The American Journal of Psychoanalysis

(2012). American Journal of Psychoanalysis, 72(2):152-165

Psychosis: A Synthesis of Motivational and Defect Perspectives

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Based on the evolution of human intelligence and the tremendous cognitive capacities arising from it, we have an innate tendency for the extreme thought content, thought form, and sensory perceptions of psychosis. During the conscious and awake state, cognitive regulatory control processes block these more extreme variants to facilitate reality congruency necessary for adaptive functioning. While asleep there is no need for reality congruency and the cognitive regulatory control processes are deactivated allowing psychotic equivalents to be expressed in dreams. This paper helps synthesize the two dominant perspectives regarding the etiology of psychosis: the neuroscience defect perspective and the psychoanalytic motivational perspective. Regarding the former, defective cognitive regulation arising from certain conditions, such as the deficit state of schizophrenia, allows extreme cognitive distortions, thought form variants, and sensory perceptual experiences to intrude into the conscious and awake state, thereby producing psychosis. Consistent with the psychoanalytic motivational perspective, defensive processes can motivate extreme cognitive distortions, thought form variants and sensory perceptual experiences, and also facilitate their expression by deactivating the relevant cognitive regulatory control processes.

Introduction

Psychosis consists of extensive alterations in thought content, thought form, and sensory perceptual experiences. Perspectives regarding psychosis can generally be grouped into motivational and defect, with the former mainly psychoanalytic in orientation, and the latter neuroscience based **(McKay *et al.*, 2005)**. Many clinicians and researchers endorse the latter perspective, but it appears inadequate as a stand-alone explanation when the entire spectrum of psychosis is considered, including its commonality in the normal and healthy population. Motivational approaches likewise have

limitations as stand-alone explanations for psychosis. A third perspective is presented here that synthesizes the motivational and defect explanations in a parsimonious way.

Based on the evolution of intelligence surpassing that of other animals, humans are endowed with a natural capacity for an extensive range of thought content, thought form, and sensory perceptual experiences, with the most extreme versions representing psychosis. To facilitate reality congruency essential for adaptive functioning, cognitive regulatory control mechanisms normally block more extreme thought content, thought form, and sensory perceptual experiences when a person is conscious and awake. Conditions such as schizophrenia or dementia can damage these cognitive regulatory control mechanisms, allowing more extreme variants to intrude into the conscious and awake state, producing psychosis. During sleep, when reality congruency is not important, cognitive regulatory control processes are deactivated and psychotic equivalents are expressed. Psychological defense mechanism functioning and other psychoanalytic processes motivate more extreme cognitive distortions, thought form variants, and sensory perceptual experiences, and also facilitate their expression by deactivating the cognitive regulatory control processes.

The Motivational Perspective of Psychosis

Psychoanalytic theorists have been the main proponents of motivational factors being involved in psychosis. The literature is quite extensive, warranting a full review article in itself, and thus only key points will be focused on in this paper. Perhaps, the central theme is that raw, unconscious material—including wishes, urges, and conflicts—are transformed into conscious experience, with both dreams and psychosis sharing many of the same features. Freud described normally unconscious *primary process thinking* as being transformed into images (hallucinatory wish fulfillment) and then conscious thoughts during dreams by condensation and displacement **(Freud, 1900)**. Conflict also undergoes transformation with dreams, a distortion of latent conflict. The process of figuration is responsible for how the raw material is transformed. The motivation for transformation consists of the frustration encountered when libidinal instincts, manifest in wishes and urges, encounter *the reality principle*, which guides the *secondary process mentation* of rational thought. Tension reduction motivates the transformation of raw material (Freud, **1895**, **1900**; **Robbins, 2008**; **Frosch, 1976**; **Balestriere, 2007**).

Melanie Klein describes the paranoid schizoid position with phantasy somewhat equivalent to Freud's transformation of raw material into images. She described the primary sense of self and others consisting of hallucinated or omnipotent delusions (Klein, **1956**, **1957**). In agreement with Freud,

Klein believed that frustration reduction was a crucial motivation for the transformation process (as summed up by **Robbins, 2008**). The perspectives of Freud and Klein highlight the similarity of dreams and psychotic experiences given that dreams comprised hallucinated primary process thinking. According to **Freud (1900)**, dreams are the physiological delusions of normal people (see also Frosch, **1976**, p. **56**). When the transformation process extends into the waking state, psychosis occurs (**Robbins, 2008**; **Balestriere, 2007**). Less clear is why the transformation process extends into the waking state. Freud appears to have believed that motivational factors play a key role, with pathological intensification of unconscious excitation weakening conscious censorship (see **Frosch, 1976**).

Defense as a psychological motivation for delusions is another key theme discussed by various theorists. Delusions are seen as a way of maintaining psychological integrity and reducing anxiety. According to **Freud (1924)**, a "delusion is found applied like a patch over the place where originally a rent appeared in the ego's relation to the external world" (p. 565). **Bentall and Kaney (1996)** suggest that delusions are constructed defensively to maintain self-esteem. Psychosis is generally viewed as a compromise to preserve psychological functioning by distortion **(Frosch, 1976)**. To a large extent, the transformation process itself can be seen as defensive given that unsustainable frustration between raw, unconscious mental content, and reality is defended against.

The Defect Perspective of Psychosis

Fundamental cognitive or perceptual anomalies are viewed as the cause of psychosis **(McKay *et al.*, 2005)**. Specific perspectives vary, including a probabilistic reasoning bias for delusions **(Garety *et al.*, 1991)**, deficits in the cognitive ability to represent the mental state of others, so-called *Theory of Mind Defects* **(Frith, 1992)**, the two-factor model whereby delusions are seen as rational responses to aberrant perceptions **(Davies *et al.*, 2001)**, and failure of the auditory cortex to deactivate when there is inner speech producing hallucinations **(Ford and Mathalon, 2004)**. There are a number of these defect-based perspectives, and coverage of the strengths and weaknesses of each will not be attempted here. In general terms, these perspectives all entail a core defect as being responsible for psychotic manifestation, and for the most part do not incorporate motivational factors. Beyond the removal of all personal experiential content from psychosis, the defect perspective cannot readily account for why psychosis frequently occurs in contexts where neural damage or impairment is unlikely, such as brief reactive psychosis, grieving reactions, and the normal healthy population **(Johns and van Os, 2001)**.

Hallucinations commonly occur with bereavement. For example, an evaluation of 293 widowed people found that 14% had a visual hallucination of their deceased spouse and 13% experienced an auditory hallucination **(Olson *et al.*, 1985)**. Furthermore, 47% had the more general hallucinatory event of experiencing the presence of the deceased spouse. The prevalence of hallucinations in the general population is between 10% and 25% **(Johns and van Os, 2001)**. Alterations in sensory perceptions are extremely common, such as with vivid dream-like states referred to as hypnagogic and hypnopompic hallucinations, transpiring just upon going to sleep and waking, respectively **(Choong *et al.*, 2007)**. In the normal population, hallucinatory experiences tend to be positive and self-limited **(Stip and Letourneau, 2009)**. So common are hallucinations that a social movement has even been formed to promote the normalcy of such behavior **(Stip and Letourneau, 2009)**. This widespread prevalence of psychosis, including in the normal population where significant neural defects are untenable, limits the explanatory power of the defect perspective.

Psychosis as a Natural Propensity

Given the presence of psychosis in the healthy population, in common grieving reactions, and a wide range of mental health conditions, it certainly appears that the human brain is vulnerable to psychosis. Indeed, a capacity for psychosis seems to be present in us all—"The central nervous system appears to possess a latent capacity, neurobiologically speaking, for a pattern of functioning, which experientially is human 'psychotic consciousness'" (Bowers, **1973**, p. 214). This capacity exists on a continuum as opposed to an all-or-none process (**Horney, 1950**; **Searles, 1965**; **Rubins, 1968**; **Strauss, 1969**; **Chapman and Chapman, 1980**). Underlying this innate capacity is a naturally occurring range of thought content, thought form, and sensory perceptual experiences, almost certainly derived from the evolution of *Homo sapiens* intelligence providing extensive cognitive abilities, with the most extreme variants of thought content, thought form, and sensory perceptual experiences comprising psychosis.

Psychotic thought content referred to as delusions can be viewed as extreme cognitive distortions (Bowins, **2004**, **2006**). Cognitive distortions represent a spectrum from mild to extreme. Most of the classical psychological defense mechanisms commonly referred to in the psychoanalytic literature can be subsumed under cognitive distortions **(Steiner *et al.*, 2001)**. Mature defenses such as humor involve milder cognitive distortions with an attenuation of unpleasant reality, whereas immature defenses such as schizoid fantasy severely distort reality. An inverse correlation exists between the level of defense maturity and degree of cognitive distortion.

Mild cognitive distortions enable people to slightly alter their perceptions of various experiences by placing a positive, self-enhancing spin on them so that they are less negative and threatening. Moderate versions produce excessive fantasy involvement, magical thinking, and over-valued ideas. More extensive cognitive distortions than those mentioned cross the border into the realm of actual psychosis, namely delusions. Lesser stress responds to psychological defenses entailing a milder degree of positive cognitive distortion such as humor or placing a positive spin on events. Severe stress often requires at least a brief activation of more cognitively distorting defenses (Bowins, **2004**, **2006**). Psychotic thought content then consists of more extreme naturally occurring cognitive distortions.

Thought form can be conceptualized as a semantic map with linkages of various strength based on probability of association **(Spitzer, 1997)**. Word association tests are used to reveal how a person's map is configured and how activation spreads across the map. There is a natural range of thought form extending from highly logical thinking to more moderate/severe alterations, including loose associations, circumstantiality, tangentiality, blocking, and derailment. As a natural course of events, some people are tighter in their thinking and others looser. Furthermore, the thought form of even a tight thinker can become circumstantial and tangential at times, underscoring the potential range of expression. To support cognitive distortions, alterations of thought form are required; if thinking is very tight and logical it is not possible to distort the content. Furthermore, more extreme cognitive distortions typically require more extensive alterations of thought form, such as thought content consisting of associations between totally unrelated variables requiring a very loose thought form.

The intensity and quality of sensory experiences also vary within the normal population, and illusions and hallucinations are quite common, such as with those arising in the transition between sleep and waking states (**Johns and van Os, 2001**; **Olson *et al.***, 1985; **Stip and Letourneau, 2009**). Inner speech occurs when we think about things using language. It is more common to think utilizing words than images, but thought involving images can and does occur with some people better at it than others. In distinguishing auditory hallucinations an important question is: “Do you hear the voices coming from outside your head?” Not infrequently, the patient will have to think about this and the answer is not always definitive. However, in the case of hallucinations the voices or sounds do seem to originate from outside. In order for inner speech to be appreciated as being from “inside,” the auditory cortex appears to be deactivated or regulated in some fashion **(Ford and Mathalon, 2004)**. When this regulation fails inner speech is heard externally. Although this process entails a defect, it also demonstrates how thin the line can be between normal and abnormal experiences.

An interesting and highly familiar demonstration of the naturally occurring range of thought content, thought form, and sensory perceptions is provided by dreams. Cognitive distortions often more bizarre than the delusions encountered in schizophrenia are routine, and the form of thought is frequently extremely loose, vague, and tangential. Strange sensory perceptions are common, such as images changing shape. In addition, we seem to hear voices and bizarre sounds while dreaming, and hypnagogic and hypnopompic hallucinations constitute extreme sensory perceptual alterations associated with sleep. More mild-to-moderate variants of thought content, thought form, and sensory perceptual experiences also occur, but dreams are where our extreme variants of these cognitive capacities express themselves. Psychoanalytic theorists, following Freud, have noted the strong similarity between dreams and psychosis (**Freud, 1900**; **Frosch, 1976**; **Balestriere, 2007**). This similarity is understandable given that both involve extreme cognitive distortions, thought form variants, and sensory perceptual alterations. However, in psychosis this process occurs when a person is conscious and awake.

One of the puzzling aspects of psychosis is how the same basic expression often recurs in a given individual. So, for example, if a person experiences persecutory delusions once, they often have the same expression when psychosis resurfaces. If we assume that psychosis represents an extreme alteration of thought content, thought form, and sensory perceptual experiences, this occurrence makes sense, given that what is normal for the person will just be extended in an extreme fashion. If the person's thought content normally involves cognitive distortions in the direction of suspiciousness, then with psychosis persecutory delusions will arise. Likewise, a tendency to internalize stress and anxiety might manifest as somatic delusions when the person becomes psychotic. A normally somewhat loose and stream of consciousness thought form might become thought characterized by derailment.

A Synthesis

Applying the Defect Perspective

Psychosis and dreams share extensive alterations of thought content, thought form, and sensory perceptual experiences, perhaps the key difference being that psychosis occurs during the conscious and awake state, whereas dreams occur during sleep. While dreams are considered perfectly normal, psychosis is typically seen as abnormal. Reality congruency is necessary for adaptive functioning under the vast majority of circumstances. To facilitate reality congruency more extreme cognitive distortions, thought form

variants, and sensory perceptual alterations must be prevented from entering the conscious and awake state. When awake, secondary process thinking is said to replace primary process thinking due to the greater adaptive potential **(Robbins, 2008)**.

Cognitive regulatory control mechanisms are required to block more extensive variants of these cognitive capacities from intruding into the conscious and awake state. When these regulatory control mechanisms are defective, extreme cognitive distortions, thought form variants, and sensory perceptual experiences can intrude, producing psychosis. Freud's censor role of the conscious and its weakening by pathological excitation of the unconscious relates well to the defect perspective, although Freud viewed unconscious forces as being responsible for the defective regulation **(Frosch, 1976)**. Certain conditions where psychosis transpires can understandably involve damaged or impaired cognitive regulatory control processes, such as schizophrenia, dementia, delirium, and some states of addiction and withdrawal. In the case of bipolar disorder, cognitive regulatory control processes blocking both psychosis and the conversion of hypomania to mania can be impaired or damaged, accounting for the co-occurrence of psychosis and mania.

The theory presented can incorporate several of the anomalies linked to psychosis. For example, probabilistic reasoning biases for delusions **(Garety *et al.*, 1991)** and aberrant perceptions distorting interpretations **(Davies *et al.*, 2001)** are derived from the extreme cognitive distortions, thought form variants, and sensory perceptual experiences that we have a natural capacity for. Failure of the auditory cortex to deactivate when there is inner speech, resulting in hallucinations **(Ford and Mathalon, 2004)**, clearly involves a deficiency in cognitive regulatory control. To explain psychosis in contexts where damage or impairment to cognitive regulation seems unlikely, such as during grieving reactions and in the general population, psychological defense mechanism functioning is important to consider.

Applying the Motivational Perspective

Psychological defense mechanism activation can trigger psychosis. For example, during severe stress a brief activation of psychological defenses involving extreme cognitive distortions is often required, accounting for many instances of brief reactive psychosis **(Bowins, 2004)**. Hallucinations during grieving reactions in otherwise healthy individual provide an interesting example of psychosis motivated by defense mechanisms. Assuming that psychosis is only a dysfunctional process that emerges in predisposed individuals with the stress of losing a close partner, for example, we would expect it to be expressed in a non-specific random fashion involving

delusions, thought form alterations, and diverse hallucinations occurring in roughly equal proportion. Instead, what is encountered is much more specific, namely hallucinations of the lost person's sound, sight, and presence **(Olson *et al.*, 1985)**. These sensory experiences seem to be compensating for the lost sensory and related emotional input, strongly demonstrating defensive compensation. When sufficient defensive motivation is present for extreme cognitive distortions, thought form variants, and sensory perceptual alterations, cognitive regulatory control processes might be temporarily deactivated. Perhaps it is the case that temporary deactivation of regulation naturally occurs in conjunction with sufficient defensive motivation in order to facilitate these responses, consistent with Freud's view that motivational factors weaken conscious censorship **(Frosch, 1976)**.

Delusional disorder and paranoid personality disorder provide further examples of the defensive potential of psychosis. The delusion basis of these disorders constitutes an extreme version of the cognitive distortion defensive process (Bowins, **2004**, **2006**). With delusional disorder and paranoid personality disorder, an entire system, as opposed to an isolated delusion, is constructed in a self-defensive fashion. For example, with paranoid delusional systems negative qualities are projected onto others, meaning that only positive qualities are seen as characterizing the self. To lose this system typically means that the person loses their defensive armor entirely and often their very purpose for being.

Psychosis in the context of schizophrenia typically produces reality incongruent behavior, but it can serve a defensive function in two possible ways. First, extreme cognitive distortions can be motivated by the declining or absent meaning in life that many schizophrenics experience (e.g. **Kelman *et al.***, 1966; **Rubins, 1969**). In support of this defensive role, psychological processes such as self-esteem can influence the form that delusional content takes **(Bowins and Shugar, 1998)**. As the deficit state progresses and functioning declines, it is difficult for a person with schizophrenia to assign any meaning to their life. Delusions can at times restore a meaning, although in a reality incongruent fashion. For example, an intelligent schizophrenic patient known to the author experienced a lengthy prodromal phase characterized by deficit symptoms and markedly reduced functioning. An extreme cognitive distortion developed that restored some semblance of meaning to his life, namely that he is a uniquely talented screenwriter. Several hours per day are spent writing but nothing has ever been submitted, let alone produced on-screen. This defensive psychotic manifestation also has an interesting evolutionary fitness effect, in that when conversing in a coffee shop he is frequently able to impress women that he is a gifted screenwriter based on the strength of his delusional conviction, leading to approximately three to five sexual encounters per year. Without this

delusional belief system he would not have these gratifying and potentially hope-enhancing sexual experiences. Nor would he have the meaning to his life that the self-enhancing cognitive distortion provides.

The second way that psychosis might serve a defensive function involves compensation for the deficient cognitive and emotional activity derived from the deficit state. Damaged or impaired cognitive regulatory control processes allow extreme thought content, thought form, and sensory perceptual experiences to enter the conscious and awake state on a persistent basis. After the fact, so to speak, these extreme variants might be unconsciously recruited to defensively offset the reduced cognitive and emotional activity, particularly considering how fitness diminishing and even annihilating these deficiencies could potentially have been in an evolutionary context. For example, monkeys with frontal lobe ablations show severely impaired social functioning reminiscent of the deficit state of schizophrenia and often die isolated after being chased from the group **(Myers *et al.***, 1973). Psychosis could potentially fulfill a defensive function in terms of adding back cognitive activity that is diminished or absent due to the deficit state, by both providing extra cognitive activity directly based on more extreme cognitive distortions, thought form variants, and sensory perceptual experiences, and the strong cognitive and emotional reactions experienced in response to the various psychotic manifestations. Even a slight fitness advantage in the context of deficit symptoms could help explain the persistence of schizophrenia in the population.

Based on the process described, schizophrenia might even be conceptualized as a disorder of consciousness—awareness of the present is a key feature of consciousness and might well be one of the main forces driving the evolution of consciousness. Human intelligence provides for a more complex and detailed awareness of the present. The basic and social cognitive impairments inherent in the deficit state effectively reduce the complexity and extent of conscious awareness. Psychotic cognitive distortions, thought form, and sensory perceptions add back some of this complexity and detail, in the process producing a distorted awareness of the present. Consciousness is then restored but altered.

The transformation of raw, unconscious material into sensory images and then thoughts expressed in dreams and psychosis provides a second motivational scenario for extreme cognitive distortions, thought form variants, and sensory perceptual alterations. Both Freud and Klein believed that tension arising from the conflict between raw material and reality constitutes a powerful motivational force for transformation (see **Robbins, 2008**). Conflicts, wishes, and urges can gain expression and in the process reduce tension, thus creating a potent negative reinforcement scenario for dreams. The strength of this process was deemed by Freud to be so great that it

could weaken conscious censorship and allow the products into the awakened state, thus producing psychosis (see **Frosch, 1976**). The transformation motivational role for psychosis might actually constitute a subset of the defensive motivation if defense is viewed in the larger context of protecting psychological functioning from adverse emotional states (Bowins, **2004**, **2006**), given that transformation effectively eliminates or reduces tension between primary process raw material and reality.

Treatment Implications

Given the defensive and expressive role that psychosis can at times play, and how consistent delusions are with a person's view of himself or herself **(Bowins and Shugar, 1998)**, clinicians might be more open to *the meaning of psychotic manifestations* and attempt to learn more about the patient from them. Attention to the actual experience of the patient can only assist with establishing a solid therapeutic relationship, perhaps countering what is often a revolving door of the patient accepting medication treatment briefly when they are most ill and then terminating it only to become psychotic again. Also relevant to the therapeutic relationship, clinicians typically see themselves as being vastly different from the psychotic patient, and even more so when there is schizophrenia or another severe illness. While this perception provides a defensive function for the clinician, it does not facilitate rapport and a solid therapeutic relationship. It accomplishes the opposite, it only reinforces the patient's isolation from others.

When the extreme alterations of thought content, thought form, and sensory perceptual experiences are viewed as a natural propensity, and the defensive and expressive motivational aspects of psychosis are appreciated, the wide gap narrows to greater connectedness. Might you as the healthy clinician hear the voice of your deceased partner? Even with severe psychotic illnesses the difference might reside largely in a defect in cognitive regulatory control processes normally preventing extreme cognitive distortions, thought form variants, and sensory perceptual experiences from intruding into the conscious and awake state. Understanding that in many regards dreams are like psychosis will further help to diminish the perception of psychotic patients as being vastly different.

Psychoanalysts have boldly gone where few clinicians have in trying to interpret psychosis and resolve it through psychotherapy (e.g. **Fromm-Reichmann, 1950**). Utilizing the process of regression applied to dream content, the psychotic thought is turned back into the sensory image underlying it, and then back into the raw material at the root of the transformation sequence **(Balestriere, 2007)**. This represents a painstaking process with

risks including the possibility that touching on the patient's defensive functioning might actually strengthen the psychotic expressions at least temporarily. In addition, the therapist can at times become incorporated into the delusional content testing the skill and resolve of even the most experienced clinicians. Due to these risks, cost considerations, and the effectiveness of antipsychotic medications in managing psychosis, the most prudent course is probably to combine analysis with antipsychotic medication for the more intense and ingrained psychotic illnesses. As the delusions weaken, the person might be more open to exploring the defensive and expressive motivational function of the content. Likewise, as hallucinations fade the individual will likely be more successful in exploring inner speech that could have contributed to the experience.

The precise manner of interpreting psychotic content is debatable (**Balestriere, 2007**; **Frosch, 1976**). However, in general terms based on the theory presented here, the process might be assisted by appreciating that delusions are extreme distortions of what is normally present in the person. Even with auditory hallucinations, inner speech likely forms the basis of the sensory perceptual experience. In the case of delusions that are typically the focus of analytic efforts the extreme cognitive distortion concept is highly useful when it comes to analyzing the experience. For example, if a patient suffers from paranoid delusions, working backwards there will often be underlying suspiciousness and distrust of people, and maybe even of the specific people or type of person that is the focus of the delusion. A patient might believe that doctors are trying to poison him with medication. Suspiciousness and distrust of doctors might have arisen from experiencing the death of a close relative that according to the family narrative involved medical mismanagement. Based on the defensive role of projection, angry feelings toward the deceased relative might be perceived as coming from the medical team attending to the patient. By working backwards and addressing the anger and other issues around the loss of this relative, the defensive and expressive motivational impetus for the psychotic manifestation might be diminished or resolved.

When psychosis occurs outside the context of schizophrenia and seems to have a very prominent defensive or expressive role, the analytic approach can yield powerful results in helping the patient understand the psychotic experience. With psychologically minded schizophrenic patients this approach can also yield much insight and give the person a sense of control over the psychotic experience or at least a manner of understanding it. The process is faster, safer, and more targeted such that it can even fall within the purview of brief analysis, when conducted in conjunction with antipsychotic medication. Given that psychosis is similar to dream content but expressed when a person is conscious and awake, the value of dream

interpretation for psychotic patients is debatable. Essentially, the content is out there in the conscious and awake state, although in a highly distorted form as is customary with dream content.

Conclusion

The theory presented constitutes a parsimonious explanation of psychosis and integrates the neuroscience defect and psychoanalytic motivational perspectives. Based on the evolution of human intelligence, we have an innate capacity for psychosis, taking the form of extreme variants of thought content, thought form, and sensory perceptual experiences. Cognitive regulatory control processes normally prevent these more extreme variants from entering the conscious and awake state, in order to facilitate reality congruency necessary for adaptive functioning. No such need exists when we sleep and dream content routinely contains psychotic equivalents.

Integrating the defect perspective, damage or impairment to cognitive regulatory control processes allow extreme thought content, thought form, and sensory perceptions to gain expression when a person is conscious and awake, thereby producing psychotic manifestations. The content of dreams and psychosis are then remarkably similar, as many psychoanalytic theorists have pointed out, with the primary difference residing in factors associated with the sleep-wake difference. Integrating the motivational perspective, defensive processes subsuming transformation motivate psychotic thought content, thought form, and sensory perceptual experiences, and at least temporarily deactivate the cognitive regulatory control processes normally blocking their expression in the conscious and awake state. Hence, both the neuroscience and psychodynamic perspectives contribute solidly to our understanding of psychosis.

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