

EXPLORATIONS OF THE FEATURES OF OUT-OF-BODY EXPERIENCES: AN OVERVIEW AND CRITIQUE OF THE WORK OF ROBERT CROOKALL

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ABSTRACT

This paper overviews the work that geologist Robert Crookall published about out-of-body experiences (OBEs) during the 1960s and 1970s. Crookall presented hundreds of OBEs and analysed their features. His work was conducted to defend the existence of subtle bodies possessing different characteristics. Depending on the subtle body active in particular experiences, the OBE had specific characteristics. Furthermore, Crookall claimed to have identified basic recurrent features of the OBE, and he discussed factors that affected the content of OBEs such as the circumstances surrounding their occurrence. A critique of Crookall's work is presented, considering definition problems, the low number of cases, and misclassification of experiences. Furthermore, analyses of new data are presented to test Crookall's findings. While there is some support for some of Crookall's findings, analyses concerning his basic OBE features and the differences between natural and enforced experiences are not upheld by the empirical evidence. Regardless of methodological problems, this is a reminder of Crookall's forgotten work and a recognition of his efforts to document the variety and complexity of OBE features.

INTRODUCTION

Among the most interesting aspects of out-of-body experiences (OBEs) are the features of the experience (Alvarado, 1997). This includes the variety of things people perceive and feel during the OBE, such as seeing the physical body, and going to other locations. Furthermore, studies of such topics include how these features may be related to other variables. In addition to my own work on the subject (e.g. Alvarado, 1984, 2001; Alvarado & Zingrone, 1997, 1999), others have explored this aspect of OBEs (Gabbard & Twemlow, 1984; Giovetti, 1983; Green, 1968; Poynton, 1975). A pioneer in the study of OBE features was Robert Crookall, the topic of the present paper. In fact, I would argue that Crookall's main contribution was to demonstrate the variety and complexity of OBE features. In this article I will examine selected aspects of Crookall's work and will compare his findings with some of my own studies in an attempt to examine whether Crookall's claims have been replicated.

CROOKALL AND OBE RESEARCH

Robert Crookall (1890–1981), once associated with the National Coal Board in London, was a retired British geologist who became well known for his case collections and theories of OBEs. He was a modern representative of the projection model of OBEs in which it has been argued that consciousness leaves the physical body during the experience (I have discussed aspects of the history of this model in previous publications: Alvarado, 1989, 2009b, 2009c, 2011b). He published most of his work during the 1960s, a period of great interest in altered states of consciousness and a time of transition in OBE research that marked the beginnings of more systematic case studies and

laboratory studies of the phenomenon (for an overview see Alvarado, 1989). Crookall's publications appeared after the well-known case collection work of Muldoon and Carrington (1951) and Hart (1954) were published, and most of it appeared in the same decade as Green's (1968) case studies and Tart's (1967, 1968) experimental studies. His work, based on a particular model of the projection of various semi-physical and non-physical bodies, expanded previous case collections by documenting the richness and variety of OBE characteristics.

Crookall was probably the most prolific OBE case collector in the history of the subject. He accumulated hundreds of cases from different sources. My analysis of the source of cases ($N = 314$) in two of his books (Crookall, 1961b, 1964) shows that most cases came from the spiritualist and psychical research literatures (40%), from accounts sent to the author (36%), and the rest were from newspapers (13%), biographies (2%), other sources (7%), and a few had no sources listed (2%). In a later book (Crookall, 1978, $N = 121$) the frequencies were similar except that a higher proportion of cases were sent to Crookall. This makes sense because he was better known as a case collector in later years. In this book the sources of cases were: spiritualist and psychical research literatures (30%), accounts sent to the author (51%), newspapers (0%), biographies (3%), other (5%), no sources (0%), and unclear (4%).

In a series of books (e.g. Crookall, 1961b, 1964, 1965, 1967b, 1968b, 1970b, 1972, 1978) and articles (e.g. Crookall, 1961a, 1963, 1966, 1967a, 1968a, 1969a, 1970a, 1973) Crookall argued that regularities in the OBE features of the cases he compiled showed that the phenomenon was clearly distinguishable from such conventional psychological explanations as hallucinations and distorted body images. These regularities included constancy in the general characteristics of OBE reports, in stages of the experience, and in consistent differences between OBEs in terms of the circumstances surrounding or causing the OBE and in terms of having 'mediumistic' and 'non-mediumistic' experiences (more on this later).

Crookall argued that his analyses supported the projection model by providing indirect proof of the constancy of OBE features.¹ His approach did not focus on phenomena such as veridical perceptions or apparitional aspects of the experience, nor in the physical detection of the OBE (on these topics see Alvarado, 1980, 1982a, 1982b, 1983; and Hart & Collaborators, 1956). As he wrote, such phenomena

indicate telepathy and/or clairvoyance, whereas we have to demonstrate (in addition) the presence of *an objective double, a non-physical body, an 'astral' body*. Even if the double is seen collectively, is photographed, performs some physical act . . . it does not necessarily follow that the phenomena are inevitably due to an *objective double* . . . Indirect, rather than direct, evidence, provides the basis of proof.

[Crookall, 1961b, p. 143]

Indirect evidence was obtained through content analyses of the common facts of and differences between the accounts, an attempt to develop a taxonomy of

¹ Crookall (e.g. 1961b, 1961c, 1965, 1967b, 1978) has also argued that descriptions of the process of death obtained through mediumistic communications and clairvoyant observations at deathbeds show similarities with the testimonies of persons that have been out of their bodies while alive. This was one of Crookall's main arguments regarding the importance of OBEs for the issue of survival of death.

OBEs. It was assumed that if particular consistent patterns were found in the cases, ones that did not match any known hallucinatory experiences, these patterns would provide evidence for the OBE projection model.²

Projection ideas such as Crookall's are not popular in contemporary research, in which psychological and psychophysiological conceptualizations of OBEs predominate (Blanke & Mohr, 2005; Murray & Fox, 2005; see also most of the papers in Murray, 2009, and my overview, Alvarado, 2009a). Although Crookall's work seems to have had little impact on contemporary OBE studies in terms of inspiring research or acceptance of his particular theoretical ideas and observations of specific aspects of OBE phenomena, his work has been discussed frequently. This is evident in comprehensive review papers of OBE research (Alvarado, 1986, 1989), some discussions about survival of bodily death (Hart, 1966, 1967), as well as in a variety of books surveying the topic (e.g. Blackmore, 1982; Irwin, 1985). Crookall's work has also received much publicity in writings addressed to the general reader (e.g. Bayless, 1973; Lorimer, 1984; Mishlove, 1993; Rogo, 1983). In addition to this, there have been some articles and book chapters written about Crookall's work (Alvarado, 1981; Bayless, 1971; Ebon, 1977; Quigley, 1993), and a report about a replication attempt of aspects of his work (Alvarado, 1984). Crookall has also been described as an authority on OBEs both in specialized (Shepard, 1984, p.278) and general (Evory, 1978, p.219) reference works.

SUBTLE BODIES

Although I will not discuss Crookall's classification of subtle bodies in great detail, it is important to be aware of his concepts because they guide both his case analyses and his interpretations. Crookall referred to three bodies other than the physical one (e.g. Crookall, 1969b, p.15, table facing p.130, pp.156–157; 1972, pp.132–133; 1978, pp.183–184). The True Spiritual Body was supposed to be a formless body of high moral, spiritual and mystical properties. However, most of Crookall's analyses referred to two other bodies. The 'Vehicle of Vitality' was described as a semi-physical body with no consciousness and with some relation to the physical world. Crookall believed this body was involved in the physical phenomena of mediumship (e.g. movement of objects and materializations) and in some visible apparitions and perceptions of bystanders at deathbeds.³ He also stated that this body animated the physical body with vital energy. In addition, consciousness resided in the 'Soul Body', an ovoid 'superphysical' body with almost no relation to space and time, but responsible for ESP experiences. The Vehicle of Vitality bridged the physical body with the Soul Body. In Crookall's (1964) words:–

With some people, and especially (though not necessarily) saintly people, the Soul Body is less enmeshed in the physical body than with others (and especially grossly sensual people): their Soul Bodies tend to project fairly readily. With some very few people, also (and these may be either saintly or sensual) the vehicle of vitality is

² The projection model is defended by Muldoon and Carrington (1929, 1951), and summarized and criticized by Blackmore (1982) and Irwin (1985).

³ These bystander cases include observations of luminous effects and the exit of a subtle body from the physical body of a dying person (Crookall, 1967b). For modern discussions of aspects these cases see Alvarado, 1987, 2006, 2011a; Moody, with Perry, 2010; Nahm, 2011.

loosely associated with the physical body; it readily projects part of its substance.

Astral projection as a whole . . . may involve either or both of these two bodily features: some projections involve the Soul Body only; others merely represent an extrusion of part of the vehicle of vitality; most are a combination of the two—the Soul Body goes out accompanied by a tincture of substance from the vehicle of vitality. In the later circumstances the total non-physical body that is released is compound.
[p.xv]

The projection of these bodies was considered by Crookall to be influenced by factors related to its induction, namely natural (and gradual ways), and 'enforced' or induced and/or sudden ways (Crookall, 1961b, 1964). In addition, Crookall (1965) considered that individuals with a mediumistic constitution had a loose Vehicle of Vitality, a factor that could affect the features and quality of the experience by dimming the consciousness of the experient. In another study Crookall (1970b) argued that 'compound' doubles could separate after the initial OBE when the Vehicle of Vitality was shed or stripped from the Soul Body, which Crookall described as 'double-release' OBEs. These were OBEs in which the person having the experience saw the physical body and another subtle body similar to the physical body from a third position in space (see also Greene, 1983).

METHODOLOGICAL AND DEFINITION PROBLEMS IN CROOKALL'S RESEARCH

Crookall's methods and concepts have been criticized before (e.g. Blackmore, 1982; Hart, 1962; Irwin, 1985; Parker, 1974). He never addressed the issue that the source of his cases, mainly cases reported in the context of interest and belief in psychic phenomena, may have limited the generalization of his results. As argued before, most of his cases came from spiritualist and psychical research publications, while others were reported directly to Crookall after the experiencers read about his work.

However, Crookall's writings also suffer from a number of other problems. His methods of classification and coding were poorly articulated. The same may be said about his definition of key variables. Many of his classifications and definitions of cases into natural and enforced and into mediumistic and non-mediumistic lacked clear criteria. Regarding the latter, the process seemed to depend on the characteristics of the experiences in question. Cases seem to be classified as mediumistic not only because they came from mediums, but because of particular features. These included seeing mist, "interpreted as part of the substance of the electro-magnetic vehicle of vitality" (Crookall, 1978, p.168; see also Crookall, 1965, 1970b). But these features were also used to validate the distinctions in question. Consequently, the definition was circular and seemed to be based mainly on a theoretical interpretation of such observations.

A similar problem is found in Crookall's listing of cases under the heading "'Doubles' Released in Two Definitive Stages, Sometimes with a Definitive Two-Stage Return" (Crookall, 1970b, p.45). I examined the cases available to me from those listed by Crookall (the 15 cases listed before #399). In one case (#277) the experient referred to the shedding of three 'body shells' (Crookall, 1964, p.64). But the rest of the cases have features that, at best, are unclear indications of double releases or two stages. Some of the features that Crookall

seems to interpret as the shedding of the Vehicle of Vitality, and thus the beginning of an OBE stage, include sensations of rising (case #59), going through a tunnel (#72), and cracking sensations and sounds like tearing of silk (#81). It is not clear that these phenomena represent stages of the shedding of a subtle body; instead they seem to show how a theoretical model has been imposed on the description of the features of the OBE.

Although Crookall claimed that there are many differences between various types of OBE cases, he did not report statistical tests to assess these contrasts. It is, of course, possible to conduct qualitative research that is valid, important and meaningful. But in Crookall's work it becomes difficult to assess the existence of such differences when it is noticed that he over-generalized from small numbers of cases (e.g. Crookall, 1965, 1970b).

The way the OBE cases were presented in Crookall's books is also problematic. Not all of the cases are OBEs. My analyses of the first two case collections that form the basis for most of the claims discussed in this paper (Crookall, 1961b, 1964) show that out of 382 numbered cases, only 314 can be considered OBEs from reading the accounts. Sixty-eight of the cases do not qualify as OBEs because the accounts are unclear regarding the experient's sensation of being out-of-the-body (57%). They consist of commentaries (16%); reports of someone else's apparitions with no sensations of being out-of-the-body (15%); cases of autoscapy where the experient saw a 'double' of him- or herself from the perspective of the physical body (6%); and a few other miscellaneous non-OBE material (6%). My classification of 57% of the 68 cases as unclear may have excluded some cases that would have been defined as an OBE with more detailed information about the experient's sensations. But even allowing for that, we still have to account for Crookall's inclusion of 29 other cases incorrectly presented as OBEs.

Some cases include more than one OBE. From my examination of some of Crookall's (1964) frequency counts it looks as if he counted features (e.g. seeing spirits) as present if they were experienced in any of the same individual's OBEs. If this was the case overall, he was not comparing a set number of experiences against another, but was really dealing with an indeterminate number of experiences.

All these problems throw doubts on Crookall's claims. However, more may be said about his work, especially from the point of view of conducting further reanalyses of his data and new studies to test for his ideas. Although Crookall's work contains many claims I will discuss here only part of them. In the statistical analyses that follow I will not be concerned about correcting for multiple analyses. I trust that replication studies will be used to assess the validity of the few significant analyses reported here.

Regardless of methodological or conceptual problems with Crookall's work, it is important to discover whether the frequency of OBE features in his studies and in comparable studies from other researchers supports his claims about the consistency of OBE features. A systematic evaluation of Crookall's contributions to OBE research is useful not only to test the validity of his claims, but also to assess the potential contribution of his content analysis work to the understanding and mapping of the features of the experience.

GENERAL OBE FEATURES

According to Hart (1966, p.385), Crookall “has shown that hundreds of published cases fit into one basic pattern”. In Crookall’s (1961b, p.140) opinion this pattern “indicates that *these are not mere dreams but actual experiences in a non-physical body, an objective double of the Physical Body*”. Some of the phenomena forming the general pattern in question were quantified by Crookall in his book *More Astral Projections* (1964, $N = 251$), and are shown in Table 1. The data were originally grouped into two conditions but I have rearranged them to reflect percentages of the whole sample (it is not clear in these and in other numbers presented by Crookall how many multiple experi-ents or non-OBE cases are included). Some of the features refer to sensations while leaving and returning to the body (leaving through the head, blackouts, and shock on return) and to observations made during the OBE (cords and spirits). The other features of the table refer to the ‘level of consciousness’ and the ‘environment’ in which the experients found themselves during the OBE. According to Crookall’s system, supernormal consciousness—a higher mental state—is related to mystical and psychic experiences. Similarly, the environ-ment in which the experients found themselves during OBEs varied from beautiful scenery accompanied by positive feelings (Paradise), to normal (Earth) to confusing, misty, dark surroundings accompanied by fear or negative feelings (Hades). Such ‘environments’ not only indicate experiences, but according to Crookall (e.g. 1972, p.147) represent actual dimensions. In his view they are part of the constitution of human beings as well as of the planet. Other features mentioned by Crookall throughout his writings include clicking or snapping noises when going out of the body, hearing music and whirling

Table 1

Basic OBE Features According to Crookall (1964)

Feature ($N = 251$)	Percent
OB through head	12%
Blackout/tunnel going out	27%
Blackout/tunnel returning	17%
Horizontal over physical body at first	23%
Horizontal over physical body on return	3%
Cord-like connection	20%
Spirits seen	25%
Rapid entry caused shock	10%
Supernormal consciousness	17%
<i>Environment</i>	
Paradise	13%
Earth	38%
Hades	2%

wind-like sounds, panoramic memory review, dual consciousness (or sensations of being both in and out of the body), reluctance to return to the body, travel to distant locations, moving at great speeds and seeing a variety of things such as lights, an illuminated environment, the physical body, a non-physical body and both the physical and a non-physical body from a third position in space. It is important to notice that the actual percentages shown on Table 1 are not very high. This is the case, for example, with leaving the body through the head (12%), assuming a horizontal position over the physical body at the end of the experience (3%), and having a shock on rapid return to the body (10%). Overall, the percentages seem too low to represent defining features of the OBE.

It is hard to assess how constant these experiences are in fact, because of the lack of similar *quantitative* comparison data. The percentages in Table 1 are based on cases from two of Crookall's books (1961b, 1964). Unfortunately, Crookall himself did not extend his studies in a quantified form in later case collections (e.g. Crookall, 1972, 1978), and, with a single exception in which different comparisons were done (Alvarado, 1984), neither has anyone else that I am aware of. Consequently, there is no independent evidence for the consistency of the features in question. In the light of this, I decided to compare Crookall's percentages with comparable data I collected in two studies (see Table 2).⁴ Out of eight contrasts between Crookall's data and the first of my studies, two were significant favouring Crookall (cord-like connection and seeing spirits). Four contrasts out of eight between Crookall and the second study achieved significance. In two of these Crookall obtained higher percentages (cord-like connection and seeing spirits), while in the other two the percentages were higher in my study (horizontal position over physical body on return and rapid entry caused shock; see Table 2). While one must be careful about analyses like this where data have been collected in different ways, it seems that the similarities between Crookall's data and the data of my studies provide some support for Crookall's claims about the constancy of some OBE characteristics across observations. Nonetheless, there are some significant differences, among them that Crookall's cases had a higher percentage of cord and spirit observations. Interestingly, Crookall's cases showed fewer instances of a horizontal position over the body on return. This difference was significant in only one of the analyses.

Cord Connection

Crookall's percentage of reports of a cord-like connection between the physical body and the out-of-body location (20%) is one of the highest among nine studies that range from 0% to 20% (see the studies summarized in Alvarado, 1986, and Brelaz de Castro, 1998). The study of Brelaz de Castro (1998) also produced 20%, but the question used was ambiguous, raising the possibility of false positives. Perhaps Crookall's high number may be explained as follows (see also Irwin, 1985). My reanalysis of the 48 cases Crookall

⁴ The first one was conducted in the United States with students of a small university in California (Alvarado, 1984). The original analyses were done with 61 cases, but one case was deleted from the reanalyses due to missing information. The second was conducted mainly with respondents to newspaper and magazine requests for cases, most of which were from England and Scotland (the overall *N* was 88, which varied according to the analyses, Alvarado, 2001).

Table 2

Comparison of OBE Features in Studies by Crookall (1964) and Alvarado⁵

Features	Crookall (1964) (N = 251)	Alvarado (1984) (N = max. 60)	Alvarado (2001) (N = max. 83)
OB through head	12%	19%	20%
Blackout/tunnel going OB ^a	27%	30%	18%
Horizontal over physical body at first	23%	29% ^b	32%
Cord-like connection	20%	0%****	2%****
Spirits seen	25%	7%***	18%**
Horizontal over physical body on return	3%	25% ^b	48%****
Blackout/tunnel returning ^a	17%	26%	17%
Rapid entry caused shock	10%	46% ^b ****	24%*

Fisher's Exact Probability Test (two-tailed):

* $p = 0.02$ ** $p = 0.002$ *** $p = 0.001$ **** $p < 0.001$

^a These percentages in Alvarado's studies combine reports of blackout of consciousness and tunnel experiences to make it comparable to Crookall's analyses.

^b In Alvarado's (1984) report these percentages reflect subgroups, not all the OBE cases. Here they have been changed in relation to the overall N to facilitate comparisons with Crookall.

classified as containing the cord in two of his books (Crookall, 1961b, 1964) shows that he counted many cases that should not have been labelled as reports of cords. Among them were cases with no mention at all of the cord (10%), cases in which the experiencers reported sensations of being pulled but no visual perception of a cord (13%), cases of other phenomena and comments that cannot even be counted as OBE cases (19%), and cases unclear from the accounts (4%). After correcting for these problems, I counted 26 proper cord cases, making 11% of the whole sample of 242 OBE cases. The analysis has an overall N of 242, instead of the 251 listed by Crookall (1964) because I did not use nine cases out of the 48 that referred to non-OBE material. The overall N may be less if we further consider Crookall's inclusion of non-OBE cases referred to before.

Features at the Beginning and at the End of the OBE

Crookall has also argued that some OBE features which appeared at the beginning of the experience also appeared at the end. This is clear from his initial tabulation of features (see Table 1) as well as in his later publications (e.g. 1968b, 1970b). In his words, experiences "described as having occurred in the *release* of the 'doubles' were also described as having occurred on their *re-entry* into the body" (Crookall, 1968b, p. 65). My analyses of data from a previous

⁵ Note: The comparisons refer to Crookall vs. each of the other two groups.

study (Alvarado, 1984) support Crookall's claims in that there is a tendency for cases having the features in question at the beginning of the experience to show the same feature at the end of the experience. Of the individuals who lost consciousness at the beginning of the experience, 80% of the cases had this experience as well on return. Similar results were obtained with reports of dark tunnels, enclosures or places (60%), and reports of a horizontal position over the physical body (76%). Some of these patterns can be found in autobiographical writings of individuals who have had frequent OBEs. In his OBE book Peterson (1997, pp.153–155) made the point that there were times when he did not lose consciousness or have a blackout of consciousness at the end of the experience. However, an inspection of his book shows several instances where this occurred just before he regained consciousness in his physical body (Peterson, 1997, pp.93, 102, 103, 104, 109, 116, 132, 151, 158, 159, 167, 170, 173, 185, 186, 208, 214).

Patterns Following the OBEs of Sylvan J. Muldoon

Another analysis of my data supporting Crookall concerns shocks to the body at the end of the experience. Following the well-known astral projector Sylvan J. Muldoon,⁶ Crookall (e.g. 1964, 1967b) argued that rapid returns to the body were associated with feelings of shock on the physical body, suggesting to him that something was coming back to the body. One test of this hypothesis supported Crookall's observations (Alvarado & Zingrone, 1997), while another one did not (Alvarado & Zingrone, 1998–99). Crookall also followed Muldoon in the belief that the closer the person was to the physical body, the less control of the OBE movements he or she would have, on account of the constant pull by the astral cord. One of my studies supported this (Alvarado & Zingrone, 1998–99).

FACTORS MODERATING OBE FEATURES

Natural and Enforced Projections

One of the most interesting of Crookall's claims is that the content of OBEs is moderated by the mode of induction of the experience. Crookall referred to natural and enforced conditions. The natural conditions, presumed to include gradual exteriorizations, included OBEs occurring in normal conditions, near death, and during illness and exhaustion. Conversely, the enforced OBEs were presumed to occur rapidly, forced by the action of drugs, suffocations, accidents, and hypnosis. Table 3 presents my analyses of Crookall's data of individuals who had either natural or enforced ('single-type') OBEs. The percentages tend to favour the natural condition. However, only two contrasts were statistically significant: experiencers who reported natural OBEs had a higher frequency of supernormal consciousness and Paradise conditions than those who reported enforced OBEs; Earth-like environments were more frequent in the enforced condition.

⁶ Muldoon initially became known in the OBE literature from his detailed discussions of OBE features and concepts presented in *The Projection of the Astral Body* (Muldoon & Carrington, 1929). He later published other OBE books (Muldoon, 1936; Muldoon & Carrington, 1951). Muldoon has been discussed by Blackmore (1982) and Rogo (1978).

Table 3

Crookall's (1964) Breakdown of the Features of Natural and Enforced OBEs

Features	Natural OBEs (N = 214)	Enforced OBEs (N = 37)
OB through head	14%	5%
Blackout/tunnel going OB	28%	22%
Horizontal over physical body at first	23%	19%
Cord-like connection	20%	16%
Spirits seen	23%	16%
<i>Consciousness:</i>		
Supernormal	19%*	5%*
Normal	3%	3%
Subnormal	1%	0%
<i>Environment:</i>		
Paradise	15%*	3%*
Earth	31%**	78%**
Hades	2%	5%
Horizontal over physical on return	3%	0%
Blackout/tunnel returning	17%	16%
Rapid entry caused shock	11%	5%

Fisher's Exact Probability (two-tailed): *p = 0.04 **p < 0.001

Crookall explained these differences by arguing that “‘doubles’ which leave the body naturally usually consist of the Soul Body only, while those which are forcibly ejected are composite—part of the ‘semi-physical’ vehicle of vitality is forced out, as well as the ‘super-physical’ Soul Body.” In his view the difference in the level of consciousness and in the environment contacted was determined by the composition of the (objective) ‘doubles’ (Crookall, 1968b, p. 61). According to Crookall’s view, the Vehicle of Vitality surrounded the Soul Body in enforced projections. It dimmed perception, reducing the number of observations made by and the level of consciousness of the experient. However, Crookall did not consider possible alternative interpretations. Could it be that the superiority of the natural condition may be accounted for by the trauma or stress factor, something briefly mentioned by Parker (1974)? That is, assuming the natural–enforced differences are constant, could they indicate that relaxed conditions (natural ones) produce more vivid OBEs than stressful and life-threatening (enforced) ones? However, regardless of these issues, Crookall’s data do not seem to be significant enough to place much confidence in the natural–enforced patterns. In my own research reported elsewhere (Alvarado, 1984) I failed to replicate Crookall’s natural–enforced OBE patterns in fifteen comparisons

predicted from his writings. Of these non-significant comparisons, 53% were in the opposite direction to those predicted by Crookall, 33% were in the expected direction, and in 13% I obtained no difference at all.

Other analyses have been presented as support for natural vs. enforced differences. In a paper published after his 1964 book Crookall (1966) changed the percentages of the natural–enforced comparisons. In his new grouping of data Crookall removed cases that occurred during illness and under near-death conditions from his natural cases and reassigned them to the enforced group. He reasoned that grave illness was a condition in which the Vehicle of Vitality was projected, leading to an ‘enshrouding’ of the Soul Body and thus acting as a dimmer of consciousness. The issue was not clearly articulated in the case of near-death OBEs, but it seems apparent that the same assumption was applied to these cases. Crookall claimed that such regrouping of his cases made the differences more noticeable. Table 4 shows the new classification of cases with ‘no enshrouding’ (natural) and with ‘enshrouding’ of the Soul Body (enforced, and cases of illness and near-death). The results of my analyses of Crookall’s data support his claims, with seven significant analyses out of nine comparisons (78%). However, Crookall’s *post-hoc* groupings of data may be questioned in that they came from a researcher intimately familiar with his data. It is likely that this familiarity may have led to his choosing these combinations—indeed, his knowledge of the case detail may have been much more important to the data re-classification than any theoretical justification. The results must remain in doubt until they are independently replicated.

Table 4

Analysis of Crookall’s (1966) Natural and Enforced OBE Features as a Function of Enshrouding by Vehicle of Vitality

Features	No Enshrouding (Natural, <i>N</i> = 109)	Enshrouding (Enforced, with illness & near death, <i>N</i> = 110)
OB through head	19%**	7%**
Blackout going OB	39%**	24%**
Horizontal over physical body at first	39%*****	14%*****
Cord-like connection	31%****	10%****
Paradise	20%*	9%*
Telepathy/clairvoyance	19%	16%
Horizontal over physical body on return	6%	1%
Blackout returning	30%*****	7%*****
Shock on body on re-entry	19%***	4%***

Fisher’s Exact Probability (two-tailed): **p* = 0.03 ***p* = 0.02

****p* = 0.0004 *****p* = 0.0002 ******p* = 0.00002

Furthermore, other analyses contradict Crookall's belief that some features seem to be more frequent in non-near-death OBEs than in near-death ones. These consisted of analysis of some of Crookall's cases (Alvarado, 1997), and analyses with other cases (Alvarado, 2001; Gabbard, Twemlow & Jones, 1981). However, in these analyses it is not clear if there is a physiological closeness to death as opposed to a belief that one was near death.

In addition, other reanalyses of Crookall's data were done by Hornell Hart (1967). He reported that the average number of characteristics in Crookall's natural cases was higher than those of enforced cases (2.0 vs. 1.3), but he gave no statistical assessment of the difference nor did he provide any information regarding the number and range of characteristics in question. In further analyses, Hart combined several characteristics of Crookall's OBEs and compared their frequency to a greater number of characteristics ($N = 543$, 475 characteristics for natural OBEs and 68 for enforced ones) presumably analysed by Hart but not listed by him or by Crookall.

Hart claimed to have found significant statistical differences between the natural and enforced groups using critical ratios of the difference. The test as used by Hart is not appropriate for an analysis of frequency counts. However, even allowing that there are significant differences in the data, the analysis does not facilitate the interpretation of the results. Hart does not mention that he obviously selected these contrasts from among several others, as is clear from the large number of characteristics (not identified by him) mentioned at the bottom of his table. Such findings are difficult to interpret and in the final analysis depend on replication.

Other Analyses Relevant to the Functioning of the Vehicle of Vitality

In further analyses I attempted to test for Crookall's natural-enforced OBE differences using two contrasts.⁷ Crookall is very clear throughout his writings that drugs force sudden OBEs and produce a 'composite' projection in which the Vehicle of Vitality goes out in a great proportion around the Soul Body, producing dim consciousness and a reduced number of reported OBE features.

Using data from one of my studies (Alvarado, 1984) I contrasted drug ($N = 11$) vs. non-drug cases comprising persons who were lying down or relaxing at the time of their OBE ($N = 12$). While most of the analyses favoured the non-drug group (67%), none of them was significant in 18 contrasts using the Fisher Exact Probability Test. These analyses include some of Crookall's key OBE features such as losing consciousness leaving and returning to the body, horizontal position over the body at the beginning and on return, seeing spirits, and experiencing a shock on return.

In another test of Crookall's predictions using the same data (Alvarado, 1984) I contrasted the features of the characteristics tabulated by Crookall (1964; see Table 1 of this paper) in relation to OBEs who reported two forms

⁷ In the following analyses of Crookall's cases some accounts were not used because it was unclear that they were OBEs, they were mixed with accounts of other experiences (if possible the most detailed account was used), they were wrongly classified as to circumstance of induction, or were second-hand accounts. Some of the non-drug cases were not used if they were associated with death or illness motives. This was an attempt to obtain cases different from the stressful context generally associated with anaesthetics in medical settings.

of visual experience during their OBE. According to Crookall (e.g. 1965, 1970b) the Vehicle of Vitality may produce unclear and foggy perception during the experience. In his framework the enforced experiences as well as those of mediumistic people are the ones having a higher quantity of the Vehicle of Vitality during their OBEs. This, in turn, is associated with lower reports of OBE features and lower quality sensory experiences in general. Consequently, one should find fewer claims of OBE features in the respondents of my questionnaire who indicated that their experience was 'confused/foggy' ($N = 8$) as compared with those who claimed to have had 'clear/bright vision' ($N = 22$). The contrasts are presented in Table 5, but none is statistically significant. In fact, five of the seven comparisons related to Crookall's basic features favour the confused/foggy cases.

Table 5

Comparison of OBE Features in Relation to Quality of Vision⁸

Features	<i>Vision was:</i>	
	Clear/Bright $N = 22$	Confused/Foggy $N = 8$
OB through head	27%	13%
Blackout/tunnel going OB ^a	23%	38%
Horizontal over physical body at first	27%	38%
Spirits	9%	13%
Horizontal over physical body on return	18%	25%
Blackout/tunnel returning	18% ^a	25% ^a
Rapid entry caused shock	41%	13%

^a These percentages combine reports of loss of consciousness and tunnel experiences to make it comparable to Crookall's definition of this feature.

Finally, the questionnaire of my study (Alvarado, 2001) allowed me to conduct a further analysis. Crookall (1970b, p.53) is clear that OBEs where the experient stays close to the body are 'body-bound,' and have a higher content of the Vehicle of Vitality than OBEs far from the body. If this is the case, we should find that those experients that saw mist or fog (an indication of the presence of the Vehicle of Vitality) should be closer to the body than those that did not see mist. Distance from the body was measured using a scale ranging from 1 (up to 6 inches away from the body) to 8 (to other countries, far away). The scale had a mean of 4.66 ($N = 77$, range: 1–8, $SD = 1.76$). Those that saw mist or fog had a distance mean of 5.00 ($N = 13$), while those that did not see mist or fog had a mean of 4.57 ($N = 54$). The difference was not significant, Mann–Whitney $U = 316.00$, $z = 0.55$, $p = 0.58$.

⁸ These analyses are based on data collected by Alvarado (1984). None of the contrasts was significant using a two-tailed Fisher's Exact Probability Test.

CROOKALL IN PERSPECTIVE

The comparison of Crookall's percentages of general OBE characteristics with those of my studies suggests that his findings have some consistency. In addition, the reanalysis of my data regarding experiences at the beginning and at the end of the OBE support Crookall as well. Nonetheless, not only is there a need for more comparison studies, but it is clear from Crookall's own numbers that some of his 'basic' characteristics are somewhat low in frequency (Table 1). This suggests that some of them are not to be considered as primary characteristics of the OBE, as Crookall considered them. The highest percent is 27%, and some are much lower. While some of the values are not trivial, the figures seem low compared with features emphasized in other studies such as seeing the physical body (Alvarado, 1984; Green, 1968).

The issue of constancy in features is still important even with low frequencies. But it should be emphasized that the features are not as frequent as Crookall claims. Maybe Crookall emphasized them because of his interest in following up the features of 'permanent' OBEs described through mediumistic communicators (e.g. Crookall, 1961b, 1961c). Another possibility is that he believed these characteristics could only be explained by assuming the existence of an objective double capable of going out of the body, as opposed to assuming an imaginal or other conventional explanations (see, for example, Crookall's comments in the footnotes of p. 146 of his 1964 book, and his 1968b publication).

From my previous work (Alvarado, 1984), and analyses reported here, the natural and enforced comparisons do not seem consistent. However, some of my analyses of Earth environments of the level of consciousness, and of features as a function of a hypothetical and still unproved 'enshroudment' factor, suggest that there may be something to study further. Unfortunately, both Hart's (1967) and Crookall's (1966) analyses were conducted by regrouping OBE characteristics on the basis of *post-hoc* comparisons. Clearly they raise issues that need to be addressed by further research. But until independent confirmation is obtained these claims about natural and enforced differences should not be considered to have been established, as Crookall and others (e.g. Rogo, 1973) claimed.

We should also keep in mind my non-significant analyses involving drugs and the presence and absence of various features. The drug comparisons are particularly important because Crookall has always emphasized that drugs produce enforced OBEs, and has used the presence of anaesthetics in some of his publications almost as synonymous with enforced conditions (e.g. Crookall, 1961a, pp. 37, 39, 42, 44, 46). However, these analyses had a low number of drug cases, something that may have affected the results.

The analyses of quality of vision and the analysis of mist and distance from the body do not support Crookall's observations. In all fairness to Crookall, he postulates that "any portion of the vehicle of vitality may enshroud the Soul Body — and the amount does not . . . remain constant, so that the degree of enshroudment may vary" (Crookall, 1970b, p. 67). To test this it is necessary to analyse the experiences taking into consideration changes within each OBE.

One also wonders how general in Crookall's studies are problems such as the inflation of the number of cord cases. Consequently, doubts must be thrown on some of the patterns described by Crookall and on his theoretical framework, including the 'workings' of such hypothetical subtle bodies as the Vehicle of Vitality and the Soul Body.

CONCLUDING REMARKS

Regardless of these considerations, Crookall has performed a valuable service in collecting accounts of OBEs. His case collections have contributed much to show us the complexity and variety of OBE features. Crookall's writings show that OBEs contain many features and dimensions usually neglected by students of the phenomenon. His work is a constant reminder of the importance of paying attention to the experient's narratives to learn about OBEs, something that we also see in Bozzano's (1934/1937), Muldoon and Carrington's (1951), Green's (1968) and in more recent qualitative analyses (e.g. Murray, Wilde & Murray, 2009; Wilde & Murray, 2010).

The richness of Crookall's descriptions stands in striking contrast with the poor picture of OBE features presented in most recent survey studies about this phenomenon. The few studies that have focused on the experience's features have generally ignored the wide range of OBE features, the more exotic reports, and how the experience varies between and within accounts, thus presenting a very simple view of the phenomenon. Such observations can have important research and theoretical implications (on this see Alvarado, 1997).

It is important to make a distinction between observing OBE features, documenting particular interrelationships of features, and supporting the OBE projection model, or Crookall's version of it. Some of the observations and analyses consistent with Crookall's beliefs do not necessarily indicate the operation of the hypothetical Vehicle of Vitality, for example. Unfortunately Crookall's work offers weak support for projection, not to mention the various subtle bodies he believes constitute human beings.

I have no doubt that those defending competing explanations, such as psychological or physiological processes, or higher-dimensional ideas, will offer different interpretations of the features of the OBE, or even argue that Crookall's ideas are questionable. But regardless of these considerations it seems to me that the value of Crookall's work for us today is to enlarge our views of the varieties of OBE features. Crookall reminds us of the existence of many features that deserve closer study today. His attempts to chart features of the OBE will always be remembered as a contribution to the development of a natural history of these experiences.

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