A MULTI-DIMENSIONAL CASE STUDY APPROACH TO THE PHENOMENA OF AUDITORY HALLUCINATIONS

by

David A. Rodriguez, M. Phil.

A dissertation submitted to the Graduate Faculty in Clinical Psychology in partial fulfillment of the requirements for the degree of Doctor of Philosophy,
The City University of New York

2006

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This manuscript has been read and accepted for the Graduate Faculty in Clinical Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

A MULTI-DIMENSIONAL CASE STUDY APPROACH TO THE PHENOMENA OF AUDITORY HALLUCINATIONS

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Advisor: Professor Steven B. Tuber

The auditory hallucinations reported by two adult patients presenting with traditionally non-psychotic diagnoses attending treatment at an outpatient mental health clinic were investigated to explore and identify phenomenological similarities and differences of their experiences. It was proposed that as transient psychotic episodes increase in clinical severity, any simultaneously occurring auditory hallucinatory phenomena will gradually become increasingly complex. Such hallucinatory experiences may begin with perceived noises or whispers, developing into the ability to identify voices heard as someone currently known or once known from the past, and in the more severe psychotic deteriorations, hearing multiple, unrecognizable voices, or voices giving commands or providing ongoing commentary. Patient's hallucinations were presented and discussed in a multi-dimensional context from the viewpoints of various theoretical perspectives and these patient's co-morbid diagnoses. The impact of childhood sexual abuse trauma, diagnostic differences, and differing levels in ability to sustain self-object boundaries

were seen as impacting upon the type and complexity of hallucinatory phenomena experienced. In terms of auditory hallucinatory experiences specifically, these factors are seen as contributing to the development of gradations in these patients' ability to identify the voices they heard.

ACKNOWLEDGEMENTS

Just a little over two years ago the idea that I could complete this study at times seemed to me to be nearing an irretrievable state of impossibility. Having not steadily progressed toward completion of the dissertation requirement, I had temporarily withdrawn from my graduate program. My own difficulties obtaining enough subjects for an empirical study on this same topic and sustaining the necessary consistent focus on the project, in addition to the responsibilities of full-time work, home, and family, all seemed to be weighing too heavily in directions opposite of completion. Now having completed this dissertation I can look back with great appreciation to those who have helped me to realize this goal.

My thanks begin with my wife, Maria, for her enduring support and love. We began this journey together, and throughout many years of looking forward to the day when it could be said that the journey has been completed, she remained constant in her support and understanding, even at times when I was stressed, tired, and less than cordial. I can only hope to try to repay my debt to her in the years to come. I also lovingly thank my two beautiful daughters, Melissa and Laura, ages 8 and 5 respectively, for granting me *their* many evening and weekend hours with me so that I could read and write alone at my computer, and who both often briefly visited me at my desk as I worked asking, “Daddy, did you finish your book yet?” For me, one of the best parts of having completed this project is knowing that it happened before their own eyes, and although they may be too young yet to understand its significance, when they are old enough they may then agree that nothing they try to do is impossible.

Many thanks to my committee members, Drs. Jeffrey Rosen and Lissa Weinstein, and my readers, Drs. Anderson J. Franklin and Betty C. Buchsbaum. I warmly thank them all for their support, encouragement, and valuable and constructive insights provided along the way toward the conclusion of this finished work. Special thanks also go to Mrs. Jacqueline Williams-Mose, Program Administrator of the Doctoral Program, who for many years graciously handled my anxiety-ridden calls regarding my registration status (and other matters) with the professionalism and clinical skill of a therapist.

Finally, but most importantly, I could not have completed this project without the steadfast help of my dissertation advisor, Dr. Steven B. Tuber. There truly is not enough room within this space or within my ability to accurately and justly describe just how crucial his involvement and assistance was in helping me to complete this work. Dr. Tuber's consistent support and guidance, and his unceasing confidence and belief in me that I too could accomplish this seemingly impossible task, often continued to fuel me to stay the course even as I doubted myself. During my period of withdrawn registration from the doctoral program, Dr. Tuber's unwaveringly accepting, welcoming voice on the other end of the telephone line when I was stuck in feeling the painful uncertainty of would I ever finish, was precisely what I needed at times to restore my faltering self-confidence to then press forward and onward. It is important to me that he knows that I will be forever grateful not only for his technical assistance and guidance in helping me to turn an idea into a dissertation, but in regards to the way he conveyed his resolute belief in me. He continued to support me when I struggled to continue, and I thank him.

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CHAPTER 1

INTRODUCTION

It is likely that concomitant with the development of self-awareness in the human species, and hence the ability to reflect upon one's thoughts, came the potential for the reporting of and struggle with involuntary encroachments into consciousness of hallucinations. Visual images and voices heard were often viewed as products of the divine, messages to be respected and followed. At times in history experiencing hallucinations has been vigorously sought after to partake in or receive such messages. For example, American Indians of the southwestern United States and Mexico periodically ingested mescaline by chewing the peyote "buttons," the active component of the peyote cactus *Lophophora Williamsii,* to induce hallucinatory states in their religious rituals (West, 1975). However, hallucinatory experiences have also historically been greatly feared, contributing to strong societal and cultural prohibitions against admissions of experiencing hallucinations.

In 1896, Emil Kraepelin (1971) was one of the first to conceptualize schizophrenia as a medical condition and to list hallucinations among the symptoms of his now antiquated term for the disorder, "dementia praecox." Bleuler (1911) revised the then current day understanding of the illness and replaced the term "dementia praecox" with "schizophrenia," but despite his view that hallucinations should no longer be viewed as primary symptoms of the disorder, psychiatry continued to routinely link hallucinatory experiences with the development of a psychotic process. Schneider's (1959) description of "first-rank" symptoms of

schizophrenia including "voices heard arguing" and "voices heard commenting on one's actions," provided on-going support to the view that hallucinations are indicative of the most serious forms of mental illness.

The realization that hallucinatory phenomena may also spontaneously occur in traditionally non-psychotic disorders has received much support in recent investigations of hallucinations in the general psychiatric population (e.g., Andrade et. al., 1989; Bathege et. al., 2005; Bleich & Moskowits, 2000; Hammersley et. al., 2003; Liester, 1998; Mueser & Butler, 1987; Read et. al., 2003), but was probably first noted by Freud (1940) in his paper "Constructions in Analysis," he wrote:

> I noticed that true hallucinations occasionally occurred in the case of other patients who were certainly not psychotic. My line of thought proceeded as follows. Perhaps it may be a general characteristic of hallucinations to which sufficient attention has not hitherto been paid that in them something that has been experienced in infancy and then forgotten returns – something that the child has seen or heard at a time when he could hardly speak and that now forces its way into consciousness, probably distorted and displaced owing to the operation of forces that are opposed to this return (p. 267).

Relevant Background Studies

Research concerning the presence of hallucinatory phenomena in various clinical conditions and on the differentiation of diagnostic groups on the basis of the type of hallucination experienced has since clearly become more prevalent, yet scattered references arguing against this view are present in the literature, and seem to demonstrate poorly informed theoretical premises. Winsch (1989), in a study that attempted to establish the "discriminant power hallucinations provide in differential diagnosis" (p.84), found no significant group differences among schizophrenic, affective disordered, and personality disordered patients in terms of type, frequency, mood congruence, and formation of hallucination experienced. Most striking about

Winsch's study was the fact that a clearly conceptualized theoretical perspective from which to hypothesize correlations between degrees of pathology suggestive of these descriptive varieties of hallucinatory phenomena and the specific diagnostic groups that would most accurately represent corresponding levels of psychopathology was conspicuously lacking.

In another study examining the presence of hallucinations in a specific patient population, the role of anxiety in persons diagnosed as schizophrenic was explored. Prendergast (1988) gathered support for the existence of a subgroup of persons who although diagnosed as schizophrenic also suffered from an unusually high amount of anxiety that he hypothesized as responsible for triggering a specific type of auditory hallucination. In this study diagnosed schizophrenics were assigned to two comparison groups based solely on the nature of their hallucinatory experience. One group consisted of schizophrenics *able* to identify the voice(s) of their auditory hallucinations as a person or persons currently known or once known to them. A second group consisted of schizophrenics *not able* to identify the voice(s) they were hearing. These two groups were then compared on several descriptive dimensions: intense anxiety states, degree of anti-psychotic medication effectiveness, self-reported history of psychological trauma, and scored placement on the neurotic-psychotic continuum of the Minnesota Multiphasic Personality Inventory (MMPI).

Prendergast found that those schizophrenics who could identify the voices of their auditory hallucinations scored significantly higher on measures of anxiety level and past psychological trauma than schizophrenics unable to make such identifications. Moreover, this group's tendency toward identifiable auditory

hallucinations was only minimally reduced by anti-psychotic medications. In contrast, schizophrenics not able to identify the voices of their hallucinations showed either significant reduction or complete termination of their auditory hallucinatory experiences once placed on anti-psychotic medication.

Prendergast (1988) conducted this study to test his hypothesis of the existence of an *anxiety-induced schizophrenia,* which he believes is characterized by identifiable auditory hallucinations resulting from a near continuous state of extreme anxiety. Prendergast asserted that although anxiety is a major factor involved in the dynamics of schizophrenia, it is missing from the DSM-III-R (APA, 1987) diagnostic criteria for the illness.[1] He contends that a subgroup of individuals with a diagnosis of schizophrenia could be defined as having an "anxiety-induced hallucinosis," therefore:

> …somewhere in DSM-III-R there should be a diagnostic entity that does not neglect this factor (anxiety) in its list of diagnostic criteria for this subgroup. (p. 121).

In addition to the above findings of intense anxiety, medication ineffectiveness, and psychological trauma with respect to his identifiable auditory hallucination group, Prendergast found significant differences between both groups in terms of their placements on the neurotic-psychotic continuum of the MMPI. It is this important difference that represents the point of departure for this dissertation.

Prendergast found that the identifiable auditory hallucination group's MMPI scores leaned significantly toward the neurotic direction of psychopathology, whereas the more diffusely experienced hallucination group's scores were

[1]Both DSM-III-R and DSM-IV list anxiety as a symptom of schizophrenia as an *associated descriptive feature* rather than as part of the essential diagnostic criteria for the disorder: "Dysphoric mood may take the form of depression, anxiety, or anger" (DSM-IV, 1994; p. 279).

significantly toward the psychotic direction. Over 70% of the schizophrenic group able to identify their hallucinations scored within the neurotic and intermediate ranges of functioning on the Taulbee-Sisson (1957) index of the MMPI, a scale Prendergast described as “more accurate in labeling the subject” than the Goldberg (1965) index (which also found these subjects to be significantly toward the neurotic end of the continuum). However, despite these interesting findings he did not consider the possibility that this significant proportion of subjects not registering more toward the psychotic end of the continuum were not schizophrenic.

Prendergast did entertain the notion that these patients were “misdiagnosed” because they did not display “typical” schizophrenic-like characteristics. Nevertheless, his conclusion that those schizophrenics more readily able to identify the voices of their auditory hallucinations should be viewed as suffering from an *anxiety-induced schizophrenia*, may not represent an accurate, or at least the most complete, interpretation of the MMPI findings. From a psychoanalytic-developmental perspective an intermediate range of functioning between neurosis and psychosis on a neurotic-psychotic continuum has traditionally been described as falling within the narcissistic/borderline range of personality organization (Kernberg, 1975). Importantly, most of Prendergast’s identifiable auditory hallucination group were within this intermediate range (1988, p.115).

Ruchti (1990) attempted a replication of Prendergast’s (1988) study to explore the generalizability of his conclusions, but her inquiry failed to support his findings. Ruchti also investigated whether important differences exist among diagnosed schizophrenics according to the differing nature of their auditory

hallucinations. However, whereas Prendergast obtained significant results on all four dependent measures, Ruchti's results for three of the variables (neurotic tendency, medication effectiveness, and psychic trauma) were not significant. Her finding on the dependent measure of anxiety level was significant, but in the opposite direction of what Prendergast found. In other words, in contrast to Prendergast's conclusion that schizophrenics experiencing identifiable auditory hallucinations also suffer from very high levels of anxiety, Ruchti's study showed significantly higher anxiety levels amongst those schizophrenics *unable* to identify the voices of their auditory hallucinations.

In her analysis and discussion of the problems she encountered trying to replicate Prendergast's findings Ruchti provided strong arguments elucidating important reasons why her study did not obtain the same results. One of these arguments focused on her study's failure to support Prendergast's findings on the neurotic tendency dependent measure. Ruchti explained that Prendergast (1988) had recommended future research in this area of investigation "use… a shorter personality inventory…to measure a subject's position on a psychotic-neurotic continuum" (p.133) than the 566 question MMPI. Use of a shorter inventory would better assure completion of the study because for many subjects, dropping out of the research would be directly related to the tediousness of taking such a lengthy test. Ruchti administered the much shorter MMPI-168 version of the test in direct response to this recommendation. Unfortunately, her use of this measure may have contributed to yielding insignificant findings. Ruchti indicated it was later suggested to her that the psychotic-neurotic tendency scores based on the MMPI-168:

> …may be relatively meaningless because the MMPI-168 does not proportionately represent the items that are scored for validity and clinical scales of the MMPI (full length) yet the psychotic-neurotic scoring procedure was developed on the full length MMPI.

On the level of anxiety dependent measure, Ruchti offered an important explanation for her findings that were exactly opposite Prendergast's findings on this variable. She highlighted the possibility that both studies may have sampled two very different populations. It is likely that Ruchti's study constituted a much more disturbed population than did Prendergast's study because the subjects used in her study were inmates of a maximum security prison in contrast to Prendergast's subjects who were inmates of a medium security facility. On the other hand, many secondary gains may await incarcerated individuals who report psychotic episodes and other clinical symptoms, (i.e., hospitalization, temporary removal from general prison population), resulting in skewed or even false findings. Thus, prison inmate population demographics in general may not be truly representative of psychotic patients.

Most importantly, Ruchti indicated that there appeared to be a general limitation of both hers' and Prendergast's investigations. This general limitation consists of both study's failures to acknowledge and include within their theoretical frameworks and methodologies the differing but principal stages and phases of the schizophrenic illness: prodromal, acute, and chronic. Ruchti described the DSM-III-R's recognition of these three primary phases of schizophrenia and the manual's coding procedure for the course of the disorder, which included Subchronic,

Chronic, Subchronic with Acute Exacerbation, Chronic with Acute Exacerbation, and In Remission.[2]

The prodromal phase generally precedes the acute phase and is marked by the "negative" symptoms of the disorder, e.g., clear deterioration from a previous level of functioning, social withdrawal, impairment in role functioning, peculiar behavior, neglect of personal hygiene, blunted or inappropriate affect, and unusual perceptual experiences.

In the active or acute phase, the "positive" symptoms predominate, e.g., delusions, hallucinations, loosening of associations, incoherence, and catatonic behavior. Ruchti noted specifically here that the DSM designates hallucinations as the most frequently occurring of the positive symptoms, with the most common being auditory hallucinations wherein "the voices may be familiar" (DSM-III-R, p. 188).[3] Following the acute phase is the chronic or residual phase, which is similar to the negative symptom picture of the prodromal phase. During this phase some of the acute psychotic symptoms like delusions and hallucinations may persist but may no longer be accompanied by the strong affect most characteristic of the acute phase.

Ruchti went into great detail about the phases and course of the schizophrenic illness because she believes Prendergast carried out his study with subjects whose

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[2] DSM-IV now includes a different set of "course specifiers" for schizophrenia: Episodic With Interepisode Residual Symptoms, Episodic With No Interepisode Residual Symptoms, Continuous, Single Episode In Partial Remission, Single Episode In Full Remission, and Other or Unspecified Pattern. In recording the name of the disorder, the course specifier is noted after the appropriate subtype (e.g., 295.30 Schizophrenia, Paranoid Type, Episodic With Interepisode Residual Symptoms, With Prominent Negative Symptoms).

[3] DSM-IV has changed the emphasis on *familiarity* of voices heard from the phrase, "The voices may be familiar…" to an emphasis on voices perceived as disconnected from the schizophrenic's conscious experience "…whether familiar or unfamiliar, that are perceived as distinct from the person's own thoughts" (DSM-IV, 1994; p. 275).

diagnosis "was not more precise than schizophrenia" (Ruchti, 1990; p.246). She contends Prendergast "overlooked" these essential components of the DSM's classification procedure whose purpose is differentiation among the various symptom pictures presenting as schizophrenia, and thereby inadvertently set up his comparison groups so that they reflected long recognized phases of the disorder – acute and chronic schizophrenia. She wrote:

> Thus, it is suggested that Prendergast's (1988) comparison groups, while they were constituted on the basis of differences in hallucinatory vividness (i.e., identifiable vs. non-identifiable voices), may by virtue of the very dimension used to assign subjects to groups, have actually reflected a previously observed difference between acute and chronic schizophrenia that is pointed out in the diagnostic manual, namely that auditory hallucinations during acute schizophrenia may be of familiar voices while in chronic schizophrenia, hallucinations, if indeed they do persist, are greatly attenuated in vividness and related affect (Ruchti, 1990; p. 247).

In her discussion section Ruchti was able to admit her own study and findings also did not provide a basis for drawing conclusions about nosological completeness and differential diagnosis because she too did not take these important phasal differences into consideration.

Ruchti even went so far as to suggest that future research in this area should compare at least 3 groups of subjects to prevent confounding of independent and dependent variables. She explained this would help assure that subjects experiencing identifiable auditory hallucinations are not presenting as such because of struggling through the acute phase of schizophrenia. One group would meet the criteria of identifiable voices, except that the diagnosis for subjects of this group would be "Chronic *Without* Acute Exacerbation." The second group of subjects would also meet the criterion of identifiable voices but this group would only consist of subjects diagnosed as "*With* Acute Exacerbation." The third group would just meet the

criterion of nonidentifiable voices. A “nonidentifiable voices acute” group would not be necessary because a combination of such characteristics as nonidentifiable auditory hallucinations and acute schizophrenia is not consistent with any of the various symptom pictures presented in the diagnostic manual. Ruchti thought these design features would provide a basis for testing whether Prendergast’s “anxiety-induced hallucinosis” (Prendergast, 1988; p.120) should be viewed as a disease entity distinct from traditionally recognized diagnostic courses of schizophrenia.

In sum, Ruchti’s main contention is that Prendergast’s subjects experiencing identifiable auditory hallucinations were not at all suffering from an anxiety-induced hallucinosis, but were essentially schizophrenics presenting with the acute phase of the illness. She argued well about the importance of acknowledging and incorporating the phase and course specifics of schizophrenia in research designs in the area of differential diagnosis. However, she never adequately addressed Prendergast’s MMPI findings for those schizophrenics with identifiable auditory hallucinations, which significantly showed these subjects scoring in the neurotic and intermediate realms of functioning rather than within the psychotic range.

Thus, despite Ruchti’s strong conviction that Prendergast’s “anxiety-induced” schizophrenics were really schizophrenics showing the “positive” signs of the disorder, an important question remains. If these subjects were struggling through the acute phase of schizophrenia, or the chronic phase during acute exacerbation of psychotic symptoms, then how was it possible for almost 75% of these subjects to score within the neurotic and intermediate ranges of functioning on the Minnesota Multiphasic Personality Inventory? Ruchti indicated that Prendergast

utilized the more reliable long version of the MMPI and appropriate index measures, thereby strengthening his findings over her own. Moreover, at the end of her discussion section, despite her own study's finding of a relationship between nonidentifiable voices and high anxiety, which contradicted Prendergast's findings on these variables, she asserted "investigation of the questions Prendergast raised should continue" (Ruchti, 1990; p.273). For these reasons this dissertation did not employ her recommendations for a comparison between groups of schizophrenics. The case studies of two patients with traditionally non-psychotic diagnoses will be presented instead.

Personal Observation and Rationale for the Study

The rationale for this study stems in part from encountering studies presented here in this chapter that initially caught my interest in the subject of hallucinations, and in part from my own clinical observations at an outpatient mental health clinic in lower Westchester County, New York State. In my experiences working with children, adolescents, and adults in this setting, both my colleagues and I have treated patients, who although not diagnosed with a psychosis spectrum disorder, have reported hallucinatory experiences. Some patients reported one-time, brief occurrences of hallucinations, particularly at times of high personal stress or in reaction to either beginning or discontinuing a prescribed psychotropic medication. Other patients have reported ongoing hallucinatory experiences, sometimes despite attending treatment on a consistent basis including pharmacological interventions. It is this latter type of hallucinatory phenomena occurring on an ongoing basis, which

is the subject of this dissertation. The background histories, diagnoses and symptom pictures, and hallucinatory experiences of two patients will be presented and discussed. Importantly, both patients are not and were never diagnosed in the past as suffering from schizophrenia or any other psychosis spectrum disorder. Both report ongoing hallucinatory experiences, yet are non-delusional and present with fairly intact reality testing.

The rationale for studying occurrences of auditory hallucinations in traditionally non-psychotic diagnoses is as follows. It is possible that as psychotic experiences become more severe in any one patient's experience, any hallucinatory phenomena experienced gradually becomes more complex as the patient's psychosis increases in severity. Freeman et al. (1966) have distinguished two categories of hallucinations differing in the degree to which the patient has maintained reality contact and a capacity for object relations. They argue that patients at higher developmental levels are more apt to experience auditory hallucinations that involve real people who have meaning to the patient. On the other hand, patients struggling to maintain adequate boundaries between self and others will tend to experience more regressive types of hallucinatory phenomena not anchored to real objects in their immediate environment. These latter types of auditory hallucinations would be more concerned with the construction of a new reality, which substitutes for the patient's real world.

Thus, differing levels in ability to sustain adequate self-object boundaries impacts directly on the type and complexity of auditory hallucinations experienced, resulting in gradations in ability to identify voices heard. It is therefore proposed

that a parallel development occurs when a psychotic episode begins, wherein auditory hallucinations experienced first in the form of noises, whispers, or other indecipherable sounds, may mark the initiation of a psychotic process. Freeman et al. (1966) described categories of hallucinations in terms of gradations in ability to identify voices heard in schizophrenic disorders. The view presented here differs from the Freeman et al. (1966) study in that the current study presents the view that gradations in hallucinatory experience may also present in patients who are not schizophrenic, but instead presenting with non-psychotic diagnoses. Although these patients' ability to test reality is clearly breaking down, occurrences of less severe hallucinatory phenomena coinciding with this process may be indicative of higher pre-morbid developmental functioning. As psychotic functioning worsens, however, so do the voices heard, with the most severe and complex auditory hallucinatory phenomena in terms of voices making commands or several unidentifiable voices conversing with one another occurring to the most severely disturbed of psychotic patients.

Along these lines regarding the development of hallucinatory phenomena, professional psychiatry would declare that the type of diagnosis matters. The *Diagnostic and Statistical Manual of Mental Disorders, 4th edition, DSM-IV,* (APA, 1994) outlines the type of auditory hallucinations by which one could diagnose schizophrenia with. These are auditory hallucinations that provide a running commentary on its victim's actions, activities, and thoughts, or the experience of hearing more than one voice engaged in conversation. The DSM-IV (APA, 1994) also talks about how if both of these types of auditory hallucinations are present, the

diagnosis of schizophrenia is clear, and the assessing clinician need look no further to other symptoms to make the diagnosis. This practice of using the severity of hallucinatory experiences to assist in the determination of the severity of psychopathology comes close to the view presented here of gradations in the ability to sustain adequate self-object boundaries manifesting as gradations in the patient's hallucinatory complexity. Such hallucinatory experiences may begin with hearing noises or indecipherable whispers, developing into the ability to identify voices heard as someone currently known or once known from the past, and in the most severe of psychotic experiences, hearing multiple, unrecognizable voices, or voices articulating commands or ongoing commentary.

Chapter Two of this dissertation reviews the development of conceptualizations of hallucinations and includes several models from which to view these phenomena. Neuroanatomical and neurophysiological explanations are offered. Hallucinations in children and adolescents are included because differences have been found to exist in how hallucinations manifest in children as compared to adults. For example, adolescent hallucinatory experiences are seen as similar to the adult's reported experiences in terms of how hallucinations are phenomenologically experienced, e.g., externally vs. internally. These differences are explained as due largely to developmental differences between children and adults (Bender & Lipkowitz, 1940; Bender, 1970; Rothstein, 1981). A psychoanalytic-developmental interpretation of gradations in severity of auditory hallucinatory experiences, explained in terms of identifiable vs. non-identifiable auditory hallucinations, follows mention of the importance of a developmental perspective.

Chapter Three reviews the literature of the clinical conditions the adult patients presented are struggling with. These are bipolar disorder, posttraumatic stress disorder, and borderline personality disorder. Recent literature on each of these diagnostic categories turned up the significance and impact of severe trauma experiences on the psyche, in particular the impact of childhood sexual abuse experiences on the occurrence of hallucinatory phenomena within each of these clinical conditions.

Chapter Four outlines the clinical case histories and hallucinatory experiences of the two adult patients featured. In Chapter Five the literature on the clinical conditions is summarized and integrated with the literature on the differing models and conceptualizations of hallucinations, and discussed in the context of how to best understand the hallucinatory experiences reported by the two adult patients presented.

Importance of the Study

The view that gradations in auditory hallucinatory experience, from non-specific indecipherable sounds or whispers, or auditory hallucinations wherein the voice(s) heard are of someone the patient knows or has known in the past, occurs in characteristically non-psychotic diagnoses when these patients are experiencing transient, stress-related psychotic episodes, is proposed. Prendergast (1988) and Ruchti (1990) were instrumental in guiding my thinking into not linking hallucinations, in particular auditory hallucinations, solely to the psychotic spectrum disorders, but enlarging their reach to borderline personality disorder. Individuals

experiencing these types of schizophrenic-like symptoms may be better characterized as suffering from severe borderline psychopathology during transient states of ego regression with its resultant internal disorganization rather than schizophrenia. The fact that many of Prendergast's (1988) and Ruchti's (1990) subjects were unresponsive to anti-psychotic medication, suggests their pathology may have been due more to the disintegration of internal structural boundaries (e.g., internalized representations of self and others) than neurological factors, adding particular strength to this hypothesis. However, we should not stop here. These two studies are important because they force us to look at auditory hallucinations in a more thorough, comprehensive way.

Patients reporting these phenomena may display diagnoses other than severe personality disorder psychopathology, such as bipolar disorder and post-traumatic stress disorder, as well as borderline personality disorder. Oftentimes these diagnostic categories overlap and/or co-occur in single clinical presentations, making identification of the primary diagnostic contributor to the hallucinatory phenomena in question even more complex and difficult to confirm.

The main objective of this dissertation is, therefore, to investigate the different types of auditory hallucinations experienced by patients who present with severe forms of psychopathology other than schizophrenia. The importance of this study rests on its implications in assisting in more effective treatment choices. Clearer distinctions between patients differing in the type of auditory hallucinations they present with can lead to a better understanding of these phenomena and their

differing diagnoses, and permit the choice and development of specifically targeted treatment approaches to address these conditions.

CHAPTER 2

Hallucinations

Conceptualizations of Hallucinatory Phenomena

Most past and present definitions of hallucinations articulate the idea of the act of perceiving a non-existing object. Eugen Bleuler (1911) defined hallucinations as "…perceptions without corresponding stimuli from without." *The Penguin Dictionary of Psychology,* 3rd edition (2001) concurs with this very early interpretation, defining hallucination as "A perceptual experience with all the compelling subjective properties of a real sensory impression but without the normal physical stimulus for that sensory modality" (Reber & Reber, 2001; p. 313). The DSM-IV's (APA, 1994) glossary definition of hallucination affirms these characterizations. It defines hallucinatory phenomena as "a sensory perception without external stimulation of the relevant sense organ…" but adds that although hallucinatory experiences may or may not be accompanied by delusional interpretations, hallucinations indicative of psychosis will be associated with gross impairments in reality testing. Nevertheless, hallucinatory phenomena stem from a variety of causes. Such events may be drug-induced, brought about voluntarily or involuntarily through sensory, sleep or dietary deprivation, sub-cortical brain stimulation, hypnosis, or have an underlying spontaneously occurring neurophysiological or psychological basis.

A review of the literature turned up three major publications on the topic of hallucinations, with West (1962, 1975) organizing the first symposium ever held on

the topic and contributing theoretically to two of these three important works. A second symposium was held in 1969 and published one year later by its organizer, Wolfam Keup. Keup (1970) presented a cross section of one decade's progress in research on hallucinations since West's first volume on the subject. Many of the studies presented in these three publications will be discussed in the sections that follow.

Neuroanatomical Models

Hughlings Jackson (1931-1932) was first to propose a neuroanatomical explanation for schizophrenic disintegration and hallucinations. Jackson's model is one of evolution and dissolution of function. According to his view structures are never lost during the course of development; new structures are superimposed on older ones. This results in an increasing complexity of organization, wherein lower levels of functioning are progressively inhibited by the superior functioning of higher ones. Jackson suggested hallucinations could occur when routine control and regulation performed at the highest cortical levels become impaired. When higher cortical functions are overtaxed and nonfunctional, activity by lower levels of functioning occur, expressed as hallucinations. Jackson's model is thus one of disinhibition of functioning of lower centers of the brain, leading to expression of normally suppressed sensory experience.

Scheibel and Scheibel (West, 1962; Keup, 1970) studied the structural, physiologic and chemical phenomena underlying hallucinatory experience, and were among some of the first researchers to propose anatomical evidence for relations

between the brain stem reticular formation and hallucinations. The reticular formation is a diffuse structure located in the midbrain region. It extends the entire length of the brain stem. One of its functions is to serve as a general activator, arousing other parts of the brain, particularly the cerebral hemispheres. Its activation and deactivation functioning has long been related to wakefulness and sleep.

Scheibel and Scheibel (West, 1962) began their first study positing that the mechanisms underlying hallucinatory experience are the same as, or at least overlap with, the mechanisms mediating other imaginal states, such as dreams, eidetic images, intense memory images, etc. Thus, the content of one's hallucinations may be based on sensory input phenomena experienced earlier. Given this assumption, the authors asked what basic mechanisms disengage the sensory-reporting apparatus from the "real" world, permitting either contamination by, or a complete preponderance of, internally generated sensory experience. Scheibel and Scheibel cited extensive anatomic evidence to support their view that the reticular core's unique composition of a network of interconnecting cells extending from the brain stem to virtually all sensory areas of the brain, implies that pathological functioning of this system could lead to perceptual dysfunctions like hallucinations. They concluded hallucinatory phenomena likely result from physiological changes occurring in reticular formation neural tissue in response to quantitative and/or qualitative changes in sensory data, "wherein externally valid sensory information receives decreasing weight in relation to internal elaborations" (West, 1962; p.31).

Several years later Scheibel and Scheibel presented data furthering their understanding of the organizational patterns and role of the brain stem reticular

formation in the production of hallucinations. Two significant findings included what they described as the "mosaic nature" of the reticular activating system and the existence of a cyclic activity pattern. On the mosaic feature of the system, Scheibel and Scheibel (Keup, 1970) found the reticular formation's internal structure and organization to be characterized by nerve cells and fibers "thrown together in apparently haphazard fashion" serving to maximize the opportunity for each cell to receive a heterogeneous array of synaptic inputs. Such cells, characterized by long transversely spread dendrites extending across the cross sectional area of the brain stem, enable countless collateral connections with sensory and motor nuclei. This single finding strengthened their earlier postulation of the reticular formation's involvement in all complex neural phenomena.

Scheibel and Scheibel also found reticular formation cells to have a tendency toward cyclic activity, meaning there are alternating periods of responsiveness and non-responsiveness to sensory stimulation. Although they indicated that the precise function of such cyclic activity patterns remained obscure to them, they pointed to the relevance of West's (1962) observation that in sleep deprived subjects psychotic-like hallucinatory manifestations recurred every 90 - 120 minutes, mimicking the neurobiological rhythms of dreaming. This suggests connections may exist between reticular cell activity and eruptions into consciousness of hallucinatory phenomena when such cyclical patterns do not, or are not allowed to, occur naturally during sleep. These findings, almost one decade later, strongly supported their initial premise that the brain stem reticular activating system is the only system that can be

demonstrated to be involved anatomically and physiologically at each and all neuronal levels necessary to facilitate hallucinatory experience.

Weinstein (Keup, 1970) reported on patients with traumatic and vascular diseases of the brain. He observed delusional states in these patients often took the form of denials and confabulations (e.g., patient contends he is not ill, or that an affected limb is really "an old rag") and delusional reduplications (e.g., patient acknowledges hospitalization but insists on existence of two identical hospitals of the same name). On the other hand, he found hallucinations to be rare in confabulatory states and denial syndromes. Hallucinatory patients tended to not deny illness, were not confabulatory, disoriented or reduplicative, but more often presented with perceptual defects, spelling reversals and difficulties with visual-constructional tasks.

Weinstein found that brain diseased or brain injured patients, who were also delusional, had more extensive brain damage than hallucinating patients. In many cases the EEG abnormalities of delusional patients were more diffuse, with lesions extending into various portions of the brain. In contrast, hallucinating patients were more likely to have superficial cortical lesions, and tended to show more focalized EEG patterns. Weinstein observed that hallucinatory patients were more anxious and depressed in contrast to the bland demeanor of most delusional patients. He hypothesized this difference in clinical symptoms was indicative of the lesser adaptive value hallucinations held for the less severely brain damaged patient than the value delusions served for the more severely brain damaged patient.

Importantly, Weinstein (Keup, 1970) supported the findings of Scheibel and Scheibel (West, 1962; Keup, 1970) regarding the brain stem reticular formation's

involvement in the production and experience of hallucinatory phenomena. He asserted that better formed, i.e., more highly symbolic hallucinations occur with temporal lobe rather than parieto-occipital lobe hallucinations because "…of the more direct connections between temporal lobe structures and the reticular core" (Keup, 1970; p. 56). The left and right temporal lobes are located on opposite sides of the cerebral cortex, separating the frontal and occipital lobes. They control auditory perception and some part of visual perception. They also have a role in memory because damage to the temporal lobes generally involves memory loss (Bootzin & Acocella, 1984). Weinstein did not elaborate on the nature of such "direct connections" between temporal lobe structures and the reticular activating system, but he did make clear his confidence in the belief that some interplay between both plays a crucial role in hallucinations.

Baldwin (Keup, 1970) studied and reviewed the literature on hallucinogenic activity occurring under sleep and sensory deprivations, pharmacological influences, brain disease states and other neurological conditions. He found that hallucinations related to deprivation states of all kinds, hallucinogenic drugs, and some disease states are most often visual in character. In one study Baldwin cited, it was predicted when sleep deprived subjects would begin to hallucinate. Tendencies to hallucinate usually followed 72 hours and were most marked after 96 hours of deprivation. These hallucinations were predominantly visual, consisting of flashing lights or spectral colors and only occasionally were auditory in the form of noises. No subjects reported hearing voices and rarely did complex dream-like visions occur.

In a study he co-authored that combined pharmacological influence and brain anatomy, Baldwin (Keup, 1970; Baldwin, Lewis & Bach, 1959) also supported findings by other researchers implicating the temporal lobes, and thereby the brain stem reticular formation, in the evocation of hallucinatory phenomena. In 1959, Baldwin reported on the production of bizarre, psychotic-like episodes in chimpanzees following oral ingestion of LSD-25. He found these episodes were not influenced by frontal, parietal or occipital lobectomies, either unilateral or bilateral. They did not occur, however, after bilateral temporal lobectomy.

More recent neuroanatomical studies continue to support the efforts of earlier research emphasizing temporal lobe pathology in schizophrenia and its relation to hallucinations. These studies have examined schizophrenic brain anatomy and function through the use of Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET). Utilizing MRI technology, Barta, Pearlson, Powers, Richards and Tune (1990) found smaller volume of the left superior temporal gyrus of young schizophrenic patients to be strongly and selectively correlated with the severity of their auditory hallucinations. As impetus for their research they cited relevant studies, such as those of Penfield & Perot (1963) who electrically stimulated multiple cortical and subcortical areas in both cerebral hemispheres of epileptic subjects and found that complex auditory hallucinations were elicited only in the vicinity of the superior temporal gyrus. Barta et al. (1990) found a significant positive correlation between differences in left superior temporal gyral volumes and hallucinations, such that greater size reductions were associated with greater severity of hallucinations. They hypothesized that shrinkage of this region of the brain in

schizophrenic patients likely occurred as a consequence of the illness because overall brain volumes were not significantly different from control subjects, as compared to 7 to 10% smaller temporal lobes in schizophrenics.

Whereas MRI studies seek to investigate physical anatomical irregularities of targeted areas, PET scans (Positron Emission Tomography) assess metabolic activity levels in a given region of the brain. A person undergoing a PET scan is injected with a radioactive sugar that resembles glucose. Active cells of the brain take up this substance and then signal its presence by emitting subatomic particles. Greater emission from a specified area indicates greater metabolic activity. The resulting PET scan identifies areas of the brain that are abnormally active or inactive, signaling anatomical and/or physiological pathology underlying the symptoms of a psychological disorder.

Stern and Silbersweig (Lenzenweger/Dworkin, eds., 1998) performed a series of PET studies focusing on the neural mechanisms underlying hallucinations in schizophrenia. Given the predominance of auditory hallucinations in schizophrenia, as well as the loss of reality testing associated with them, both superior temporal and prefrontal region abnormalities were postulated to be present in schizophrenic patients. Among important findings regarding the metabolic activity of specific regions of the brain, these researchers found abnormal fronto-temporal activity and *functional connectivity* (the temporal correlations between spatially remote neurophysiological events) in schizophrenics as compared to controls.

Stern and Silbersweig explained that one of the consequences of abnormal functional connectivity is a failure of corollary discharge. Corollary discharge is the

process by which information about an intended action is transferred from an efferent region planning or producing an action to an afferent region, which receives sensory stimulation or feedback as a result of the action. A disruption of this process could result in symptom formation in terms of a breakdown in reality testing when information about an intended action is not properly monitored or interpreted. In the case of hallucinations, self-generated verbally mediated thoughts may be misinterpreted as arising from another source.

Proceeding from the finding by Gould (1949) that words are unknowingly internally generated by schizophrenia patients (sub-vocal speech) during their auditory hallucinatory experiences, Stern and Silbersweig found significant differences in auditory-verbal imagery between control subjects and schizophrenics. Whereas controls showed increased activity in the superior medial frontal lobe and left middle temporal gyrus, schizophrenics with a tendency to hallucinate showed decreased activity in these regions. Importantly, brain areas positively correlated with hallucinations included the left posterior temporal gyrus (Wernicke's area), corroborating the findings of many others (Baldwin, Lewis & Bach, 1959; Penfield & Perot, 1963; Weinstein, in Keup, 1970; Baldwin, in Keup, 1970; Barta et al. 1990) regarding the influence of this area in hallucinatory experiences. Stern and Silbersweig concluded that given the role of prefrontal structures in determining the sense of volition in self-generated thoughts, movements and verbalizations, this "hypofrontal-hypertemporal" pattern could underlie the lack of realty testing exhibited by psychotic hallucinating patients.

Neurophysiological Models

While neuroanatomical studies look primarily at physical structures of the brain and their abnormalities, neurophysiological studies of hallucinatory phenomena tend to focus on apparent abnormalities of brain processes, where no physical abnormality is discernable. Neurophysiological explorations into the problem of hallucinations have tended to investigate the occurrence of perceptual distortions in a variety of ways (i.e., brain stimulation, sleep or sensory deprivation, use of hallucinogenic drugs, etc.). Sometimes the use of such investigative procedures as cortical or sub-cortical stimulation of brain tissue appears minimally different from those utilized in neuroanatomical studies. Although there are exceptions, distinguishing the two ultimately lies in the clinical findings. This section will present and compare studies and theories in which neurophysiological processes, rather than the consequences of surgical procedures, brain damage or disease, or anatomical irregularities, are suspect.

In "A Neurophysiologic Theory of Hallucinations," Evarts (West, 1962) traces early views on the origin of hallucinations back to antiquity. He explains the value in considering and describing such early theories "…lies in the fact that any theory we might present today would be based very largely on those that have gone before" (West, 1962; p.2). Evarts goes on to cite other theorists who have emphasized the degree to which present views of mental processes resemble those of the past before indicating that his own view is due largely to past students of the mind.

According to Evarts, Plato recognized similarities between dreams and hallucinations but believed both these phenomena arose in the liver, while rational thoughts and perceptions were located in the head. He explains whereas we would concur with Plato on his view concerning the similar nature of dreams and hallucinations, we would disagree with his notion that the anatomical location of these visions is separate from that of waking perception. Diverging from Plato's view, Aristotle believed that visions and perceptions occupied the same sensory mechanisms. Although Aristotle believed the heart to be the major organ of mind, Evarts notes that importantly he seems to have been first to regard dreams, hallucinations, and waking perceptions as stemming from the same anatomical substrates.

Evarts asserts that major advances in ideas concerning the relation between dreams and waking perceptions did not appear again until the 17th and 18th centuries with the works of Locke (1632-1704), Berkeley (1685-1753) and Hume (1711-1776). He notes Hume believed thoughts and imaginations occurred on a continuum with perceptions, differing only in intensity or "vivacity." After Hume, theorizing on the matter underwent little change until the works of William James and Hughlings Jackson. Evarts explains it is with these writers that philosophical doctrines concerning dreams and hallucinations began to be combined with the results of neurology and experimental psychology.

Evarts writes Hughlings Jackson agreed with Plato and Aristotle on the similar processes of dreams and hallucinations, and with Hume regarding differences in intensity between perceptions and ideation. In Jackson's view however,

differences in strength of neuronal discharge are responsible for the intensity differences of these processes. As mentioned earlier, Jackson proposed a process of "dissolution" of higher levels of cerebral functioning leading to "disinhibition" of functioning of lower centers of the brain as an important factor underlying hallucinations. Evarts notes Jackson hypothesized that the strong neuronal discharges of sleep and mental illness were the result of the elimination of this inhibitory process in these conditions, and therefore that hallucinations are "release phenomena" (West, 1962; p.2), an important concept in the development of later neurophysiological theories of hallucinatory experience.

William James agreed with most of Jackson's views. However, James went beyond Jackson in the extent to which he believed that specific characteristics of external environmental stimuli were believed to influence the internal mechanisms operative in hallucinations. James believed certain hallucinations were simply the response of a normally functioning nervous system to ambiguous stimuli. Thus, whereas Jackson viewed all hallucinations as "release phenomena," James suggested only some could be the result of the loss of an inhibitory process. James wrote:

> It (the neurophysiologic process) must, of course, consist of an *excitement* from within of those centres which are active in normal perception, identical in kind and degree with that which real external objects are usually needed to induce. (West, 1962; p.6 [italics added]).

This "excitement" of certain neuronal centers, according to Evarts, acts to then "fill in the gaps in incomplete or ambiguous sensory messages, "bringing those parts of imagination which remain in the background of the normal person to the foreground to contribute to the hallucinatory experience (West, 1962; p.7).

In formulating his own views on the primary neurophysiological mechanisms underlying dreams and hallucinations, Evarts compared James' and Jackson's concepts of excitation and inhibition to the then current experimental literature. His comparisons led him to propose connections between these processes and the increased activity of the brain stem and inhibition of neuronal activity in the cortex underlying dreams and hallucinations.

Proceeding from assumptions arrived at thus far that 1) the processes behind dreams and hallucinations are similar, and that 2) dreams (and hence other imagery) are associated with strong neuronal discharge, Evarts asked what actual evidence is there for stronger neuronal discharges during sleep than during arousal. He then cited several studies that provided such evidence. Evarts indicated the "classic work" of Berger (1929), and of Adrian and Matthews (1934) which showed that the pattern of spontaneous cortical activity changed markedly from alertness through relaxation to sleep (West, 1962; p.10). Hubel (1959) found that increased neuronal activity occurs during sleep in some regions of the visual cortex (West, 1962; p.10). And Fleming et al. (1959), in a study carried out in cats with implanted electrodes, provided evidence of heightened *excitability* of the visual cortex during sleep. Evarts noted the results of these studies provide strong evidence for increased cortical "excitability" during dreams and hallucinations, as proposed by William James.

Evarts cited other workers who obtained mixed findings on the matter. For example, Jasper et al. (1957) found there was considerable variation in the relation of “unit discharge patterns” to sleep and arousal. Nevertheless, these researchers

surmised that the greater degree of excitability in certain areas ultimately worked to inhibit neuronal excitement elsewhere. Evarts quotes Jasper et al.:

> There is…the possibility that certain ganglionic centres when 'excited,' with characteristic changes in their electrical activity, have predominantly an inhibitory action upon other centres, so that the manifestation in behavior would appear as inhibition rather than excitation (West, 1962; p. 11).

Given these studies' findings, Evarts suggested it is almost certain that there is not a uniform alteration in cerebral neuronal activity with arousal, and therefore it is probable that increases in brain stem activity during arousal may lead to inhibition of activity in the cortex and subcortical structures. Noting the fine balance between arousal and loss of inhibitory control in different cortical regions necessary for the occurrence of the formed visions of dreams, Evarts concluded: "Thus one might postulate an optimal level of loss of inhibition for the occurrence of hallucinations" (West, 1962; p. 12).

The view that hallucinations result from cerebral excitement and/or disinhibition continued into the next decade in the theories of Winters (West, 1975) and Hartmann (West, 1975). On the basis of several neurophysiological studies with various pharmacological agents, Winters (West, 1975) presented supporting evidence that the disorganization of sensory systems and the perceptual abnormalities in hallucinosis result from states of hyperexcitation. Utilizing agents such as lysergic acid diethylamide (LSD), mescaline, nitrous oxide, and other psychotomimetic drugs in experimentation in the cat, he was able to demonstrate a continuum of central nervous system (CNS) excitation and the relationship of hallucinations to this continuum.

Winters (West, 1975) found that administration of these agents first induced a "desynchronization," or initial excitability of the CNS, and then "hypersynchrony" - intermittent bursts of high-amplitude EEG waves associated with bizarre postures and hallucinatory movements, such as appearing to visually track objects in space, then fixate on unseen objects. Winters explained that as CNS excitation continues, it induces a functional disorganization of the reticular formation modulatory system. This results in dramatic increases in sensory information, with possible multi-sensory aberrations. CNS depression may also occur with the use of some anesthetics, progressing initially from cortical excitation and hallucinatory behavior, to difficulties with respiration and cardiovascular functioning, terminating in death. In concluding, Winters' proposed that increased levels of CNS excitation, likely due to the development of endogenous substances that produce effects similar to the agents used in his study, occurs during psychotic states and underlies hallucinatory experience.

While Winters (West, 1975) focused on the relationship between hallucinatory phenomena and a continuum of CNS excitation, Hartmann (West, 1975) focused on the possibility of another continuum, one between hallucinations and dream states. For Hartmann (West, 1975), the ability to hallucinate "is a ubiquitous capacity." He asserted the crucial question is not "what makes us hallucinate at certain times?" but rather "what keeps us from hallucinating during most of our normal waking existence?" Hartmann approached this question from the point of view that an inhibitory factor, present during waking states, is removed, allowing for the emergence of hallucinations and dreams. He proposed this factor is

psychologically related to the functioning of reality testing, and physiologically mediated by norepinephrine systems to the cortex.

Hartmann (West, 1975) hypothesized that the chemistry of the inhibitory factor preventing the experience of hallucinations during clear-headed wakefulness is the proper functioning of norepinephrine (NE) neurotransmitter systems. He explained NE has often been considered to be an inhibitory neurotransmitter that normally wears out during extended periods of wakefulness or sleep deprivation, requiring a process of restoration during sleep. This would in part explain the disinhibition of thoughts and stored memories in the form of dreams during sleep, and the occurrence of hallucinatory phenomena during waking states when sleep is prevented. He noted however that this hypothesis is difficult to confirm through testing because drugs that interfere with the synthesis, storage, or release of NE at the cortex, such as reserpine and alpha-methyl paratyrosine, also interfere with the release and uptake of the neurotransmitter dopamine. Hence, testing for the appearance of hallucinatory experiences through the pharmacological blocking of NE at its receptor sites may also tip the balance of dopamine, and dramatic increases in the activity of dopamine systems has been identified in the pathophysiology of schizophrenia. Despite these complications, Hartmann indicated it could be tentatively suggested that the chemistry of the "inhibitory factor" preventing the experience of hallucinations during normal, clear-headed wakefulness, involves the integrity of norepinephrine systems and the normal functioning of the enzyme dopamine.

Drawing heavily on the views of Jackson, Evarts, and Hartmann, West (1962, 1975) proposed a "perceptual release" theory of hallucinations. In his earlier writing West (1962) credited Evarts for the finding that the first major neurophysiologic disinhibition theory of dreams and hallucinations was proposed by Hughlings Jackson. He noted Jackson was interested in the relationship of sensory input to the *form* of the illusion. West indicated much later that Evarts, in his early experiments with LSD-25 on the rhesus macaque, noted a possible relationship between the disruption of information input and the very *occurrence* of disinhibition phenomena of the senses, particularly within the visual system.

West's "perceptual release" theory is based on two fundamental assumptions. The first is that life experiences affect the brain in such a way as to leave permanent neural traces, commonly called templates. Ideas and images derive from these templates, and provide the neurophysiological substrates of memory, thought, imagination, and fantasy. West (1975) suggested emotions or affects become associated with these intellectual and perceptual functions largely at unconscious levels, "permitting a dynamic interplay between perception and emotion." The second basic assumption is that the total personality, represented by all its functions (i.e., structural, instinctive, acquired), may be best understood in terms of the constant interplay of psychobiological forces that continuously emanate from inside and outside the individual.

West explained the human brain is constantly bombarded by sensory impulses. Therefore, in order to function effectively, most of these sensations must be excluded from consciousness in a selective fashion. Thus the work of

concentration may be defined in part as a scanning and screening process, serving to keep vast amounts of potentially distracting information out of awareness. According to West, the constant flow of new and stored information has an integrating and organizing influence on memory traces. In other words, the very input of information into sensory registers serves to maintain the scanning and screening process in an organized way.

West asserts that when sensory input is diminished or impaired its organizing effect on the scanning and screening function decreases. There then occurs a decrease in the stimulating effect of sensory input on the reticular activating system, and as a result arousal and awareness are diminished. West believes that under a variety of circumstances such significant reductions or impairments in sensory input may be accompanied by considerable cortical arousal. It is in these instances that hallucinatory phenomena may be experienced.

> When effective (attention-commanding) sensory input decreases below a certain threshold, there may be a release into awareness of previously recorded perceptions through the disinhibition of the brain circuits that represent them. If a general level of cortical arousal persists to a sufficient degree, these released perceptions can enter awareness and be experienced as fantasies, illusions, visions, dreams, or hallucinations. The greater the level of arousal, the more vivid the hallucinations will be (West, 1975: p.301).

According to West, two prerequisites are necessary for the emergence or "release" of previously recorded perceptions into clear awareness. First, there must be a sufficient general level of arousal present for awareness to occur. Second, "the particular perception-bearing circuits must reverberate sufficiently to command awareness" (West, 1975; p. 301). West explained this latter condition can be brought about through direct stimulation of neural circuits, as other researchers have

described in cases of temporal lobe seizures wherein clear, vivid imagery occurred spontaneously or under the neurosurgeon's electrode. Under other circumstances, as already mentioned, if the inflow of information to the brain from the environment is significantly altered, and at the same time cortical arousal is sufficient to provide awareness, consciousness will be occupied by "released" or "disinhibited" information already in the system.

West explains that alterations in sensory input need not only be marked by decreases in incoming sensory stimuli, as in sensory deprivation experiments; they may also be characterized by dramatic and overwhelming increases, as in extreme anxiety states that disrupt the orderly input of information. West indicates this effect can be achieved by information input overload resulting in a "jamming of the circuits" as described by Miller (1960). For West, either type of alteration in sensory input may exist. However, cortical arousal is the one key factor needed to accompany either condition in the production of hallucinatory phenomena.

> The presence of marked arousal (caused e.g., by extreme panic or by chemical stimulation of the brain) is accompanied by a picture of marked disturbance of concentration. Again, contact with external reality is impaired, this time by excessive input (input overload), which "jams the circuits." Under these conditions spontaneously dissociative phenomena may occur. Finally, as arousal reaches overwhelming proportions, the hallucinations of full-blown delirium or psychotic excitement may appear with frightening vividness, intensity, and emotional accompaniment (West, 1975; pp. 302-303).

West's perceptual release theory has not endured without criticism. West's views are primarily derived from studies of sleep and sensory deprivation and experimentation with psychomimetic drugs. Thus, some writers (Arieti, 1974; Ruchti, 1990) have questioned West's (1962, 1975) attempts to apply his concepts to hallucinatory phenomena that spontaneously occur in clinical psychopathology. In

his early writing, West (1962) proposed that if at the same time perceptual traces are released, there is sufficient internal arousal of the brain to permit vivid awareness, then released perceptions "may be dynamically organized and re-experienced as fantasies, dreams or hallucinations" (West, 1962; p. 289). Arieti (1974) strongly disagreed with West on this issue of hallucinations occurring detached from the content of the patient's internal conflict. He wrote: "It is not enough to say, as West does, that the perceptual traces become dynamically organized. This dynamic organization is an integral and necessary part of the process itself" (Arieti, 1974; p. 273). Thus, for Arieti, the content of any given hallucination both represents an important part of the patient's personal predicament, and plays a crucial role in contributing to the production of the hallucinatory experience.

Ruchti (1990) also raised some doubts about West's (1975) account of hallucinations in severe psychopathology. She wrote that West's application of his perceptual release theory to the hallucinations of psychosis "is quite general" and that "it is not clear that he has correctly accounted for some of the phenomenon" (Ruchti, 1990; p. 127). Whereas Arieti (1974) questioned West's assertion that hallucinatory experiences in schizophrenia become dynamically organized by virtue of the perceptual release process, Ruchti's (1990) critique hinges on West's interpretation and use of the concept of dissociation.

Ruchti (1990) notes that West (1975), in his most recent writing on the subject of hallucinations, indicated that in addition to his theory, the phenomenon of dissociation is needed. West (1975) acknowledged that explaining hallucinatory phenomena in neurophysiological terms by a perceptual release type of theory alone

is insufficient to account for their total phenomenology because "it tends to picture the human subject in too passive a mode" (West, 1975; p. 304). Through dissociation, according to West (1975), the individual participates in an active way in experiencing or creating his own hallucinations. However, Ruchti (1990) argues that West's (1975) description of the dissociative mechanisms operative in psychotic functioning could be better related to the dissociative processes actively practiced by mystics rather than what seems to occur in mentally disturbed individuals.

Ruchti (1990) writes that West characterized dissociative phenomena as entailing "gaining control" (West, 1975; p. 306) of one's dissociative mechanisms. She asserts it is equally plausible that "…abandoning control of one's associative mechanisms would be the basic step for withdrawal of environmental contact" (Ruchti, 1990; p. 126). Ruchti prefers Harris' (1970) view of "structural regression" - the disintegration of mental structures as contributing to the formation of dissociative phenomena underlying hallucinatory experiences in schizophrenia. According to Harris (1970), unacceptable feelings become the source of structural disintegration when affect, particularly anger, is no longer bound to its mental structure. Thus, Ruchti explains, rather than dissociation occurring "so that" the person can hallucinate as West's (1975) theory seems to indicate, Harris' (1970) explanation (that hallucinations represent discharges of previously bound emotions) suggests it is overwhelming emotion that disengages the hallucinator's contact with the environment.

It is clear that substantial evidence exists for underlying neuroanatomical and neurophysiological factors in the genesis of hallucinatory phenomena. Several

hypotheses and models have been proposed. These include: (1) the participation of the brain stem reticular activating system and temporal lobes, (2) the significantly different levels of neuronal activity within different regions of the brain (e.g., "hypofrontal-hypertemporal" pattern), (3) the hyperexcitation of central nervous system function and/or disinhibition of stored memories as a result of neurotransmitter malfunction, and (4) the "release" of previously recorded perceptions into awareness. While additional research is necessary to explore these views further, sufficient support exists to establish their validity and importance to the overall understanding of hallucinatory phenomena.

Hallucinations in Children and Adolescents

Descriptions and theories of hallucinations in children and adolescents have been included in this review of the literature because many of the differences found in how these phenomena manifest in young children as compared to adolescents and adults are striking. Very early contributions to the study of hallucinations in children were predominantly epidemiological reviews on their incidence and comparative frequency in various diagnostic groups. It was not until the 1960's that clinical descriptive or diagnostic approaches were put forward with any degree of regularity (Rothstein, 1981).

Relying on his ability and experience to report on the clinical features of hallucinations in children, Eisenberg (1962) presented evidence and rationale for conservative estimates of the occurrence of these phenomena in children. As one of the first to embrace a developmental approach to understanding childhood hallucinations, he argued for a narrow conception of the phenomena rather than the

broader, more inclusive positions proposed by other investigators. He began explicating his position asking whether or not the fantasies or imaginary play scenarios of the young child should be included under the general category of hallucinatory phenomena. If so, Eisenberg argued, we may say that children hallucinate all the time, but if not we must conclude that in childhood these experiences are rare.

Eisenberg's (1962) study looked at 14,000 consecutive outpatient admissions to the Children's Psychiatric Service of the Harriet Lane Home of Johns Hopkins Hospital in Baltimore for evidence of hallucinations in children under 14 years of age. He found evidence of hallucinatory episodes on record in well under 0.4 percent of these reports. Proceeding from the conclusion of rarity of hallucinatory phenomena in childhood, Eisenberg (1962) asserted the theory of regression as an explanatory concept of psychosis must be looked into more closely, he stated:

> …for it has been repeatedly suggested that there is an equivalence between the mental function of psychotic patients and that of children… The thesis is alluring; but we had best be cautious lest we mistake similarity for identity (p. 199).

and,

> The infrequency of hallucinations in childhood is difficult to reconcile with a literal theory of regression to primitive modes of thought; being closer to this infantile area and having a less well developed ego structure, the child might be expected to "regress" more readily, but he does not (p. 206).

Eisenberg (1962) noted that the normal child in play maintains rather than withdraws from social and affective contact with his environment. This ongoing attention to the real features of his surroundings sometimes also serves as an impetus for the story line of the play. At the conclusion of the play the child emerges better able to deal with difficult situations in his or her world. Moreover, the child is able

to discontinue the play without confusion over the boundaries of what is real and what is pretend if "…a more inviting activity presents itself…" (p.202). Through this understanding of the concept of regression in terms of differentiating play fantasy from true hallucinatory phenomena in children, Eisenberg (1962) was able to easily declare that there are qualitative differences between the rich, imaginary play activities of young children and those of the disturbed child.

With his main premise of the existence of important, qualitative differences between the hallucinations of disturbed children and the thought processes, fantasies, and imaginative play scenarios characteristic of normal childhood well articulated, Eisenberg (1962) went on to report upon some specifics of true hallucinations in childhood gleaned from clinic records and from some observations documented previously by others in the literature. He found that about one-third of all hallucinatory episodes reported occurred in children who were not psychotic. Most of these children came from backgrounds of severe economic and emotional deprivation and/or from families or cultures in which reliance on superstitions and belief in mystical experiences were encouraged. Eisenberg added that a review of case records showed these children most often fell into diagnostic categories including severe anxiety states or aggressive personality disorders.

Hallucinations reported in children diagnosed with psychotic disorders were of course much more common, occurring 10 to 20 times more often than in non-psychotic disorders. Eisenberg (1962) observed and cited as reported in the literature that hallucinatory phenomena in children are rare below the age of 8 (Noyes & Kolb, 1958) and far less prominent in childhood schizophrenia than in the schizophrenias

of adulthood (Bender & Lipkowitz, 1940; Despert, 1948). However, when hallucinations do occur in the psychotic child, they are dynamically similar to the adult schizophrenic "...except for their greater simplicity, their lack of systemization, and the greater obviousness of their source in the child's current life situation" (Eisenberg, 1962; p. 205). Thus, fears and conflicts experienced by the child in a psychotic state come to be similarly represented in his hallucinatory episodes as in the hallucinations of the adult, but systemized sets of delusional beliefs connected to the hallucinatory content does not develop as readily as it does in severe adult psychopathology.

Jaffe (1966) also found hallucinations in children to be of simple content and not organized into delusional systems. Jaffe (1966) reviewed the clinical records of 150 child patients admitted to the Children's Unit of Creedmoor State Hospital in New York. An in depth comparison and discussion of the incidence and types of hallucinations with respect to the child's age, sex, race, and diagnosis at the time of referral and admission was the main focus of the study. Although a similar population to Eisenberg's (1962) study of severely disturbed and deprived children was examined, Jaffe (1966) found a high incidence of hallucinatory episodes in contrast to the rarity of these phenomena stressed by Eisenberg. Jaffe (1966) made no reference to this marked difference in findings except for noting that Eisenberg had asserted that hallucinations are many times more common in psychotic children than in other diagnostic groups.

The 150 patient records included in Jaffe's (1962) study consisted of 100 randomly selected male patient's charts, 25 randomly selected female patient's

charts, and 25 randomly selected patient's charts with a diagnosis of psychosis with convulsive disorder. According to the author, this last group of patients were included in the study because although deemed as suffering from a specific organic brain dysfunction, they were also psychotic, presenting with frequent and often bizarre hallucinations.

Of the 150 total charts reviewed 98 patients reported experiencing some form of hallucinatory phenomena, with auditory hallucinations experienced alone as the most common type of hallucination encountered. Of the 100 male patients, ranging in age from 6 to 15, 63 (63%) had hallucinations. Sixty-four were diagnosed as having childhood schizophrenia, 23 were diagnosed primary behavior disorder, 8 as psychosis with convulsive disorder, and 5 as schizophrenia, undifferentiated type. Of the 23 boys diagnosed with a behavior problem disorder, 8 (35%) reported hallucinations. These boys most often reported hearing voices of God and the devil, and voices to do bad deeds like fighting, stealing, or to kill a cat. Their visual hallucinations were most often of monsters or of faces seen in a mirror. Of the 64 boys diagnosed with childhood schizophrenia, 45 (70%) reported hallucinations. These boys reported auditory and visual hallucinations of a much more threatening and bizarre nature. They also reported hearing voices of God and the devil, but instead of hearing a command to merely "kill a cat", they reported hearing voices ordering them to "kill the family", "kill your brother", and in one instance a boy was urged to rape his sister followed by the same voice that said "Do it, you won't get caught." Five of the 8 boys diagnosed as psychosis with convulsive disorder reported hallucinations similar to those of the boys with childhood schizophrenia,

and of the 5 boys diagnosed as schizophrenia, undifferentiated type, 4 reported hallucinatory episodes.

Of the 25 randomly selected female patient charts, 15 (60%) reported hallucinations. Four of the five diagnosed primary behavior disorder reported hallucinations. Seventeen were diagnosed with childhood schizophrenia and 9 of these reported hallucinations similar to the schizophrenic boys, i.e., voices from God or the devil, voices telling them to do bad deeds, "kill yourself," "steal," etc.

An interesting finding noted by Jaffe but not mentioned by Eisenberg was these patients' ability to localize their auditory hallucinations. Jaffe (1966) reported several of the boys and one of the girls diagnosed as childhood schizophrenia localized their auditory hallucinations to an area outside of themselves, a phenomenon that Bender (1970) later observed as characteristic of the patient's maturational process, in that in late childhood and early adolescence the patient's auditory hallucinatory experiences may disappear if the patient improves, but if a schizophrenic process continues the hallucinations move outside of the body, become projected, and often become more persecutory.

The children diagnosed with psychosis associated with convulsive disorder reported the highest percentage of hallucinatory episodes. Twenty-one of the 25 patients randomly selected to represent this group (81%) had hallucinations. The author indicated hallucinatory episodes were more frequently reported in this group of child patients, but not more bizarre than the hallucinations reported by children with schizophrenia. Jaffe (1966) found no differences in the racial composition of hallucinating and non-hallucinating groups of children.

In concluding, Jaffe (1966) pointed to the interesting finding that there was no significant difference between incidence rates of hallucinations in males vs. females. Sixty-three percent of the boys reported hallucinations while sixty percent of the girls made similar reports. Age differences such as under and over 12 also showed no significant differences, although older boys tended to hear specific commands in their auditory hallucinations, not just voices urging them to do "good" or bad." Older boys also tended to attribute their voices less to God or the devil than did the younger boys. Importantly, and in contrast to Eisenberg's study, Jaffe's sample revealed a very high incidence of reported hallucinations. Children diagnosed psychosis with convulsive disorder showed an 81% report rate of hallucinations, those diagnosed with childhood schizophrenia had an incidence rate of 70%, and although behavior disordered children displayed the lowest incidence rate, 35% of these children reported hallucinatory experiences.

As briefly mentioned above, Bender presented a developmental understanding of hallucinations in childhood as had Eisenberg. She asserted that the hallucinations of children show a maturational pattern, and that such childhood disturbances are effected by what she called "maturational lags" (Bender, 1970). Bender (1970) wrote that adolescents have hallucinations that are similar to those reported by adults, and that very young children about three to five or six years old have hallucinatory experiences that are very different from older children. Jaffe (1966) alluded to such differences in his discussion on the more specific command auditory hallucinations of many of the older boys in his sample, but he did not explain these findings from a developmental perspective.

Bender (1970) proposed that the young child under the age of six who hallucinates belongs to one of two groups. One group of these children present with frightening and bizarre hallucinatory episodes, and are usually precipitated by ingestion of some toxin or due to an ongoing severe emotional stress. She noted that immediate treatment of the precipitating factor may resolve the hallucinations, but the child may continue to be vulnerable to severe psychopathology or childhood schizophrenia in subsequent development. Interestingly, Bender asserted children belonging to the other group are those who engage in pretend play with imaginary companions. Whereas Eisenberg (1962) talked about the rarity of actual hallucinations in childhood once childhood fantasy play and imaginary companions are excluded from discussion on the matter, Bender described the imaginary companion conversations of young children as "hallucinatory communications" (Bender, 1970; p. 96). Bender (1970) acknowledged that the psychoanalytic literature recognizes this phenomenon as a normal process in the maturation of the child's personality and that the social outcome of such children is "favorable," but asserted it tends to occur more readily in children who are deprived, lonely, or highly imaginative or gifted, or have some specific problems in identity or interpersonal relationships. Eisenberg's (1962) study consisted primarily of children from deprived backgrounds, but he proposed no connections between environmental deprivations per se and the occurrence of childhood imaginary companions.

Most interesting was Bender's (1970) descriptions of hallucinations in children ages 6 to 12, in comparison to the hallucinations described by adolescents.

Here she articulated clear differences in the hallucinatory phenomena and defensive processes of older children based on maturation and development, she wrote:

> The hallucinations of childhood (6-12 years) have specific characteristics different from those of adults. They are *introjected* and rarely projected. The inner voice of conscience, God, the Devil, angels, the good, bad, or dead parents, are *inside* the child, impulses are directed by a voice *in the child's head.* [italics added] (Bender, 1970; p. 96).
>
> and,
>
> Some young adolescents who are particularly immature or retain the features of maturational lags characteristic of childhood schizophrenia retain childlike *introjected* objects which serve the psychodynamic functions of the adolescent's search for maturity and identity. Otherwise the hallucinations tend to *move out of the body, become projected and often retreat to a distance* and become more persecutory. [italics added]. (Bender, 1970; p. 97).

Along these lines, Bender (1970) cited Haven's (1964) view that the movement of hallucinations to outside of the patient's body may be due to the need to have hostile and abusive voices "distant" from the perceiver and supportive voices maintained internally as "constant companions."

In sum, Bender cited the importance of the role of maturation in understanding differences in hallucinatory phenomena in children. She argued children below age six, "hallucinate" their communications with imaginary companions. Children above 6 years of age but below 12 experience hallucinations internally. Schizophrenic children of this age who show maturational lags characteristic of younger children hear voices of their introjected objects internally. After puberty, however, if hallucinatory episodes do not disappear due to treatment progress and recovery, they begin to be projected outside of the body as puberty is approached and the voices are perceived as threatening or persecutory.

Portell (1970) explored the incidence rates and quality of hallucinatory experiences reported by hospitalized pre-adolescents diagnosed with childhood schizophrenia. His study included sixty-six preadolescent schizophrenics. Of these, 29 of 49 boys (59%) and 10 of 17 girls (58%) were affected by hallucinations. Portell noted it was interesting to find similar percentage rates of hallucinations reported by males and females despite the much larger number of boys admitted to the hospital and included in the study. This writer found it interesting that these percentages were strikingly similar to those reported by Jaffe (1966) of 63% and 60% respectively, for boys and girls reporting hallucinatory episodes in his study. These overlapping findings may point to the possibility of a predetermined rate of hallucinatory experiences in children struggling through psychotic episodes regardless of the patient's gender.

Portell (1970) found that the most frequently occurring hallucinations were auditory and visual, with the frequency of auditory hallucinations more than double the number of visual. He wrote that children affected by both types of hallucinations, auditory and visual, tend to fall into a state of withdrawal and isolation, indicating a worsening of their condition. Portell cited Winn (1969) who found that half of the very disturbed children of his project who threatened suicide (30 of 60) later confided that their suicidal ideation and threats had been influenced by auditory hallucinations.

An additional focus of Portell's (1970) study was an analysis of some of the drawings many of the children produced from the early stages of their hospitalization through their recovery process. Portell studied and compared these drawings in an

attempt to explore how children suffering from hallucinatory episodes convey and relate their experiences in drawings and in their stories about their productions. He selected drawings by preadolescent schizophrenic children affected by both auditory and visual hallucinations. He found the drawings of these patients to be impoverished and constricted in color and form, and their stories about their drawings to convey anxiety, depression, and withdrawal. Importantly, a general theme running through most of the drawings was aggression. For example, in many of the drawings people or things were being destroyed. Even in drawings where a destruction theme was not manifest in the drawn image, the child articulated feelings of aggression or self-destructiveness in their interpretation of the drawing. Although Portell did not elaborate on the significance of this observation, it is important because it speaks to the fragmenting and disintegrating impact that overwhelming anger, specifically self-directed aggression, has on internalized images and representations (Fairbairn, 1952; Kernberg, 1975). Harris (1970) also wrote on the impact of self-directed aggression in the fragmentation and breakdown of internalized structures. He proposed that hallucinations develop out of the breakdown of internal structures. For Harris (1970), structural regression begins with the detachment of the self representation from its constituent self images. This detachment occurs when self-directed anger becomes overwhelming and the component images can no longer maintain their stability.

Rothstein (1981) critically reviewed the literature of the previous five decades on hallucinations in early childhood through adolescence, and was able to identify a variety of contradictions and problems in comparability and

generalizability of findings. For example, she pointed out that a serious problem in generalizing observations and results could issue from the fact that almost all the studies reviewed examined reports of hallucinations in patients of lower economic status. Thus, she stated, "…the possibility that such sampling may yield biased results cannot be ruled out" (1981, p. 624).

In addition to problems stemming from population and sampling, Rothstein (1981) called attention to the little consensus between researchers about a variety of clinical observations and theoretical assumptions. She pointed to the problem of defining hallucinations in terms of what actually constitutes a childhood hallucination, citing Eisenberg's (1962) preference for a narrow conception over broad, inclusive ones (Weiner, 1961), and thus the question of high or low incidence rates of hallucinatory phenomena in children (Eisenberg, 1962; Jaffe, 1966; Portell, 1970). Also, the effective tone of hallucinations in terms of whether they are most often negative (critical, menacing), positive (nurturing, supportive), or some admixture of the two, and the spatial relationship of the patient's hallucination to his/her body, e.g., the young child's experience of internally hallucinated voices or the adolescent's externally perceived voice as described by Bender (1970).

Rothstein (1981) suggested that many of these problems of comparability limiting the possibility of drawing meaningful conclusions could be resolved by assuming a developmental approach that would consider childhood hallucinations to be deviations in the normal development of the child's reality testing and object relationships. She explained that children who hallucinate may be seen as having developed in environmental conditions that "disfavor stable and well-integrated

internalization" (Rothstein, 1981; p. 632). Providing an example of the importance of utilizing a developmental approach to understanding hallucinations in children, Rothstein emphasized Bender's (1970) observation that young children who hallucinate typically experience such episodes internally while they are rarely internalized in adolescence. She explained that the drive to distinguish the real from the unreal characteristic of the latency period through preadolescence may render as less possible the acceptance of internal hallucinations as real, resulting in either their disappearance or projection outside of the body. Rothstein concluded stating that much of the controversy about childhood hallucinations in terms of diagnostic significance "…could be resolved with the assumption of a developmental perspective and appreciation of the need for a more comprehensive consideration of the child's total functioning" (1981, p. 632).

More recently, Bryan (1993), in an overview of new developments in the study of childhood schizophrenia, noted that although hallucinations and systematized delusions have been found to be consistently present in adolescence before the age of eighteen, these symptoms are much less common in children under nine. Thus, as put forward by Eisenberg (1962) and others holding to a developmental approach and conservative estimates of incidence of hallucinations (Bender, 1970; Rothstein; 1981), and despite high incidence rates of such phenomena reported by others (Jaffe, 1966; Portell; 1970), conceptions of the rarity of hallucinations in the very young have continued to be advanced by clinicians and researchers in recent years.

Identifiable vs. Non-Identifiable Auditory Hallucinations: A Psychoanalytic-Developmental View

Some years ago, Blatt and Wild (1976) examined the hypothesis that schizophrenia involves developmental irregularities and disturbances in the capacity to establish and maintain internalized boundaries of self and other. Their view, based on the integration of developmental psychology and psychoanalytic theory, holds that without the establishment of fundamental boundaries between self and non-self and between inside and outside, it is not possible to differentiate what is real in the environment from what is not real or imagined. Along these lines they asserted that hallucinations and delusions are clear examples of the failure to maintain adequate differentiation between the boundaries separating external events and internal experiences.

Citing the work of Freeman et al. (1966), Blatt and Wild (1976) noted these researchers' contribution to an understanding of important differences underlying a patient's hallucinatory experience in terms of whether or not the hallucinated voices are perceived as familiar or unfamiliar to the patient. Freeman et al. (1966) distinguished two categories of hallucinations differing in the degree to which the patient is able to maintain adequate contact with reality and a capacity for object relations. The first type of hallucination occurs in patients at higher developmental levels, and is more likely to involve *real people* who have meaning to the patient. The second, more regressive type of hallucination is less connected to real people in the patient's life, and more concerned with the construction of a new reality that begins to substitute itself for the patient's real world. These two types of

hallucinations may thus be described as identifiable and non-identifiable auditory hallucinations, respectively.

Blatt and Wild (1976) also noted that Freeman et al. (1966) provided clinical evidence indicating that hallucinations involving real people known to the patient are "…associated with greater capacity for interpersonal relationships than the second type, which is associated with minimal capacity for maintaining object cathexis. The latter type of hallucination is probably also associated with less differentiation between objects, including self and others" (p. 20). In his book, Experiences of Schizophrenia, Robbins (1993) reserves the most severe breakdown in the capacity to maintain these boundaries for the hallucinating and delusional schizophrenic patient, but nevertheless talks about the presence of these phenomena in patients of different diagnostic categories due to their varying degrees of integration and differentiation between self and other. He wrote:

> Delusions and hallucinations are reflective of the extreme undifferentiation of self from object and the absence of mental content that characterizes schizophrenia. They may superficially resemble the defensive projection of the neurotic or the more rudimentary nondefensive sensorimotor-affective projective enactment of the primitive personality, but their significance is very different, for the schizophrenic's mental contents are linked or integrated neither to a sense of self or identity nor to specific objects or socially adaptive activity; instead they reflect a nearly total failure of differentiation of self from non-self and a profound loss of integrative connection between mind and self-sense (p.157).

From a psychoanalytic-developmental perspective, it is clear that gradations in the capacity to sustain adequate self-object boundaries and differentiation, impacts directly upon the type and severity of hallucinatory phenomena experienced.

As mentioned earlier, DSM's III-R and IV talked about the presence of identifiable and non-identifiable auditory hallucinations occurring within specific stages of the schizophrenic illness. In both manuals the three phases of the illness

are described – the prodromal, active (or acute), and residual (or chronic) phases, occurring in this order from outset to recovery, or continuing with reoccurring active and residual phases as the symptoms and deterioration in functioning characteristic of the illness becomes more severe. The DSM-IV (1994) describes the prodromal phase as marked by the "negative" symptoms of the disorder, e.g., social withdrawal, neglect of personal hygiene, in other words a marked decrease in behaviors and functioning once routine for the patient prior to the onset of the illness. In this phase hallucinations and delusions are not normally present. However, characteristic of the active phase, and to a lesser degree within the residual phase, the "positive" symptoms of the disorder such as hallucinations, delusions, and disorganized thinking, occur, in other words symptoms or behaviors reflecting severe distortions of normal functioning that were not present prior to the onset of the illness. DSM-IV notes that auditory hallucinations "…usually experienced as voices, whether *familiar or unfamiliar*, that are perceived as distinct from the person's own thoughts" (DSM-IV, 1994; p. 275 [italics added) are common during this phase. DSM-III-R (1987) had indicated that voices heard during the active phase *"may be familiar"* to the patient, but as seen above this wording in DSM-IV's description from a focus on whether the voice heard is identifiable for the patient or not was changed to an emphasis on voices perceived as disconnected from the patient's conscious awareness.

It is not clear if voices perceived as "familiar" to the patient was observed less often by clinicians treating schizophrenics between the years of the writing of these two DSM's, and thus this descriptor came to be considered a less relevant

criterion of the active phase of the illness, or if voices whether familiar or unfamiliar to the patient were reported to occur at similar rates of incidence, and so the more crucial determining diagnostic factor became the issue of reality testing in terms of voices perceived “as distinct from one’s own thoughts.” Whatever the reasoning underlying the change, auditory hallucinations in the form of voices that are familiar and therefore identifiable to the schizophrenic patient tend to occur at the outset of the active or acute phase of the illness and less so during the residual or chronic phase. This type of auditory hallucination occurring in the initial stages of psychosis speaks to Freeman et al. (1966) finding that voices perceived involving real people known to the patient occur most often in those presenting with higher developmental levels of functioning. In this case such hallucinatory phenomena occurs in patients primarily during the initial stages of internal breakdown in the boundaries of self and object differentiation, which is then followed by continuing fragmentation and more severe deteriorations in functioning and realty testing as the patient enters and continues through the chronic phase of the illness.

DSM-IV (1994) speaks to this increasing severity of the schizophrenic disorder in the development of more severe positive symptoms. DSM-IV indicates that certain types of auditory hallucinations, i.e., two or more voices conversing with one another or voices maintaining a running commentary on the person’s thoughts or behavior, have been considered to be particularly characteristic of schizophrenia. In fact, the DSM indicates that if these kinds of hallucinations are present, then only this single symptom is needed to satisfy Criterion A for the diagnosis of schizophrenia to be made. Usually two symptoms listed under Criterion A, i.e.,

delusions, hallucinations, disorganized thinking, are required to make the diagnosis, but if these more complex types of auditory hallucinations occur, no other symptoms are needed. This qualification on the types of auditory hallucinatory phenomena required to show the severity of the schizophrenic psychosis additionally supports the premise of this study that individual, identifiable voices heard and experienced as persons familiar to the patient suffering the symptom, are more characteristic of higher developmental levels of personality functioning than more complex forms of auditory hallucinations.

Hallucinatory phenomena, in particular auditory hallucinations, occur in a variety of severe forms of psychopathology other than schizophrenia. Winsch (1989), in a study that attempted to establish the "discriminant power hallucinations provide in differential diagnosis" (p.84), found no significant differences among schizophrenic, affective disordered, and personality disordered patients in terms of type, frequency, mood congruence, and formation of hallucination experienced. Most striking about his study, however, was the absence of a well established theoretical orientation and conceptual framework other than his use of the descriptive criteria of hallucinations within the DSM-III-R (1987) and the Comprehensive Textbook of Psychiatry IV (Kaplan & Saddock, 1985) from which to hypothesize correlations between various diagnoses and different types or forms of hallucinatory phenomena.

Putnam and Trickett (1993) reviewed the research on dissociation and development of psychopathology in children and adolescents. They found memory dysfunctions, disturbances of identity, passive influence experiences, i.e., thoughts,

affects, and behaviors subjectively experienced as forced upon the individual such as automatic writing, perceived possession states, and auditory hallucinations, to be among just some of the manifestations of dissociative disorders. These researchers did not talk specifically about identifiable versus non-identifiable auditory hallucinations, but importantly they indicated that the dissociative disordered patient's experience of auditory hallucinations takes on a distinct form that helps to differentiate their experience of hallucinatory phenomena from the types of auditory hallucinations more commonly seen in psychotic disorders. They wrote:

> Dissociative hallucinations are most likely to take the form of internalized voices rather than externalized voices. The voices are heard distinctly, have clear attributes of gender, age and affect and may be pejorative and berating or supportive and comforting (Putnam &Trickett, 1993; p. 2).

Putnam and Trickett (1993) also noted that the dissociating patient is often aware that the voice(s) heard are hallucinations, a significant difference in differential diagnosis between these disorders and schizophrenia, and for fear of being seen and labeled as "crazy" will tend to resist reporting the experience unless or until a secure therapeutic alliance has been established.

As mentioned earlier by other clinician-theoreticians (Freeman et al., 1966; Bender, 1970; Blatt & Wild, 1976; Rothstein, 1981), auditory hallucinations experienced internally rather than externally speak to differences in levels of maturation, personality development, and self-object differentiation. Putnam and Trickett's (1993) observation that the dissociative disordered patient's auditory hallucinations are not experienced externally shows that although these patients are struggling with difficulties in self-object differentiation, they are nevertheless functioning at higher levels of personality development and organization. Their

hallucinatory voices experienced inside rather than outside shows they are less reliant on primitive defenses, i.e., denial, projection, splitting, and less vulnerable to the more severe forms of breakdown in self-object boundaries and differentiation characteristic of schizophrenia.

Recently, researchers conducting studies comparing the presence and severity of auditory hallucinations among differently diagnosed psychiatric patients and between patients and non-patient groups have proposed varying explanations for these phenomena. Some of these views seem to support the idea that gradations in the severity of psychopathology have an impact on the type and severity of hallucinations experienced.

Honig, Romme, Ensink, Escher, Pennings, and deVries (1998) investigated and compared the form and content of chronic auditory hallucinations in patients with schizophrenia, patients with a dissociative disorder, and non-patient "voice-hearers." Contrary to the view presented here, however, regarding identifiable and non-identifiable auditory hallucinations, these researchers found the *form* of these hallucinatory experiences were not significantly different between the three groups. The subjects in the non-patient group perceived their voices as predominantly positive; they were not alarmed or upset by their voices and felt in control of the experience. Differences in voices between groups were predominantly related to the content, emotional quality, and locus of control of the voices. Honig et al. concluded the significance of this study is that it presents evidence that the form of the hallucinations experienced by both patient and non-patient groups is similar, irrespective of diagnosis. Additionally, these researchers found the auditory

hallucinatory phenomena of their patients and participants to be related to the reporter's prior experiences of trauma and abuse – an important finding that in the next chapter will be shown to be a considerable contributing factor underlying the auditory hallucinatory experiences in several different diagnostic groups.

Morrison, Northard, Bowe, and Wells (2004) also explored differences in the subjective experiences of hallucinations in psychiatric patients compared to non-patients. These researchers tested the hypothesis that the psychiatric patient's interpretations of his/her own voices would be associated with distress linked to the act of experiencing auditory hallucinations. Such experiences would therefore lead to exhibiting higher levels of negative interpretations of these experiences in comparison to non-patients. Morrison et al. (2004) found that people with psychosis experiencing auditory hallucinations actually exhibited higher levels of both positive and negative interpretations of their voices, in comparison to non-patients. Interestingly, interpretations of the voices heard were significantly associated with emotional, physical, and cognitive characteristics of the voices. The authors concluded the physical characteristics of voices heard to be a significant predictor of the emotional experience of hearing the voice. Although a finding not directly supporting the view that the predominant experience of identifiable auditory hallucinations are a function of higher levels of patient functioning, these researchers found evidence for a link between how the patient feels about the voice heard and the emotional experience of having had the hallucination. This finding is important for the purposes of the current study because it may be a crucial step experienced in the

hallucinatory process before the hallucinating person identifies the voice heard as someone known to him/her.

Most recently, Serper, Dill, Chang, Kot, and Elliot (2005) examined the distribution of hallucinatory experiences among psychotic and normal individuals in order to investigate and compare the continuity of such experiences in these patients with a non-clinical sample. Psychotic patients with active hallucinations, psychotic inpatients without hallucinations, and a group of university students were included in the study. In support of the continuum model of psychosis, Serper et al. (2005) found that the expression of hallucinatory behavior exists along a continuum. Psychotic patients of course experienced frequent and complex hallucinatory phenomena (i.e., command hallucinations, multiple voices), while the non-psychotic group of students experienced hallucinations that were brief, sporadic, and lacking in complexity. These researchers concluded that at a certain level of symptom severity beyond a critical threshold, hallucinatory symptoms and behaviors become discontinuous and dysfunctional – a finding unquestionably supportive of the view that increasing severities and complexities in hallucinatory phenomena is directly related to corresponding increases in levels of clinical psychopathology.

Along these lines Freeman and Garety (2003) have asserted that the frequent occurrence of emotional disorder prior to and accompanying psychosis indicates that neurosis contributes to the development of the positive symptoms of psychosis. These researchers argue that intense emotions can contribute to delusion formation and maintenance, and can trigger and contribute to hallucinatory phenomena. Even in this late study these authors admit that how these processes occur is still not well

understood. What is clear, however, is that under certain conditions and situations, the occurrence of some types of psychotic symptoms can transgress the lines of normal and neurotic functioning, lending an appearance of psychosis, or at least the occurrence of a psychotic episode in traditionally non-psychotic diagnoses. In the next chapter studies that have documented the occurrences of psychotic symptoms and episodes in three such diagnoses: bipolar disorder, posttraumatic- stress disorder, and borderline personality disorder, will be reviewed.

CHAPTER 3

The Clinical Conditions

Bipolar Disorder

More than two million American adults or roughly 1 percent of the population age 18 and older have bipolar disorder (Spearing, 2001). *The Penguin Dictionary of Psychology* (2001) defines bipolar disorder as a major Mood Disorder in which both manic and depressive episodes occur, i.e., both poles on an affect dimension is manifested. Older texts refer to the illness as *manic depression* or *manic depressive disorder.* More recently, variations on the clinical presentation of the illness have been identified, and have led to the need to differentiate the disorder by its different patterns, courses, and levels of symptom severity. In Bipolar I Disorder the clinical course is characterized by the occurrence of one or more manic episodes - a period during which an abnormally and persistently elevated, expansive, or irritable mood exists. Typically, after the manic period has passed, the person plunges into the depressive phase of the illness. In contrast, in Bipolar II Disorder the mood swings are between depression and hypomania, e.g., milder manic episodes rather than full-blown mania.

The *Diagnostic and Statistical Manual of Mental Disorders, fourth edition,* or DSM–IV (APA, 1994), notes some studies have indicated that first-degree biological relatives of individuals with bipolar disorder have elevated rates of both Bipolar I and Bipolar II Disorder and Major Depressive Disorder as compared to the general population. Spearing (2001) agrees that genetics play a role in the inception of the disorder, and that whenever possible the patient's family history must be

considered along with the presentation of symptoms and course of the illness when diagnosing bipolar disorder. However, she asserts that there is no single cause of the illness, rather a combination of factors are involved.

Bipolar Disorder and Auditory Hallucinations

Papalos and Papalos (1999) wrote on the diagnosis and treatment of early-onset bipolar disorder in children, and how the disorder presents differently in children as compared to adults. They explained that in childhood, bipolar disorder can overlap or occur with other disorders of childhood, such as attention-deficit/hyperactivity disorder (ADHD), depression, panic disorder, generalized anxiety disorder, obsessive-compulsive disorder (OCD), and Tourette's syndrome. Adults on the other hand tend to experience the more classical pattern of mood swings that alternate between manic and depressive phases, with intervals of more stable functioning between periods of heightened or lowered mood. Psychotic episodes, they explained, including paranoia and hallucinations, may occur during both phases of a bipolar disorder, when extremes on the mania/depression continuum are reached. Papalos and Papalos (1999) reported:

> If the hypomania escalates into a full-blown mania, the person can lose all touch with reality and become psychotic. In this stage (called stage-three mania), a doctor may be unable to tell whether the patient is schizophrenic or manic-depressive without having the family history and other information about the patient's previous functioning (p.5).

and,

> Depressed patients may feel they deserve only punishment and can become fixed on all the small mistakes they have made in their lives – losing any sense of past accomplishments. In the depths of depression, a person's thinking can become delusional and psychotic (p.6).

Dunayevich and Keck (2000) investigated the prevalence and types of psychotic features in bipolar mania and also found psychotic symptoms to be a common occurrence in both the manic and depressive phases of the disorder. They noted although any kind of psychotic symptom including thought disorder, mood-incongruent psychotic symptoms, catatonia, and hallucinations may present as part of a manic episode, grandiose delusions were observed as the most frequently occurring psychotic symptom. In an exploration of psychotic symptoms in cases of pediatric bipolar disorder, Pavuluri, Herbener, and Sweeney (2004) also found grandiose delusions to be the most commonly occurring psychotic feature. These authors began with the observation of an under-recognition or tendency for misdiagnosis of pediatric bipolar disorder. They noted the importance of recognizing critical distinguishing features in differentiating pediatric bipolar disorder from pediatric schizophrenia. One of these is that in pediatric bipolar disorder psychotic features appear in the context of affective symptoms, whereas in schizophrenia such severe clinical symptoms occur independently of them.

In a recent study focusing more specifically on hallucinations in bipolar disorder, Baethge, Baldessarini, Freudenthal, Streeruwitz, Bauer, and Bschor (2005) compared the frequency and the type of hallucinations experienced among hospitalized patients diagnosed with bipolar disorder versus other major psychiatric illnesses. These researchers investigated the cross-sectional prevalence of hallucinations among almost 5000 hospitalized patients over the course of a 20 year period from 1981 to 2001. Schizophrenics ranked highest for reported hallucinatory experiences at 61.1%. Bipolar patients presenting with mixed, manic, and depressed

subtypes of the disorder combined to represent 44.6% of reported hallucinations. Unipolar depressed patients accounted for 5.9% of hallucinatory phenomena. The most frequently reported type of hallucination experienced across all patient diagnoses was auditory. Hallucinations among patients with bipolar disorder were less severe, but interestingly were more visual, and less often auditory. Also, hallucinations in bipolar disorder were most often accompanied by persecutory delusions; while delusions of grandeur were observed to be least associated with hallucinations.

Childhood Trauma and Hallucinations in Bipolar Disorder

Hammersley, Dias, Todd, Bowen-Jones, Reilly, and Bentall (2003) investigated reports of childhood trauma, specifically childhood sexual abuse, and hallucinations in bipolar disorder. They based the need for their study on reports from previous research showing high levels of childhood sexual abuse and other early traumas in patients with serious psychopathology (Goodman et al, 1997), and other studies yielding evidence of associations between childhood sexual abuse and the occurrence of positive symptoms, particularly hallucinations, in patient populations (Ross et al, 1994).

Hammersley et al. (2003) recruited a sample of 96 patient-participants meeting the DSM – IV (1994) criteria for bipolar affective disorder to take part in a trial of cognitive-behavioral therapy for bipolar disorder. Individuals with substance abuse as a primary diagnosis, evidence of organic illness, severe or co-morbid borderline personality disorder, as well as individuals displaying rapid-cycling

bipolar disorder were not included in the study. Once in treatment any direct references made by participants to childhood sexual abuse or other traumas were collected by their therapists. The results showed that 15 of the 96 participants disclosed some type of childhood sexual abuse. No participant reported "threatened" sexual contact only, and in no case did the recorded onset of illness predate the reported abuse. The types of reports received were more commonly that in childhood the patient either was touched sexually, sexually assaulted, and/or exposed to sexual contact on more than one occasion.

With respect to reports of hallucinations, Hammersley et al. (2003) noted 45 participants (nearly half of the sample) had experienced some type of hallucinatory experiences in their lifetime. Thirty participants reported experiencing auditory hallucinations, 11 heard voices commenting on their actions, 25 had experienced visual hallucinations, and 9 had experienced either tactile or olfactory hallucinations. Importantly, a significant association was found between reports of trauma and the presence of auditory hallucinations. Reports of abuse and history of hallucinations, history of auditory hallucinations, and history of voices commenting on one's behaviors were more significant. No significant association was found between trauma and reports of delusions, or trauma and reports of visual or tactile hallucinations.

In another study exploring histories of childhood sexual abuse in patients reporting auditory hallucinations, Offen, Waller and Thomas (2003) found the extent and severity of such patient backgrounds to be directly related to the severity of their symptoms. In a sample of 26 adult male and female patients presenting with

psychotic disorders involving auditory hallucinations, these researchers found these patient's histories of childhood sexual abuse to be significantly associated with higher levels of depression and dissociation, as well as being linked to a tendency to regard the voices they experienced as more malevolent. Offen et al. (2003) found that in all instances the younger the patient's age at the time of the first abuse experience, the higher the level of psychopathology assessed later in life. They concluded their results indicate a need for greater attention to be given to the possible role of childhood sexual abuse when understanding and treating auditory hallucinations.

In a very recent study the impact of childhood abuse on the clinical course of bipolar disorder was explored. Garno, Goldberg, Ramirez and Ritzler (2005) evaluated the prevalence and subtypes of childhood abuse reported by adult patients with bipolar disorder and its relationship to clinical outcome. In a sample of 100 patients, histories of severe childhood abuse were identified in about half, and were associated with early age at illness onset. Severe emotional abuse was significantly associated with lifetime substance misuse comorbidity and rapid cycling of mood swings, and in instances of multiple forms of abuse the risk for both suicide and rapid cycling showed graded increases. Although reports of auditory hallucinations and other positive symptoms were not mentioned in the study as occurring alone or alongside other more serious symptoms and behaviors, a significant association was found between lifetime suicide attempts and severe childhood sexual abuse. These authors concluded that severe childhood trauma appears to occur in about half of

patients with a diagnosis of bipolar disorder, and may lead to more complex psychopathological manifestations.

Posttraumatic Stress Disorder

The *Diagnostic and Statistical Manual of Mental Disorders, forth edition,* (DSM-IV) (APA, 1994), defines as the essential feature of posttraumatic stress disorder (PTSD), "…the development of characteristic symptoms following exposure to an extreme traumatic stressor involving direct personal experience of an event that involves actual or threatened death or serious injury, or other threat to one's physical integrity" (p.424). These symptoms include persistent reexperiencing of the traumatic event (e.g., nightmares, flashbacks), persistent avoidance (e.g., efforts to avoid thoughts or stimuli associated with the trauma), numbing of general responsiveness (e.g., restricted range of affect), and hyperarousal symptoms (e.g., exaggerated startle response). Alternate criteria listed in the DSM-IV as necessary for a diagnosis of the disorder are the witnessing of an event that involves death, injury, or threat to the physical integrity of another person, or learning about an unexpected or violent death, serious harm, or threat of death or injury of a family member or close friend. Importantly, the individual's response to such an event must involve intense fear, helplessness, or horror in order for the diagnosis to be considered valid.

Prevalence rates of PTSD vary slightly according to the sample studied. The DSM–IV reports community-based studies estimate a lifetime prevalence of 1% to 14%, with differences in estimates related to how the information was obtained and

what type of population was sampled. Taylor (2004) narrowed down these estimates asserting that in North America, PTSD has a lifetime prevalence of about 8%. He claims it tends to continue for over a year in 50% of persons affected by the disorder, and has the potential to be a chronic condition if it persists for 3 months.

Taylor (2004) reports several studies have suggested associations between poorer treatment outcomes and more severe pretreatment symptoms (i.e., depression, trauma-related guilt and anger). Marks (1987) also sought explanations for the significant difficulties clinicians experienced trying to successfully treat the disorder, and focused on the severity of the traumatic event as a primary cause of treatment intractability. He asserted: “The more intense the trauma, the worse the PTSD, whether immediately or long afterward” (p. 402). On a more positive note, Taylor (2004) pointed out that although there is an ongoing debate on the issue of whether or not trauma-related guilt is a significant predictor of poor treatment outcome, he insists that for patients who do not drop out of treatment the most consistent predictor of a good treatment outcome is whether or not the individual receives exposure therapy (repeated, prolonged imaginal exposure to distressing but harmless trauma-related stimuli). Nevertheless, regardless of the degree of symptom severity or the types of treatment options deemed most beneficial, Taylor asserts (2004) it is clear that PTSD often occurs with considerable personal and economic burdens on its victims.

Posttraumatic Stress Disorder and Auditory Hallucinations

Of particular influence on the severity and intractability of symptoms in PTSD is the impact of war and combat experience on individuals exposed to these situations. Reports on the occurrence of psychotic symptoms among combat veterans with chronic posttraumatic stress disorder have increased in frequency since the Vietnam War. Although DSM-IV (APA, 1994) includes “illusions, *hallucinations*, [and] dissociative flashback episodes” ([italics added] p.428) within the criteria for PTSD, reports of psychotic symptoms (i.e., auditory and visual hallucinations, delusional thinking, paranoia), and comorbidity with more severe psychopathology and related symptomatology (i.e., bizarre behaviors, conceptual disorganization), symptoms not highlighted in the most recent DSM, have been presented in the literature for the past two decades.

DSM-IV indicates that studies of at-risk persons such as combat veterans and victims of violent crime and natural disasters yield a wide range of prevalence rates for PTSD of as low as 3% to as high as 58%. However, a study investigating the prevalence of postwar problems and clinical symptoms in Vietnam Veterans was able to report with a strong degree of confidence that the lifetime PTSD prevalence rates for persons exposed to the Vietnam War was 31% for men and 27% for women, with current rates of 15% for men and 9% for women (NVVRS: Kulka et al., 1990). These statistics underline the chronicity of the disorder in that about half of those Vietnam veterans who presented with PTSD symptoms early on following combat exposure, still had the disorder 20 years later.

In an important early study investigating auditory perceptions experienced by combat veterans suffering from chronic posttraumatic stress disorder, Mueser & Butler (1987) found that veterans who reported auditory hallucinations had significantly higher combat exposure and more intense PTSD symptoms than other veterans. Veterans reporting auditory hallucinations were also observed to be more refractory to treatment efforts than veterans with no hallucinations. They did not respond as well to imaginal flooding treatment sessions as did the group of veterans without auditory hallucinations, and in no case, according to the authors of the study, did neurological medications reduce their hallucinations.

Mueser and Butler (1987) found the hallucinations reported by these chronic PTSD sufferers to primarily be depressive in nature. Veterans experienced intense guilt over the enemy soldiers they killed or the comrades they left behind, and in four of the five cases presented the voices heard directed the patient to commit suicide. Interestingly, Mueser and Butler observed that when compared to other PTSD sufferers, these patients were more likely to complain of greater severity of symptoms typical of physiological arousal (i.e., jumpiness, heart racing, awakening during the night, panic attacks), and memory and concentration problems. Additionally, these authors found that a significantly greater proportion of veterans with auditory hallucinations (60%) than without (10%) were Latino. Despite the small sample used in their study, Mueser and Butler (1987) suggested that cultural factors may play a role in the development of auditory hallucinations in PTSD.

Wilcox, Briones and Suess (1991) also found a high occurrence rate of intrusive auditory hallucinations among Latino veterans suffering from combat-

related posttraumatic disorder. These authors were able to assert with confidence that the reported hallucinations were unrelated to substance abuse and was not associated with any particular war. However, as in the Mueser and Bulter (1987) study, the higher frequency of reported auditory hallucinations among Latino veterans was ultimately explained through the significantly higher combat exposure experiences encountered by these veterans, more strongly suggesting that it is severe and prolonged trauma that contributes to the development of hallucinations in some persons, not their ethnic backgrounds.

In concluding, Mueser and Butler (1987) suggested that chronic PTSD with auditory hallucinations may be a posttraumatic stress disorder subtype which occurs in the absence of gross impairment in reality testing and is not a function of substance abuse or psychotic depression. The authors pointed to these patients' higher than average susceptibility to physiological arousal and their lack of response to neurologic medications as important factors contributing to the possibility of the existence of a constitutional basis underlying their hallucinatory phenomena.

Butler, Mueser, Sprock, and Braff (1996) revisited the topic of hallucinations in combat veterans suffering from PTSD, and identified the presence of positive symptoms of psychosis in addition to other serious symptoms alongside the disorder. In this study 20 combat veterans with PTSD were compared on symptom rating scales to 18 veterans with similar military experiences without PTSD. The authors found that veterans with PTSD exhibited significantly higher levels of depression, anxiety, agitation, anhedonia, and positive symptoms of psychosis than their non-PTSD counter-parts. In particular, PTSD veterans showed higher rates of

hallucinations, delusions and bizarre behavior. Butler et al. (1996) concluded that a diagnosis of PTSD should be considered with patients presenting with positive psychotic symptoms, even in the absence of thought disorder and other symptoms characteristic of psychotic disorders.

Bleich and Moskowits (2000) went further in trying to understand the presence of psychotic symptoms in victims of chronic PTSD. These authors asserted that despite earlier reports of PTSD with psychotic features, the notion of comorbidity of the disorder with psychosis had rarely been described. Bleich and Moskowits (2000) presented 6 case studies of Israeli military veterans with PTSD and psychosis. Each veteran developed PTSD; some after just a few months following combat exposure, while others after a period of years, sometimes following a trauma-related triggering event.

Psychotic symptoms observed in these veterans were delusions and auditory hallucinations, usually with paranoid and/or depressive features related in content to their traumatic war experiences. In two of the six cases presented, comorbidity of PTSD and schizophrenia was found. In another two cases psychotic depression and affective bipolar disorder was diagnosed alongside PTSD. In the two remaining cases PTSD was the only diagnosis assigned, but in both cases psychotic symptoms of auditory hallucinations and delusions of persecution were present. In one of these two cases, a 39 year old married man with children who had participated in and was injured in the Lebanon War when he was 25, continued to experience serious clinical symptoms with only partial remissions, even following treatment with anti-psychotic medications and long-term psychotherapy.

Bleich and Moskowits (2000) concluded that due to the evidence for comorbidity of various psychotic conditions alongside PTSD, the justification of an independent diagnosis of PTSD with psychotic symptoms remains open. Instead, they suggested, under certain conditions, severe and prolonged traumatic exposure may function as a trigger for the development of a psychotic disorder that had up to that point lay dormant. Also, as pointed out in earlier studies (Mueser & Butler, 1987; Kaufman et al., 1997; Ivezic et al., 1999), the authors noted their findings on the unpredictability and/or ineffectiveness of anti-psychotic medications when prescribed to PTSD patients also struggling with psychotic symptoms, and called for future studies in the field "to shed light on this problem" (Bleich & Moskowitz, 2000; p. 445).

Less interested in comorbidity phenomena and more interested in discerning a distinct subtype of posttraumatic stress disorder, Hamner, Frueh, Ulmer, Huber, Twomey, Tyson, and Arana (2000) compared similarities in symptoms of psychosis experienced by schizophrenic patients and combat veterans with chronic PTSD. Psychotic features investigated included auditory and visual hallucinations and paranoid delusional thinking. These authors found schizophrenic patients had more intense delusions and slightly higher levels of conceptual disorganization, but hallucinations experienced in both groups were comparable in severity. Through the use of the Positive and Negative Syndrome Scale (PANSS) and other assessments, negative symptom and general psychopathology subscale scores were also comparable in schizophrenic and chronic PTSD patients. Hamner et al. (2000) concluded that occurrences of positive as well as negative symptoms of psychosis in

chronic PTSD can show a range of severity that may approach that of patients with schizophrenia.

More recently, Kennedy, Dhaliwal, Pedley, Sahner, Greenberg, and Manshadi (2002) investigated the presence of PTSD in schizophrenic and bipolar patients with histories of episodic hallucinatory and delusional symptoms. These researchers found that about one-third of their schizophrenic subjects and one-half of their bipolar subjects met PTSD criteria for the disorder. An important additional finding was that increases in PTSD scores were paralleled by increases in the Beck depression scale scores, strongly suggesting that wherever PTSD symptoms and related difficulties are present (e.g., alongside more severe forms of psychopathology), so too is depression. David, Kutcher, Jackson, and Mellman (1999) had previously investigated the presence of psychotic symptoms in combat related PTSD and uncovered similar findings. Psychotic symptoms in this group of war veterans featured auditory hallucinations that reflected non-bizarre combat themes and guilt, and were not associated with formal thought disorder or flat or inappropriate affect. David et al. (1999) concluded that the psychotic symptoms of combat-related PTSD appeared to be strongly associated with major depression.

PTSD, Sexual Abuse Trauma, and Auditory Hallucinations

Severe interpersonal stressors such as childhood sexual or physical abuse, and domestic violence and battering are described in DSM-IV as events highly associated with a constellation of symptoms that leads the PTSD sufferer vulnerable to experiencing severe behavioral and emotional difficulties. The DSM indicates

this clinical picture may include impaired affect modulation, self-destructive and impulsive behavior, dissociative symptoms, somatic complaints, feelings of ineffectiveness, shame, despair, or hopelessness, feeling permanently damaged, loss of previously sustained beliefs, hostility, social withdrawal, feeling constantly threatened, impaired relationships, or a significant change in the individual's personality characteristics and functioning. Judith Lewis Herman (1992) has argued that adults who have suffered prolonged sexual and physical abuse in childhood, likely developed some of these types of personality problems and "deformations of relatedness and identity" (p. 119). She characterized this symptom picture as "complex posttraumatic stress disorder," and emphasized the damage to the self-system of the individual who has had to survive under conditions of ongoing abuse and terror.

Haviland, Sonne, and Woods (1995) evaluated PTSD symptom severity, object (interpersonal) relations disturbances, and reality testing disturbances in physically and sexually abused adolescents. Their subjects were 37 male and female students of a residential school for children with various emotional and behavioral difficulties. Of these 37 students, 22 (59.5%) had Child Post-traumatic Stress Disorder Reaction Index (CPTSD-RI) scores in the severe and very severe ranges. The most common object relations and reality testing disturbances were insecure attachment and uncertainty of perception. Mean CPTSD-RI scores were higher for students whose abuse had involved sex (sexual and physical abuse, sexual abuse only) than for students whose abuse had been physical only. Also, CPTSD-RI scores were positively correlated with two of the four object relations scores (insecure

attachment and egocentricity), and with all three reality testing scores (reality distortion, uncertainty of perception, and hallucinations/delusions). These authors recommended clinicians and clinician-investigators evaluate interpersonal and reality testing disturbances alongside PTSD symptom severity to more effectively address the long term difficulties associated with child abuse and child maltreatment.

Lipschitz, Winegar, Harnick, Foote, and Southwick (1999) also studied PTSD among adolescents, but their focus was on the diagnostic comorbidity and clinical correlates of the disorder in hospitalized adolescent inpatients. In this study 74 adolescent inpatients were given a structured diagnostic interview and a battery of standard self-report measures to assess general trauma exposure, PTSD symptoms, suicidal behavior, dissociation, and depression. The authors found that 93% of their subjects reported exposure to at least one traumatic event, such as being a witness/victim of community violence, witnessing family violence, or being a victim of physical/sexual abuse. Thirty-two percent of subjects met the diagnostic criteria for PTSD, with sexual abuse cited as the most common traumatic stressor in 69% of PTSD cases. Females were significantly more likely to develop PTSD than their male counterparts, but males were significantly more likely to have comorbid diagnoses. Also, male and female youths with PTSD were significantly more likely to report greater depressive and dissociative symptoms and to have attempted suicide. Lipschitz et al. (1999) concluded that PTSD is a common, but highly comorbid disorder in clinical populations of hospitalized adolescents exposed to multiple forms of trauma. Therefore, specific multimodal assessments and

treatments ought to be targeted to both PTSD patients and those presenting with a comorbidity profile.

In a study focusing on the influence of early abuse experiences on the development of later clinical symptoms, Read, Agar, Argyle, and Aderhold (2003) investigated the hypotheses that childhood sexual and physical abuse are related to hallucinations, delusions, and thought disorder in adults, and that these relationships are greater in those who have also suffered abuse during adulthood. Of 200 community mental health clinic clients, the clinically evaluated symptomatology of 92 clients who reported sexual or physical abuse at some point in their lives was compared with that of 108 for whom no abuse was documented. In patients for whom child abuse was reported, hallucinations, but not delusions, thought disorder or negative symptoms, were significantly more common than in the non-abused group. In a linear regression analysis, a combination of child abuse and adult abuse predicted hallucinations, delusions, and thought disorder. However, child abuse alone was found to be a significant predictor of auditory and tactile hallucinations.

Lastly, in a very recently completed study, the symptom and diagnostic associations between trauma and hallucinations were explored. From descriptions of reported traumas and hallucinations, Hardy et al. (2005) found that traumas rated as intrusive were significantly associated with hallucinations rated as intrusive, although intrusive hallucinations were not associated with traumas in general. Also, the traumas found most likely to be associated with hallucinations were related to sexual abuse and actual and threatened violence.

Borderline Personality Disorder

A personality disorder is a severe disturbance in the characterlogical makeup and behavioral tendencies of an individual. In these types of disorders deeply ingrained, enduring, and maladaptive patterns of relating to, thinking about and perceiving the environment tend to be so extreme that significant impairment in emotional, social, and behavioral functioning results. The manifestations of personality disorders are often recognized by adolescence and tend to continue throughout adult life.

The *Diagnostic and Statistical Manual of Mental Disorders, fourth edition,* (DSM-IV) (APA, 1994), describes as the essential feature of Borderline Personality Disorder, a pervasive pattern of instability of interpersonal relationships, self-image and affects, and marked impulsivity that begins by early adulthood and may be present in a variety of contexts. Those diagnosed with Borderline Personality Disorder (BPD) often make desperate attempts to avoid real or imagined abandonment. Intense and disorganizing abandonment fears and inappropriate anger may occur when these patients are confronted with even time-limited separations from someone important to them or when plans with important others are suddenly changed. Frantic efforts to avoid such separations may include impulsive actions, such as self-mutilating or suicidal threats and behaviors. About 2% of the general population is estimated to have a diagnosis of BPD, but as much as 20% of all psychiatric inpatients suffer from the disorder.

During periods of extreme stress, BPD patients may also experience transient psychotic episodes of paranoid ideation or dissociative symptoms. DSM-IV (1994)

notes these symptoms could last anywhere from a few moments to a few hours, and tend to most often occur in response to real or imagined abandonment. These psychotic-like symptoms may include auditory or visual hallucinations, body-image distortions, ideas of reference, and hypnagogic hallucinatory phenomena. In less severe instances there may be an absence of psychotic experience but significant disruption of relationships and work performance. The depressions which sometimes accompany the disorder can cause much suffering and lead to the development of substance-related disorders, self-mutilating acts, and serious suicide attempts. Importantly, premature death from suicide may occur in individuals with BPD, as completed suicides occur in 8% - 10% of attempts (DSM-IV, 1994; pp. 650-654).

Early Perspectives on BPD and Transient Psychotic Experiences

More has been written on the diagnosis of borderline personality disorder and the susceptibility of these patients to transient psychotic states and dissociative episodes than on any other personality disorder (Millon et al., 2004). In 1967, Otto Kernberg conceptualized borderline personality disorder as a diagnosis in a group of patients with particular defense mechanisms and pathologic internalized object relations. Kernberg coined the term "borderline personality organization" to describe a "specific and remarkably stable form of pathological ego structure" that occupies a borderline area between neurosis and psychosis. Before this time many different terms were used to describe this condition in patients with similar traits and personality problems.

According to Stone (1986), Adolph Stern (1938) put the term "borderline" on the map when his attempt to understand and explain the disorder set in motion the nosological and metapsychological trends that in later years crystallized into the clearer conceptualizations of the condition. In 1941, Zilboorg referred to a disorder that he considered to be a mild version of schizophrenia. He described patients with disturbances of reality testing, associative thinking, shallowness of affect, and pervasive anger. Deutsch (1942) wrote about patients who lacked a consistent sense of identity, and created the term "as-if personalities" because these patients completely identified with those persons whom they were dependent. In 1947, Schmideberg first described borderline disorder as a disorder of character. She became renowned for her work with delinquents. Stone (1986) describes her approach with these patients as a "shifting amalgam" of supportive and psychoanalytic techniques used together to appropriately provide the intensive therapy required of such patients. Frosch (1964) contributed to the differential diagnosis of the borderline personality from the psychotic. He stressed that although these patients experience disruptions within their relationship to reality, in contrast to patients with full-blown psychotic reactions their capacity to test reality remains preserved.

Therefore, due to the very long list of potential contributors who have attempted a comprehensive understanding of this diagnostic entity, only three can be covered here in some degree of depth: Adolph Stern (1938), John Frosh (1964), and Otto Kernberg (1967). However, these three theoreticians have not been chosen randomly. All three made important historical contributions to furthering the

understanding of the disorder, but all three also hold a similar theoretical perspective: psychoanalytic-developmental theory. The application of a similar theoretical perspective enabled the later two writers to expand upon the work of those before them, but also, in the view of this writer, a psychoanalytic-developmental interpretation of these phenomena is important in the clarification and explication of the transient psychotic episodes these patients are prone to experience.

At the outset of his 1938 paper entitled *Psychoanalytic Investigation of and Therapy in the Border line Group of Neuroses,* Stern confided that it was his repeated failed attempts to treat the "acutely sick" patients he came to call "border line" which led him to study these patients more closely to see what aspects of their symptomatology were unaffected by the methods of analytic therapy. Through two avenues of approach, the first of which an historical one, as given by the patients during the course of treatment, and the second an investigation of the events in the transference, Stern concluded that these patients showed "a fairly definite clinical picture and fairly indefinite symptoms" (Stone, 1986, p. 55).

For Stern, the basic underlying character component of borderline pathology is narcissism. He deduced narcissism to be the "soil" from which all the patient's other clinical symptoms and character traits "later take their origin, on which they depend for their form and the functions they serve" (Stone, p.57). Stern enumerated ten clinical symptoms he described as falling either under the heading of reaction-formations or character traits: narcissism, masochism, negative therapeutic reactions, and difficulties in reality testing, to just name a few. He hypothesized that these traits and symptom formations develop in borderline patients just as they do in

psychoneurotics – through the ego's attempts to minimize or eliminate anxiety. He noted that the essential difference between the two, however, lies in the type or quality of the infantile impulses manifested. In neurosis anxiety develops on the basis of infantile sexual impulses. In "border line" pathology oedipal issues overlap unresolved preoedipal ones hence anxiety develops predominantly on the basis of infantile narcissistic impulses.

Proceeding from his hypothesis of the significance of narcissism in borderline pathology, Stern advocated an active "investigation" of the patient's "earliest narcissistic periods in very early childhood for factors adversely affecting narcissistic development" (Stone, p.56). Through such investigations he found at least one or more of the following "adverse factors" in at least 75% of these patients' histories: 1) the mother was a neurotic or a psychotic type having experienced a brief psychotic episode on more than one occasion, 2) divorce or separation of the parents before the patient was 7 years old, and, 3) actual cruelty, neglect, or brutality by both parents of many years duration. Stern did not discuss these three factors in equal detail; he placed significantly greater emphasis on the mother's role. He found that while these mothers were meticulous about their child's habits, food, and behavior, "they lacked a wholesome capacity for spontaneous affection" (Stone, p. 56). Stern repeatedly referred to these patient's constant experience of "psychic starvation" and "affective (narcissistic) malnutrition" (Stone, pp. 56-57). For example, while discussing the "border line" patient's intense feelings of inferiority, he implies that such feelings stem in part from these patient's actual experiences that they were "never loved" (Stone, p. 60). Also, their masochism, which Stern

describes as the tendency to indulge in “self-pity and self-commiseration,” he considers to be:

> …agents for obtaining a compensation for what the patients, *and some of them justly,* regard as not being or having been sufficiently loved in their childhood, a sort of unspoken plea for help and love as a needy child seeks it (Stone, p. 61 [italics added]).

Clearly, Stern saw narcissism as the core disturbance underlying borderline pathology, and real deficiencies in early parental affection as the causative agent in the development of infantile narcissistic impulses and the defensive formations constructed against them. However, for Stern, the clinical symptom that links borderline patients to psychotics is their wide use of projection mechanisms. He hypothesized because the borderline patient constantly projects the causes of his anxieties on to the external world he is continuously unable to recognize that his insecurities are inwardly determined. Thus, his difficulties, particularly in interpersonal relationships, are explained “on the basis of a hostile attitude of the environment towards him” (Stone, p.64). Along these lines, Stern detected states of extreme dependence in the transference relationship with these patients which he characterized as:

> …a strict adherence to rules, an obedience, at times something like a compulsive application to the analytic job, and efforts to win approval, commendation, emphasis on trouble and suffering to arouse the protective sympathy of the analyst (Stone, pp.65-66).

Most important with respect to these states of extreme dependence and intense need for the “protective sympathy of the analyst” is that when their sense of what Stern called “positive protection” is lost in the analytic situation, these patients “come uncomfortably near to a psychotic state (Stone, p. 67).

Therefore, Stern's view of the transient psychotic episodes so often experienced by borderline personality disorder patients seems to be based primarily on the patient's sense of safety within the analytic relationship. According to Stern, should this tenuous sense of safety be lost, possibly because of a negative therapeutic reaction, the change that takes place during the course of the analytic hour is the patient's perception that the analyst has become hostile. Thus Stern felt that only when these patients' intense need for protection is diminished through "supportive therapy," does the transference picture become comparable to that of neurotics with the dangerous potential for psychotic experiences dramatically reduced. Importantly, if this misperception in reality testing occurs outside of the analyst's office between the patient and an important other whom the patient has become dependent upon, perceived hostility and paranoia may result just as easily, and the potential for a psychotic episode is present.

As had Stern, John Frosch (1964) also attempted the delineation of a syndrome representative of a specific and recognizable entity from among the borderline conditions. In contrast to Stern's use of the term "border line," however, Frosch focused more on these patients' resemblance to psychotics than on their retention of a position borderline to neurosis or psychosis. Hence, he applied the label *psychotic character,* as "a counterpart to the neurotic character" (Stone, p. 263). In his 1964 paper entitled *The Psychotic Character: Clinical Psychiatric Considerations,* Frosch intentionally bypassed an extensive examination of the syndrome's many symptoms in order to concentrate on the basic identifiable features which for him, typifies the psychotic character.

In his examination of the "ego's position regarding reality," Frosch differentiated three areas he believed to be "functionally very closely interwoven" (Stone, p. 65). These are the patient's *relationship with reality, sensation and feeling of reality,* and *capacity to test reality.* Frosch (1964) described a person's *relationship with reality* as involving the capacity to perceive the external and internal world and the appropriateness of his relationship to them. He felt within the ego there should be an awareness of the limits of these areas in terms of the existence of consistent and clearly defined ego boundaries. In the psychotic character, as in psychosis, impairment of the ego's relationship with reality may be seen in the appearance of perceptual distortions, such as hallucinations and illusions. However, for Frosch, what characterizes these perceptual distortions in the psychotic character in contrast to those which manifest in psychosis, is their "relative transience and reversibility," hence a "relative retention of the capacity to test reality" (Stone, p. 266).

As articulated by Searles (1960) with respect to schizophrenics, Frosch noted that those presenting a psychotic character also demonstrate a "diffusion of ego boundaries" which at certain times makes it extremely difficult for them to differentiate themselves from the nonhuman environment. However, Frosch believed the crucial difference between the two to be that the psychotic character does not lose contact with reality over a consistent period. Although transient episodes of fusing with the environment occur in both conditions, the psychotic character differs from the schizophrenic in that the psychotic character "is fully aware of the difference between himself and the environment" (Stone, p. 269).

Frosch described disturbances in these patients' *sensation and feeling of reality* as mild feelings of unreality or depersonalization. Once again however, in contrast to the psychotic and characteristic of the disturbances in perception described above, Frosch observed in these patients "a tendency toward rapid reversibility" (Stone, p. 268). Most important for Frosch regarding this relative transience and tendency toward reversibility was his belief that these patients' relationship to reality and feelings of reality are facilitated by their *capacity to test reality.* Frosch described this capacity as "the ability to arrive at a logical conclusion from a series of observable phenomena" (Stone, 269). He contended if a patient cannot arrive at such a conclusion when presented with objective data, their capacity to test reality is impaired. Frosch advised that not only must an attempt be made to determine whether the patient is experiencing a distortion in perception, but also an assessment of the patient's evaluation of these distortions following a presentation of objective reality must be made. Such an assessment is necessary because should the patient recognize that his hallucination or distortion is internally driven, his capacity to test reality, although tenuous, is still intact. He stated:

> This is what characterizes the psychotic character disorder in contrast to the psychotic, insofar as reality testing is concerned. Insofar as the ego's position concerning reality is concerned, we find, just as in psychosis, impairment in the relationship to reality, in the feeling of reality, and in the capacity to test reality. But in contrast to psychosis, the impairment is predominantly in the first two areas with relatively less involvement in the third (Stone, p. 270).

Thus, according to Frosch, an individual may show severe disturbances in the ego's position and function toward reality yet still not be psychotic. The crucial variable differentiating the psychotic character from the psychotic being the ego's capacity to test reality and reverse the development of perceptual distortions.

Although presented here as one of three "early" contributors to the understanding of borderline pathology, Kernberg's (1967, 1975) idea of levels of organization in personality is one of the most important contributions to contemporary psychodynamic conceptions (Millon et al., 2004). His idea of a "borderline level of organization" draws attention to a quality of integration of intrapsychic elements that is stable over time, yet exists midway between neurosis and psychosis.

Kernberg agrees with Stern's conviction that the term borderline "should be reserved for those patients presenting a chronic characterological organization *which is neither typically neurotic nor typically psychotic*" (Stone, p.281 [italics added]). He also stresses, as did Stern and Frosch, that these patients occupy a relatively stable area between neurosis and psychosis. However, Kernberg expanded considerably upon these and other writer's descriptions and formulations of the disorder with his conception that the borderline patient presents a "specific and stable form of pathological ego structure" characterized by the following features and pathological constellations: (1) typical symptomatic constellations; (2) a typical constellation of defensive operations; (3) typical pathology of internalized object relations; and (4) characteristic genetic-dynamic features (Stone, p. 281).

In his outline of the typical symptomatic constellations of borderline psychopathology, Kernberg lists six typical neurotic symptoms or clusters of neurotic symptoms which he has observed in these patients. These six presumptive diagnostic elements include: 1) chronic, free-floating anxiety; 2) polysymptomatic neurosis such as multiple phobias, obsessive-compulsive symptoms, conversion

symptoms, dissociative reactions, and hypochondriasis and/or paranoid personality trends; 3) polymorphous perverse sexual trends; 4) prepsychotic personality structures; 5) impulsive neurosis and addictions, and; 6) “lower level” character pathology.

Kernberg describes the main difference between “higher level” and “lower level” character pathology as the degree to which each of these types of character structures are predominated by repression or splitting mechanisms, respectively. Thus he sees hysterical or obsessive-compulsive personalities as higher level character structures due to their extensive use of the defense mechanism of repression, in contrast to infantile and narcissistic personalities which he considers to be lower level character structures because of their reliance on splitting. More specifically, for Kernberg, the narcissistic borderline personality organization – as it is the character structure most characterized by splitting mechanisms – represents the lowest level of character disorders. The infantile borderline personality organization on the other hand represents more of a middle range along this continuum, characterized by a mixture of repressive and splitting defenses, hence, only at certain times reaching into the borderline realm of character pathology.

Kernberg describes the narcissistic-borderline personality as one who demonstrates a great need to be loved and admired by others. They envy others, but experience little or no empathy for the feelings of others. They tend to idealize those from whom they expect narcissistic supplies, and depreciate those from whom they expect nothing further. Their feeling that they have a right to control and possess others for the gratification of their own needs colors the quality of their relationships

as exploitative and parasitic. Kernberg believes these patients' tendency toward manipulation and exploitation of others is primarily defensive. He writes:

> Analytic exploration very often demonstrates that their haughty, grandiose, and controlling behavior is a defense against paranoid traits related to the projection of oral rage, which is central in their psychopathology (Stone, p. 292).

Kernberg contends that although narcissistic-borderline patients appear "dependent" on others because of their exorbitant needs for tribute, he notes their inability to truly depend on anyone because their deep distrust and depreciation of others prevents them from depending on good internalized objects. Therefore, the tendency toward idealization develops in these patients from their felt lack of good internal object images. Thus, on the one hand they idealize others in order to acquire what is felt to be desperately needed, while on the other hand their grandiosity serves a defensive function of a need for protection against their own oral rage that has been projected onto the now devalued object when what was felt to be needed was denied.

In his discussion on the specific defensive operations of the ego at the borderline level of personality organization, Kernberg cites a variety of primitive defenses, but notes the importance of splitting mechanisms to the progressive development and persistence of the disorder. In contrast to Stern's contention that narcissism is the basic underlying character component of borderline psychopathology, Kernberg argues that it is the defense mechanism of splitting which is chiefly responsible for the formation of other primitive defenses (i.e., denial, primitive idealization, devaluation, projection and projective identification, etc.), and hence the pathological symptom picture which consequently develops. By the term "splitting," Kernberg refers to the active defensive process of keeping introjections and identifications of opposite quality separate. He writes:

> ...splitting protects the ego from conflicts by means of the dissociation of active maintaining apart of introjections and identifications of strongly conflictual nature, namely those libidinally determined from those aggressively determined, without regard to consciousness. (Stone, pp. 299-300).

Kernberg explains that early on during development, introjections and identifications are built-up separately into "good" and "bad" internal objects because of the lack of integrative capacity of the emerging ego. As development proceeds the ego maintains this division to prevent the generalization of anxiety and to protect those introjections and identifications established under the influence of libidinal drive derivatives. Thus splitting is normally used defensively during the first year of life, but is soon replaced by higher level defensive operations such as repression or reaction-formation which protect the ego from intrapsychic conflicts by rejecting drive derivatives and/or their ideational representations from consciousness. For Kernberg, normal development in this sense, in terms of the replacement of lower level defenses with higher level ones, is precisely what does not occur in psychosis and to a significant degree in the borderline personality.

Regarding the primitive defense mechanism of projection, Kernberg agrees with Stern's observation that the borderline patient's strong reliance on projective mechanisms results in the perception of a hostile attitude of the environment toward him. However, Kernberg sees the main purpose of projection here as the need to "externalize the all-bad, aggressive self and object images." The main consequence of this defense – the development of dangerous, retaliatory objects – produces the much more desperate need for another form of projective defense, projective identification, which Kernberg defines as the need "to control the object in order to

prevent it from attacking them under the influence of the (projected) aggressive impulses" (Stone, p.304).

Kernberg describes the borderline's defensive mechanisms of omnipotence and devaluation as a two stage defensive process, both stages representing their identification with an "all good" object as protection against "all bad," persecutory objects. He explains that the patient's use of these two defense mechanisms may be seen in their not so subtle shifts "between the need to establish a demanding, clinging relationship to an idealized "magic" object at some times, and fantasies and behavior betraying a deep feeling of magical omnipotence of their own at other times" (Stone, p. 306). In contrast to Stern's view that these patients' intense feelings of insecurity, self-criticism and inferiority underlies their narcissism, Kernberg believes: "Underneath the feelings of insecurity, self-criticism, and inferiority that patients with borderline personality organization present, one can frequently find grandiose and omnipotent trends" (Stone, p. 306). Therefore, although these patients may devaluate others as a "revengeful destruction" of the object which frustrated their needs, or in order to prevent them from becoming "feared and hated persecutors," Kernberg sees the borderline's devaluations of external objects primarily as "a corollary" of their deep-seated underlying feelings of omnipotence.

Most importantly, Kernberg believes that a crucial difference between psychotic, borderline, and normal personalities may be found in the quality of their internalized object relationships. He asserts that in order for the normal internalization of object relationships to take place, the emerging ego must first differentiate self images from object images, and second, integrate these self and

object images built-up under the influence of libidinal drive derivatives with their corresponding self and object images built-up under the influence of aggressive drive derivatives. He contends these two processes fail in the case of psychosis and to some extent in the case of borderline pathology. Excessive gratification or excessive frustration of early instinctual needs contributes significantly to the failure of this first process. Although excessive gratification of early instinctual needs may retard the differentiation of self from objects, Kernberg feels it is more likely the excessive frustration of such needs which is the main cause of the lack of differentiation of self from objects…

> …because *excessive frustration reinforces the normal disposition to regressive refusion of self and object images,* representing the early merging fantasies between self and object in an attempt to retain or regain absolute gratification (Stone, p. 301 [italics included in text]).

Thus for Kernberg, self and object images must be relatively well differentiated from each other in order for emotional functioning to be stable. He argues that due primarily to an excessive frustration of early instinctual needs, or a constitutionally determined excessive development of aggressive drives, *"Vicious circles involving projection of aggression and reintrojection of aggressively determined objects and self images* are probably a major factor in the development of both psychosis and borderline personality organization" (Stone, p. 301 [italics included in text]). Kernberg's hypotheses on how these vicious circles tend to play out in psychosis and borderline pathology differs dramatically however, he writes:

> In the psychoses their main effect is regressive refusion of self and object images; in the case of borderline personality organization, what predominates is not refusion of self and object images, but *an intensification and pathological fixation of splitting processes.* (Stone, p. 301 [italics included in text]).

Therefore, the transient psychotic episodes that develop in these patients when they are under severe stress or under the influence of alcohol or drugs are due to an intense exacerbation of splitting mechanisms rather than the de-differentiation of self and object images characteristic of psychosis. Interestingly, Kernberg's assertion that "the typical borderline patient maintains to a major degree intact ego boundaries, and the related capacity for reality testing" (Stone, p. 302), strongly suggests that Frosch's notions concerning the transience and reversibility of the borderline's psychotic episodes holds true as due to triggered occurrences and discontinuations of splitting processes. Such transient psychoses are clearly less severe pathological conditions, and therefore more easily reversed than the total collapses of self and object boundaries, which occur in the psychotic disorders.

Stern, Frosch, and Kernberg believe that the borderline could suffer a de-differentiation of self and object images, and hence a psychotic episode. This is apparent in Frosch's agreement with Searles' "diffusion of ego boundaries," in Stern's loss of "positive protection" and in Kernberg's allusion to the presence in borderline personalities of the same "pathogenic factors" which lead to the development of psychosis in psychotics (Stone, p. 302). Nevertheless, all three theorists assert their belief in the transience and reversibility of these experiences in borderline patients – Stern in his recommendation of supportive therapy to reverse or reduce the potential for psychotic experiences, Frosch in his contention that these patients have the ability to recapture the capacity to test reality when presented with objective data, and Kernberg in his contention that intensifications in splitting

processes not regressive refusions of self and object images predominate in borderline personality disorder.

Recent Studies on the Transient Psychotic Experiences of BPD

Lotterman (1985) reviewed the literature concerning the phenomenology and duration of psychosis in borderline patients and presented empirical findings regarding this issue in a sample of eight borderline personality disordered women with psychosis. This author noted how little work had been done up to this point in time to establish predictable durations of transient psychotic episodes, but indicated that the clinical consensus has been that such episodes last less than two weeks. Lotterman contended the patients in his study experienced psychotic symptoms lasting between three weeks and four months. He found their psychotic and dissociative episodes to be characterized by hysterical features and visual disturbances. He also found experiences of sexual abuse trauma in the early social histories of these patients.

In an attempt to answer the frequently asked question of whether or not psychotic symptoms are part of the fundamental psychopathology of borderline personality disorder (BPD), Miller, Abrams, Dulit, and Fyer (1993) examined the incidence and nature of psychotic symptoms in a sample of patients with the disorder. These authors reviewed the inpatient psychiatric records of 92 patients with a discharge diagnosis of BPD, with some of whom diagnosed with comorbid affective or substance abuse disorders. Patients were examined to identify a general sense of the clinical characteristics of these patients, and to obtain data on the

presence of psychotic symptoms (e.g., delusions, auditory and visual hallucinations) and the duration of psychotic episodes. Miller et al. (1993) found 27% of patients in the study had psychotic episodes, typically lasting many weeks. Interestingly, comorbid affective or substance abuse disorders did not predict the occurrence of psychotic symptoms. It was therefore concluded that psychotic episodes are common but not universal among patients with BPD, regardless of whether a concurrent Axis I disorder is also present. Also, those psychotic episodes that did occur were not necessarily brief or transient, and borderline patients who experienced such episodes were more likely to have repeated psychiatric hospitalizations.

Also interested in the overlap in definition and presentation between borderline personality disorder (BPD) and other disorders, Heffernan and Cloitre (2000) compared the disorder with the symptoms and clinical picture of patients with posttraumatic stress disorder (PTSD) in terms of the questions raised over the years about the relationship of these two disorders. These authors asked are they separate disorders, variants of the same disorder, or comorbid conditions. In their study, Heffernan and Cloitre examined etiological variables and current functioning among two groups of outpatient women with a history of childhood sexual abuse in those with PTSD only and in those with PTSD and BPD. The groups did not differ in severity, frequency, or number of perpetrators of their sexual abuse experiences, or in whether the perpetrator was a family member or not. The authors found that the additional diagnosis of BPD was associated with earlier age of abuse onset and significantly higher rates of physical and verbal abuse by the subject's mother.

Heffernan and Cloitre (2000) noted that the PTSD and BPD group scored higher on clinical measures of anger, dissociation, anxiety, and interpersonal problems and tended to be less compliant in their treatment, but found the severity and frequency of PTSD symptoms were not influenced by a diagnosis of BPD, suggesting that personality disorder and PTSD are independent symptom constructs.

To clarify the nature of the delusional and hallucinatory symptoms present at times in BPD, Suzuki, Tsukamoto, Nakano, Aoki, and Kuroda (1998) investigated these symptoms in five patients with BPD and discussed their duration, recurrence, types of variants, and relation to their current situation. The authors found the duration of these symptoms tended to vary widely, although 6 of 11 episodes lasted more than 7 days. Psychotic episodes tended to recur in all patients two to three times. In terms of the symptom variations displayed, each episode could be classified into three types of psychotic experiences, such as delusions without hallucinations, complicated delusion and hallucination, and hallucinations without delusions. Delusions without hallucinations occurred four times in two patients, and had a tendency to occur as the patient confronted personal adversities. These patients tended to project their feelings and insecurities onto the person concerned. Complicated delusions with hallucinations were observed three times in two patients. This type of symptom also tended to occur at a time the patient was struggling with interpersonal problems, but here the patient's attitude was more passive. Hallucinations without delusions occurred four times in three patients. In contrast to the precipitating events observed in the other two variations on the psychotic episodes experienced, this symptom tended to occur when the patient was avoiding

interpersonal relationships. In this case the patients isolated themselves from others and withdrew.

Lastly, in a very recent study, Yee, Korner, McSwiggan, Meares, and Stevenson (2005) examined 10 patients with a diagnosis of BPD presenting with auditory hallucinosis. Patients reported their hallucinations were persistent, longstanding, and a significant source of stress and disability in their lives. Yee et al. (2005) extrapolated these 10 case examples from a much larger sample of 171 patients with a diagnosis of BPD and suggested that a form of auditory hallucinosis may occur in almost 30% of this population. They noted the use of such terms as pseudo-hallucination or quasi-hallucination dismisses the phenomenon as unimportant or "not real," and thus the failure to emphasize this phenomenon in current systems of classification risks misdiagnosis and/or inappropriate treatment. In concluding the authors proposed a nomenclature for hallucinosis expressed in positive terms: (1) normative hallucinosis (e.g. hypnagogic and hypnopompic hallucinatory images), (2) traumatic-intrusive hallucinosis (e.g. representing type of hallucinations in transient psychosis), (3) psychotic hallucinosis, and (4) organic hallucinosis.

CHAPTER 4

CASE STUDIES

The following case presentations are of two adult patients attending outpatient psychotherapy and psychiatric treatment at a community mental health clinic in lower Westchester County, New York State. Case I (Mrs. R.) has a very long personal psychiatric history dating back to her childhood years. She began being seen at the clinic following her son's treatment there and subsequent transfer from this setting to a local day-treatment school/psychiatric program. Case II (Ms. T.) did not begin receiving mental health services until adulthood. Both patients have different DSM diagnoses and very different clinical presentations. Both reported experiencing hallucinations.

Clinical Vignettes

Case I

Mrs. R.

Identifying Data

Mrs. R. is the mother of a child who attended the clinic for about 3 years. Upon intake her son had presented as Attention-Deficit/Hyperactivity Disordered (ADHD) and Oppositional Defiant. He was 6 years old when his treatment began. His symptoms and behavioral difficulties were severe and he was immediately

classified as Seriously Emotionally Disturbed (SED). Over the course of treatment he displayed only short periods of improved behavioral and emotional functioning, eventually presenting with a multitude of additional problems and difficulties (e.g., anxiety, mood swings, and aggressive thoughts and behaviors). He was recommended for placement at a school based clinical treatment program in his community because much of his more serious behavioral problems occurred while in his school environment He is now being treated for early-onset Bipolar Disorder.

Toward the end of her son's treatment at the clinic Mrs. R. began talking about beginning her own treatment, but she did not follow through at that time. Her father passed away shortly thereafter and she then reported wanting to begin her own therapy because of struggling with an intensification of already present depression, anger, and mood swings. Mrs. R. also reported an increase in relational difficulties with her husband and in handling her children's behaviors (she and her husband also have a four year old daughter). She reported experiencing very little tolerance for frustration when disciplining her children and confided frequent thoughts of hitting them. Sometimes she impulsively followed through on these thoughts but afterward worried that she "will end up hurting them." Mrs. R. was 28 years old at the time of intake.

Relevant Background History

Mrs. R has a long history of emotional problems and psychiatric placements. She is the middle child between two sisters. Her parents separated when she was 4 years old. Mrs. R. remembers her mother "kicked her father out in the middle of the

night" because she'd "caught him cheating." She recalled being so enraged with her mother that night that she bit her mother, stating she'd removed a chunk of skin from her arm. After the separation her father visited her and her sisters every Sunday, but as time passed his visits became sporadic. Before her father became very ill she had not seen him for several years. She was able to visit him in the months before his death, but she reports feeling "guilty" about not having visited him more often.

Mrs. R. reported after her mother and father divorced, her mother began bringing different boyfriends into the home. During this time she witnessed her mother using drugs and alcohol frequently throughout her childhood. Feeling angry, depressed, and neglected, as a young child she remembered banging her head, pulling out chunks of her own hair, and scratching herself to the point of bleeding. At 8 years old she remembers being kicked in the ribs by her mother, beaten with belts, and being chased by her mother with a wooden spoon. While at home she would use sleep as a way to escape her troubles. She began to present with severe behavioral problems at school, and was placed in a day treatment school program to address and manage her difficult behaviors. Ironically this was the same school day treatment program her son now attends. Mrs. R. recalled that at about 7 or 8 years of age a neighborhood female adolescent who was regularly asked to baby sit her and her younger sister, also regularly played a "game" with them that involved inappropriate touching. She was unable to recall how the game was played but remembers it usually included this adolescent touching them in ways that "felt bad." Mrs. R. reported between the age of 10 and 12 she began stealing her mother's drugs

and using them to numb her depressions and experiences of disorganization. She took "Black Beauties" (amphetamines) and smoked marijuana.

At 12 years old Mrs. R. was admitted as an inpatient to a well known children's psychiatric hospital. She recalls being treated there with Tegretol and other anticonvulsant medications used for their anti-manic, mood stabilizing effects. Mrs. R. reports her inpatient hospital experience was very disturbing for her. She claimed she was never told by her mother about this placement decision; she was only told she was going to camp. She reports upon arrival she became extremely oppositional, and as a result was locked in isolation, sedated, and woke up there hours later in her own vomit. She remained there as an inpatient for over a year before her discharge to an adolescent psychiatric residence. As an adolescent, however, she continued to smoke marijuana, began satanic worship, and attempted suicide twice by hanging herself with stockings tied together and thrown over beams in her room. She remained in an adolescent psychiatric residence for 3 ½ years. She met and began dating her husband at this residence.

After her discharge from this residence she took herself off all her psychiatric medications without her psychiatrist's approval. She attended high school in her community where she continued to smoke marijuana and use other drugs. She became pregnant while dating her husband (they were not yet married) but had an abortion because tests revealed deformity of the fetus likely due to her drug use. Mrs. R reports she continues to feel grief and loss of this child. She broke off the relationship with her husband after the abortion, became more depressed, and gained a great deal of weight. She was admitted soon thereafter to an adult inpatient unit at

a local psychiatric hospital after cutting her arms in response to her grief over the abortion. Mrs. R. reports she continued to cut herself whenever she felt overwhelmed, and that her self-cutting "was a way for her to scream."

While living at home after her abortion, Mrs. R. got into a serious physical altercation with her mother's husband that ended in her fighting him off with a knife. She was taken to a major psychiatric hospital in the area and treated there for two months. She was diagnosed with Bipolar Disorder, prescribed Lithium, and provided with extensive therapy while there. She continued an on-again, off-again relationship with her husband and became pregnant a second time. While pregnant, Mrs. R. engaged in a very serious self-cutting injury for which she had to be re-hospitalized. She reported some of her husband's friends had been "bad-mouthing" her to him and in her frustration she cut herself to "end the humiliation," but also to "scare" her husband into dropping these friends. This time, however, she carried her pregnancy full-term and gave birth to her son. Mr. and Mrs. R. married 4 years later.

Diagnosis and Course of Treatment

At intake Mrs. R. reported symptoms of mood swings, difficulties with anger, depression, and low tolerance for frustration as her chief complaints. She was initially given the diagnoses "Adjustment Disorder with Mixed Emotional Features" and "Depressive Disorder, NOS" because it was hypothesized that her psychiatric difficulties were primarily a need for a period of adjustment in terms of more time needed for processing the loss of her father. It was clear that depression was present because of her sadness over losing her father, but also the distress she was

experiencing over feeling guilty that she had not visited him more before his passing. The diagnosis of bipolar disorder was considered, but was not given at this time because she had not yet indicated experiencing a manic phase, which is an essential criterion required for this diagnosis.

Treatment began with helping Mrs. R. to deal with and resolve her issues revolving around the death of her father. She reported feeling angry, depressed, and guilty. An extended bereavement period was necessary to assist her through these difficulties. She also used these initial sessions to discuss and work through issues with her husband and children, which at times overwhelmed her in terms of triggering problems with anger and mood instability. Several months after initiating treatment, Mrs. R. attended a psychiatric evaluation and was prescribed Eskalith (Lithium) and Abilify to assist with her reports provided at this time of "constant mood swings" in terms of switching from feeling happy with bursts of energy to feeling miserable and angry. In this evaluation the psychiatrist's impressions were bipolar disorder, depression, and borderline personality disorder. As a result of this evaluation Mrs. R.'s Axis I diagnosis was changed from adjustment disorder to bipolar disorder. Borderline personality disorder was also diagnosed.

Over the course of the next few months Mrs. R. took her medications so inconsistently that they were not effective. She then abruptly stopped taking her medications, as she'd done years ago as an adolescent, without first consulting with her therapist and psychiatrist. In sessions she complained about the "side-effects" of her medications, i.e., excessive appetite and weight gain, diarrhea, headaches, but most importantly for her, they took away her "manicky" behaviors (which she

reported liking), and often indicated this last reason was the deciding factor for her in no longer wanting to continue her pharmacological treatments. Despite her complaints about her medications, however, she was again more easily angered and vulnerable to depression and mood swings without medication. Just three weeks following her decision to stop her medications she reported feeling more angry and intolerant "of the ignorance all around her." Two weeks later she made manipulative-like threats of self-injury to her husband. She reported telling him if he "doesn't change his bad habits of sleeping too much and not helping around the house," she would harm herself. She also reported experiencing hallucinations, visual, auditory, and on at least one occasion tactile hallucinations, in the weeks and months after discontinuing her medications.

Since the initiation of her treatment, Mrs. R. demonstrated significant difficulties maintaining a consistent attendance record. Treatment lasted almost 1½ years, and she missed more scheduled sessions than she'd attended. Treatment was eventually terminated for precisely this reason. She was not attending scheduled sessions on a regular basis and when she was warned that treatment could be terminated, she did not express an interest in continuing. At the time of this case history recording Mrs. R. has reestablished contact with me at the clinic and has requested a return to treatment after not hearing from her for about five months. She reported at this time that she has been much more depressed and in even less control over her anger. She has been told that she may return under the condition that she attend scheduled sessions more regularly.

Hallucinatory Experiences

Mrs. R. first reported experiencing hallucinatory phenomena when with her psychiatrist in their initial meeting. She admitted first having auditory hallucinations in the past when she was about 13 years old, and confided currently experiencing them in her home late at night in the form of a voice "whispering" behind her head. I began talking with Mrs. R. about these experiences in her individual sessions after this initial report. She denied experiencing command auditory hallucinations and indicated that she did not fear she would hurt herself or others due to these experiences. We talked about and explored instances earlier that day or during that week wherein she had become very angry, even enraged, at a friend or some extended family member, or with her husband or one of her children. We talked about how sometimes such intense anger can be very disorganizing.

In a subsequent session with her psychiatrist Mrs. R. reported more unusual perceptual experiences. These included seeing a shadow move briefly out of the corner of her eye, feeling a hand touch her shoulder, and hearing her name being called or hearing whispering (indecipherable) behind her as she would wash dishes alone in her kitchen. Mrs. R. told her psychiatrist that these experiences and voices do not frighten her and are not troubling to her. She explained that she sees these phenomena as "spiritual" experiences, and indicated her belief that they come from "past loved ones who have died." Mrs. R.'s psychiatrist viewed these experiences to be consistent with her religious beliefs and practices, and therefore though deserving to be monitored, were not serious enough to deserve immediate attention in treatment

as they were not causing impaired functioning and were not resulting in dangerous behaviors. Along these lines, Mrs. R. described her voices as gentle and supportive. For example, in one session she reported that when she has heard her name called it sounds to her like the voice of an older woman, "possibly a grandmother," she explained, and that she found the tone of this voice was quite comforting.

However, in other sessions Mrs. R. conveyed the sense that she was indeed very concerned, even troubled about these experiences. She reported that when going to sleep she would routinely wrap herself, especially her legs, in her blanket because she feared something "reaching out from under her bed to touch her." Also, as she talked about hearing voices she would often fluctuate between holding onto a grandiose view that on the one hand she is uniquely capable of dialogue with the spirit world, while on the other hand feeling alone and frightened in her living room late at night as her family was already asleep and she found herself unable to make the voices stop "whispering." We talked about the possibility that these symptoms and difficulties could be reduced by beginning her medications again, but she was adamant that her intense and sometimes overwhelming emotions and perceptions had nothing to do with her decision to stop taking her medications. She refused to schedule a psychiatric appointment to discuss the matter further. Treatment continued without the benefit of psychopharmacological interventions.

Case II

<u>Ms. T.</u>

<u>Identifying Data</u>

Ms. T was referred for outpatient treatment by her welfare-to-work program caseworker who had observed her significant struggles to maintain stable emotional functioning in her day-to-day interactions with other workers and with her children. Although relatively recently assigned as my patient, she was already attending weekly psychotherapy sessions for just over 1 year with a previous therapist, and had received less formalized counseling prior to this within her program.

Ms. T. was 32 years old at the time of intake with her first therapist. In this initial interview she reported having an extremely difficult time emotionally for the past four years, but felt that she "could handle it until now." She confided feeling increasingly afraid to be around others, explaining, "I don't want people looking at me." While on public transportation or walking down a busy sidewalk in her community, she reported feeling closed in as if locked in a closet, experiencing difficulty breathing, and breaking out in a cold sweat. Throughout her first year of treatment she opted to not leave her home to avoid these reactions, and reported that when leaving to attend scheduled appointments or to go shopping she felt physically sick. Her presentation was often sad and tearful. Recently, treatment has helped to alleviate some of these difficulties, but in short, Ms. T. presented with difficulties with anxiety, panic attacks, insomnia, depression, and paranoid ideation. She reports a long history of suffering physical and sexual abuse and domestic violence.

Relevant Background History

Ms. T. was born in Boston, Massachusetts. She is the younger of two children. Her mother and father were married and lived together. Her father was originally from Portugal and her mother from Trinidad. Much older than her mother, her father was 42 years old and her mother 19 when they began their relationship. Ms. T.'s father died of heart failure when she was 4 years old. Her father allegedly had many women in his life he called "wives." Her mother reportedly hated her father because of his behavior. Ms. T. reports having no recollection of him. At age 37 her mother died suddenly, also of heart failure.

Much of what Ms. T. knows about her very early childhood was told to her years later by extended family members. When she was a year old, she was taken to Trinidad to be raised by her maternal grandmother. She remembers being told there that her mother had spoken aloud in the presence of family members about wanting to throw her out of a window because she was crying too much. She was also told that her mother did not want her because of her dark complexion.

Ms. T. described being raised by a loving maternal grandmother and experiencing a happy early childhood in Trinidad. However, when she was about 7 or 8 years old her mother came to Trinidad to take her back to the U.S. despite objections from her grandmother and herself. Her return to the U.S. marked the beginning of several years of continuous neglect and physical and sexual abuse traumas while in her mother's care. In her intake and initial psychiatric interviews, Ms. T. reported her mother totally rejected her, making her sleep on the floor and

locking her in a closet, calling her "nigga," beating her with belts, burning her on her face with an iron, and sexually molesting her by periodically inserting her finger into her vagina to "check" that she was "still an virgin."

Throughout her treatment at the clinic with her first therapist, Ms. T. never confided the extent of the sexual abuse she suffered while in her mother's care. About two months into our treatment together however, she confided that her older brother, under constant threats of physical violence and at times carrying out these threats, sexually abused her on an ongoing basis for about eight consecutive years.

As the abuse by her brother continued, Ms. T. reports at the age of 9 a neighbor rubbed his penis against her from behind, at 14 the step-father of a cousin tried to kiss her, and she remembers her mother taking pictures of her after dressing her in seductive clothing so that her mother could show these pictures to friends. When Ms. T. was beginning high school her mother forced her to drop out of school to help care for a sick relative. She was never allowed to return to school. She cleaned the house and cooked the meals. Ms. T. regrets never finding out why her mother was so abusive toward her. She believes her mother mistreated her because she resembled her father.

Ms. T. met the father of her children when she was sixteen years old. When she became pregnant with their first child soon thereafter, her mother forced her to leave her home. She remembered feeling happy and relieved after leaving, but her relationship with her boyfriend quickly became violent after the birth of her daughter and worsened after her son was born two years later. Her children's father used hard drugs and alcohol heavily, and would use the family's finances or sell the children's

belongings to support his habits. She reports he was once an amateur boxer and would use her "as his punching bag" when she defended the family's finances.

The relationship ended less than 5 years after it started. Ms. T. recalled the last time he'd assaulted her. She was on the floor and he had his hands around her neck choking her in one of his drug and alcohol induced rages. She looked up and saw her two young children standing by the door watching and crying. She immediately knew she had to leave. The next day she quickly packed a small bag while he was out, and entered a domestic violence shelter with her children. Ms. T. has a third child, a girl, fathered by another man, but this child resides with her father.

Ms. T. reports her extended family members know about the abusive way in which her mother treated her. They do not know about the years of physical and sexual abuse her brother perpetrated against her. When they see her struggling emotionally to cope, they tell her she should just "get over it." Ms. T. has only worked about a total of three years her entire adult life. She worked as a security officer, a position initiated through her public assistance return to work program. At present she is unable to work due to feeling overwhelmed and incapacitated by her symptoms and problems.

Diagnosis and Course of Treatment

Upon intake with her previous therapist Ms. T. was given the diagnosis of Panic Disorder with Agoraphobia. At this time she reported already suffering with many of the panic attack symptoms of the disorder for several years, i.e., shortness of

breath, heart palpitations, sweating, nausea, etc. In addition, she reported experiencing overwhelming fear of being in places or situations wherein she would be unable to immediately leave in the event of an attack. These symptoms persisted several months into her treatment and so a psychiatric evaluation was requested. She agreed to attend this evaluation and to consider medication to help her with these problems.

Ms. T. reported the following complaints in her initial psychiatric consultation.[4] First and foremost, fear of leaving her apartment. She often has panic attacks including many of the above noted symptoms and difficulties when preparing or simply planning to leave her home. She is fearful of riding the bus or sitting in waiting rooms because she believes people are looking at her and thinking negative things about her. Sometimes she feels people are staring at the multiple scars she has on her arms, both as a result of the physical abuse she suffered during her childhood and scars she admitted inflicting upon herself through "scratching" (superficial cutting) herself to terminate feelings of psychic numbness. She has trouble falling asleep at night and remaining asleep for fear that someone will try to break in to her home and harm her and her children. She reports hearing "whispers" at night that scare her. She overeats to quell her anxiety and as a consequence of this behavior is obese. She reports sometimes experiencing flashbacks to periods in her life when she was abused. These episodes intrude on her when she spends time with her children, or interferes with her attempts to attend to other activities. She denied

[4] Only some of these difficulties continue at present. In recent months Ms. T. has made excellent progress in treatment in terms of decreased symptom severity. These improvements were noted after she began attending sessions more regularly and reporting taking her psychiatric medications consistently.

suicidal thoughts or wishes at this time, and denied ever using drugs or alcohol. Psychiatrist's diagnostic impression was chronic Post Traumatic Stress Disorder and Panic Disorder with Agoraphobia. Ms. T. was prescribed the antipsychotic Risperdal and the antidepressant Celexa.

In the year following this initial psychiatric exam Ms. T. attended sessions with her previous therapist sporadically. At least a third of scheduled psychotherapy sessions were missed. Psychiatric sessions scheduled on a monthly basis were frequently missed too. About six months into this first year of treatment Ms. T. attended a psychiatric session and confided that she was not taking her medications because she "wants to stay awake." Apparently, her Risperdal medication, in addition to decreasing her symptoms of paranoia, had been assisting in helping her to fall asleep at an appropriate time at night, but falling asleep was overwhelmingly frightening for her because she was more afraid of someone breaking into her apartment than she was concerned about not getting enough sleep. She began "booby-trapping" her windows to make loud sounds if someone tried to break in, and continued setting up such traps despite never experiencing a break-in attempt. In consultation with her psychiatrist she discussed the negative impact of lack of sleep on her body and thought processes and agreed to take her medications consistently.

However, about four months later she admitted not taking her medications again. This time Ms. T. confided a worsening of symptoms. She reported an increase in flashbacks of abuses by her mother, feeling very paranoid when necessary to leave her apartment, and a "fascination" with tweezers, in that she would more easily fall asleep when using tweezers to gently pick at her face. These

symptoms and inconsistencies in attending sessions and taking her medications continued throughout the next few months. Finally, her psychiatrist confronted her about not taking her medications and discontinued the medications prescribed. After a brief period without medication she was prescribed Seroquel and Prozac, alternate forms of the antipsychotic and antidepressant medications prescribed previously. In this meeting with her psychiatrist, Ms. T. again agreed to take her medications regularly.

Interestingly, about this time session documentation indicated that Ms. T. spoke aloud about feeling angry for the first time. She spoke of feeling angry with her brother, whom she has just learned had not informed her of the death of her grandmother in Trinidad. She was very angry because this was the grandmother who raised her and whom she loved dearly. This report by her on her anger is noteworthy because in the weeks following this session Ms. T. told her psychiatrist that although she continued to feel sad and angry at times, she was no longer hearing the "whispers" she often heard at night. It is not clear if beginning her new medication regiment was a primary factor in decreasing her psychotic symptoms, or if assistance in sessions in helping her to verbalize and work through some of her anger at her brother was the more significant contributor to the noted decrease in this symptom, or if both together made the difference.

I began working with Ms. T. in the weeks following this change in her medication, about 15 months into her treatment at the clinic. In our first session together she spoke of her life and her long history of trauma. As she recounted some of these events she recalled that her brother had recently tried to become sexual with

her during a visit to her home. She cried as she spoke of the incident. She indicated her brother eventually left without hurting her or using force with his sexual advances but stated his behavior "brought back memories" of prior abuses. In subsequent sessions Ms. T. confided "feeling stuck" on "repeating" and "rehashing" abuses by her mother, brother, and her children's father.

In a session about six weeks later, after reporting on another argument with her brother, Ms. T. said she "had to tell me something." She confided that when her mother brought her to the U.S. from Trinidad her older brother, in his pre-adolescent years at this time, began sexually abusing her on an ongoing basis. She reports being no more than about 8 years old at this time. She indicated that this was the first time she'd ever told anyone this. Her level of distress as she spoke was clear. She struggled to maintain eye contact and spoke so softly she was difficult to hear. She stated these sexual abuses occurred under the constant threat of physical violence by her brother and that they continued into her own adolescent years. In the very next session following her disclosure, she reported an overwhelming sense of "relief." The main focus of treatment for Ms. T. immediately became, at this point, to assist her in processing these events, including helping her to verbalize her anger at her brother for perpetrating his horrific acts, her anger and confusion with her mother for either not seeing it or ignoring it, and helping her in working through her intensely painful feelings of shame stemming from this abuse.

As already mentioned this treatment is ongoing at present. Ms. T. continues to attend weekly psychotherapy and monthly psychiatric consultations. A decrease in the severity of her symptoms has been attained. However, in the 5 to 6 months

following her disclosure of abuse by her brother she continued to miss sessions and either discontinued taking her medications, or took them so inconsistently they were ineffective in allaying her anxiety and depression or in terminating her auditory hallucinations. She also continued to struggle with panic attacks and paranoia when necessary to leave her home.

Hallucinatory Experiences

Ms. T. first reported experiencing auditory hallucinations during her initial psychiatric evaluation when she confided hearing "whispers" at night that "frighten her." Session documentation does not mention if the content and other descriptive aspects of her hallucinatory experiences were further explored. She was prescribed an anti-psychotic medication to treat these symptoms and monitored by her psychiatrist on a monthly basis. If she reported hallucinatory experiences in subsequent psychotherapy sessions they were not noted or described by her previous therapist. Session progress notes during this time only talked about her "continuing paranoia" or that she "has been hearing fewer *noises* in her apartment in the middle of night." Experiences of hearing more "whispers" was not mentioned.

However, about two months into our treatment together, after Ms. T. confided her sexual abuse trauma and her brother again approaching her sexually in her home, she began reporting the extreme difficulty she was having each night falling asleep because of fearing break-ins into her apartment. She confided that it is at these times that she "hears voices." She indicated that the voices could best be described as indecipherable whispering, though she reported sometimes hearing her

name softly, yet clearly, called out in a man's voice. She admitted these experiences disturbed and frightened her, and that rather than listening to music aloud in her home she would often opt to listen to music by headsets to drown out the voices. In one session she admitted tolerating the voices she had been hearing for about three years and that she hadn't talked about these experiences with anyone for fear of being seen as "crazy."

We talked about the possibility of a connection between her recurring fears of someone breaking into her home and the fact that because she was routinely abused by her brother in her own home and often in her own bedroom, that these places were rarely experienced as safe, and free of anxiety and terror. We also talked about the likelihood that the softly spoken man's voice she hears is a memory of the voice of her brother calling her name in the middle of the night just prior to initiating his abuse episodes, though cutoff from her awareness because of its accompanying pain and fear. Ms. T. immediately indicated that connections like these had never been made for her before, but then easily agreed that this is because she'd never told anyone about being sexually abused by her brother, including her psychiatrist or previous therapist. It was clear she was relieved to receive explanations attempting to help her to understand and consider some ideas about her auditory hallucinations other than continuing to entertain thoughts that she was possibly "crazy."

In a subsequent session, however, Ms. T. reported her auditory hallucinations were continuing to occur. She had not attended a session in several weeks, and on this day reported experiencing symptoms and difficulties that were frightening. She confided that just a couple of days before she had a terrible nightmare of her brother

chasing her and her children with the intention of hurting them. She recalled hearing her name called out after she had awoken and was sure that she was no longer dreaming. The voice she claimed to hear was again that of a male, though the tone was no longer soft. The voice was angry and the tone was ominous. We talked again about the connection the voices likely have to her past, as they seem to most often occur when she is very emotional, either very angry as in after her brother approached her sexually in her apartment, or very frightened as in this case immediately following a nightmare in which he was threatening assault.

In a session about a month later Ms. T. began showing steady improvements in reality testing. She reported a reduction in hearing voices, and in one of these sessions she reported the voices were only in the form of whispers again. She was not hearing her name angrily called out anymore, and the frequency of the whispers had significantly decreased. We reviewed what was talked about in previous sessions that could have contributed to this positive outcome, such as a better understanding of the connection between experiencing intense emotions over memories of the sexual abuse trauma possibly triggering the onset of the voices. We also talked about the role that her own self-image or view that she has of herself may have in the experiences, in that a large part of her may continue to believe in and embrace the very negative views of herself that her brother and mother had of her. I challenged her to "let go" of these negative views her family projected onto her, and hypothesized for her that once she begins to shun these negative views and begins to see herself as the innocent victim of these abuses and the very good mother

that she has become, she will be less troubled by these painful memories and frightening experiences.

After hearing these interpretations of her symptoms and fears Ms. T once more expressed a sense of calm and relief that she is not crazy, and in our very next session about a week later reported not experiencing any auditory hallucinations. At present Ms. T. reports she is without hallucinatory experiences.

CHAPTER 5

DISCUSSION

The idea that hallucinations are not uncommon experiences among non-psychotic persons began very long ago. Descriptions of hallucinatory experiences date back to accounts from the beginnings of recorded history. Some of the earliest reports came from ancient Greece, where poets and philosophers attributed their hallucinations to divine inspiration. As mentioned earlier, Freud himself made the observation that hallucinations do not always occur within the parameters of psychotic functioning when he noted that hallucinations "occasionally occurred in the case of other patients who were certainly not psychotic" (Freud, 1940). After this, explanations of hallucinatory phenomena increasingly fell within the realm of psychiatry's notions about the severity of psychosis and psychotic functioning. Bleuler (1911), who replaced the term "dementia praecox" with "schizophrenia," did not consider hallucinations to be primary symptoms of the illness, but he did hold that certain types of hallucinations are pathognomonic for schizophrenia. And Schneider's (1959) inclusion of auditory hallucinations in his description of "first-rank symptoms" of schizophrenia, strongly supported the then currently accepted view within psychiatry that hallucinations are indicative of serious mental illness.

The notion of gradients or gradations of hallucinatory experience put forth by Freeman et al. (1966) articulates the idea that differing levels of ability to differentiate self and object boundaries directly affects how auditory hallucinatory experiences are manifested. Auditory hallucinations occurring in patients at higher

levels of functioning are more likely to involve real people known or once known to the patient. More regressed patients presenting with more compromised ability to maintain self and object boundary distinctions would experience hallucinations less anchored to real objects in their environment. These patients would tend toward the construction of a new reality substituting for their real world. Federn (1952) also distinguished between various gradations in reality contact depending on the degree of regression the patient was experiencing. He observed that while the schizophrenic engages in a false reality production, the paranoid patient suffers from a false certainty about reality.

These theoreticians and more recent researchers (Prendergast, 1988; Ruchti, 1990) have contributed valuable insights into the etiology of differences in the type and form of auditory hallucinations experienced by schizophrenics. However, this is precisely where the view presented here differs from these earlier studies. The view presented in this dissertation is that gradations in hallucinatory experience are not only seen in the most severe cases of psychopathological functioning, they are also present in patients presenting with traditionally non-psychotic diagnoses. The hallucinatory phenomena experienced by the two adult patients presented here illustrate just this.

Mrs. R.

Clinician's Opinion

Mrs. R.'s long psychiatric history dates back to her early childhood years. She was diagnosed years ago as suffering from bipolar disorder. She not only

continues to present with dramatic swings in mood from immobilizing depressions to periods of grandiose, manic activity, she reported liking her “manicky” phases. She confided feeling “more herself” at these times, and she eventually discontinued her mood stabilizing medication because she preferred feeling this way. Early placement in a day treatment school setting, subsequent placement in a psychiatric residence for emotionally disturbed adolescents, self-injurious behaviors and suicidal ideations and attempts for which several psychiatric inpatient hospitalizations were necessary, all speak to the severity of her emotional and behavioral problems and difficulties. Her early psychological and emotional development was severely compromised by the deficits and abuses in parenting and the traumatic experiences she suffered long-term.

In addition to the symptoms and difficulties of bipolar disorder, Mrs. R. presents with much of the DSM-IV (APA, 1994) criteria for borderline personality disorder. Stern (1938) would note that Mrs. R.’s background history shows all the “adverse factors” present in patients he had identified as “border line” so long ago, such as having a mother who was a neurotic or psychotic type, experiencing parental separation and divorce before reaching 7 years of age, and suffering through early parental neglect and cruelty. Among the symptom criteria reported in her history and observed in this treatment were unstable and intense interpersonal relationships, suicidal behavior or threats of suicide, self-mutilating behavior, inappropriate and intense anger or difficulty controlling her anger, and transient, stress-related psychotic episodes and dissociative symptoms. All of these symptoms and maladaptive behavioral patterns severely impaired her day-to-day functioning.

Recent contributions to the literature on bipolar disorder, posttraumatic stress disorder, and borderline personality disorder suggests that type of diagnosis matters in determining the type and form of hallucination that may occur to the person experiencing a transient psychosis. Mrs. R. reported experiencing three distinct types of hallucinations: visual, auditory, and tactile. She described once seeing a "shadow" of a human figure within her peripheral vision move quickly away from her, feeling a hand touching her lightly on her shoulder, and several times hearing indecipherable whispering and her name called out as she worked alone in her kitchen or while relaxing in her living room late at night. The combined symptomatology of her bipolar illness, her physical and sexual abuse experiences, and her ongoing and recurring difficulties controlling her bouts of intense anger toward the significant others in her life, in this writer's estimation, all contributed to her reported experiences of hallucinatory phenomena.

Regarding Mrs. R.'s bipolar disorder diagnosis, recent studies contend that the most frequently occurring psychotic symptom in bipolar illness is the grandiose delusion, not the hallucination, and that such delusions tend to primarily occur during manic episodes (Dunayevich & Keck, 2000; Pavuluri, Herbener & Sweeney, 2004). Hallucinations may occur during both phases of a bipolar disorder (Papalos & Papalos, 1999; Dunayevich & Keck, 2000), but when only the patient's diagnosis of bipolar disorder is considered their hallucinations have been found to be more often visual than auditory (Baethge et al., 2005). Therefore, Mrs. R.'s report of seeing a "shadow" of a figure move near her in her home speaks more strongly to her struggles with the severity of her bipolar disorder than from her difficulties

stemming from her other diagnoses. This visual hallucinatory experience reportedly occurred for her in the early evening as she washed dishes, and was therefore not a hypnagogic or hypnopompic hallucinatory image occurring while falling asleep or in the few semi-conscious moments during awakening, respectively.

The relationship between Mrs. R.'s visual hallucinatory experiences and her bipolar disorder diagnosis can be understood through the use of neurophysiological explanations. Mrs. R. had often reported significant difficulty sleeping or falling asleep, due for the most part to her manic episodes which kept her awake late into the night. Due to her ongoing difficulty of not getting enough sleep, sometimes for weeks at a time, she was often sleep deprived. As cited in the literature, Hartmann (West, 1975) indicated that norepinephrine (NE), a neurotransmitter identified as an inhibitory factor preventing hallucinatory experiences during clear-headed wakefulness, wears out during extended periods of sleep deprivation. Along these lines Scheibel and Scheibel (West, 1962; Keup, 1970) found reticular formation cells tend to demonstrate a "cyclical activity," and pointed to the relevance of this activity pattern to West's (1962) observation that the psychotic-like hallucinatory episodes of sleep deprived subjects recurred every 90 to 120 minutes, mimicking the neurological rhythms of dreaming.

Scheibel and Scheibel (West, 1962; Keup, 1970) also cited extensive anatomic evidence in support of the view that hallucinations result from physiologic changes occurring within reticular formation neural tissue in response to quantitative and/or qualitative changes in sensory data. As reviewed in the literature, West (1962, 1975) brought together the findings of several theoreticians (i.e., Jackson,

Evarts, and Hartmann) in the development of his “perceptual release” theory. He proposed that life experiences affect the brain in ways that leave behind permanent neural traces he called “templates.” The ideas and images derived from these templates come to be released into conscious awareness only when two important prerequisites are met. These are that a sufficient level of central nervous system arousal (i.e., due to extreme panic, overwhelming or intense anxiety) is established and maintained, and that the inflow of sensory information to the brain is somehow significantly altered. West noted that such alterations could manifest as dramatic decreases or increases in sensory input. Miller (1960) had theorized that an information input overload he called a “jamming of the circuits” could occur and disrupt the orderly input of sensory information. West explained that just as decreases in the intake of sensory information could result in a release of stored percepts, as in sensory deprivation experiments, so too could stored percepts be released as a result of too much information coming into the brain’s sensory registers. Mrs. R.’s bipolar disorder symptom of manic episodes disrupting her sleep cycles and thereby increasing the amount of stimuli she was forced to perceive, the consequent reduction in the release of the neurotransmitter NE, and other neurophysiological conditions described by West (1962, 1975) resulting from her deprivations of sleep, all came together to result in a brief and transient “perceptual release” of stored dream-like visual images during her waking state. These findings strongly suggest that Mrs. R.’s reported visual hallucinations developed out of her deficiencies in sleep, which in large part were due primarily to her manic episodes.

While Mrs. R.'s diagnosis of bipolar disorder may help to explain the genesis of her visual hallucinations, her comorbid diagnosis of borderline personality disorder likely accounts for much of her other positive symptoms of transient psychosis. Her difficulties with anger and reliance on splitting mechanisms can be best described by Kernberg's (1967, 1975) notion of a "borderline level of organization," which draws attention to the struggles the patient experiences trying to integrate internalized self and object representations of opposing qualities. Mrs. R.'s difficulty with anger was at times so extreme it tended to greatly disorganize her. She would repeatedly speak of her frustration with her husband's "tiredness" and "laziness," and how she'd berate him over his poor hygiene or lack of interest in having sex with her. When Mrs. R described speaking to her husband at these times in these cold and insensitive ways, her level of anger and disgust with him in sessions was strikingly whole and absolute. It seemed quite clear she was relying on splitting defenses to keep good and bad self and object images separate. At times her resolve about her dissatisfaction with him made it seem she was ready to end their marriage. A couple of times she actually considered the idea of divorcing him, but more often than not she would then quickly undo this idea before the session's end, explaining "she loves him" and "who would she be with if not him."

In contrast with her level of anger in these sessions, in a subsequent meeting she presented as much more tolerant of others and reflective about her faults and weaknesses when she was able to identify her need to always be correct as a problem needing attention in treatment. In this meeting Mrs. R. was able to consider her many experiences of feeling powerless as a child as contributing to this need now in

adulthood. However, this presentation of progress was more likely than not a false achievement, and possibly a defining moment in the production of some of her auditory and tactile hallucinations. Her admission of her need to always be right likely brought about a very painful and damaging narcissistic injury, initiating a brief structural fragmentation because in the very next session she reported experiencing her perceptual distortions of hearing whispering behind her as she washed dishes in her kitchen and while relaxing late at night in her living room, and spoke of her fear that someone or "something" was under her bed waiting to reach out to touch her.

In his paper "Toward a Structural Theory of Hallucinations," Harris (1970) proposed that hallucinations develop out of the breakdown or "regression" of internal structures. He began his thesis with a brief description of the differences implied in the structural terms 'representation' and 'image.' For Harris, self representation and object representation are superordinate structures, one relating to the organization of self-images and the other relating to the organization of other person images. The first step in the process of structural regression is the detachment of the self representation from its constituent self images. This detachment occurs when hostility is too great and the component images can no longer maintain their stability. In this regard, Harris cited Fairbairn's (1952) reference to the destructive breaking down of thoughts and images due to self-directed aggression.

Once self-images begin to fragment and the detachment of the self-representation from these component images occurs, further structural deterioration may occur. In schizophrenia, restitution efforts may begin through the substitution of other important figures in the patient's life for the missing self representation. Of

course, In Mrs. R.'s case, this more severe level of breakdown of internalized structures did not occur. Frosch (1964) has noted the transience and reversibility of these experiences in borderline patients, and Kernberg (1967, 1975) has articulated his contention that such breakdowns in internalized structures are due to intensifications in splitting processes rather than the severe refusions of self and object images characteristic of schizophrenic breakdowns.

It is hypothesized that Mrs. R.'s uncharacteristic admission of her need to always be right and that this need has presented itself as an ongoing problem for her in her treatment, caused her such an intensely painful narcissistic injury, because it was accompanied by her own self-directed anger and hostility, that her reported hallucinatory experiences developed from the intense breakdown and separation of her self images from her self representation. In subsequent sessions Mrs. R. continued to fluctuate between feelings of intense anger with others and disappointment and anger with herself. In some sessions she verbalized her rage and frustration with her husband, her children, and some of her own extended family members, while in other sessions she talked about feeling vulnerable to criticisms about her own behavior or her excessive weight. Her fragile borderline personality structure, her struggles with intense affects - both self and other directed, her mood swings and her disinclination to continue her mood stabilizing medications all contributed to her transient hallucinatory experiences.

Nevertheless, diagnosis alone is not an all or nothing predictor of hallucinatory phenomena. The literature on hallucinations in bipolar disorder and post-traumatic stress disorder also point to the impact and influence of acutely

stressful life experiences, in particular, traumatic events, in altering expectable clinical presentations and, at times, producing positive symptoms of psychosis. Mrs. R.'s early childhood years after her parents separated were plagued by emotional and physical abuse experiences enacted by her mother, who began using alcohol and illegal drugs likely to self-medicate her symptoms of clinical depression. Mrs. R. also reported a short-term sexual abuse molestation trauma perpetrated by a female adolescent baby-sitter.

There is little doubt that these experiences significantly contributed to Mrs. R.'s reported auditory and tactile hallucinations. Although some studies have found no significant associations between trauma and reports of tactile hallucinations (Hammersley et al., 2003), others have found childhood physical and sexual abuse experiences to be significant predictors of both auditory and tactile hallucinations occurring in adulthood long after the traumatic experiences were discontinued (Read et al, 2003). Although Mrs. R. tended to sometimes describe her auditory and tactile hallucinatory experiences in positive, supportive terms, e.g., "possibly a grandmother," it is clear she was at times more often frightened by these phenomena than comforted because she once reluctantly admitted feeling scared late at night when unable to keep the voices from "whispering" or while after retiring to her bedroom fearing something reaching out from under her bed to "touch her."

Interestingly, in Mrs. R.'s report of hearing the voice of a grandmother, she came very close to reporting an *identifiable* auditory hallucination – an important hallucinatory phenomena indicative of the notion of gradations in hallucinatory experience in schizophrenics proposed by Freeman et al. (1966) and others

(Prendergast, 1988; Ruchti, 1990). Mrs. R. did not identify this voice as that of her own grandmother, and so this was not unequivocally an “identifiable” auditory hallucination with respect to the definition applied in the studies by these writers, wherein such hallucinatory experiences involved voices of real people known to the patient. Importantly, Mrs. R.’s reported auditory hallucinations did show, however, that gradations in the breakdown of boundaries of self and object differentiation occurring in traditionally non-psychotic diagnoses may at first be accompanied by auditory hallucinatory experiences of a less severe nature, as it does in the development of more serious psychopathology. The difference between Mrs. R.’s reported auditory hallucinations and those described by more severely disturbed patients being that her hallucinations did not progress to those characteristic of schizophrenia.

As already mentioned earlier, the DSM-IV (APA, 1994) equates increases in the severity of the schizophrenic disorders with the development of more severe positive symptoms of psychosis, in particular hallucinatory phenomena characterized by any one or more of the following types of auditory hallucinations: 1) two or more voices conversing, 2) a single voice maintaining a running commentary on the patient’s thoughts and behaviors, or 3) command auditory hallucinations. Importantly, these hallucinatory phenomena accompanying more severe deteriorations in functioning and reality testing may involve hearing the voice of a real person known to the patient, but for the most part are experienced as voices of persons who are not familiar.

The idea of gradations in hallucinatory experience accompanying transient psychotic experiences is therefore acceptable when one considers this outline in the DSM-IV (APA, 1994) describing the severity of hallucinatory experience in schizophrenia. The development of positive symptoms of psychosis as an outcome of the fragmentation of internalized self and object images from their respective self and object representations (Fairbairn; 1952; Harris, 1970; Kernberg, 1967, 1975; Blatt & Wild, 1976) has also been posited. Two categories of hallucinations may thus be manifested based on the degree to which the patient is able to maintain adequate contact with reality and a capacity for object relations (Freeman et al., 1966). The question of how specific voices are reportedly experienced while the voices of other persons known to the patient are not is less clear. To better understand how this particular type of auditory hallucinatory experience may develop, some of the neurophysiological and psychoanalytic studies presented in the literature will again be presented side by side. It is hoped that within this context, an analysis of the voices Ms. T. reported may provide some insight into how specific voices come to be experienced over others. First a brief review of Ms. T.'s background history and reported auditory hallucinations, and how some of her experiences differ from those of Mrs. R.

Ms. T.

Clinician's Opinion

Unlike Mrs. R., whose psychiatric history began very early in life, Ms. T.'s first encounter with the mental health field occurred well into her adult years.

Despite emotional neglect and abusive treatment by her mother, and years of physical and sexual abuse by her older brother, she was never psychiatrically hospitalized or identified as in need of early psychological intervention. In fact, she may have not even sought help at this time had it not been for her caseworkers within her welfare-to-work program who had noticed her social and emotional struggles to meet her work and family obligations and responsibilities. She tried her best to keep her need for treatment a secret, as she also kept secret her horrific sexual abuse trauma that, as she said in one session, "took her childhood away from her."

Ms. T.'s Axis I diagnoses of Chronic Post Traumatic Stress Disorder and Panic Disorder with Agoraphobia could not have been assigned with more accuracy. She continues to struggle with intrusive memories or flashbacks of the abuse she experienced and episodes of panic and intense anxiety when in public places, although her symptoms are much less severe now than at the outset of treatment. At the time of this writing her more debilitating panic disorder symptoms have decreased significantly. On the other hand her Axis II diagnosis of Borderline Personality Disorder was initially not as clear. Many of her symptoms and problems meet the criteria requirements for the diagnosis of this disorder, but not nearly as much of the criteria as does Mrs. R. For example, she does not show the marked instability in her interpersonal relationships characterized by alternating defensive extremes of idealization and devaluation and inappropriately intense anger that Mrs. R. struggles with. She does however continue to suffer from an unstable self-image and chronic feelings of emptiness. Although her self-mutilating behaviors and

transient paranoid ideation and severe dissociative symptoms have continued, these difficulties have been much less present in her clinical picture.

Both of these adult patients met the criteria for diagnosis of borderline personality disorder, but their early histories in terms of how they came to suffer from these problems and symptoms were very different. Ms. T. did not suffer from the very early deficits and inconsistencies in parenting that Ms. R. experienced. Ms. T. reported her early childhood years living with her grandmother in Trinidad were happy and loving. The early positive caring and nurturing environment that Ms. T. enjoyed with her grandmother is evident in her personality development through her relatively stable presentation in sessions and her ability to establish and maintain a good therapeutic alliance. Her interactions with this writer in the treatment room are not characterized by defensive grandiosity, resistances and avoidances toward explorations of her feelings and behaviors, and reports of extreme anger and frustration intolerances with others, all of which were frequently evident in Ms. R.'s presentation. It was when her mother came to Trinidad to take her back to the United States that everything changed. The next eight years of her life were marked by ongoing horrific abuses, the memories of which continue to plague her today.

Mrs. R and Ms. T. both reported hearing externalized whispers and voices. These hallucinatory experiences coincide with theories presented in the literature asserting that the auditory hallucinatory experiences of adults differ significantly from those of children in that the hallucinations of children most often represent introjected voices, and are therefore rarely outwardly projected (Haven, 1964; Bender, 1970; Rothstein, 1981). Adults, they argue, due to developmental changes

pressing for either the need to have hostile voices distanced from the perceiver (Haven, 1964; Bender, 1970) or in the process of developing the drive to distinguish real from unreal phenomena characteristic of the journey from the latency period through adolescence to adulthood, tend to experience auditory hallucinations exterior to their physical body (Rothstein, 1981).

However, hearing whispers and their names called out externally is where the similarities between Ms. T.'s and Mrs. R.'s hallucinatory phenomena end. Ms. T. did not report experiencing different classes of hallucinations as did Mrs. R. who'd reported visual, auditory, and tactile perceptual experiences. All of Ms. T.'s hallucinations were auditory. Additionally, her auditory hallucinatory experiences were chronic and more severe, in that they continued for over three years and ranged from indecipherable whispers to softly spoken voices to, at least on one occasion, a very clear and loudly articulated male voice she described as threatening and ominous.

Although the severity of her symptoms have improved, Ms. T. continues to suffer from chronic PTSD symptoms of persistent reexperiencing (e.g., nightmares, flashbacks), persistent avoidance (e.g., efforts to avoid thoughts about trauma), numbing of responsiveness (e.g., dissociative symptoms, restricted affect), and hyperarousal symptoms (e.g., easily startled). Regarding her auditory hallucinations, the literature on PTSD and sexual abuse trauma showed significant relationships between sexual abuse experiences and the occurrence of auditory hallucinations (Haviland et al., 1995; Read et al., 2003; Hardy et al., 2005). Although these studies' findings clearly indicate the connections between sexual abuse trauma and

the advent of auditory hallucinations for the patient in adulthood, these studies did not attempt hypotheses on how particular voices come to occur over others, or what might be the processes underlying the ability to identify voices heard. For these answers the literature on auditory hallucinations in PTSD as a consequence of trauma occurring in military combat may be helpful.

The severity and intractability of symptoms of PTSD including reports of auditory hallucinations as a result of the impact of war and combat experience have been noted by the DSM-IV (APA, 1994). As cited earlier, several studies investigating auditory hallucinations reported by traumatized combat veterans noted the presence of positive symptoms of psychosis (e.g., hallucinations, delusions, thought disorder) among these patients (Mueser & Butler, 1987; Bulter et al., 1996; David et al. 1999; Bleich & Moskowits, 2000; Hamner et al., 2000). However, an important finding by some of these researchers is that symptoms of depression are strongly correlated with the presence of psychotic symptoms. The findings of these studies are important to the understanding of Ms. T.'s auditory hallucinations because she reported and at times presented with overwhelming feelings of guilt and responsibility for having succumbed to the physical and sexual abuse advances of her brother, and symptoms of depression that included hopelessness and apathy. Although Mueser and Butler (1987) concluded that the impaired reality testing of the combat veterans included in their study was not a function of psychotic depression, they noted the auditory hallucinations reported by these veterans were "depressive" in nature. Years after returning home from war these veterans continued to hear the

voices of their wounded comrades crying out to them for help, or malevolent voices of enemy soldiers directing them to commit suicide.

Other researchers more conclusively found relationships between positive symptoms of psychosis and depressive states. For example, David et al., (1999) found the auditory hallucinations of the war veterans in their study reflected non-bizarre combat themes and guilt that were not associated with formal thought disorder or flat or inappropriate affect. These researchers concluded that these veterans' psychotic symptoms were associated with major depression. Kennedy et al. (2002) finding that increases in PTSD scores parallel increases in Beck Depression Scale scores, even more strongly suggested that severe PTSD often accompanies or is co-morbid with depression.

Most interesting about these studies focusing on the presence of depressive states or comorbidity of depression as an independent diagnosis accompanying PTSD in traumatized veterans, is the fact that several of these studies also found that antipsychotic medications prescribed to directly treat veterans' positive psychotic symptoms did not reduce the severity or frequency of their auditory hallucinations (Mueser & Butler, 1987; Bleich & Moskowits, 2000). Bleich & Moskowits (2000) even went so far as to call for future research on this particular finding of medication ineffectiveness to try to "shed light on this problem" (p. 445). Importantly, Ms. T.'s auditory hallucinations also did not respond to the medications she was prescribed. This may in part have been due to her own compliance problems of not taking her medications consistently. However, it may have also been due to the etiological factors underlying her particular hallucinatory experiences, in this case her

symptoms of depression due mostly to her feelings of guilt and her sense of responsibility for her abuse experiences, rather than a neurologically based psychotic disorder that would have more likely responded to anti-psychotic medications.

The traumatized combat veterans presented in these studies continued to report hallucinations despite, according to these researchers, taking "anti-psychotic" medications aimed at reducing their hallucinations. The fact that these veterans were prescribed anti-psychotics instead of anti-depressants may have likely been the main reason for their lack of response and the observed "ineffectiveness" of the medications prescribed. It is hypothesized that if these veterans were initially prescribed anti-depressants rather than neuroleptics, their positive symptoms of psychosis may have at least shown some reduction based upon the formulation that depression and depression-related symptoms and difficulties were underlying their hallucinations.

Prendergast (1988) also noted the ineffectiveness of the anti-psychotic medications prescribed to his group of schizophrenics able to identify the voices they experienced. It is important to recall that Prendergast found these subjects had scored significantly within the neurotic-intermediate ranges of personality functioning on the MMPI and had reported experiencing more traumatic events in their lives than schizophrenics unable to identify the voices they were hearing. It is hypothesized that these findings speak to the likelihood that Prendergast's "schizophrenics" were less severely disordered and more traumatized than he'd realized. It is therefore also hypothesized that Ms. T.'s reported auditory hallucinations stem from similar causations – trauma and depression, and that the

development of her auditory hallucinations were assisted through her own self-directed attacks of anger at her internalized structures, in particular her self-representation, which to some extent collapsed and fragmented. In this sense, although Ms. T.'s and Mrs. R.'s presentations in the treatment room were quite different qualitatively, their auditory hallucinations developed from similar underlying factors.

Neurophysiological and psychoanalytic explanations can come together here to assist in providing a better understanding of how auditory hallucinations can come to be identified as someone the patient knows or once knew. A psychoanalytic explanation would note that the increasing severity of Ms. T.'s reported auditory hallucinations, from whispers to the ability to identify the voice she heard repeatedly as an "angry" and threatening male reminiscent of her abuse experiences speaks to the concept of gradations in hallucinatory experience, because as the boundaries of her internalized structures began to collapse and become less differentiated, her auditory hallucinations became more pronounced and identifiable. However, this does not explain from where Ms. T.'s voice of a threatening, angry male emanated. Here the contributions of West (1962, 1975) are again important.

As described above in the case of Mrs. R., West (1962, 1975) argued that ideas and images derived from stored templates come to be released into conscious awareness only when panic or intense anxiety occurs at the same time the inflow of sensory information to the brain is somehow significantly altered. Therefore, Ms. T.'s stored memories of the voice of her abusive brother could potentially have been released into her conscious awareness at precisely the time increased anxiety and

panic occurred for her due to a flashback or memory of her traumatic experience. In contrast to Mrs. R.'s likely decreased levels of the neurotransmitter norepinephrine (NE) due to her lack of sleep, which decreased inhibitory factors preventing hallucinatory experiences, Ms. T.'s hallucinations were likely due to overwhelming increases of sensory information, as she was routinely fearful, anxious, and sometimes paranoid at night in her own home. These frequent states of near panic were likely accompanied by an overflow of sensory information, causing a "jamming of the circuits" (Miller, 1960) and a release of stored memories. Crucially, in Ms. T.'s case a release of stored traumatic memories.

Ratey (2001) has noted that memories of traumatic events remain highly stable over time, possibly because traumatic memories cannot be explicitly recalled due to their establishment in long-term memory and because of the participation of the amygdala in the storage process where "emotions are processed independently of the events with which they are associated" (p. 211). Simultaneously, this event triggered or accompanied her intense anger directed at her already compromised and fragile self representation due to the intense guilt and shame she continues to experience over her abuse experiences. All of these co-occurring factors contributed to Ms. T.'s reported experience of hearing the angry voice of an assaulting male. This voice, the stored template of the angry, threatening, and frightening voice of her brother was likely released as a consequence of the altered state of inflowing sensory information due to the intense anxiety she experienced following a nightmare of her abusive brother threatening her and her children, and as a consequence of the breakdown of her internalized self and object structures. Therefore, in each

occurrence of a hallucinatory event one could hypothesize simultaneous developments of neurophysiological and psychoanalytic processes underlying the outward manifestations of these phenomena.

In concluding, Ms. T. has been guided in sessions to connect occurrences of her auditory hallucinations to her actual abuse experiences whenever it seemed appropriate to do so, and helped to consider the possibility that these episodes were occurring because her traumatic experiences were cutoff from her conscious awareness due to the tremendous pain and suffering she experienced at the time. Although Ms. T. clearly presented as less prone to the use of primitive defenses and unpredictable modes of functioning, such as defensive splitting, grandiosity and denial characteristic of Mrs. R.'s levels of functioning, the intensity of her affective states of shame, guilt, and a sense of responsibility for the abuses she suffered often precipitated her self-directed (i.e., internalized self-images, self-representation) attacks of aggression upon her already compromised internal structure. This resulted in the weakening of her internalized structures and boundaries. Thus, the fragmentation of her internalized world, in combination with the neurophysiological events described above, led to the varying gradations in her hallucinatory experiences and in development and persistence of her identifiable auditory hallucinations.

At present Mrs. R. has dropped out of treatment. In her last sessions before her unplanned termination she continued to present with difficulties with anger, a primitive defensive structure including borderline pathology with narcissistic features, and mood swings characteristic of bipolar disorder. Ms. T. has continued

attending treatment sessions on a weekly basis and has not reported experiencing auditory hallucinations in several months. She reports continuing her anti-depressant and anti-psychotic medications, which have clearly helped to alleviate her more severe symptoms of anxiety, depression, and paranoia. It is also clear that Ms. T. benefited greatly from talking about and processing her thoughts and fears around experiencing her hallucinations, and in linking her fears and experiences to her memories of abuse.

Summary

This dissertation has presented the view that the advent of auditory hallucinations, as traditionally conceptualized, can no longer be viewed simply as a manifestation of the regression to the psychotic functioning characteristic of schizophrenia or other psychotic disorders. Rather, such positive symptoms of psychosis may occur in traditionally non-psychotic diagnoses, and develop and progress in a way that the increasing severity of manifest hallucinatory symptoms, beginning with hearing whispers and progressing to clearly articulated voices, may parallel increasing levels of undifferentiation in the boundaries between self and other.

It has additionally been proposed that two categories of auditory hallucinations may be observed to occur in non-psychotic diagnoses as they do in the development of schizophrenic disorders (Freeman, 1966). The first of these, in which the patients presented in this study came very close to displaying, tend to occur in patients at higher levels of developmental functioning and involve real people who have meaning to the patient. The second, a more regressive type of auditory hallucination is less connected to real people known to the patient and more indicative of a new reality constructed to substitute for the patient's real world. Hence gradations in the capacity to sustain adequate self and object differentiation impacts upon the type and severity of hallucinatory phenomena experienced.

Recommendations for Future Research

It is hoped that future research takes the ideas presented in this study further. The wish was originally that the nature and quality of the voices heard by patients suffering from auditory hallucinations could be empirically linked to the nature and quality of their internalized structures. Empirical studies utilizing the Rorschach in combination with object relations scales developed to assess the quality of interpersonal interactions, i.e., the Urist Mutuality of Autonomy Scale (MOA) (Urist, 1977); the Object Relations Scale for Dreams (ORSD) (Krohn & Mayman, 1974), have demonstrated reliability and clinical utility. In one such study, Blatt, Tuber, & Auerbach (1990) used the MOA scale on the Rorschach responses of a group of seriously disturbed young adults entering long-term residential treatment to measure the severity of their clinical symptoms. These researchers learned that the MOA scale was consistently able to assess aspects of clinical psychopathology and the presence of thought disorder. A future empirical study could therefore apply an object relations scale to patients' Rorschach responses and to their narrative descriptions of their reported auditory hallucinations to provide a means by which their degree of self-object relatedness, according to his/her Rorschach responses, may be checked against their degree of self-object differentiation inferred from his/her predominant hallucinatory experience.

It is also recommended that larger case study investigations including subjects reporting hallucinations and presenting with an even wider array of clinical conditions and diagnoses be attempted so that more can be learned about how

experiences of trauma, diagnostic differences, and neurophysiological pathways and psychoanalytically theorized pathological internalized structures interplay to trigger and sustain the development of hallucinatory phenomena. The more that is learned about the interactions between these multi-dimensional factors, the more likely that effective treatment options can be made available for patients suffering from hallucinations.

It has been this writer's observation that inexperienced clinicians or clinicians without experience with patients presenting with these types of positive symptoms of psychosis, sometimes do not consider the possibility that these patients may be struggling through a transient dissociative or psychotic episode rather than a more severe psychotic deterioration. These patients are then immediately referred for psychiatric evaluation and as a result, although certainly not in every case, placed on psychotropic medications when in actuality their hallucinatory symptoms developed either out of a borderline pathology "intensification and pathological fixation of splitting processes" (Kernberg, 1967, 1975) or a PTSD triggering of memories of past severe trauma (Herman, 1992; Haviland et al., 1995; Read et al., 2003). In the case of symptoms of chronic traumatic experience, anti-depressant medications would be a more appropriate and more effective pharmacological intervention. Also, a better understanding about the clinical conditions underlying these symptoms can possibly assist the clinician in the successful treatment of a patient with auditory hallucinations without relying on pharmacological interventions at all. Therefore, clearer distinctions between patients differing in the type of auditory hallucinations

they present, can lead to a better understanding of these phenomena, and to the development and use of improved treatment approaches to address these conditions.

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