

understood, and made it possible for Jane to be attached to the Payne Whitney Psychiatric Outpatient Department to interview new cases and to attend all the clinical conferences.

While studying the DSM-III, Dr. Murphy also reread all the materials about the psychiatric evaluations of the 1952 surveys. Two things resulted. The first one was that she concluded that the evaluation procedures were strikingly similar to the DSM-III approach and that, if she could bring about an understanding of that similarity in the psychiatric community, it might be possible to begin to raise funds again for the Stirling County study. She wrote up these parallels in an article titled, 'Continuities in Community-based Psychiatric Epidemiology' (Murphy, 1980) that was published in *Archives of General Psychiatry*. The editor, Dr. Daniel Freedman, was very impressed by it and made it the lead article in that issue. The second point was that she realized that the reliability of the evaluations was good enough that she could build a computer program that would replicate those evaluations. With such a computer program, it would be possible to analyze in a consistent fashion the psychiatric data that were gathered from the beginning of the study. This was a breakthrough. Jane convinced assessors that such an analysis with the proposed tools was a step in the right direction. She was able to raise money to begin writing up the longitudinal results, those that pertained to analyzing the data from 1952 through 1970.

This achievement convinced Jane that she could do more. She decided to try to raise more funds for bringing the whole study up to the 40-year mark. The part of her plan that she had to fight hardest for was to draw a totally new sample as well as to do a complete follow-up of everybody who had entered at earlier dates. Her success in this endeavour meant that a specific population could be followed for understanding trends, and individuals could be followed to determine who becomes ill, who becomes well, who stays ill, who dies and so on. Thus between 1991 and 1996, Dr. Murphy went into another phase of active fieldwork and came out of it with a database that now includes just over 4000 subjects. For virtually all these subjects, the Project not only has information based on participant interviews, but also has information from participant's physicians. Of course, Dr. Leighton served as a senior consultant for the study, and they are now in the process of writing up the 40-year findings and beginning to see them published. I am quite sure that the Stirling County study would not have gone beyond what was learned from the 1952 effort if it had not been for Jane's research skills and commitment. She is continuing to apply for funds to continue the work.

## CONCLUSION

My story about Dr. Alexander Leighton and Dr. Jane Murphy is far from being exhaustive. It demonstrates how two scientists with vision, stamina, commitment, and cross-cultural experience, motivated with high achievement ideals, and strongly supported by a large group of collaborators over half a century, were successful in making the Stirling County study one of the most remarkable research endeavours of psychiatric epidemiology in the 20th century. They deserve to be congratulated not only for providing a better knowledge of the dynamics of mental illness but also for suggesting new pathways for caring for the mentally ill and new support mechanisms for their natural aids.

The field of psychiatric epidemiology has been fortunate indeed to have within its ranks two such innovative pioneers who dared to extend the disciplinary boundary of psychiatry with the view of providing new knowledge and integrating it with therapeutic processes. I am proud to have been associated with the Stirling County study at its beginning and to have been able to follow its permanent researchers during their highly productive journey. On my behalf and on behalf of all those who have been influenced by their work, I extend to Jane and Alec our most grateful words of thanks for their exceptional scientific production, for the quality training received by so many of us while accompanying them, and for their warm and unconditional friendship and help.

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