

Visual Hallucinations During Hallucinogenic Experience and Schizophrenia

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Abstract

The visual hallucinations experienced by a 26-year-old woman under the influence of hallucinogens and during schizophrenia are described. Three types of hallucinations are delineated: (1) superimposed hallucinations, (2) spatial and depth distortions, and (3) animations. These three types of hallucinations appear to represent consecutive gradations on a continuum of the ego function of reality testing, with superimposed hallucinations revealing the least and animations the greatest degree of disorientation. The findings of the present study indicate the need for a research design that compares the hallucinations of schizophrenics to the toxic hallucinations of non-schizophrenics.

The phenomenology of visual hallucinations has been described in the literature (Jaspers 1963; Kleinman, Gillin, and Wyatt 1977; Siegel and West 1975), and several authors (Kleinman, Gillin, and Wyatt 1977) have compared the phenomena as they occur under hallucinogenic drugs and during schizophrenia. The present study is an attempt to shed new light on this comparison by reporting the experiences of a young woman who suffered a schizophrenic break at age 20, after having experimented with mescaline and LSD.

Case History

Alicia H.,¹ now a 26-year-old graduate student, experienced an acute schizophrenic episode 6 years ago. She was hospitalized for 4½ months

at an NIMH Clinical Research Unit at the National Institutes of Health, where she participated as a research subject while receiving treatment. Clinical care emphasized milieu treatment and psychotherapy, and the patient received no medication during the hospitalization.

Alicia progressed well in psychotherapy, and she regained her previous level of functioning. Upon discharge, she was able to get work, which she continued until she returned to school. She remained anxious, however, about the possible recurrence of her symptoms, in particular the visual hallucinations she had experienced both during psychosis and during LSD trips. In an attempt to integrate the schizophrenic and drug experiences, Alicia reconstructed the episodes and recorded her descriptions. The following are excerpts from her account:

Age: 17 years, 0 months. I am with Julia, my best friend, and it is my birthday. In celebration, I have taken LSD for the first time. I am surprised that there are no bright colors splashed on my field of vision. The only visual aberration of which I am aware is a slight spatial distortion of size. The trees we are passing on the street seem incredibly large, and the grassy hill leading to the water tower looms forever in the distance. Julia appears to have expanded. She is larger than life.

Age: 17 years, 2 months. I am with Tom and a friend of his, and we have taken LSD before embarking on a trip to the mountains to enjoy the fall foliage. Again I see no splashes of color, other than the orange of the trees and the blue of the sky. The scenery seems too still and flat, like a picture postcard. I have lost my

¹The art featured on the cover of this issue of the *Schizophrenia Bulletin* was done by Alicia H.

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depth perception and am consequently struggling to maintain a sense of reality. I feel that if I were to reach up and to grab the corner of my field of vision, I could tear it away from its base, as if it were a sheet of paper on a picture calendar.

Age: 17 years, 3 months. Tom has invited me to a Thanksgiving party, where I have taken what he said was mescaline. I am unhappy because he is ignoring me. I look into the hall mirror, to find that my face has distorted into the face of an ugly, catlike monster.

I go home to my parents' house. The hallway is dark as I open the door to their bedroom. I hear my mother saying, "Alicia? Is that you, dear? Did you have a good time?"

I feel my heart pounding, as I answer, "It was all right." I am very frightened that she'll discover I've been taking drugs. As soon as I hear her voice, my field of vision bursts alive with bright colors, which I see about a foot in front of me, and which are superimposed on my surroundings. I see no definite objects, but only abstract shapes, and these last for about half a minute, until I reach my bedroom and turn on the light.

Age: 20 years, 1 month. I have dropped out of school, and am living at my parents' house. I had a job for a month or so, but now I have quit it. As I stand in my mother's kitchen, the spice rack, and then the whole wall start moving toward me, in a smooth, wavelike motion. Soon the entire kitchen is literally closing in on me, and I realize that the house is trying to eject me. It is time to move out.

I have broken off a piece of celery from its stalk. I notice how the small branches jutting off the top of the celery are really quite similar to arms, and how the leaves are not unlike hands. All of a sudden, the celery starts waving its branches and leaves at me, as if they were the arms and hands of a tiny green person. Its movement is quite animated. It is no longer a vegetable to me, but a

small friend. I have great difficulty deciding whether to eat it.

Age: 20 years, 2 months. I have decided that it's time for me to leave my parents' house, but I am uncertain where to go. I pick a yellow daffodil from the garden, and it says, "Follow me, Alicia. I'll point you in the right direction." Sure enough, the edges of the petals start to expand, and the flower reshapes itself into the nose of a bright yellow hunting dog, first sniffing, and then pointing the direction in which I am to travel, as I head for the streets of the city.

Age: 20 years, 3 months. I am in the hospital, sitting in the dayroom. My vision is a little hazy. I look up at Peggy, the nurse, and there are two of her.

"Peggy," I tell her, "I want to get better."

"Hey, everyone," she exclaims, "did you hear that? Alicia says she wants to get better."

I hear shouts of, "Right on, Alicia," and "Atta girl," from the staff, as people gather around me and smile. My vision is starting to clear up.

The visual phenomena described by Alicia may be classified into three categories: (1) superimposed hallucinations, (2) spatial and depth distortions, and (3) animations.

Superimposed Hallucinations

Included in this category are flashes of light, color, and patterns, which are typically reported in the hallucinogenic drug literature (Jaspers 1963; Kleinman, Gillin, and Wyatt 1977; Siegel and West 1975). The impressions may be seen with eyes shut, or in a darkened room with eyes open (Siegel and Jarvik 1975). The observer is usually aware of the phenomena at reading distance (Kluver 1928), as if they were projected onto a screen before the eyes (Siegel and Jarvik 1975). Siegel and Jarvik (1975) have delineated several shapes that some researchers con-

sider to be hallucinatory constants; these are likely to occur early in the hallucinogenic experience (Savage 1975). The constants include the line, curve, web, lattice, spiral, tunnel, and kaleidoscope.

The observer of superimposed hallucinations is generally aware that the phenomena are not part of reality. They are kept spatially apart from objective reality, and the conceptual boundary between the imagery and ordinary perception is well articulated.

Spatial and Depth Distortions

These phenomena are reported both under LSD and during schizophrenia. Huxley (1954) also reported an uncertainty under mescaline as to whether the walls of the room still met in right angles. Under the influence of LSD, Szara (1957) and Hofmann (1959) both experienced disturbances of spatial perception, and Watts (1960) saw double images. During schizophrenia, both Sechehayé's patient (Sechehayé 1951) and Green (1964) experienced a loss of the sense of perspective.

The degree of disorientation imposed by spatial and depth distortions may be considered more severe than that imposed by superimposed hallucinations. Instead of being able to maintain a spatial boundary between the hallucination and objective reality, the observer has begun to merge the two phenomena. In the face of bizarre external cues such as these, the observer has two alternatives: (1) to ignore the cues, attributing them to the effects of the drug or to fatigue, or (2) to try to accommodate himself to the phenomena, and to seek out a separate reality. Choosing the latter alternative may lead to profound personality disintegration.

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Animations

In this final category, the hallucination is totally integrated with reality. The observer is unable to distinguish one from the other. He may feel that the ego boundaries have disintegrated.

Of the material reviewed, only one account described an experience similar to Alicia's with respect to animation. Jaspers (1963) cited the report of a patient under scopolamine, who saw a pen crawling toward him like a caterpillar (pp. 87-88). Such disturbances of the perception of movement were thought by Jaspers to occur principally following neurological lesions.

The attribution of animation to inanimate objects would appear to reflect severe confusion, and to render the person unable to function. Yet, it may be seen as serving a purpose for the faltering ego. The animated object may represent a source of wished-for warmth and friendship, which the schizophrenic patient has been unable to derive from interpersonal relationships. Therefore Alicia, who was unable to obtain guidance from her parents or teachers, sought direction instead from a daffodil.

Conclusions

The visual hallucinatory experiences of a young woman under the influence of hallucinogens and during schizophrenia have been described. The three types of hallucinations she experienced—superimposed hallucinations, spatial and depth distortions, and animations—may be viewed as representing consecutive gradations on a continuum of the ego function of reality testing. Bellak, Hurvich, and Gediman (1973) associated hallucinations with a global, low level of reality testing, but it

appears from this study that hallucinations occur at various levels of reality testing, and that the type of hallucination depends upon the level of reality testing used. At one end of the continuum, superimposed hallucinations are experienced as spatially separate from objective reality. At the other extreme, animations are experienced as spatially integrated with reality.

The three types of hallucinations may also be seen as depicting progressive formedness of percept, and increasing animism. Superimposed hallucinations are likely to be relatively abstract geometric shapes, and there is some agreement among subjects about their common characteristics. In contrast, animations tend to be highly individualized and personalized experiences that are probably greatly influenced by specific psychodynamic factors.

A legitimate objection to the present study is the difficulty of ruling out the possibility that the animations Alicia experienced during psychosis might have resulted from an LSD flashback. This explanation would appear to be unlikely, however, since Alicia experienced no animations upon initial ingestion of the drug. Furthermore, Stoll (1947) reported that schizophrenics, when given LSD, were able to differentiate their schizophrenic from their toxic hallucinations. The superimposed patterns, for Stoll's patients as well as for Alicia, were triggered by the ingestion of the drug, and not by the psychosis. Spatial and depth distortions were experienced both during schizophrenia, and during hallucinogenic experience.

Despite assurances of the schizophrenic's ability to differentiate schizophrenic and toxic hallucinations, there are still uncertainties inherent in research that examines these two phenomena in the same

subject. The findings of the present study indicate the need for a design in which the hallucinations of schizophrenics are compared to the toxic hallucinations of nonschizophrenics.

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