Psychological Medicine, 1997, **27**, 885–898.

What voices can do with words: pragmatics of verbal hallucinations

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ABSTRACT

Background. In this paper we consider verbal hallucinations as inner speech with pragmatics. The specific pragmatic properties of verbal hallucinations investigated included the number of voices, the characteristics that individuate the voices, the sequential characteristics of the dialogues between voice hearers and their voices, the dialogical positioning of voices hearers, voices and other individuals, and how the voices influence voice hearers' activities.

Methods. These properties were examined in structured interviews with 28 individuals, 14 of whom had a diagnosis of schizophrenia, while 14 were students who did not use psychiatric services.

Results. The analysis showed that voices were most frequently individuated with reference to individuals significant to voice hearers. The talk with voices was typically mundane and related to voice hearers' on-going activities, as is the case for ordinary inner speech. The voices were typically orientated towards the voice hearer, without direct access to each other or to other people. Contrary to received wisdom, the voices typically did not impel actions of voice hearers, rather they influenced voice hearers' decisions on how to act. This was so irrespective of the diagnostic status of informants. Finally, we have found some differences between the voices of informants with, and without, schizophrenia. These concerned the alignment of voices, the type of action required by a voice and the degree of dialogical engagement between voices and voice hearers.

Conclusions. We conclude that verbal hallucinations can be fruitfully considered to be a genus of inner speech. Pragmatics can be used as a framework to distinguish verbal hallucinations in different populations.

INTRODUCTION

Verbal hallucinations are typically regarded as indicating serious mental illness both, in psychiatry and in everyday life (cf. Schneider, 1957; Mellor, 1970; APA, 1994). They are reported to occur in 60 to 75% of people with schizophrenia (cf. Wing *et al*. 1974; Slade & Bentall, 1988). Verbal hallucinations, however, also occur in post-bereavement states (Rees, 1971), following sexual abuse (Ensink, 1994) and in borderline states (Greenfield *et al*. 1994). In fact, a number of recent studies have shown that, even though this is less frequent, verbal hallucinations can also occur in non-psychiatric population (Tien, 1991; Barret & Etheridge, 1992).[1]†

'Verbal hallucinations' can be categorized in at least two ways, both independent of the psychiatric diagnosis (or the lack of it). Being 'perceptions without a corresponding stimulus from without' they are indeed hallucinations (cf. Bleuler, 1924/1951. p. 60). They, however, are also 'inner speech' on the following criteria: They consist of: (*i*) words or sentences; which are (*ii*) heard as spoken; (*iii*) to the voice hearer; and (*iv*) which cannot be experienced directly

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† The notes will be found on p. 897.

by other people.[2] The two categorizations are obviously not mutually exclusive.

In fact, our paper is by no means the first to consider 'verbal hallucinations' as inner speech. Gould (1949) amplified subvocal speech in individuals hearing voices and found that the reported content of verbal hallucinations corresponded closely to that of amplified subvocalizations. Green & Preston (1981) recorded EMG activity from lips, related it to the reports of verbal hallucinations, and found a good correspondence (cf. Cacioppo & Petty, 1981). In these accounts, verbal hallucinations were considered simply to be subvocal inner speech. Verbal hallucinations have been also construed as resulting from impairments of inner speech. Hoffman (1986) explained them in terms of disruptions of speech planning. According to Frith (1992, 1995) verbal hallucinations, like the other positive symptoms, are to be accounted for in terms of deficiencies in internal monitoring of intentions. Both planning and monitoring deficiency models have received some empirical support. Leudar *et al.* (1992), for example, found a relatively high frequency of speech errors in schizophrenics, indicating problems with planning speech. Leudar *et al.* (1994) have found that, when detecting the errors in speech, schizophrenics with verbal hallucinations, as compared to controls, depended on actually hearing themselves saying something wrong, rather than 'hearing' the errors in their 'mind's ear'. These problems were, however, present in all individuals with schizophrenia, not just in those with verbal hallucinations, and they have not been investigated in voice hearers without schizophrenia. The PET studies report that during verbal hallucinations the areas of brain involved in acoustic and speech processing are activated (Cleghorn *et al.* 1992; McGuire *et al.* 1993). McGuire *et al.* (1995) reported a reduced activity in the areas of brain thought to be 'concerned with the monitoring of inner speech' in individuals with schizophrenia and verbal hallucinations.

Inner speech, therefore, seems to be involved in verbal hallucinations, and the 'planning' and 'monitoring' models focus on its relevant cognitive properties. The inner speech, however, also has pragmatics. It is a means of regulating and evaluating one's own activities (cf. Pavlov, 1928; Vygotsky, 1934/1986; Luria, 1961), and a medium for mental problem solving (Diaz & Berk, 1992). Internally articulated sentences achieve ends – they have pragmatic functions (e.g. commanding, informing, etc.). They can be parts of private dialogues and they are situated in everyday activities (Wertsch, 1991). We, therefore, take it for granted that inner speech is not just a representation but that it has pragmatic properties.

There is, however, one feature of verbal hallucinations that is not obvious in ordinary inner speech – the splitting of the 'inner voice' from the voice hearer, and the personification of the voice. According to the influential pragmatic philosopher G. H. Mead 1934/1962) a child internalizes reactions of significant others, in what Mead refers to as the 'other' and integrates them in the 'generalized other'. The 'Self', according to Mead, has a reflexive social structure consisting of a coupling of 'I' and the 'generalized other' (cf. Bakhtin, 1988). This concept of self can be useful in the analysis of verbal hallucinations. Voices can be identified with the 'other(s)' in the Self, and verbal hallucinations can be construed as their dialogical engagement with the 'I'.

These dialogical engagements can be interpreted as 'monitoring' – the original meaning of 'monitor' as defined by the *Oxford English Dictionary* is 'one who admonishes another as to his conduct' and 'something that reminds and gives warning'. Monitoring, in the present paper, is seen as a family of pragmatic functions (reminding, warning, condemning) rather than simply a cognitive representation of, for example, a difference between what one planned and what one achieved, which happens to be how 'monitoring' was introduced into cognitive psychology by Miller *et al.* (1960).

The pragmatic properties of 'verbal hallucinations' analysed in this study are as follows.

Individuation of voices The problem we address is how voice hearers identify particular voices as individuals with stable identities (Strawson, 1959). The identities may be indicated by a variety of phenomenological features, including the perceived quality of voice, gender, accent, knowledge and ignorance, the style of verbal behaviour, and by analogy with known people. According to the dialogical model, one

would expect the voices to be aligned with significant individuals in the voice hearers' social environments.

Participant positioning Canonical form of positioning in dialogues is when one participant in a dialogue directly addresses and targets another participant. Different 'participant formats' are, however, possible (Goffman, 1981; Levinson, 1988). Voices may, for example, address each other, with the voice hearer being situated as an over-hearer but still the target of comments (as is the case in third person verbal hallucinations). Voices can be construed as speaking for other fictitious or actual agents. Alternatively, voices can be isolated from each other and only address the voice hearer individually. Voices may or may not attempt to participate in voice hearers dialogues with other people, maybe co-authoring their speech. Nothing systematic is known about these pragmatic aspects of verbal hallucinations, but if the verbal hallucinations are an unusual inner speech with its main function being to regulate the individual's activities, then we would expect the voices to be dialogically focused on the voice hearer rather than on others.

Sequential characteristics Everyday dialogues can be analysed as sequentially organized into adjacency pairs, such as, for example, question–answer, request–refusal, assertion–agreement (Sacks *et al.* 1974). In dialogues, an adjacency pair can be typically initiated by either party (a reversible adjacency pair), or by one party only (a non-reversible adjacency pair). Only some adjacency pairs may typically occur in particular voice–voice hearer dialogues, and further, voices or voice-hearers may be restricted to initiations or responses. Our aim is to determine general dialogical properties of voice hearers' dialogues and possible general constraints. The expectation is that, as in ordinary inner speech, the voice dialogues will be focused on mundane on-going activities, with voices evaluating and directing planned and actual actions.

Causal influences of voices on voice hearers' actions It is often assumed that some voice hearers cannot resist commands issued by voices. It is in principle possible that voices could be in control of voice hearer's bodies in actions, impelling actions and putting voice hearers into positions of observers, as is the case in passivity experiences and dissociative disorders. Other modes of influence are, however, characteristic in dialogues. Requests, for example, do not impel actions but rather provide reasons for acting in the way requested. Whether or not one acts on a request will depend, among other things, on how good the reason is, on the authority of the requestor and the trust between them. One aim of the paper is to determine the mode of influence of voices on voice hearers activities. How do different voice hearers formulate such influences? Do they take voices to impel actions without it being possible to offer effective resistance, or do they see voices as advising, requesting or commanding? Under what conditions do voice hearers perceive their voices to be responsible for their actions? The prediction of the dialogical model of verbal hallucinations is that voices do not mechanically impel actions. The influences are predicted to be exactly the same as those observed in everyday social interaction where one's behaviour is a function of both intent and mediated influences of others.

To summarize, we frame verbal hallucinations as inner speech with pragmatics, and use concepts developed in Pragmatics (defined as the study of language use, see Levinson, 1983) to establish the parameters of such dialogues. We also use these parameters to provide a preliminary comparison of 'verbal hallucinations' in informants with and without schizophrenia.

METHOD

Informants

Twenty-eight informants (13 women and 15 men) volunteered over the past 4 years to be interviewed in detail about their verbal hallucinations. The average age was 27·1 years with the range 19–55 years. The informants' education ranged from no formal qualifications to 10 'O' and four 'A' levels. All the informants have had the voices for more than 4 years.

Fourteen of the informants had an ICD-10 diagnosis of schizophrenia. They were selected as 'voice hearers' on the basis of the reports of their consultants; their diagnoses were obtained from hospital records. Eight informants were patients in the Manchester Royal Infirmary, two at the Withington Hospital, Manchester and four at Hergest Unit, Ysbyty Gwynedd. All 14

were undergoing treatment for acute episode schizophrenia at the time of interview. None of the informants was in his or her first episode of the illness. (The average duration of illness since the first episode was 8·8 years, the range being 3–23 years.) The average duration of the current episode from the admission to the interview was 7·7 weeks, the range 6–15 weeks. All of the informants heard voices for at least 4 years. This group is referred to as informants with schizophrenia.

Thirteen individuals were undergraduate students at Manchester University. They reported hearing voices in an ongoing survey of the prevalence of hallucinations in students, and were willing to participate in a further detailed study. All 13 informants were progressing satisfactorily in their courses. None took hallucinogenic drugs, even though most of them were occasional cannabis users. Their alcohol consumption was within 'recommended safety limits'. The fourteenth informant (a female) was a psychiatric nurse with 'hallucinations of widowhood'. According to their own reports, none of the 14 were users of psychiatric services. For ethical reasons, these informants could not be formally screened for psychiatric symptoms. Their interviews were, however, checked for psychiatric symptoms by the second author and none manifested any, aside from hearing voices, that is. This group will be referred to as informants without schizophrenia.

The subjects in both groups were confirmed as voice hearers in the research interviews – see below.

The informants with schizophrenia were on average older than those without (mean 31·7 years *v*. mean 22·9 years), and they had fewer educational qualifications (4·3 *v*. 9 'O' levels; 1·1 *v*. 3·3 'A' levels). More of them were men ($N = 9$ *v*. $N = 6$) but this difference is not significant. The groups are, therefore, imperfectly matched, this reflecting informant availability. Where our results indicate differences between informants with and without schizophrenia we have checked whether the property in question is correlated with education and age.

Procedure

Each informant was interviewed individually about his or her experiences of hearing voices. The interviews were recorded using good quality stereo tape-recorders. Five of the interviews were conducted by the first author, three by the second author, and the others by three trained research assistants. The interviews typically took between 20 and 60 min depending on the complexity of the informant's voice system.

The interviews

The initial part of the interview was designed to determine that each informant (with or without schizophrenia) indeed *heard* voices. All our informants freely used the phrase 'to hear voices' and on detailed questioning they all agreed that the experience they used it for was: verbal and with phenomenal properties like hearing another person speaking, but in absence of anybody who could have produced it. Thus, all the informants were judged as voice hearers on the basis of the information elicited in this part of the interview, not, for example, on the basis of hospital records.

The second part of the interview was designed to ascertain pragmatic properties of verbal hallucinations. A part of everyday conversational competence is to report to somebody talk which took place elsewhere. For example, we commonly report arguments we had with others. This being so we asked our informants to report on the talk which typically takes place between them and their voices, with examples. We also ensured that interviews were not perceived as therapeutic, analytical or diagnostic situations, but as far as possible research interviews with the voice hearer informing the interviewer about the experiences only available to herself or himself.

The interviewers' task in each interview was to find out whether the interviewee's verbal hallucinations did or did not have the properties given in introduction and summarized in Appendix 1. In this sense interviews were structured. The order of questions and their wording were however, flexible depending on the information informants provided spontaneously. The interviewer focused the interview on the voices during the previous 6 months and only these are reported below. (The full schedule is available on request from the first author.)

Interview analysis

Recordings of interviews were digitized using AUDIOMEDIA II on a Macintosh IIci and transcribed by a secretary using conventions of

conversation analysis. Each transcript was checked against the audio recording by the first researcher to ensure its accuracy. A profile was drawn for each informant in terms of characteristics given in Appendix 1.

RESULTS AND DISCUSSION

The unit of analysis can be an informant or a voice. With the voice as a unit, it is not possible to express certain properties, for example, participant positioning, which is a matter of relationship between voice(s), the voice hearer, and others. The voice hearer is, therefore, used as the unit of analysis and the tables below report numbers of informants with voices with given pragmatic characteristics.

General characteristics

All of our informants have heard voices for over 4 years, some of them much longer. All except two of the non-clinical informants could not pin-point the onset of voices. They reported always having voices and discovering that this was unusual. The exceptions were two informants with bereavement voices (one of a father and one of a husband), who reported a sudden onset of voices (c.f. Romme & Escher, 1989).

Channel of communication

All of our informants reported that hearing voices was very much like hearing other people speak. Seventy-one per cent of all the informants reported hearing voices only 'in their heads', 18% only through their ears and 11% in both ways (Table 1). Interestingly, hearing voices 'through ears' was more common in informants with schizophrenia (42%) than in non-schizophrenic informants (14%). This difference is, however, just not statistically significant ($P = 0{\cdot}104$, Fisher's exact probability test). The frequency for informants with schizophrenia is much like that reported by Nayani & David (1996). Interestingly, voices were characterized as auditory experiences, irrespective of the location of voices. Voices may sound like other people speaking, but their fixed and unusual location in one's head is not ordinary, and may indicate that one is hearing a voice, rather than another person. In fact, none of our informants systematically confused the voices with other people speaking – they know when they were 'hallucinating'. It seems, therefore, that it may be insufficient to ground the traditional distinction between pseudo- and true-hallucinations in the reception channel, since this, by itself, does not warrant that hearing a voice is, or is not, mistaken for a true perception. Table 1 also shows that in both groups those informants who ever spoke to their voices, did so both silently or aloud ($N = 21$), reporting that the latter was more common in private.

Clear and unclear voices

An important consideration for classifying hearing voices experiences is whether the voice hearer can actually make out what a voice is saying. Most informants reported hearing some voices which could be clearly understood. We refer to these as 'clear voices'. Five voices hearers ($M.C._n$, $S.P._n$, $S.X._n$, $A.H._s$, $S.A._n$)[3] reported voices that were either completely unclear, or with only odd single clear words (Table 1). The informant $M.C._n$, for example, reported a 'rushing' voice. This voice was vaguely male, but without a name or a social identity. The voice was possibly not an individual at all, but many voices heard all at the same time – a chorus. M.C. could not understand this voice, but it seemed repetitive. $M.C._n$ reported that this

Table 1. *Channel of communication, clarity and recurrence of voices* (*number of subjects*)

	Channel of communication							Clarity			Recurrence		
Group	1	2	3	4	5	6	7	8	9	10	11	12	13
+Schizophrenia	14	8	4	2	0	1	12	0	1	14	4	13	2·8
−Schizophrenia	14	12	1	1	3	0	9	2	3	13	5	12	2·1
Total sample	28	20	5	3	3	1	21	2	4	27	9	25	2·5

1, total number of informants; 2, reception in the head; 3, reception through ears; 4, reception through head and ears; 5, sending silent only; 6, sending loud only; 7, sending loud or silent; 8, unclear voices; 9, voices with odd clear words; 10, clear voices; 11, one-off voices; 12, recurrent voices; and 13, mean number of recurrent voices.

Table 2. *Frequencies of incognito and aligned recurrent voices, and the types of voice alignment*

	Incognito *v.* aligned voices				Types of alignment							
Group	1	2	3	4	5	6	7	8	9	10	11	12
+Schizophrenia	13	3	6	4	2	3	1	6	4	8	4	4
−Schizophrenia	12	4	7	1	8	1	5	0	1	6	7	8
Total sample	25	7	13	5	10	4	6	6	5	14	11	12

1, Total number of informants; 2, incognito voices only; 3, aligned voices only; 4, incognito and aligned voices; 5, family member; 6, acquaintance; 7, self; 8, public figure; 9, supernatiural; 10, voices named; 11, voices individuated behaviourally; and 12, voices individuated situationally.

chorus-voice 'floods her mind', and is difficult to ignore. Only one informant, $S.X._n$, heard only unclear voices. This informant, $S.X._n$ cannot say how many voices he hears. They appear either together or so quickly in succession that they seem to come together. $S.X._n$ can never make out what the voices are saying. What he is hearing are possibly just fragments of sentences. He can, however, say that some voices are old others young, some male others female. The informant $S.A._n$ reports a 'murmur' of voices, which are like a collage of conversations in the distance. She is, however, certain that the language is English. The voices are again without stable identities, but they are gendered and seem of her own age. The remaining two informants, $A.H._s$ and $S.P_n$, describe this type of voice in the same terms. All five say that they just hear these voices. They have no feeling of being addressed or being targets of the voices. They do not attempt to address the voices either. A good name for this type of voices is 'rushing voices'. They are relatively rare in our sample, and indeed only one such voice has been reported by Nayani & David (1996) in their sample of 100 schizophrenics. (These voices seem to be speech without language, perhaps like Kathy Berberian singing one of Luciano Berio's pieces.) The interesting point is that experiencing rushing and clear voices is not exclusive. All but one subject who experienced rushing voices also had clear voices and treated them as different.

Recurrent and 'one-off voices'

Our informants reported that some voices were encountered once only ('one-off voices'), others were encountered repeatedly ('recurrent voices'). As shown in Table 1, 89% of all the informants had recurrent voices. The average number of such voices per person was 2·5, and this was not different between informants with and without schizophrenia. The figure reported by Nayani & David (1996) for an older schizophrenic population is 3·2 voices per person.

Individuating voices

How does a voice hearer establish that a voice is recurrent? This seems to be partly done in terms of their perceptual properties, like in everyday talk. The informants report that a recurrent voice sounds the same on different occasions, and different from other voices. Most voices reported by our informants were gendered, and with a roughly determinate age – they were 'youngish', 'old', 'my own age'. Using just these terms, a voice could be characterized as, for example, 'an unknown old woman, or 'a man with deep voice'. Some voices do not have names and are not seen to be like any people known to the informants. We refer to these voices as 'incognito'. (The nearest experience for those who do not hear voices is probably identifying the same telephone receptionist.)

Table 2 shows that some informants reported having only incognito voices, but most voice hearers (64% of the total sample) reported voices that were aligned with individuals in their social world. The aligned voices usually sound like individuals known to voice hearers: family members, public figures, friends, or even like themselves.

Table 2 indicates that our informants relatively rarely aligned voices with supernatural characters (cf. Nayani & David, 1996). Chadwick & Birchwood (1994) could be read to imply that most voice personification was 'delusional', that is by identification with supernatural characters. This certainly was not so in our informants without schizophrenia. It is further important to bear in mind that the

alignment we are considering here is based on similarity, not on identity. Informants argued that a voice sounded or acted like somebody, not that it was somebody (or their duplicate). By itself, the alignment does not prove a delusion.

Even though there is no difference in the relative frequency of aligned and incognito voices in the two groups, there is a difference in what kind of characters the voices are aligned to. Informants without schizophrenia reported more frequently voices which sounded like family members (66% *v.* 15%, $P = 0{\cdot}013$, Fisher's exact probability test), or like themselves (42% *v.* 8%, $P = 0{\cdot}063$, Fisher's exact probability test). Informants with schizophrenia, on the other hand, reported more often voices which sounded like public figures (46% *v.* 0%, $P = 0{\cdot}010$, Fisher exact probability test), acquaintances (23% *v.* 8%, $P = 0{\cdot}327$, Fisher's exact probability test) or were supernatural characters (31% *v.* 8%, $P = 0{\cdot}186$, Fisher's exact probability test).

Some voices were aligned with known individuals who had died. S.K.$_n$ and M.I.$_n$, for example, hear only one voice each, that of dead father and dead husband respectively. It is interesting that in both cases the informants had an unhappy and conflictual relationship with the voice analogue (cf. Rees, 1971). In most cases, however, the relatives and other figures with whom the voices were aligned were still alive. This distribution of alignments partly support G. H. Mead's conception of Self – the voices are indeed frequently aligned with significant individuals in the voice-hearers' social world. The problem for Mead is that they are not integrated into one voice corresponding to the 'generalized other'. It is also significant that not all voices were aligned with other individuals – six informants reported voices which sounded like their own. An example is A.M.$_n$, who hears three voices, her mother, father and her own. The former voice is critical, the father voice is supportive and her voice is aligned her own wants and desires. It is, nevertheless, perceived as a voice, not as herself.

Two remaining, relatively frequent ways of individuating voices were the following. One was to distinguish voices in terms of what they typically say, for example criticize, or encourage, or warn. We refer to this as voice individuation by conduct. The other was to identify a voice in terms of situations in which it typically appears (e.g. in dangerous situation, when depressed). The perceptual, social alignment, conduct, situational bases of individuations are of course not exclusive. A.M.$_n$ for example reports hearing a voice which 'sounds very much like' her father, and which usually encourages her when she has problems. P.B.$_s$ hears an anonymous voice, which only swears at her. C.R.$_n$ hears a deep male voice calling her names when she walks at night through dangerous parts of the city.

In summary, the identity of voices reported by our informants was rarely supernatural. Rather, the voices were either like anonymous human beings, or they were aligned with known, significant individuals in the voice hearer's world, and further individuated in terms of their communicative actions. We can only speculate about the difference in voice individuation between the two groups. It seems unlikely that the informants in the two groups internalized different persons in their social context. It is arguably more likely that the informants with schizophrenia recoded the identity of those internalized in voices as a defence.

Table 3. *Dialogical positioning in voice-hearer/voice dialogues*

Group	1	2	3	4	5	6	7	8
+Schizophrenia	0	14	14	6	1	2	2	2
−Schizophrenia	3	13	14	5	2	5	4	3
Total sample	3	27	28	11	3	7	6	5

1, Voice hearer not a target; 2, voice hearer the target; 3, voices independent; 4, voices in a choir; 5, voice hearer overhears voices; 6, voices tell voice hearer what to tell others; 7, voices comment on what voice hearer says to others; and 8, voices comment on what others say.

Participant positioning in voice voice-hearer interactions

Most of the voice hearers reported that they were targets of what their voices said (Table 3). (Being a target of a message means here that the message is meant for the hearer, even though she may not be directly addressed.) Table 3 shows that it is rare to overhear voices in talk unconcerned with the voice hearers. Voices are typically orientated at voice hearers.

The typical participant positioning was for the voices to appear individually, one at a time,

each voice addressing the voice hearer, rather than other voice or some other person (Table 3).[4] Ten informants also reported hearing several different voices to speak at the same time, as if in a 'chorus'. Each voice was, however, addressing the voice-hearer, not each other. For example, S.J.$_n$ reported one voice suggesting one course of action, and another voice another course; A.M.$_n$ reported occasionally one voice commending her, the other criticizing. Several informants reported two or more differently sounding voices saying the same thing, at the same time. Table 3 shows that these two principal participant arrangements are not exclusive and may be experienced on different occasions. There were, however, some exceptions to the two typical participant arrangements. Informant A.M.$_n$ reported that her father-voice and mother-voice talk to each other. On clarification it turned out that her voices in fact do not address each other spontaneously or directly – A.M.$_n$ mediates between them. She, for instance, reports to the father-voice the mother-voice's criticism of her actions, and may present the mother-voice with his reaction. The informant C.R.$_n$ hears a male and a female voice and construes them as a couple. C.R.$_n$ reports that the female voice occasionally backs the male voice in arguments, or she may interrupt him, or censure him for commanding C.R.$_n$. The two voices, however, do not talk about C.R.$_n$ to each other. Only one informant, S.D.$_s$, reported unequivocally that the (clear) voices talked to each other, 'excluding' him, but not talking about him.

The second exception to the focus of voices on the voice hearer would be if the voices attempted to address other people. They could either try to take over the control of the voice hearer's body (as is reported to happen in passivity experiences and dissociative states), or they could use the voice hearer as a proxy, with his or her consensus. The former possibility was not reported to happen by our informants. Only one informant, S.J.$_n$, reported that on one occasion she felt that the voice (of her dead grandfather) wanted her to pass a message on to his daughter. Voices indeed often suggest to a voice hearer what to say, or criticize what he or she has said to others (see below). This seems to be, however, a matter of activity regulation rather than the voice using the voice hearer to talk to others for itself. Table 3 shows that voices do indeed occasionally comment on what others have said to voice hearers, but this is relatively rare.

The participant positioning arrangements typically described by our informants are relevant in considering the significance of first-rank symptoms of schizophrenia (Schneider, 1957). It seems typical for voices to comment directly on subjects' thoughts and actions, and this happens in informants with and without schizophrenia. The third person hallucinations, that is voices addressing each other, with the voice hearer being a subject of their talk and an overhearer were rare in our sample (cf. Nayani & David, 1996). Interestingly Bleuler, unlike Schneider, saw third person hallucinations as characteristic of alcohol induced hallucinosis (Bleuler, 1911/1966, p. 341).

Dialogical functions in voice talk

The most common function of voices seems to be to regulate activities of voice hearers. Voices do this dialogically by issuing directives, evaluatives and questions. Nayani & David (1966) reported that the most frequent function of voices was negative evaluation. In our informants with schizophrenia directives and evaluatives were equally frequent (71%). In the informants without schizophrenia, however, directives were more common than evaluatives (93% *v.* 71%).

Directives

Table 4 shows that 23 of the 28 informants reported voices attempting to regulate their activities through directives (e.g. 'Do *x*', 'Don't do *x*', 'You could do *x*' etc). The kinds of directives involved were as follows.

1 During the preparation for activity, a voice may advise on a possible course of action, or criticize what the voice hearer is about to do. A voice may suggest courses of action if the voice hearer is in difficulty (Table 4). Forty-six per cent of regulatives in informants without schizophrenia are of this type, while for those with schizophrenia the figure is only 11% (Fisher's exact probability test, $P < 0{\cdot}077$).

2 Voices tell the voice hearer to carry out specific actions: 100% of the informants with schizophrenia reported voices do this, but only 38% of those without schizophrenia did ($P = 0{\cdot}003$, Fisher's exact probability test).

Table 4. *Type of regulatives issued by voices, voice hearers' reactions to them, and the reasons for carrying out the actions*

	Type of regulative						Content			Reactions to regulatives				Reasons for obeying regulative				
Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
+Schizophrenia	10	1	10	2	0	0	6	6	2	4	9	9	3	2	1	1	5	0
−Schizophrenia	13	6	5	6	2	1	13	1	2	5	13	7	7	1	2	1	6	1
Total sample	23	7	15	8	2	1	19	7	4	9	22	16	10	3	3	2	11	1

1, total number of relevant informers; 2, voices advise on possible actions; 3, voices request specific actions; 4, voices inhibit actions; 5, voices encourage actions; 6, voices discourage actions; 7, mundane content; 8, violent content; 9, sexual content; 10, voice hearer obeys regulatives; 11, voice hearer rejects regulatives; 12, voice hearer ignores regulatives; 13, voice hearer considers regulatives; 14, impulsive reaction; 15, compulsion; 16, authority; 17, good advice; and 18, trust.

3 Voices also prohibit voice hearers from taking particular actions. This type of directive was more frequent in informants without schizophrenia (46%) than with schizophrenia (14%). This difference is, however, not significant ($P = 0{\cdot}195$, Fisher's exact probability test).

4 Finally, some voices were reported to regulate conative aspects of activity. Two informants reported voices encouraging them to persevere at difficult points in activities, one ($S.K._n$) reported the voice of his deceased father discouraging him in difficulties.

5 Voice hearers rarely reported voices giving them permissions to carry out actions.

Table 4 also shows that the actions voices attempt to regulate are mostly very ordinary – to write letters to friends, to close the door, to go and see the nurse. The ordinariness can be extreme, with one voice instructing its hearer ($A.H._s$) to open the door with his right rather than left hand. (John Bunyan reportedly heard the voice of God advising him on his golf stroke, Socrates occasionally heard the voice of his 'daimon', turning him away from whatever he was about to do.) Only four informants reported voices attempting to regulate their sexual activities (14%).

There is, however, a difference in the frequency of voices instigating violence. There were seven individuals with such voices and six of them were with schizophrenia ($P < 0{\cdot}012$, Fisher's exact probability test). In fact, the results in Table 4 indicate that the voices of informants without schizophrenia are more focused on mundane activities than those heard by informants with schizophrenia (60% *v.* 100%, $P = 0{\cdot}024$, Fisher's exact probability test). It is clear overall that, in their ordinariness, voices can be quite unlike their portrayal in mass media – they usually regulate activities not worth reporting.

Voice hearers' reactions to directives issued by voices were basically the same as in everyday talk (Table 4). The voice hearers ignored the advice/requests/prohibitions, as if the voice has not said anything (70%). This reaction was more frequently reported by informants with schizophrenia (90%) than by those without (54%) ($P = 0{\cdot}077$, Fisher's exact probability test). (The proportions are here calculated against the number of informants with voices issuing directives.) The voice hearers ignored voices more often than is the case in ordinary conversations. They rejected advice, requests or prohibitions issued by voices. All but one subject reported sometimes doing this. They considered the advice, the request or the prohibition when deciding, for themselves, on how to act (43%). This reaction was reported slightly more frequently by informants without schizophrenia (53%) than by those with schizophrenia (30%) ($P = 0{\cdot}237$, Fisher's exact probability test). They sometimes obeyed the voices – carried out actions or refrained from actions prohibited by voices without considering or even despite their preferences and judgements (39%).

An interesting property of regulative voices is their persistence. If a voice has issued a directive, and the voice hearer did not act as directed, the voice would typically repeat the directive, frequently until it was obeyed or the situation changed. As informants put it, voices 'nag them', 'bully them', 'go on'. All the informants with schizophrenia whose voices directed their actions reported them to be persistent, but only 60% of the informants without schizophrenia

did. Interestingly, persistence does not mean simple repetition, like a record stuck in a groove. Informants typically reported that voices get louder, rephrase the directives, and even start swearing when not obeyed. The repetitiveness is however, localized – the voices do not typically repeat exactly the same directives in different situations. The directives are different on different occasions, and usually relevant to the voice hearer current activities and their context. There are of course exceptions, like the voice which repeatedly tells M.H.$_s$ to kill himself. Even this voice, however, does not do this all the time but only in specific situations. The voices do not seem to be in general vocalizations of specific, dissociated experiences, that is specific 'fixed ideas' (cf. Janet, 1901). Interestingly, the repetitiveness of voices is negatively correlated to reacting to them by considering their requests (Pearson's $R = -0{\cdot}40$, $P = 0{\cdot}103$) and positively correlated to ignoring the voices (Pearson's $R = -0{\cdot}86$, $P = 0{\cdot}000$). Considering the worth of what a voice suggests is a dialogical reaction, and it seems to work better than blocking voices by ignoring them (cf. Wegner *et al*. 1987; Bentall *et al*. 1994).

Some voice hearers reported as a matter of policy never doing what the voices tell them. Some voice-hearers however, do carry out actions indicated by their voices. Table 4 shows the most common reasons for doing this and shows that these are the same in both groups. The numbers referring to the reasons for doing as the voices say are small because not all informants had regulative voices and some of them would never do as their voices tell them to. It can be seen, nevertheless, that the effects of voices on voice hearers' activities are not direct but mediated. Many informants occasionally do as the voices tell them because actions indicated by voices are reasonable and fit with their plans and on-going actions (48%). Three subjects reported occasionally succumbing to persistent directives issued by voices simply because of being tired and wanting the voices to go away. Only three informants reported doing occasionally impulsively what a voice tells them, perhaps like dropping an unexpectedly hot cup (impulsion). S.J.$_s$ says this happens only when he is tired and forgets that he's hearing voices. The relatively low frequency of reported impulsive reactions support the dialogical model of verbal hallucinations. The influence of voices seems to be mediated by the voice hearers' own decisions, not immediate. None of this is to say that individuals never act impulsively on ego-alien cognitions. The point considered here is whether voice hearers react impulsively to what voices tell them to do. Clearly, in our sample this is not a typical reaction. The next logical step would, however be to test our findings using a sample of individuals who committed serious acts of violence, allegedly commanded by voices.

So far we were concerned with voices telling voice hearers to do things. It is rare for the voice-hearers to tell voices to do things. This is understandable since voices lack bodies and they are typically not construed by our informants as supernatural agencies which could act without bodies. This means that almost the only possible things one can tell voices to do must be concerned with talking. And indeed our informants reported frequently telling voices to shut up – unfortunately this rarely works.

Evaluatives

Twenty informants, 10 in each group, reported that voices judged them as individuals or commented on their actions. Table 5 shows that, on the whole, voices are more often critical than commending. Sixty-eight per cent of all informants reported voices criticizing their actions but even so, 25% reported voices approving. Fifty-three per cent of informants reported voices abusing them and 29% reported voices commending them. Nayani & David (1996) reported that voices abusing the person of voice hearer were the most frequent type of V.H. (84%). In our sample of informants with schizophrenia the frequency is comparable (64%). The informants without schizophrenia, however, reported personal abuse from voices less often (43%) ($P = 0{\cdot}037$, Fisher's exact probability test). Table 5 also shows that, as was the case for regulatives, voices' evaluatives were focused on the voice hearers – the reports of voices judging others were relatively infrequent (32%). There was a difference between the informants with and without schizophrenia in this respect. Only 7% of the former reported voices evaluing others, while 57% of informants without schizophrenia did ($P = 0{\cdot}017$, Fisher's exact probability test).

As in everyday communication the reactions

Table 5. *Evaluatives issued by voices and voice hearers reactions to them, questions and answers, and informatives*

	Type of evaluative						Reactions to evalulatives					Questions and answers						Informatives				
Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
+Schizophrenia	10	4	9	4	9	1	8	5	1	2	5	4	4	1	1	4	8	6	2	2	0	3
−Schizophrenia	10	3	10	4	6	8	7	9	4	4	8	10	7	3	1	10	6	1	4	3	2	0
Total sample	20	7	19	8	15	9	15	14	5	6	13	14	11	4	2	14	14	7	6	5	2	3

1, number of subjects with evaluative voices; 2, voices approve of actions; 3, voices criticize actions; 4, voices flatter; 5, voices abuse; 6, voices evaluate others; 7, ignore evaluatives; 8, disagree with evaluatives; 9, agree with evaluatives; 10, reject communication; 11, some dialogical reaction; 12, voices ask questions; 13, voice hearers ask questions; 14, voice hearers never answer questions; 15, voices never answer questions; 16, voices' questions activity related; 17, informants with informative voices; 18, voices give new information; 19, voices inform about familiar events; 20, voices predict events; 21, voices convey bizarre information; and 22, voices explain.

to evaluatives varied. Table 5 shows that there were two modal reactions, 75% of informants reported ignoring the voice and 70% reported disagreeing verbally. Thirty per cent of informants reported rejecting voices' rights to judge them, but 25% reported occasionally agreeing with the voices' judgements and telling them so. On the whole, 70% of informants reported sometimes reacting dialogically to voices' judgements.

The informants judged voices much less frequently than the voices judged them. A typically reported occasion was to abuse voices in exasperation at their persistence.

Voices, therefore, do not just act as (pragmatic) monitors of actions; they also judge persons. The interesting phenomenon is that voices can be differentiated according to the valence of evaluations. $A.M._n$'s voices, for example, are so differentiated – her mother-voice criticizes, her father-voice commends. Schneider (1957) included voices commenting on a person's thoughts and actions as a First Rank Symptom of schizophrenia. In pragmatic terms, the 'commenting' actually means that voices either critique plans and intention and propose alternatives, or judge actions. Voices were reported to do this equally frequently in both groups, irrespective of diagnostic status of voice hearers.

Questions and answers

Table 5 shows that 50% of the voice hearers reported that voices ask them questions. (Examples are voices asking 'Why are you smoking?' or 'Why did you not do your essay?'.) This proportion was higher in the informants without schizophrenia (71%) than with (29%) ($P = 0{\cdot}023$, Fisher's exact probability test). Fourteen per cent of informants reported ignoring voices and never answering their questions. The remaining informants reported that they answered voices, the rate varying from 'occasionally' to 'always'. The questions voices asked almost always related to on-going activities and functioned as indirect requests. Voices were never reported to ask questions such as 'What time is it?', 'What is the weather like?' and 'Who won in the local elections?'.

Thirty-nine per cent of informants also reported asking questions of voices. According to cognitive theory of verbal hallucinations, which sees them as fragments produced in speech planning process, there is no reason to expect that any questions should be answered by voices. In fact, only two informants (18%) reported never getting answers from voices. Most informants reported receiving sometimes relevant answers from voices.

This means that verbal hallucinations are also organized as reversible question–answer sequences – both voices and voices hearers asking questions and providing answers. Questions asked by voices were typically related to regulating activities, those of voices hearers usually challenged voices right to control and judge the voice hearers.

Informatives

The final dialogical structure of verbal hallucinations considered in this paper involved voices giving voice hearers information. This dialogical structure was relatively less frequently reported than those already outlined above

(50% of informants, see Table 5). Table 5 shows that 43% of the informants with schizophrenia heard voices telling them something they did not know, but only 7% of those without schizophrenia did ($P < 0{\cdot}02$, Fisher's exact probability test). In many cases the information provided would be either something known to the voice hearer, but out of mind (21%) or predictions typically concerning consequences of voice hearers activities (18%). Most voice hearers typically reported not providing voices with information, except in response to questions.

CONCLUSION

The voices in our sample of informants were focused on the regulation of everyday activities. They were typically focused on the voice hearer, and if there were more than one voice the voices did not have access to each other. This participant arrangement was observed irrespective of presence or absence of schizophrenia. The experience of verbal hallucinations was characterized by the same dialogical structures one finds in ordinary speech and the activities regulated were most frequently mundane. The voice hearers were not typically compelled to carry out actions indicated by voices, the influences were cognitively mediated. Voices were rarely bizarre but usually aligned to significant individuals in the voice hearers' lives. All this is consistent with verbal hallucinations being a genus of inner speech. They are of course a rather odd kind of inner speech, because one hears it without speaking and the degree to which it is considered ego-alien is exaggerated.

There were some differences between the voices of informants with and without schizophrenia. The voice of the informants with schizophrenia were less often aligned with their family members. Their voices more often instigated violence and, irrespective of this, the voice hearers with schizophrenia tended to consider less often the worth of what the voices said. These do not seem to be radical differences in structure and function of voices, but rather differences in setting of parameters. It indicates the need for much more extensive study of pragmatic properties of verbal hallucinations in schizophrenia and other conditions.

The results of this paper confirm that it is useful to look at verbal hallucinations as inner speech with pragmatics. Under this metaphor some of their properties (e.g. repetitiveness) become obvious and understandable. The dialogic properties of voices imply a need to extend cognitive models of verbal hallucinations which focus on planning of actions and its monitoring. They also offer novel therapeutic approaches which we are currently developing.

APPENDIX I
THE MAIN PRAGMATIC FEATURES OF VERBAL HALLUCINATIONS ELICITED IN THE INTERVIEWS

1 Channel of communication

1.1 Are the voices heard in the head, through ears, or both? Do they have fixed or variable spatial position?
1.2 Does the voice hearer (VH) address voices silently, aloud or both?

2 Individuation of voices

2.1 Are all the voices clear or are there some which are completely unclear or just with odd clear words?
2.2 Do all the voices recur or are some of them encountered only once?
2.3 How many voices does the VH hear?
2.4 Are the voices male, female, young or old? Do they have accents? Are they like any individuals the voice hearer personally knows or like public figures? Any other distinguishing characteristics?
2.5 In what conditions do the voices appear?
2.6 Does each voice do different things?

3 Participant positioning

3.1 Is the VH a target of the voice talk?
3.2 Do the voices ever talk to each other?
3.3 Do the voices talk to VH one at the time?
3.4 Do several voices ever talk to VH at the same time?
3.5 Do the voices ever try to get VH to pass messages to other people or voices?
3.6 Do the voices ever tell VH what to say to other people?
3.7 Do the voices ever comment on what VH says to other people?
3.8 Do the voices ever comment on what other people say?

4 Dialogical characteristic of VH/voice dialogues

4.1 Directives

4.1.1 Do the voices tell VH to do things?
4.1.2 Do the voices prohibit VH from doing things?
4.1.3 Do the voices permit VH to do things?
4.1.4 Do the voices encourage VH to do things?
4.1.5 Do the voices discourage VH from doing things?
4.1.6 Do the voices advise/suggest what VH can do?

For each positive response determine all the ways in which the voice hearer reacts (e.g. refuses to carry out action, ignores the voice, obeys, considers the request etc.) and what the voice does subsequently. Repeat 4.1 asking what sorts of things VH tells the voices to do etc.

4.2 Evaluatives
4.2.1 Do the voices ever approve of VH's actions?
4.2.2 Do the voices ever criticize VH's actions?
4.2.3 Do the voices ever 'flatter' VH?
4.2.4 Do the voices ever abuse VH?

For each positive response and determine all the ways how the voice hearer reacts and what does the voice do subsequently (e.g. ignores, disagrees, agrees, rejects)? Repeat 4.2 asking what sorts of things VH tells the voices etc.

4.3 Questions and answers
4.3.1 Do the voices ever ask VH questions?
4.3.2 What are the questions about?
4.3.3 How does the VH react to the questions?
4.3.4 How do the voices react to the reactions reported in 4.3.3?

Repeat 4.2 asking what sorts of things VH tells the voices etc.

4.4 Informing
4.4.1 Do the voices ever tell you something you did not know before?
4.4.2 Do the voices ever inform you of familiar events?
4.4.3 Do the voices ever predict events?
4.4.4 Do the voices ever explain things?
4.4.5 Do you ever argue with voices?

Repeat 4.4 using the voice hearer as the subject of actions.

NOTES

[1] Historical figures who heard voices include Socrates, Galileo Galilei and John Bunyan.

[2] In fact Bleuler (1911/1966, p. 110) allows voices to have both acoustic phenomenal qualities and to be, so to speak, 'silent'. He explains the lack of acoustic qualities in terms of low vividness. So voices could be both inner speech and inner language. This would, of course, blur the distinction between 'inserted thoughts' and 'verbal hallucinations'.

[3] The initials in capitals identify individual cases, subscripts in case initials indicate the informant group, s being informants with schizophrenia, n the informants without.

[4] This may seem to be the only possible arrangement if the informant hears just one voice. Yet even a single voice could refer to the voice hearer in the third person, apparently addressing somebody so to say 'out of sight of hearing'. This possible participant arrangement was never reported by our informants.

REFERENCES

American Psychiatric Association (1994). *Diagnostic Criteria from DSM-IV*. American Psychological APA: Washington, DC.

Bakhtin, M. M. (1988). *Problems of Dostoevsky's Poetics*. University of Manchester Press: Manchester.

Barrett, T. R. & Etheridge, E. (1992). Verbal hallucinations in normals. *Applied Cognitive Psychiatry* **6**, 379–387.

Bentall, R. P., Haddock, G. & Slade, P. D. (1994). Cognitive behaviour therapy for persistent auditory hallucinations. *Behaviour Therapy* **25**, 51–66.

Bleuler, E. (1924/1951). *Textbook of Psychiatry*. Dover Publications: New York.

Bleuler, E. (1911/1966). *Dementia Praecox or the Group of Schizophrenias*. International Universities Press: New York.

Bryer, J. B., Nelson, B. A., Miller, J. B. & Krol, B. A. (1987). Childhood sexual and physical abuse as factors in adult psychiatric illness. *American Journal of Psychiatry* **144**, 1426–1430.

Cacioppo, J. T. & Petty, R. E. (1981). Electromyograms as measures of extent and affectivity of information processing. *American Psychologist* **36**, 441–456.

Chadwick, P. & Birchwood, M. (1994). Omnipotence of voices. A cognitive approach to auditory hallucinations. *British Journal of Psychiatry* **164**, 191–201.

Cleghorn, J. M., Franco, S., Szechtman, B., Kaplan, R. D., Szechtman, H., Brown, G. M., Nahmia, C. & Garnett, E. S. (1992). Toward a brain map of verbal hallucinations. *American Journal of Psychiatry* **149**, 1062–1069.

Diaz, R. & Berk, M. (eds.) (1992). *Private Speech. From Social Interaction to Self Regulation*. Lawrence Erlbaum: Hillsdale, N.J.

Ensink, B. (1994). Trauma: A study of child abuse and hallucinations. In *Accepting Voices* (ed. M. Romme and S. Escher), pp. 165–171. Mind Publications: London.

Frith, C. (1992). *The Cognitive Neuropsychology of Schizophrenia*. Lawrence Erlbaum Associates: London.

Frith, C. (1995). Functional imaging and cognitive abnormalities. *Lancet* **346**, 615–620.

Goffman, E. (1981). *Forms of Talk*. Blackwell: Oxford.

Gould, L. N. (1949). Auditory hallucinations and sub-vocal speech. *Journal of Nervous and Mental Disease* **109**, 418–427.

Green, P. & Preston, M. (1981). Reinforcement of vocal correlates of auditory hallucinations by auditory feedback. *British Journal of Psychiatry* **139**, 204–208.

Greenfield, S. F., Strakowski, S. M., Tohen, M., Batson, S. C. & Kobrener, M. L. (1994). Childhood abuse in first-episode psychosis. *British Journal of Psychiatry* **164**, 831–834.

Hoffman, R. E. (1986). Verbal hallucinations and language production processes in schizophrenia. *Behavioural and Brain Sciences* **9**, 503–548.

Janet, P. (1901). *Mental State of Hystericals*. The Knickerbrocker Press: New York.

Leudar, I., Thomas, P. & Johnston, M. (1992). Self-repair in dialogues of schizophrenics: effects of hallucinations and negative symptoms. *Brain and Language* **43**, 487–511.

Leudar, I., Thomas, P. & Johnston, M. (1994). Self-monitoring in

speech production: effects of verbal hallucinations and negative symptoms. *Psychological Medicine* **24**, 749–761.
Levinson, S. (1983). *Pragmatics*. Cambridge University Press: Cambridge.
Levinson, S. (1988). Putting linguistics on a proper footing. Explorations in Goffman's Concepts of Participation. In *Goffman. Exploring the Interaction Order* (ed. P. Drew and A. Wotton), pp. 161–227. Polity Press: Oxford.
Luria, A. R. (1961). *The Role of Speech in the Regulation of Normal and Abnormal Behaviour*. Pergamon Press: Oxford.
McGuire, P. K., Shah, P. & Murray, R. M. (1993). Increased blood flow in Broca's area during auditory hallucinations in schizophrenia. *Lancet* **342**, 703–706.
McGuire, P. K., Silbersweig, D. A., Wright, I., Murray, R. M., Davis, A. S., Frackowiak, R. S. J. & Frith, C. D. (1995). Abnormal monitoring of inner speech: a physiological basis for auditory hallucinations. *Lancet* **346**, 596–600.
Mead, G. H. (1934/1962). *Mind, Self and Society*. Chicago University Press: Chicago.
Mellor, C. S. (1970). The first rank symptoms of schizophrenia. *British Journal of Psychiatry* **117**, 15–23.
Miller, G., Galanter, E. & Pribram, K. (1960). *Plans and the Structure of Behavior*. Holt, Rinehart and Winston: New York.
Nayani, T. H. & David, A. S. (1996). The auditory hallucination: a phenomenological survey. *Psychological Medicine* **26**, 177–189.
Pavlov, I. P. (1928). *Lectures on Conditioned Reflexes*. International Press: New York.
Rees, W. D. (1971). The hallucinations of widowhood. *British Medical Journal* **4**, 37–41.
Romme, M. & Escher, S. (1989). Hearing voices. *Schizophrenia Bulletin* **15**, 209–217.
Sacks, H., Schegloff, E. & Jefferson, G. (1974). A simplest systematics for the organization of turn-taking in conversation. *Language* **50**, 696–735.
Schneider, K. (1957). Primare und Sekundare symptomen bei schizophrenie. (Primary and secondary symptoms in schizophrenia.) *Forschritte der Neurologie – Psychiatrie und ihrer Grenzgeliete* **25**, 487.
Slade, P. & Bentall, R. (1988). *Sensory Deception: Towards a Scientific Analysis of Hallucinations*. Croom Helm: London.
Strawson, P. F. (1959). *Individuals*. Methuen Press: London.
Tien, A. Y. (1991). Distributions of hallucinations in the population. *Social Psychiatry and Psychiatric Epidemiology* **26**, 287–292.
Vygotsky, L. S. (1934/1986). *Thought and Language*. MIT Press: Cambridge, Mass.
Wegner, D. M., Schneider, D. J., Carter, S. R. & White, T. L. (1987). Paradoxical effects of thought suppression. *Journal of Personality and Social Psychology* **53**, 5–13.
Wertsch, J. V. (1991). *Voices of the Mind*. Harvester Wheatsheaf: London.
Wing, J. K., Cooper, J. E. & Sartorius, N. (1974). *The Measurement and Classification of Psychiatric Symptoms*. Cambridge University Press: Cambridge.