THE PHENOMENOLOGICAL DIVERSITY OF HALLUCINATIONS: SOME THEORETICAL AND CLINICAL IMPLICATIONS

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Hallucinations are complex psychopathological phenomena. Nevertheless, this has not always been clear in the scientific literature, until recently. In the following paper, the phenomenology of hallucinations will be (briefly) described. Then, ways in which examining phenomenological characteristics of hallucinations may have theoretical and clinical implications, will be presented. Assessment tools that examine phenomenological aspects of hallucinations will also briefly be presented. In particular, it will be argued that previous theoretical accounts of hallucinations that exclusively propose an externalising bias have not integrated the full phenomenological diversity of hallucinations. In addition, it will be maintained that taking into account the phenomenological diversity of hallucinations has a number of clinical implications, such as providing the patient with important information, improving patient-clinician relations, helping individualise treatment, opening up new therapeutic avenues, and providing information concerning changes in the patient's mental and emotional condition.

Defining hallucinations has proven to be difficult in the past (see for example the debate between Liester, 1998, and Aleman & de Haan, 1998) and will probably continue to generate debate in the future. As Lowe (1973) has rightly pointed out, "the variety in the manners in which hallucinations have been defined does not imply that any given definition is invalid, but it does confirm that hallucinations are complex phenomena, whose investigation almost certainly requires multi-dimensional research designs and multiple initial criteria (page 626)." Recently, David (2004) has provided us with the following definition: "A sensory experience which occurs in the absence of corresponding external stimulation of the relevant sensory organ, has a sufficient sense of reality to resemble a veridical perception, over which the subject does not feel s/he has direct and voluntary control, and which occurs in the awake state (page 110)".

Although hallucinations are highly complex and rich phenomena, this fact is rarely given the merit it deserves in the scientific literature. This is unfortunate, as taking into account the phenomenological nature of hallucinations

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has tremendous implications for both theory and for clinical practice. In particular, current (cognitive) theories of hallucinations have exclusively considered hallucinations as internal events misattributed to an external source, even though evidence from phenomenological studies indicates that this may be only one of many possibilities. In clinical terms, not taking into account the phenomenological nature and diversity of hallucinations may seriously hamper the therapeutic progress.

What will follow is a (brief) summary of the phenomenology of hallucinations. Then, some of the theoretical implications of this will be presented. The clinical implications will then be presented and discussed. The article will conclude with a presentation of assessment strategies that seem to take into account the phenomenological diversity of hallucinations. It is important to note that the ideas expressed in this article do not stem from any specific clinical or theoretical phenomenological tradition. Indeed, the term "phenomenology" will be used in a pragmatic (as opposed to theoretical) and inclusive (i.e., enabling it to complement other clinical and theoretical approaches) manner, and may be defined as the study of structures of experience, or consciousness. The perspective advocated here is to view the hallucinatory experience from a first-person (experiencer) perspective, where it is the subjective experience itself that takes precedence.

The phenomenology of hallucinations

A large number of studies suggest that hallucinations are phenomenologically heterogeneous experiences (Carter et al., 1995; Copolov, Trauer, & MacKinnon, 2004a; Hunter et al., 2003; Junginger & Frame, 1985; Miller et al., 1993; Nayani & David, 1996; Oulis et al., 1995; Stephane et al., 2003). For instance, hallucinations may involve a wide variety of modalities and types, including auditory, verbal (i.e., only involving voices), visual, olfactory, kinaesthetic, gustatory, tactile, musical, hypnagogic hallucinations (occurring at sleep onset), hypnopompic hallucinations (occurring upon awakening), or multi-modal hallucinations (occurring simultaneously in more than one modality). Important to note, however, is that, although auditory hallucinations are often reported as being the most prevalent (especially in schizophrenia), findings from a number of studies suggest that the prevalence of other, non-auditory hallucinations are under-reported in the literature and are probably more common than traditionally thought (Baba & Hamanda, 1999; Bracha et al., 1989; Delespaul et al., 2002; Evers & Ellger, 2004; Gauntlett-Gilbert & Kuipers, 2003; Goodwin, Alderton, & Rosenthal, 1971; Larkin, 1979; Lowe, 1973; Miller, 1996; Miller et al., 1993; Mueser et al., 1990; Phillipson & Harris, 1985; Small et al., 1966).

Neuroimaging studies suggest that hallucinations in a given modality involve areas that normally process sensory information in that modality (see Weiss & Heckers, 1999 for a review). For instance, studies have shown the involvement of the primary and association auditory areas in auditory hallucinations. In visual hallucinations, among the areas that seem to be involved are the primary and association visual areas. Likewise, for somatic hallucinations, studies have observed somato-sensory cortical involvement. In an interesting case study, Izumi et al. (2002) found evidence of differing patterns of regional cerebral blood flow during musical hallucinations versus verbal hallucinations. In a similar study, Shergill et al. (2001) studied a patient with both auditory and somatic hallucinations, and used neuroimaging (fMRI) to identify differences in brain activation underlying both. This analysis revealed that somatic hallucinations were primarily associated with activation in areas classically associated with tactile processing (e.g., primary somatosensory cortex, posterior parietal cortex, thalamus), whereas auditory hallucinations were primarily associated with activation in a distinct set of brain areas, particularly the right temporal cortex.

Hallucinations may occur in a number of different clinical populations including psychiatric patients (e.g., schizophrenia, affective disorders, dissociative disorders, borderline personality disorder, delirium, post-traumatic stress disorder, multiple personality disorder, post-partum psychosis, conversion disorder) and non-psychiatric patients (e.g., cerebrovascular disorder, brain tumour, brain injury, epilepsy, narcolepsy, migraine, Lewy Body Dementia, Parkinson's disease, Alzheimer's disease). Furthermore, because these populations differ (e.g., in terms of the presence of sensory deficits, brain anomalies, environmental factors, traumatic events, genetic factors, etc.), one may assume that the phenomenological characteristics of their hallucinations also vary. Indeed, for instance, auditory hallucinations observed in severe depression or psychotic depression, are generally heard saying things consistent with the person's depressed mood (e.g., hear voices that are mocking and humiliating, which criticise the patient for various failures, shortcomings and sins). Similarly, the auditory hallucinations in manic episodes usually involve voices which speak directly to the person and whose content is congruent with their abnormally elevated mood. Lowe (1973) observed that paranoid hallucinations were predominately auditory, whilst manic-depressive hallucinations were predominantly visual. Some people with PTSD relive the original traumatic event via an auditory hallucination (e.g., combat veterans hearing persistent voices which involve cries for help or conversations concerning battle). Hallucinations reported in post-partum disorders may involve hearing voices telling the mother to kill her baby, hearing voices accusing her of not being a competent mother, or simply hearing her baby crying. In the case of the dementias, in Lewy Body Dementia and

Parkinson's disease, hallucinations are often rich and detailed, whereas in Alzheimer's disease they are commonly simple and/or isolated. Hallucinations in Charles Bonnet Syndrome are unique, in that they often consist of bizarre or frightening hallucinations such as grotesque, disembodied, or distorted faces with prominent eyes and teeth (Santhouse et al., 2000). Whereas hallucinations in Alzheimer's disease are more frequently visual than auditory, the reverse is true in elderly patients with schizophrenia (e.g., with late onset schizophrenia-like psychosis), which fall in approximately the same age group. In addition, Schneiderian first-rank symptoms involving hallucinatory experiences (e.g., hearing a voice speaking one's thoughts aloud, two or more voices conversing with one another, voices which keep a running commentary on the person's thoughts or behaviour) are extremely rare in Alzheimer's disease patients, compared to patients with late onset schizophrenia-like psychosis. Whilst hallucinations often reflect the concerns of schizophrenic patients and are highly personally salient and emotionally charged, hallucinations in some non-psychiatric patients (e.g., those suffering from tumours, epilepsy, drug or alcohol withdrawal) usually give rise to contentless or arbitrary perceptual phenomena such as noises or flashes of light or colour (Healy, 1990). In addition, many of the (auditory) hallucinations described by schizophrenic patients are negative in content (e.g., persecutory comments, criticisms of the self, instructions to commit violent acts against the self or others), yet this is rarely the case in other subjects with hallucinations (e.g., neurological patients, patients with dementia, non-clinical subjects).

There is also evidence that culture may modulate the phenomenological characteristics of hallucinations. For example, auditory hallucinations seem to be the most frequently reported by schizophrenic patients in the West, with visual hallucinations only appearing in the more deteriorated patients (Strauss, 1962; Mueser, Bellack, & Brady, 1990). In contrast, a number of studies have found that visual hallucinations are a more common type of hallucination in African and Asian countries compared to the West (Al-Issa, 1977, 1978; Murphy et al., 1963; Ndetei & Singh, 1983; Ndetei & Vadher, 1984; Sartorius et al., 1986; Zarroug, 1975). More recently, Okulate and Jones (2003) report that the frequency of auditory hallucinations that were commanding, abusive, cursing, arguing and frightening was generally lower among their Nigerian schizophrenic patients compared with those in the UK, based on the study by Nayani and David (1996). Furthermore, in this study, voices discussing the patient in the third person were not as frequent among their schizophrenic patients as in the UK study.

A growing number of studies have attempted to examine these (and other) phenomenological characteristics in a systematic and detailed manner (Carter et al., 1995; Copolov, Mackinnon, & Trauer, 2004b; Copolov, Trauer,

& Mackinnon, 2004a; Hunter et al., 2003; Junginger & Frame, 1985; Miller, 1996; Miller et al., 1993; Nayani & David, 1996; Oulis et al., 1995; Stephane et al., 2003). For instance, in one recent study, Stephane et al. (2003) interviewed a group of 100 psychiatric patients (with schizophrenia, schizoaffective disorder and psychotic depression) regarding the phenomenological characteristics of their auditory-verbal hallucinations. A total of 20 phenomenological auditory-verbal hallucination variables were identified based on the literature and the clinical experience of the authors. Multidimensional scaling analyses were performed to investigate the dimensional structure underlying of these variables. Results revealed three dimensions: (1) linguistic complexity, (2) self-other attribution, and (2) inner-outer space location. The linguistic dimension ranged from low linguistic complexity (i.e., hearing words) at one end of this dimension, via medium complexity (i.e., hearing sentences), to high complexity (i.e., hearing conversations) located at the other end of the dimension. On the second dimension, attribution of the auditory-verbal hallucinations to self ("I hear my own voice") was situated at one end, and attribution to others ("I hear someone else talking to me") was located at the other end. On the third dimension, inner space and outer space location had maximal separation.

In general, the findings from Stephane et al. (2003) are in line with the literature. For instance, patients may attribute auditory hallucinations as coming from inside their head or outside their head, and there are also some cases in which patients find it difficult to make this distinction (Copolov, Trauer, & Mackinnon, 2004a; Judkins & Slade, 1981; Nayani & David, 1996; Oulis et al., 1995). Also, evidence of hallucination characteristics as expressed along dimensions is in line with a long tradition arguing against viewing such experiences as all-or-nothing phenomena but rather as non-dichotomous, dimensional phenomena that lie as points (or series of points) on continua with normal functioning (e.g., Strauss, 1969; van Os et al., 2000).

However, the Stephane et al. (2003) study contained certain limitations. They submitted a restricted range of variables to the multidimensional scaling analysis. For example, only verbal hallucinations were examined. However, studies examining both verbal and nonverbal stimuli report that auditory hallucinations may involve a number of different types of sounds (varying in complexity) including blowing, rustling, humming, rattling, shooting, thundering, crying, laughing, whispering, and talking (Nayani & David, 1996; Watkins, 1998). Also, studies looking at non-auditory hallucinations have also found evidence of variations in complexity. Gauntlett-Gilbert and Kuipers (2003) examined various phenomenological characteristics of visual hallucinations in a group of psychiatric patients and found, for example, that visual hallucinations with humanoid content could involve restricted features (e.g., faces, skulls), whole figures, or even groups of fig-

ures. In addition, phenomenological characteristics of auditory hallucinations such as affect (e.g., emotional responses to hallucinations and/or affective contents of hallucinations) were not adequately examined in Stephane et al. (2003). Indeed, the presence of an affective dimension in hallucinations has been observed in a number of studies (Copolov, Mackinnon, & Trauer, 2004b; Haddock et al., 1999; Hayashi et al., 2004).

Theoretical implications

A comprehensive theoretical conception of hallucinations must be able to integrate this phenomenological heterogeneity. However, the phenomenological diversity of hallucinations has not been adequately taken into account in previous models of hallucinations. For instance, one influential cognitive model has been the one proposed by Bentall (1990), where hallucinations are explained by a difficulty in the ability to discriminate between real and imagined events. In particular, Bentall argues that hallucinating subjects might have a specific bias towards attributing their thoughts to an external source (i.e., a difficulty in reality monitoring), or a so-called "externalising bias". A number of studies have provided evidence for an externalising bias in both clinical and non-clinical subjects (e.g., Baker & Morrison, 1998; Bentall, Baker, & Havers, 1991; Bentall & Slade, 1985a; Brébion et al., 2000; Ensum & Morrison, 2003; Johns & McGuire, 1999; Larøi, Van der Linden, & Marczewski, 2004a; Morrison & Haddock, 1997; Rankin & O'Carroll, 1995; Seal, Crowe, & Cheung, 1997). Furthermore, this stance is in accordance with the general supposition made by several cognitive theorists that hallucinations are inner events misattributed to an external source (e.g., Beck & Rector, 2003; Frith, 1992; Hoffman, 1986; Morrison, Haddock, & Tarrier, 1995). The principle differences between these theories lie in explaining *how* this externalisation arises. According to Morrison et al. (1995), this arises as a reaction to intrusive experiences and in relation to subjects' metacognitive beliefs; for Hoffman (1986), an externalisation is related to deficits in inhibition and discourse planning; and for Frith (1992) this is due to defective internal monitoring.

However, one major drawback with a stance that proposes an exclusive externalising bias in hallucinations is that it only proposes one single type of misattributional bias. That is, within an externalising bias perspective, hallucinations are viewed as internal cognitive events that are externalised to an external object. However, phenomenological studies have identified a variety of misattribution possibilities. For instance, based on the findings from Stephane et al. (2003) these may involve not only erroneously attributing an internal cognitive event to an outer, nonself-generated event (i.e., the only type

of attributional error included in models viewing hallucinations as results of an externalising bias), but may also involve erroneously attributing internal cognitive events to an outer, self-generated event, or to an inner, nonself-generated event. Indeed, it may be suggested that various types of attributional errors are associated with (different types of) hallucinations. Furthermore, given such a multi-dimensional phenomenology, it is likely that even other (unexplored) attributional biases may be implicated in hallucinations.

In addition, psychological processes have not been adequately examined, as studies typically involve experimental tasks that only include *one* internal source and *one* external source (e.g., Baker & Morrison, 1998; Bentall et al., 1991; Bentall & Slade, 1985a; Brébion et al., 2000; Ensum & Morrison, 2003; Johns & McGuire, 1999; Larøi et al., 2004a; Morrison & Haddock, 1997; Rankin & O'Carroll, 1995; Seal et al., 1997). The exclusive use of these types of source monitoring tasks posses certain methodological limits, which in turn have theoretical consequences. First, these tasks are only able to include one *internal* source encoding condition. Consequently, the possibility that source monitoring errors observed in the context of hallucinations are the result of a perturbation of the control of internally generated material has not been adequately examined. Second, source monitoring functioning has only been examined in tasks with two sources (one external and one internal source). In such tasks, the subject is confronted with a limited choice between an external and an internal source. If we take into account the fact that hallucinators experience stimuli as being alien to them, then the obvious choice between the two would be to attribute internally generated stimuli to the other source, namely the external source. It is therefore not surprising that previous studies have revealed an externalising bias in hallucinators. Furthermore, where the reality monitoring task contains more than two sources, studies have opted to increase the number of *external* sources. Thus, due to this methodological limitation of previous studies, it has not been possible to examine the possibility that misattribution on source monitoring tasks is more related to a process of 'alienship' of internal, self-generated stimuli, rather than an externalisation of this stimuli. Support for this contention comes from phenomenological studies of hallucinations that show that subjects do not necessarily externalise their hallucinations. Indeed, as mentioned earlier, studies reveal that subjects may perceive their hallucinations as occurring outside the subject (i.e., externalising) but may also perceive them as occurring within the subject, or both within and outside the subject (Copolov et al., 2004a; Junginger & Frame, 1985; Oulis et al., 1995). Finally, some find it difficult to make this distinction when reporting hallucinations (Nayani & David, 1996). In other words, hallucinations do not necessarily have to be attributed to an external object for them to be a hallucination.

In a recent study (Larøi, Collignon, & Van der Linden, 2005) we attempt-

ed to examine the relative influences of several internal encoding conditions on reality monitoring functioning. Sixty-five normal subjects were administered an action source monitoring task and were asked either to 1) perform the action; 2) watch the experimenter perform the action; 3) imagine her/himself performing the action; 4) imagine the experimenter performing the action; or 5) listen to the experimenter say the action verbally. Following a delay, actions were presented consisting of those already presented in one of the 5 conditions (old), and those never before presented (new). For each action, subjects were required to identify if the action was old or new. If the action was identified as old, subjects were required to identify the source of the action (i.e., one of the 5 conditions). Subjects were grouped according to their scores on a hallucination-proneness scale (the Launay-Slade Hallucinations Scale). Those with scores within the top 25% were included in the hallucination-prone group (n=16), whereas scores within the lower 25% were included in the non-hallucination-prone group (n=16). The results revealed that within the internal conditions, hallucination-prone subjects confused the two internal sources (a specific internal-internal source discrimination error). That is, for imagined actions where the subjects performed the action, hallucination-prone subjects erroneously attributed these to an imagined action performed by the experimenter. These results suggest that the inability to adequately attribute the detailed origin of an internal cognitive event may be seen as an important cognitive difficulty in hallucinations. Also, lack of an externalising effect coupled with the fact that the source monitoring errors that significantly differentiated the two groups remained confined within the two internal encoding conditions, may be related to phenomenological characteristics of hallucinations. In particular, phenomenological studies report that hallucinations do not necessarily have to be attributed to an external object for them to be a hallucination. Indeed, they may remain an internal/perceptual experience that subjects simply characterise as having an 'alien' or 'nonself' quality to them (i.e., not experienced as belonging to them), but not necessarily externalised. In this context, the "imagine-myself actions" can be viewed as relatively more personal and less alien compared to the "imagine-experimenter actions". If a feeling of 'alienship' or 'non-self' of internally-generated stimuli occurs in hallucination-prone subjects, then this may explain why the "imagine-myself actions" were attributed to the imagine-experimenter modality, and not the opposite. Of course, since this study was conducted with non-clinical participants, future studies are needed in order to substantiate these results with clinical populations.

Consequently, another limit with Bentall's (1990) account that hallucinators tend to misattribute internal, self-generated events to another external source, is that it goes one interpretative step too far in claiming that these internal events are attributed to an *external* source. There are two problems

with this, one methodological and the other phenomenological/theoretical. First, we cannot claim with certainty (due to some of the methodological flaws described above in the studies carried out at present) exactly *where*, as it were, these internal events are attributed. Indeed, as already mentioned, studies have not directly sought to examine assumptions *other* than an externalising bias.

The second, more phenomenological/theoretical problem, is that Bentall's model of hallucinations does not take into account what can be argued as being one of the most important processes in the genesis of hallucinations - that is, the process whereby the subject no longer attributes the internal cognitive event to him or herself. This model proposes an array of factors (e.g., the content of stimuli, failure to use cognitive effort as a retrieval-cue) that are implicated in the source discrimination deficits (i.e., difficulty in discriminating between internally-generated and externally-generated events) observed in hallucinators, especially in the context of internally-generated events. It does not provide, however, with an account as to the mechanisms underlying this important process of 'alienation' of internal, cognitive events. As argued earlier, this is probably due to the implicitly accepted notion that hallucinations are externalised by subjects, that is, that internal events are attributed to an external space in the real world. However, as has also been argued earlier, there is no clinical or phenomenological evidence that this is the case. Indeed, Junginger and Frame (1985) go so far as to argue that the (implicit) notion that voices are perceived as originating outside the head should be abandoned altogether. The claim here is that we have jumped over to an interpretation that an external source is involved, without examining carefully those processes responsible for this or, indeed, if this is necessarily the case.

In a number of studies, there is only indirect evidence of an externalising bias. For instance, in the series of studies carried out by Morrison and collaborators (all using the same type of task; i.e., Baker & Morrison, 1998; Ensum & Morrison, 2003; Morrison & Haddock, 1997), the authors conclude that their findings support the hypothesis that patients experiencing hallucinations have a bias towards misattributing self-generated words to an external source. It is important to note, however, that when they refer to evidence of a misattribution of self-generated items to an *external* source, this is essentially their interpretation of the findings. In practical terms, there is no direct evidence of an *externalisation* bias but, rather, a significant decrease in the internality and wantedness ratings made by the participants. They are therefore interpreting these significantly decreased rates as evidence of an external attributional bias, even though an externalising bias has not been directly explored in these studies (due to the nature of the tasks utilised in the studies).

It must be acknowledged that some of above-mentioned observations have

been put forward previously in the literature. For instance, Beck and Rector (2003) similarly criticise the evidence coming from source monitoring studies as involving "the exclusive unidirectional misattribution of *internal* events to *external* sources" (page 34) and they call attention to the large gap between the "experimental situations … and the clinical phenomena they attempt to explain" (page 34). However, these points are not elaborated further and the authors' nevertheless continue to theorise on hallucinations based on an (exclusive) externalising bias approach.

Clinical implications

Taking into account the phenomenological diversity of hallucinations not only has important theoretical consequences, but this may also have significant clinical implications. For instance, it may provide the patient with important information regarding their own experiences. Carter et al. (1995) report that after patients were assessed with a comprehensive assessment instrument (the MUPS), many commented on how examining the different aspects of their auditory hallucinations provided them with new insight regarding their anxieties and fears, and perhaps even offered them new or different strategies for dealing with them. On the contrary, *not* taking these experiences into account might have disastrous effects. In many patients, for example, these experiences have been going on for a number of years and have become a part of their identity. Indeed, Nayani and David (1996) have suggested that a process of "accretion" occurs in schizophrenic patients with auditory hallucinations. They suggest that, over time, an individual suffering from hallucinations is apt to become more involved with the voices (e.g., have dialogues with them, describe them in more detail, etc.). Therefore, allowing the patient to talk about these experiences may have important positive clinical implications, whilst at the same time not being able to talk about them could have serious negative consequences.

Relations between patient and clinician may also be improved if one takes into account the phenomenological diversity of hallucinations. Chadwick and Birchwood (1995) mention that completing their hallucinations questionnaire (i.e., the BVAQ) seemed to ease communication with patients, perhaps because it conveyed some understanding of the hallucinatory experience. Similarly, Stephane et al. (2003) remarked that most patients in their study welcomed the opportunity of talking about their experiences, and that this procedure seemed to enhance the therapeutic alliance. Indeed, Strauss (1989) aptly noted that "when closer attention is paid to patients' reports of their experiences, one key phenomenon suggested is the importance of the interaction between the person and the disorder. This interaction evolves over

time and has implications for understanding, studying, and treating schizophrenia and related disorders" (page 179). One reason for this might be that routine and detailed inquiry into wide variety of aspects of hallucinations may increase empathy with patients.

Taking into account the phenomenological diversity of hallucinations may help individualise treatment and management. For instance, treatment would be fundamentally different for a patient with primarily disturbing hallucinations versus patients with pleasurable hallucinations. In the latter case, the patient might not be very motivated to change as the hallucinations are not perceived as negative or problematic by the patient. Also, in such patients, non-compliance with treatment might be related to this. For example, Miller et al. (1993) found that a sizable minority of patients did not want their voices to disappear as a consequence of treatment. Indeed, seen in this light, removing hallucinations may actually be counter-indicated in some patients. Perhaps the most effective strategy would be to attempt to help the patient view his/her voice as an important and cherished companion, whilst at the same time to try to avert the patient from viewing the voices as coming from a dreaded and unfriendly opponent. Furthermore, since hallucinations' content is many times mood congruent, this work will most probably also involve working with aspects that are indirectly related to hallucinations, such as improving self-esteem and levels of depression. For instance, Morrison (2002) describes a case-study where CBT was used in the context of hallucinations, where aspects of the content of voices (e.g., the voice telling the patient that he would never get a girlfriend, the voice calling him names, etc.) was discussed as maybe reflecting low self-esteem. As a consequence, work aimed at improving sense of self-worth was agreed upon between the patient and the clinician.

Research suggests that it is the phenomenological characteristics of hallucinations (and not simply, for instance, the presence of hallucinations) that are improved and/or altered after effective treatment. For example, Miller (1996) observed that the (positive) antipsychotic effect on patients with schizophrenia was not an on-off switch phenomenon but in most cases represented a qualitative change, with decreasing intensity, frequency and emotional impact. Indeed, as Miller (1996) herself has commented, if a "presence versus absence of hallucinations" was used as an outcome criterion, the patients would have been classified as treatment nonresponders with respect to their hallucinations. Larkin (1979) found that hallucination control, intensity, and overt behaviour changed significantly after inpatient treatment in his sample of patients. Therefore, therapeutic interventions should be directed at the phenomenological aspects of hallucinations, and furthermore, it is these aspects that merit detailed and systematic assessment when evaluating treatment efficacy.

Looking into more detail of the phenomenology of the hallucinations may open up new therapeutic avenues in certain patients. Hallucinations may implicate positive and/or adaptive emotional reactions (e.g., provide companionship, raise self-esteem, help sooth or relax the subject), yet studies have not examined how these reactions may influence hallucination formation and maintenance. A better understanding of the factors and mechanisms underlying adaptive emotional reactions in hallucinations may provide the clinician with ways of helping patients to maintain these reactions. In addition, patients with predominantly negative emotional reactions to hallucinations may be instructed as to how to reverse, as it were, this vicious circle of relating negative affect with the presence of hallucinations. Furthermore, clinical work might involve helping the patient bring forth obscure positive descriptions of their hallucinations. For instance, Lowe (1973) found that the list of negative descriptions of hallucinations were much broader and much longer than was the list of positive adjectives describing hallucinations. The choice of negative, as opposed to positive, descriptions of the hallucinations were probably more accessible to these patients, creating a bias toward negative, compared to positive, hallucinations in patients. Similarly, Morrison (2002) presents a case-study where it became apparent that there were a number of positive beliefs about the voices that were preventing intervention from being maximally effective and may have contributed to their maintenance. This may be related to such a bias towards negative aspects associated with hallucinations. Romme and Escher (1989) found that the most fruitful strategies were to select the positive voices and listen and talk only to them, and try to understand them. For example, in one patient, such a positive voice asked such insightful and helpful questions as: "How do you hear us and in what way do we talk to you?"

Taking into account the phenomenological diversity of hallucinations may also help provide important information concerning changes in the patient's condition. Research shows that localisations of hallucinations may change over time. For example, voices that were initially heard as coming from outside via the ears may eventually be perceived as being located within the hearer's own head or body (Romme et al., 1992) and, furthermore, these changes may occur according to the hearer's mental and emotional state (e.g., when a person is stressed or upset, their voices may be loud and he/she may experience them as coming from outside). Wykes (2004) also notes this evidence in variation in the phenomenology of hallucinations. For instance, sometimes voices appear to be actual people in the same room or a different place but occurring outside the head. Sometimes they are inside the head and possibly being transmitted there by an unseen force. On yet other occasions, the person is unclear whether the voices are indeed his or her own thoughts or might switch between these explanations. Similarly, the content of the

voices might also change over time, with some people feeling that the voice is positive and helpful, or there may be changes in the content over very brief periods of time or between different voices at the same time. Many of these variations occur in the absence of evidence for changes in medication, either in prescription or adherence. The fact that there is evidence of changes in voices' phenomenological characteristics even when they are described as treatment-resistant shows that they are still malleable and that there is room for optimism in their treatment. Similarly, Larkin (1979) reports that halluci-natory content in a group of schizophrenic patients was threatening and iso-lating in the acute phase, but more socially focussed during remission. Also, patients sometimes observe that the voices are at one time "telling jokes", whereas at another point in time they "become mean". It is therefore plausi-ble that these variations in the phenomenology reflect important changes in the patient's emotional state.

Assessment strategies

If phenomenological approaches are to make a major contribution to our understanding and treatment of hallucinations, then comprehensive and reli-able methods of recording patients' experience must be developed and employed. As Lowe (1973) comments: "When hallucinations are known to vary significantly on many different parameters, the selection of only some parameters for study must surely be quite arbitrary (page 626)." Furthermore, the observation that the effectiveness of treatment (e.g., CBT, pharmacolog-ical, etc.) is related to changes in various phenomenological characteristics of hallucinations also provides evidence for the need to develop comprehen-sive assessment tools compared to those scales used previously. For instance, instruments such as the Present State Examination and the Brief Psychiatric Rating Scale are limited in their ability to reflect changes in these experi-ences. In contrast, scales that take a more detailed approach to hallucinations represent measures which can be used as subtle measures of changes in expe-rience. Fortunately, such assessment strategies exist. The use of these rating scales changes the focus of effectiveness, as the voices themselves may not reduce in frequency, but the characteristics of the voices may change making them less aversive and distressing, increasing control, decreasing frequency, etc. Another important aspect is that items/questions in such instruments are not formulated as yes/no or presence/absence, but rather, in terms of dimen-sions or degrees. Indeed, as Lowe (1973) so rightly argued: "patients' own reports constantly implied, or were explicitly formulated in terms of, degrees of the given (phenomenological) characteristic of the hallucination rather than its mere presence or absence". A varying number of the phenomeno-

logical characteristics of hallucinations have been integrated into selected assessment strategies. These include the Launay-Slade Hallucinations Scale (LSHS; Launay & Slade, 1981), the Mental Health Research Institute Unusual Perceptions Schedule (MUPS; Carter et al., 1995), the Psychotic Symptom Rating Scale (PSYRATS; Haddock et al., 1999), and the Beliefs About Voices Questionnaire (BAVQ; Chadwick & Birchwood, 1995). These instruments will be briefly described below.

The MUPS is a semi-structured assessment tool for auditory hallucinations. It consists of items assessing various aspects of hallucinations such as: physical characteristics (e.g., frequency, when during the day, localisation, volume, clarity), personal characteristics (e.g., sex of the voice, whether in first, second or third person, number of voices, known voice or not), relations/emotion (e.g., relation with the voice, emotional state during the experience, associated emotions), form and contents (e.g., linguistic complexity, repeated contents, commands), cognitive processes (e.g., delusional activity, language/accent), perception of the experience (e.g., imaginary versus real, hallucinations in other modalities), and psychosocial aspects (e.g., triggers, strategies used, role of medication). Subjects are asked to refer to the most recent hallucinatory episode when answering to the questions. Although the MUPS is a highly extensive and detailed scale (with 365 items in total), clinicians are not obliged to use the whole scale but may also use just certain modules.

The PSYRATS is a self-report instrument consisting of two parts, one designed to rate auditory hallucinations and the other to measure delusions. In particular, the auditory hallucination part consists of 11 items. The item pool for the scale taps general symptoms indices of frequency, duration, severity and intensity of distress, and also symptom specific dimensions of controllability, loudness, location, negative content, degree of negative content, beliefs about origin of voices and disruption. A five-point ordinal scale is used to rate symptom scores. The scales were found to have excellent inter-rater reliability (Haddock et al., 1999). The total score may be used, for example, as a simple outcome measure for the evaluation of treatment.

The BAVQ is a 30-item self-report instrument that measures how people perceive and respond to their verbal auditory hallucinations. It includes 5 subscales including 3 which relate to beliefs about voices and 2 that measure emotional and behavioural reactions to the voices. The 5 scales are malevolence (e.g., my voice is evil), benevolence (e.g., my voice wants to help me), omnipotence (e.g., my voice is very powerful), resistance (e.g., when I hear my voice, I usually think of preventing it from talking), and engagement (e.g., when I hear my voice, I usually seek its advice). All responses are rated by checking 'yes' or 'no'. Individuals who hear more than one voice are asked to complete the questionnaire for their predominant voice. The BAVQ shows acceptable levels of reliability, validity and stability on test-retest over

1 week (Chadwick & Birchwood, 1995).

The LSHS is a questionnaire for measuring hallucinatory experiences in both the clinical (Kot & Serper, 2002; Levitan et al., 1996; Serper et al., 2005; Young et al., 1986) and non-clinical populations (Aleman et al., 2001; Bentall & Slade, 1985b; Larøi et al., 2004b; Larøi & Van der Linden, 2005; Morrison, Wells, & Nothard, 2000, 2002). The original scale was designed to assess hallucinatory experiences in the carceral population, and consisted of 12 items. However, a number of changes have been to the LSHS over the years, including changing the negative response items to positive ones, substituting the true and false with a 5-point Likert system (Bentall & Slade 1985b), and adding items assessing other sub-types of hallucinations including visual, olfactory, haptic, gustatory, hypnagogic, and hypnopompic hallucinations (Larøi et al., 2004b; Larøi & Van der Linden, 2005). The internal structure of the LSHS has been examined on numerous occasions. Most recently, Larøi and Van der Linden (2005) performed principal components analysis on LSHS-items, revealing 5 factors which were characterised as representing items related to (1) sleep-related hallucinatory items (2) vivid daydreams (3) intrusive or vivid thoughts (4) auditory hallucinations and (5) visual hallucinations.

The above-mentioned scales have various advantages relative to each other. The MUPS is probably the most complete scale in terms of its ability to take into account the greatest number of phenomenological characteristics, compared to the other scales. Although the LSHS may be used in a clinical context, its particular strength is its usefulness in research contexts, especially in studies including both clinical and non-clinical subjects. Furthermore, not only are different types and hallucination modalities (e.g., auditory, visual, olfactory, tactile hallucinations, and hypnagogic and hypnopompic hallucinations) assessed in more recent versions of this scale (e.g., Larøi et al., 2004b and Larøi & Van der Linden, 2005), the presence of phenomena such as vivid imagery, daydreams, or intrusive thoughts are also evaluated. Finally, although the BAVQ does not elicit detailed and wide-ranging information concerning phenomenological characteristics of hallucinations to the same degree as, for example, the MUPS, it does provide the clinician and researcher with related and crucial information concerning how subjects react in the face of hallucinatory experiences. It should be mentioned, however, that there are certain limits to these scales. In particular, none of the above mentioned scales have integrated research concerning emotional responses in hallucinations. For example, findings from Copolov, Mackinnon, and Trauer (2004b) suggest the need for two independent dimensions to assess emotional reactions. Furthermore, one must distinguish between emotional *content* and emotional *reaction*, where the former refers to the extent to which the content of a given hallucination is positive or negative (e.g., a warm voice compared to a cursing

voice) and the latter refers to how the person emotionally reacts in the presence of a hallucination (e.g., the extent to which they elicit such emotions as sadness, fear, distress, compared to warmth, happiness, joy). In addition, apart from the LSHS, all of the above-mentioned assessment strategies only assess (verbal) auditory hallucinations. However, and as mentioned earlier, non-verbal-auditory hallucinations are frequently experienced in a number of clinical groups (including schizophrenia). Furthermore, studies suggest that prevalence rates of these types of hallucinations are under-reported, in part due to the simple fact that assessment strategies rarely include questions pertaining to these experiences.

Conclusions

Ways in which examining the phenomenological characteristics of hallucinations have theoretical and clinical implications, have been presented. Also, there exist a number of assessment tools that examine phenomenological aspects in detail. In particular, previous theoretical accounts that have proposed an exclusive externalising bias in hallucinations, have not taken into account the phenomenological diversity of hallucinations. Therefore, future models must attempt to integrate the phenomenological complexity of hallucinations. It has also been shown that taking into account the phenomenological diversity of hallucinations has a number of important clinical implications. This includes, but is not limited to, providing the patient with important information concerning these experiences, improving patient-clinician relations, helping to individualise treatment and management, possibly opening up new therapeutic avenues in certain patients, and finally, helping to provide important information concerning changes in the patient's mental and emotional condition. Also, research shows that it is phenomenological characteristics of hallucinations that are improved and/or modified after effective treatment. Finally, a number of assessment strategies exist that take into account the phenomenological diversity of hallucinations. Therefore, clinicians and researchers who wish to include detailed phenomenological assessment of hallucinations may do so. The approach of taking on a sophisticated and detailed view of the phenomenological characteristics in the context of hallucinations has been revealed. However, it is important to mention that such an approach will certainly also prove fruitful for other psychopathological symptoms or conditions, such as for psychosis and schizophrenia in general (Gallagher, 2004; Kapur, 2003; Kapur, Mizrahi, & Li, 2005) or for other specific symptoms such as delusions (Freeman & Garety, 2004). To conclude, as so appropriately asserted by Lowe (1973): "The first aim of phenomenological research is not to provide final answers, but to for-

mulate proper questions". Indeed, whether we are doing research on halluci-
nations or other psychopathological symptoms or conditions, we will contin-
uously be faced with the need to formulate proper questions at one time or
another.

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