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A Comparative Study of Pseudohallucinations, Imagery and True Hallucinations

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Introduction

Since the time of Esquirol (1838) a discrimination has been made between illusions and hallucinations. The latter are generally taken to be perceptions that spring into being in a primary way and not transpositions or distortions of any genuine perception (Jaspers, 1962). There are, however, various phenomena comparable to hallucinations proper (as defined above), such as various forms of imagery and pseudohallucinations, which may be part of normal experience. This paper is concerned with a comparison of various types of hallucinatory phenomena differentiated on phenomenological grounds.

The Investigation

i. *Method*

The present study was confined to patients who were admitted as in-patients or day-patients, during the three years 19 August, 1959 to 19 August, 1962 to the University Department of Psychiatry, Manchester Royal Infirmary, under the care of Professor E. W. Anderson. All patients who had experienced hallucinatory phenomena were included in the study. In all cases they were known personally to the author and personally interviewed regarding their experiences. Detailed case histories are available in the original Thesis.

ii. *Case Material*

In all there were 72 patients (13 males and 59 females), their ages ranging from 16 to 64 years. The overall female preponderance of the case material reflected the female preponderance in total admissions to the unit. The relationship between the sex of the patient, the setting and types of the hallucination and the diagnostic groupings of the case material, using the principal diagnosis in each case, are shown in Table I.

The distribution of patients according to race, religion and social class reflected those of all admissions to the unit.

iii. *Statistical Methods*

A number of clinical and social factors (*vide infra*) were considered in turn in respect of their possible association with the presence of the various types of hallucinatory experiences. In most instances a 2×2 chi square method with Yates correction was used, although in some instances a ranking procedure (Wilcoxon's Test) was preferred. Only the statistically significant findings are reported.

(1) the duration of the present illness, (2) a particular mode of onset of the present illness, (3) a history of previous mental illness, (4) a particular mood change, (5) the presence of depersonalization, (6) abnormal E.E.G. finding, (7) a family history of mental illness, (8) race, (9) religion, (10) social class, (11) a particular premorbid personality, (12) the ability to "imagine", (13) a family history of hallucination, (14) a history of neurotic traits or traumatic experiences in childhood, (15) marital status, (16) obsessive-compulsive symptoms, (17) a history of frigidity, (18) intelligence, (19) abnormalities of hearing or vision, (20) neurotic (N) scores or extraversion (E) scores on the Maudsley Personality Inventory (MPI).

iv. *Personality typology*

Assessments of the patients' premorbid personality used throughout followed Schneider (1958): 43 were adjudged to be predominantly self-insecure (obsessional and/or sensitive); eight were predominantly attention-seeking (hysterics); eight had both attention-seeking and obsessional features; one was hyperthymic,

TABLE I

Diagnosis	Males	Females	Clear Consciousness			Half Waking			Clouded Consciousness		
			Imagery	Pseudo	True	Imagery	Pseudo	True	Imagery	Pseudo	True
Personality disorders and/or abnormal psychogenic reactions	1	15	5	7	0	1	8	0	0	0	5
Organic psychoses (acute, subacute or chronic)	6	10	3	5	3	0	6	0	1	1	5
Epilepsy	1	3	2	1	2	0	0	0	0	0	0
Functional psychoses											
—Affective Psychosis	2	12	4	7	2	0	5	1	0	0	0
—Schizophrenia	3	13	1	2	12	0	3	3	0	0	2
—Schizo-affective Psychosis	0	4	0	2	4	0	0	0	0	0	0
Unclassified	0	2	0	1	1	0	0	0	0	0	1
TOTALS	13	59	15	25	24	1	22	4	1	1	13

while in 12 patients the premorbid personality structure exhibited no particular predominance of character traits and there was no history of disturbed interpersonal relationships.

RESULTS

1. THE PHENOMENOLOGY OF VARIOUS HALLUCINATORY EXPERIENCES

A detailed account of the historical concepts and a review of the literature concerning the phenomenology of hallucinatory experiences will have been given in another paper (Sedman, [to be published]). Hence only a brief summary of these views will be given.

(a) *Imagery*

Imagery was defined as an experience appearing in inner subjective space and lacking the concrete reality of perception. Such experiences described by patients were those which spontaneously or on direct questioning were remembered as worth reporting to the doctors. One might be given a description of something unusual that happened to them, foreign to their normal experience; or perhaps a description of a capacity which they had known all their lives, but was now reported because of its new and emotionally toned content.

Whilst most of the reports were of the experience being self-evoked and under the control of the will, this was not entirely so; thus an epileptic had a more "peripheral" aspect to his experiences, somehow they seemed alien to him, not of him and not under his control.

Visual and/or auditory experiences were the most frequent, and almost without exception were remarkably clear. As a rule they were frequent experiences in the individual subjects; the visual experiences were usually coloured, life-sized, with vague projection, although in two instances there was a more complete projection. Thus, one patient projected the image into external space—to be outside the window—yet maintained that this was in her mind's eye. They varied in respect of the quality of depth, some appearing three-dimensional and others appearing quite flat. The auditory experiences in general lacked projection outside the body. The patients seemed to know that it was a subjective experience, though how they "knew" this they found difficult to say. It did not seem to come from lack of objectivity or corporeality of the image, or to be related to the degree of projection. The contents of the experiences were varied, being generally psychologically meaningful, more so in the auditory sphere than in the visual sphere.

(b) *Pseudohallucination*

Under this term are included those hallucinations which are perceived through the senses, but recognized by the patient as not being a veridical perception.

Pseudohallucinations were commonly in the visual and/or auditory modalities. The experiences occurred as single experiences in the individual's life or as frequently recurring experiences. The visual ones were usually coloured, in full sensory detail and clarity, fully projected and three-dimensional, sometimes associated with auditory experiences. The content was commonly human, such as visions of deceased relatives or sometimes of complete strangers; whilst the auditory experiences were of the subject's name being called, or advice was suggested. The content of the experience was in nearly every instance psychologically meaningful—the patients often gained comfort from the presence of the vision or from the words of advice that were proffered. The experiences were closely linked to the ego, and recognized as being of the self, as not being true percepts, even though they were appreciated by the sense organs. In a few instances, however, the individual concerned was unable to make a critical judgment for a few moments, and a conscious act was necessary to make the distinction; thus one patient knew that it could not really be her husband standing there, because he was dead. Usually, however, the critical judgment did not seem to depend on a conscious act, but was an intrinsic part of the experience. This applied equally to both visual and auditory experiences.

(c) *True Hallucinations*

Under this term are included experiences perceived as through the sense organs and accepted by the patient as real perceptions.

It was found that true hallucinations varied in form with the setting in which they occurred. Thus, in a setting of clear consciousness they were predominantly auditory; olfactory or haptic experiences were not infrequent, whilst visual hallucinations were unusual. On the other hand, in a setting of clouded consciousness visual and auditory experiences were most frequent, whilst olfactory and haptic experiences were rare. This makes one question whether the processes involved are the same in the two cases. This will be discussed further later.

The experiences in clear consciousness were usually quite clear, though "whispers" were reported in a few instances. They occurred as the patient went about his daily life, and generally were experiences that frequently recurred. Their degree of projection varied; in a few instances they were localized within the body. The content of the experiences reflected in some instances the patient's psychological situation, but at the same time the experience was something alien to the self, not personally evoked, and was perceived as a percept.

2. The State of Consciousness

Hallucinations were categorized according to the state of consciousness at the time of the experience. Whilst it is true that it was sometimes difficult to be sure of the exact state of consciousness when one was dependent upon retrospective descriptions given by patients, especially in cases of experiences in the half-waking state, nevertheless careful and exacting enquiry in most instances provided the answer.

Hallucinatory phenomena were thus considered under the following headings:—

A. Experiences occurring in clear consciousness

B. Experiences occurring in states of altered consciousness

(i) in the half-waking state

(ii) in a state of clouded consciousness

We now have to consider the clinical correlates of all these forms of experience.

A. Experiences Occurring in Clear Consciousness

(a) *Imagery*

There were 15 patients who reported imagery; in six patients this was purely visual, and in eight patients only auditory, one patient reporting both visual and auditory imagery. It was difficult to be sure whether imagery occurred in other modalities or not.

There was a significant association ($\chi^2 = 4{\cdot}32, p < 0{\cdot}05$) between the occurrence of imagery and a premorbid personality showing attention-seeking and obsessional features.

The presence of overt obsessive-compulsive symptoms was considered in both the imagery and non-imagery groups. There was a high incidence of obsessive-compulsive symptoms (nine out of 15) in the imagery group, and a much lower incidence (16 out of 57) among the non-imagery group. This difference was statistically significant ($\chi^2 = 4{\cdot}02$, $p < 0{\cdot}05$).

(b) *Pseudohallucinations*

In all, 25 patients reported experiences which could be included under the term "pseudo-hallucination", these occurring in the visual, auditory, olfactory and tactile senses alone or combined. Thus, 14 patients reported visual pseudohallucinations, 13 reported auditory pseudohallucinations, 2 reported olfactory pseudohallucinations, and 2 reported tactile pseudohallucinations.

There was a sex difference between the patients who experienced pseudohallucinations contrasted with the remainder. There were 25 patients (all female) who experienced pseudohallucinations, compared with the remaining 47 patients (13 males, 34 females). This finding was highly significant statistically ($\chi^2 = 6{\cdot}69$, $p < 0{\cdot}01$).

There was a significant association between the occurrence of pseudohallucinations and a premorbid personality exhibiting self-insecurity and attention-seeking traits ($\chi^2 = 4{\cdot}6$, $p < 0{\cdot}05$). None of the other premorbid personality assessments were related to the occurrence of pseudo-hallucinations.

There was a high incidence of sexual frigidity in the patients who exhibited pseudohallucinations, compared to the remaining female patients, this difference being highly significant statistically ($\chi^2 = 6{\cdot}71$, $p < 0{\cdot}01$).

(c) *True Hallucinations*

In all, 24 patients reported true hallucinations in a setting of clear consciousness, these being in the auditory, olfactory or visual senses alone or combined. Thus, 20 patients reported auditory true hallucinations, 7 patients reported olfactory true hallucinations, 5 patients reported tactile or haptic true hallucinations, and 2 patients reported visual true hallucinations.

There was, as might be expected, a high incidence of schizophrenia and schizo-affective disorder in the group ($\chi^2 = 13{\cdot}8$, $p < 0{\cdot}0005$) whilst absence of true hallucinations correlated with a diagnosis of personality disorder or abnormal psychogenic reaction ($\chi^2 = 8{\cdot}5$, $p < 0{\cdot}005$).

B. Experiences in States of Altered Consciousness

(i) *Experiences in the Half-Waking State*

(a) *Imagery.*—There was only one patient in whom the hypnagogic experiences were considered to be imagery, this being in the visual sphere.

(b) *Pseudohallucinations.*—In all, 22 patients reported pseudohallucinations whilst half-awake; in 19 these were visual, in 8 patients they were auditory, in 3 patients they were tactile, and in one patient thermal.

Most of the patients who reported pseudo-hallucinations in the half-waking state were women (19 females, three males).

(c) *True Hallucinations.*—There were four patients who experienced true hallucinations in the half-waking state. In one patient this was visual, in one patient it was olfactory, in another visual, and in the fourth it was a complex body image disturbance.

(ii) *Experiences in States of Clouded Consciousness*

In states of clouded consciousness, imagery and pseudohallucinations appeared to only one patient each in this series. There were 13 patients who reported true hallucinations, in ten these were visual, in eight they were auditory, and in one patient there was a tactile hallucination.

Experiences in More than One Modality

A number of patients exhibited experiences in more than one modality. This was infrequent

in respect of imagery but common in pseudo-hallucinations, particularly in the half-waking state, and in true hallucinations irrespective of the level of consciousness.

Experiences in More than One Level of Consciousness

A number of patients exhibited experiences in more than one setting. This applied chiefly to pseudohallucinations, being rare for imagery and true hallucinations. Thus a substantial number of patients (9) showed them both in clear consciousness and in the half-waking state, although not necessarily in the same modality.

Discussion

Imagery

Imagery in clear consciousness appeared in a diagnostically heterogenous group of patients, as indeed one might have predicted in as much as it is part of normal experience. However, the particular experiences described were regarded by the patients as unusual, in most instances because of the content of the experience, but in others because of the form of the experience (i.e. an imperative quality to the experience). In regard to the latter, it was interesting to find a significant association between the occurrence of such imagery and personalities which showed both obsessional and attention-seeking features (in respect of the psychiatrists clinical ratings), and also an association between such imagery and the incidence of overt obsessive-compulsive symptoms. These findings thus supported the phenomenological findings (reported elsewhere) that, particularly with the auditory experiences, they were often experienced in a compulsive manner. It is important to recognize that "inner voices", which are in fact a form of imagery, are an obsessive-compulsive symptom, and must be considered as such and not mistaken for other superficially similar phenomena which belong to the realm of schizophrenic experience, such as "Gedankenlautwerden" and true auditory hallucinations where there is a localization of the experience to part of the body. As I have shown, bizarre localization of the experience does not necessarily mean that it is schizophrenic experience, for obsessional "inner voices" may be so strangely located in the body (Sedman—to be published).

On the data available, it was impossible to show any association between the subjects' ability to "imagine" and the occurrence of imagery which they reported. The fact that such imagery was usually psychologically meaningful and occurred in a particular type of personality suggests that other factors were in operation in their genesis and thus came to be reported to the doctor.

It was surprising to find that only one patient reported "imagery" in the half-waking state. It is more difficult to assess experiences in the half-waking state, particularly in differentiating between imagery and pseudohallucination. On the data available, it was found that pseudo-hallucinations are common in the half-waking state, where imagery seems in this setting to be a rarity. Imagery may in fact be a frequent occurrence in the half-waking state, but may be infrequently reported for various reasons. I personally find it very difficult to recall my own hypnagogic imagery, and it may have to have either meaningful content or some peculiarity of form in order for it to be reported by patients. Since normal sleep, or normal wakefulness, which follows the altered state of consciousness rapidly dispels the experience, it seems to make little mark on the subject compared to experiences which occur in a setting of clear consciousness. Likewise there was only one patient who reported imagery in a state of clouding of consciousness, and again it may well be that imagery occurs in such states but is not recalled.

Pseudohallucinations

In regard to the pseudohallucination in clear consciousness, there was first of all a marked sex difference in that all the cases were female. There was a significant association between their occurrence and a premorbid personality which showed self-insecurity, (anankastic and sensitive traits) and attention-seeking traits. The personality factor is supported by the finding of a very high incidence of sexual frigidity in these patients. There were no other social or clinical factors of significance in this

series. When pseudohallucinations in the half-waking state were considered, none of these factors seemed to be concerned. Thus, although there was a preponderance of females over males, this did not achieve a statistically significant level. There was no association with a particular personality type or a particular diagnosis, nor was it associated with frigidity. Indeed it was impossible to detect any factors which seemed to be playing a part in the production of pseudohallucination in the hypnagogic state.

Pseudohallucinations appeared to be rare experiences in states of clouding of consciousness in this series, a point which will be discussed further in relation to true hallucinations.

Thus it is contended that pseudohallucinations in the hypnagogic state are not necessarily pathological at all, and may be a variety of normal experience. The hypnagogic state is presumably conducive to their production; they derive their contents from the subject's emotional state, previous experiences, wishes, etc., as do dreams. Thus their contents may aid the doctor in understanding the inner psychic life of the patient, but the form of experience is not necessarily pathological. Pseudohallucinations occurring in the setting of clear consciousness appear to be more common in females and to be associated with a particular personality (with both obsessional and attention-seeking traits). Personalities in which the attention-seeking features or the obsessional features were found in "pure culture" were not associated with the pseudohallucination in a setting of clear consciousness. In clinical practice this mixture of personality traits is by no means uncommon, and such personalities make considerable impact on those who meet them. Some psychiatrists are immediately impressed by the attention-seeking traits, and the patients are thus labelled "hysterics", though on closer observation the anankastic side of their personalities is equally obvious. The deep inner insecurity, anxiety, sensitivity are often superficially camouflaged by histrionic over-compensatory behaviour. It is possibly for this reason that pseudohallucinations have often been dismissed in the past as "hysterical" hallucinations (Consiglio, 1905). It is strange that Schneider (1958), whilst rightly pointing out the not infrequent association of anankastic, asthenic and depressive psychopathy, fails to acknowledge the relationship between the anankast and the attention-seeker. The fact that a high proportion of these patients (showing pseudohallucinations in clear consciousness) were sexually frigid may derive again from the basic personality attributes, combining the superficiality of the attention-seeker and the sexual ambivalence of the obsessional.

It might at this point be advantageous to describe in more detail the personality type concerned in this instance. Thus, in one patient* the presenting complaint was of "blackouts" which were undoubtedly psychogenic. During an interview, if one pursued a line of enquiry which caused her upset, she would suddenly go "glassy-eyed", sit motionless in the chair and refuse to answer. Such a manœuvre was attempted by the patient during her case conference, but when she was taken to task about it the behaviour ceased. At other times she would adopt an attitude of perplexity, as if she did not know what was happening to her, although, as was subsequently shown, this behaviour was feigned to avoid certain topics of conversation. Whilst she was in the ward, scenes with other patients were frequent, the slightest upset would precipitate bouts of crying or sometimes "blackouts". There was a perpetual clamouring for the doctor or the sister in charge to discuss her problems, though once given the opportunity the real issue would be avoided.

The superficial emotional responses and their exaggerations at convenient times highlighted the attention-seeking side of her personality, though this was interwoven with and inseparable from a basic self-insecurity. She had developed a number of phobias and rituals, having been all her life a meticulous, conscientious and house-proud woman. She was indecisive, often tense and anxious. Sexually she had been frigid in both her marriages, though she was not above a certain amount of mild flirtatious behaviour in the ward. She would seek to discuss her sexual problems and then adopt a defensive role or shun questions altogether. This ambivalence was apparent in many other aspects, particularly in her interpersonal relationships.

*Patient 26 in the original Thesis.

Her moods were labile, shifting; tension and anxiety alternating with good humour and somewhat childish giggling, only to be replaced by depression, bouts of crying and stubbornness. Following her mother's death this patient developed an experience of being possessed and controlled by her mother, who she felt had entered her body. This was considered to be a hysterical manifestation and not a true "passivity" experience. Depending upon one's point of view, the attention-seeking or the anankastic nature of her personality can be brought forward, though they are in fact closely interwoven. The one highlights the other, the self-insecurity can be "dressed up", exaggerated, or the anankastic ambivalence may influence the attention-seeking behaviour. Whatever label one cares to put on such individuals, they are well known to every psychiatric clinic. This is the sort of individual who has in this study been designated as a mixed attention-seeking and obsessional personality. It is such people who appear to exhibit pseudohallucinations and imagery in a setting of clear consciousness.

The contents of the pseudohallucinations in clear consciousness again appeared to be related to the emotional climate of the individual, but these are expressed formally by an experience which remains purely subjective. The capacity to experience in this manner may be largely constitutional and is probably largely dependent upon the personality of the subject. In this respect it was interesting to find that there was no relationship between pseudohallucinations and a history of previous neurotic traits or psychic traumata in childhood.

True Hallucinations

There was, as might be expected, a high incidence of schizophrenia and schizo-affective disorder among the cases exhibiting true hallucinations in clear consciousness ($\chi^2 = 13{\cdot}8$, $p < 0{\cdot}005$).

It is apparent that true hallucinations can occur in the half waking state, although in this series they were relatively infrequent. Three of the four patients were in fact schizophrenic, and the experiences were regarded in the same light as their other schizophrenic experiences.

When true hallucinations in a setting of clouded consciousness were considered, it was obvious that visual experiences were very common, whilst in states of clear consciousness they had been infrequent. Auditory true hallucinations were, however, equally frequent whether there was a setting of clear or clouded consciousness. Certainly some of the visual experiences resembled very closely visual pseudohallucinations, differing only in respect of the lack of reality judgment, which is probably largely determined by the state of consciousness. On the other hand, some of the visual experiences appeared to be of a different order, such as the "fragmented" ones and the "comical" ones. It is possible that we are dealing with a heterogenous group of experiences, although on our original definition they are all included under the term "true" hallucinations. This particular aspect really requires further study, and since the present series only contained a minority of organic cases, one must be guarded in drawing conclusions from it. For statistical purposes they were considered as a single group, and treated this way no special associated factors materialized. In other words, diagnosis, personality, social factors, etc., of themselves do not appear to be of importance in the genesis of true hallucination in states of clouding. On the other hand, the content of the experiences again often closely reflected the emotional climate of the subject.

The Role of Psychogenesis, Affects, etc.

As we have seen, certain themes have already developed. Firstly, although hallucinatory phenomena present in various forms, their contents are usually understandable in relation to the patient's emotional state.

The role of powerful affects in the genesis of hallucination is difficult to assess, and it must be admitted that this study has shed but little light upon the problem. The concept of catathymia (Maier, 1912), implying a specific psychic vulnerability due to earlier infantile traumatizations, may be useful in this respect. Apparently insignificant events can create powerful affects in the individual, depending upon whether the individual is sensitized to that particular trauma. It is thus akin to the

"key experience" of Kretschmer (1952). Undoubtedly, in many of the cases exhibiting pseudohallucinations powerful affects and emotions were present at the time of the experience, although these are difficult to assess either qualitatively or quantitatively. A setting of depressed mood was frequent, though the latter was not associated with a particular type of hallucination. Conversely, some hallucinatory experiences occurred in settings of elation or ecstasy. However, there are many more patients with similar mood changes who do not exhibit hallucinations. Further, in this series it could not be shown in respect of pseudohallucinations that traumatic psychic experiences had occurred in earlier life at all frequently. In considering true hallucinations, whilst experiences could be understood in terms of the individuals' psychological situation, the role of affects was also difficult to assess. Most of the patients were schizophrenic, and the affects associated with their illnesses are probably an integral part of the schizophrenic process, though some might be psychogenically determined. There is, however, no certain correlation between such affects and the emergence of hallucination. Thus at the height of a "delusional atmosphere" at the beginning of the process, hallucinations are often entirely absent. One cannot avoid feeling that both hallucination and affects are clearly concerned with the process itself, but are not necessarily interdependent.

Concluding Remarks

The rôle of personality factors in the production of imagery and pseudohallucination in clear consciousness suggests that they may be similar experiences, possibly part of a continuum, whilst these occurrences in the half-waking state are quite possibly part of normal experience. The fact that true hallucinations in clear consciousness were not related to personality type, while both imagery and pseudohallucinations in clear consciousness were so related suggests that true hallucinations in clear consciousness are experiences of a different order and are intimately bound to the schizophrenic process and its accompanying ego change. True hallucinations in states of clouded consciousness may themselves be a heterogenous group of phenomena, and this requires further investigation.

Summary

A group of 72 patients who reported hallucinatory experiences was studied. A classification of the various types of hallucination is presented, based upon phenomenological differences. The individual types of experience are considered in respect of the setting in which they occurred, namely:

1. in states of clear consciousness
2. in states of altered consciousness
   (*a*) in the half-waking state
   (*b*) in a state of clouding

Various phenomenological aspects of the experiences are discussed in turn, illustrated by brief descriptions of the experiences.

The findings are discussed from the phenomenological point of view, and certain factors which were found to be associated with particular forms of hallucination are commented upon, viz. that there is an association between imagery and pseudohallucinations occurring in clear consciousness and a certain personality type that exhibits obsessional and attention-seeking features. No special factors were found to be associated with experiences in the half-waking state. True hallucinations in clear consciousness tend to be associated with a diagnosis of schizophrenia. True hallucinations in states of clouded consciousness may, it is postulated, be a heterogenous group of phenomena. The role of affects and psychogenesis is briefly commented upon.

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