BORDERLINE DISORDER, ALTERED STATES OF CONSCIOUSNESS, AND GLOSSOLALIA

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In several prior publications (Masterson, 1972, 1975, 1976; Masterson and Rinsley, 1975; Carter and Rinsley, 1977; Rinsley, 1977, 1978, 1979) a concept of borderline psychopathology was developed, based upon the antecedent work of Jacobson (1954, 1964), Kernberg (1966, 1967, 1975), and Mahler (Mahler, Pine, and Bergman, 1975). Borderline psychopathology was considered to result from a specific developmental arrest or fixation during the phase of separation-individuation, having its inception during the differentiation subphase (3 to 8 months) and reaching its peak during the rapprochement subphase (10 to 16 months). The specific arrest or fixation found expression in a persistent failure to differentiate self- and object-representations (Kernberg, 1972), based in turn upon a particular form of mother-infant interaction during this critical developmental period, viz., the mother's withdrawal or rejection in the face of the child's efforts toward separation-individuation coupled with her reward (reinforcement) of the child's regressive, dependent, anaclitic-clinging behavior. Such a

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mother, herself suffering from borderline disorder, was thereby seen to promote the persistence of the symbiotic mother-child tie throughout her child's ensuing developmental years, ultimately "producing" a borderline adult, of whom the following characteristics are typical:

(1) Significant impairment of self-identity, of the capacity to develop and maintain meaningful object relationships, of the sense of reality and of the ability realistically to cope and adapt, accompanied by undue degrees of overt or covert aggression (hostility) and depression (Grinker, Werble, and Drye, 1968; Grinker and Werble, 1977).

(2) Reinforcement and maintenance of the infantile splitting defense such that "good" (libidinal, positively valent) and "bad" (aggressive, negatively valent) representations (images) and affects remain separated, with persistence of the infantile view of the world as, alternatively, "all good" or "all bad."

(3) Persistent transitivism, based upon failure of differentiation of self- and object-representations, expressed in continued reliance upon the primitive defenses of introjection-projection, primary identification, denial, and magic and negative hallucination.

(4) Resulting arrest of the child's progress toward the attainment of whole-object relations and of object constancy (Fraiberg, 1969), inadequate replacement of recognitory memory by evocative memory and failure to proceed from early sensory-motor and concrete operational forms of thought toward circular operational (abstract categorical) ideation (Piaget, 1937), leaving prominent residues of autistic ideation ("thought disorder") as typical of the borderline individual's cognitive functioning.

(5) Failure to work through the infantile depressive position (Klein, 1935, 1940, 1946).

(6) Failure of sublimation of raw (un-neutralized) instinctual drives.

(7) Failure of development of normal zonal phase specificity such that later anal (ambivalent) and phallic-Oedipal resolutions never occur and the defenses and object relations normally associated with them continue to subserve oral-narcissistic needs.

(8) Persistent infantile-megalomania (infantile-grandiosity) with associated failure to develop "basic trust" and the persistence of paranoid anxiety, leading to a basically paranoid world view.

(9) The occurrence and persistence of various degrees of maladaptive, self-defeating symptomatic ideation and behavior, especially associated with real or fantasied rejections or losses and,

paradoxically, in the face of prospective success, directed toward concealing and preserving underlying fantasies of symbiotic reunion (refusion) and toward warding off a complex state which Masterson (1972) and Masterson and Rinsley (1975) have termed *abandonment depression* (cf. also, Freud, 1916; Kris, A. O., 1976).

Both developmentally and symptomatologically, borderline individuals are thus seen to lie midway, as it were, along a continuum between psychosis at the one end and neurosis at the other (Rinsley, 1977). Their symptomatology at various times may resemble that of psychosis, neurosis or personality disorder; they often complain of feeling empty, "phony," bored, anxious, depressed, depersonalized, or dyshedonic; their attitudes and feelings are often unstable, unpredictable and quixotic, their actions unpredictable and impulsive; they exhibit shallow and shifting interpersonal relationships and many have an unstable occupational history (Fast, 1975); alcohol and/or drug overuse and abuse are common; paranoid oversensitivity to real and imagined slights, rejections, and disdain by others is frequent; and although superficial thought organization may appear coherent, more searching examination will almost invariably reveal the presence of latent, covert or underlying thought disorder (Rinsley, 1977).

The *psychoticlike borderline* suffers from significant impairment of self-identity and the sense of reality; behavior is often highly inappropriate and maladaptive and attitudes toward others are marked by pervasive negativism and hostility; significant underlying depression is typical and transient or more prolonged psychotic episodes are not uncommon. The *as-if borderline* typically appears overly or pseudocompliant, with interpersonal relationships marked by pseudocomplementarity, pseudointimacy, and pseudohostility; although self-identity and the sense of reality appear superficially intact, the individual tends to "blend in," to assume in chameleonlike fashion the features and qualities of others or of situations in which he may find himself. The *anaclitic-hysteriform borderline* is exhibitionistic, provocative, and seductive; anxiety and depression are in evidence, affect is labile and interpersonal relationships often characterized by anaclitic-clinging and/or importuning helplessness. The *pleomorphic borderline* presents a mixture of neuroticlike defenses and symptoms, often relying upon somatization as a major coping mechanism. Masterson (1972–1975) has provided the definitive description of the symptomatology and developmental etiology of the *borderline adolescent.*

"Individuals with borderline personality . . . display shifting extremes of mood, mutually conflicting and contradictory personality traits and . . . difficulties in interpersonal relations . . . They often appear for psychiatric help with complaints of vague but pervasive confusion, mistrust and lack of understanding of the motives of others, and alternating feelings of well-being and despondency. Impaired anxiety tolerance, poor control of impulses and repeated or chronic occupational failure are frequent symptoms. Very often, young people whose performance begins to fail at the junior high school level fall into this diagnostic category . . . they often become involved with illicit drugs, which conveys the appearance of group affiliation, or else they may be 'loners' who eschew even the appearance of close relationships. In their experience, other people are either 'all good' or 'all bad' as they proceed to idealize those from whom they anticipate supplies and treat with disdain those from whom they expect little or nothing, which states can alternate with stunning, almost kaleidoscopic rapidity.

"The subjective experience of the borderline . . . is that of an unpredictable and irregularly changing world. He sees his heroes develop feet of clay as he repeatedly idealizes them and is inevitably disappointed; tiny frustrations assume the dimensions of catastrophes, with ensuing eruption of disproportionately strong affects, often rage. The borderline is sometimes aware of but frequently unconcerned about the inconsistency of his subjective feelings and his sense of discontinuity, which he may characterize as his being 'phony' or having a 'facade.' He is often overalert to nuances of change in his environment and to others' minutest reactions to him; but while he is oftentimes uncannily sensitive to the latter, they mystify him and are perceived as justification of his worst fears of what others will indeed think of him, and his own responses in turn are not rarely dysphoric, unpredictable and perplexing" (Carter and Rinsley, 1977).

Colin Wilson's work, *The Outsider* (1967) provides graphic portrayals of the intense, subjective feelings and attitudes common to borderline individuals, as exemplified by characters drawn from literature and by numerous "real life" persons.

A COMMENT ON SOCIAL TRENDS AND BORDERLINE PHENOMENA

Of significance is the fact that the borderline concept reached its full prominence during the turbulent decade of the 1960's. That period was marked by this country's ever-deepening involvement in the armed conflict in Southeast Asia; the assassination of John F. Kennedy and Martin Luther King, Jr.; the emergence of a

mounting student rebellion, typified in the extreme by violent "underground" groups such as the Weathermen; the so-called drug subculture; the burning of major cities; the full thrust of the civil rights movement; a disaffection with traditional forms of religion with concomitant decline in church attendance; a burgeoning divorce and illigitimate birth rate; a proclaimed defection by youth and young adults from traditional values and morals, epitomized by the so-called Playboy Philosophy which, in effect, extolled subjective hedonism; the appearance of the so-called women's liberation movement, with its often militant "feminism" and its associated "unisex" philosophy; a pervasive mistrust of authority figures who, like God, had been "demythologized," reflected in a proliferating civil litigiousness and a resurgent anti-elitism and egalitarianism. "Minority activism" assumed a variety of forms, while all varieties and manifestations of "discrimination" and "inequality" were to be expunged from society by legislative action or judicial decree; Szasz (1961, 1965) proclaimed that mental illness was a "myth" subserving society's need to imprison nonconformists and other undesirables in mental hospitals without due process of law, while other "activist" writers, such as Herbert Marcuse (1955) and Norman O. Brown (1959) claimed that, in effect, people became sick only because an oppressive, archaic social patriarchy made them so and Laing (1967) declared that "madness" and "sanity" were ultimately indistinguishable; "hard" and "acid" rock music became the aural shibboleths of adolescents, accompanied by an ongoing series of terpsichorean inventions with the "partners" standing at a distance while posturing and gesticulating.

During this period, the "generation gap" and the expanding use of illicit drugs appeared to reflect the increasing mutual alienation of children and parents, the former turning in increasing numbers to a burgeoning welter of alienated adults, including self-appointed "gurus," who exhorted them to "turn on, tune in, and drop out," not infrequently in drug-suffused communes where they could seek asylum in group pseudomutuality. The failure of parental authority found concomitant expression in the public schools, where a growing number of educational practices, including "child-centered" curricula, "open" classrooms, ungraded classes, "social" promotions and purposeful grade inflation produced increasing numbers of "graduates" who could not adequately read, write, or reckon and who could only mistrust the adult parental and pedagogic surrogates responsible for their predicament.

The disturbed, identity-diffuse adolescents who emerged from

such confused families and classrooms could readily confound freedom and license. Many proceeded into a "new wave" of "sexual liberation" while others, in reaction to it, embraced a resurgent asceticism with its renunciation of marriage and parenting. A host of arcane culture-alien "religions," many based upon Eastern mystical imports, made their appearance as alternatives to traditional institutional religion which had since become "demythologized," secularized, and popularized, and many young people embraced them in the vain hope of achieving a sense of identity and acceptance which they had never achieved at home, in school or in church; indeed, a substantial number of them exhibited patterns of thought, affect and behavior typical for borderline disorder. Small wonder, then, that the 1960's could be termed the *decade of the borderline,* the period of the "new narcissism" (Johnson, 1977).

ALTERED STATES OF CONSCIOUSNESS

Both generally and within this socio-cultural context, the burgeoning Western interest in nonpharmacologic self-induced altered states of consciousness (ASC) invites discussion, especially in view of their alleged benefits for physical and mental health. Such altered states of consciousness, variously described by numerous authors, are presumed to have in common what Hess (1957) has termed the *trophotropic response* and Benson (1975) the *relaxation response.*

Gellhorn (1967) has described the trophotropic response as an acetylcholine-mediated physiologic activity originating within the limbic system, more specifically within the anterior hypothalamus. He considers that the trophotropic response occurs as a rebound from adrenergically induced fight-flight activity, as originally described by Cannon (1929) and termed by Hess (1957) the *ergotropic response,* considered basic for defense and survival. In contrast to the latter, which is regulated by the posterior hypothalamus and activates sympathetic pathways, the trophotropic response activates parasympathetic pathways; it leads to a reduction in autonomic, skeletal-muscular, and metabolic activity, thereby "protecting" the organism from stress while promoting restorative functions; in addition, it is associated with decreased cerebral cortical activity and reduced activity of the reticular activating system (Gellhorn and Kiely, 1972), hence with various degrees of drowsiness or states of underalertness and underarousal.

endows with omniscience of omnipotence may assume the features of a religious experience, accompanied by feelings of enhanced personal vitality to the point of "ecstasy" as well as by fantasies of rebirth.

While ASC have been induced by such modalities as relaxation, biofeedback, hypnosis, autogenic training and hallucinogenic drugs, and indeed may occur spontaneously, the mentation or utterance of repetitive chantlike sounds or of sounds simulating intelligible speech has more recently been found to serve as a reliable self-induction technique (Wallace, 1970; Benson et al., 1974; Glueck and Stroebel, 1975). The mantra is a well-known example. Originally a word or phrase recited or sung by devout Hindus, the mantra is used by Eastern religious devotees and increasingly by occidental transcendental meditators to induce the meditative state, which is an ASC. As traditionally used in TM, the mantra is not employed for group chanting nor is it a commonly known word or phrase; rather, it is "chosen" by the guru or teacher, supposedly to "fit" the personality of the new student of TM. Many teachers of TM emphasize that the mantra should be the meditator's unique possession, to be revealed to no one (Glueck and Stroebel, 1975), an exhortation to secrecy which has caused some to raise questions of cultist charlatanism and quackery. Mantras used by Eastern-inspired meditative and religious groups include such chants as: *Namo naraya naya; Nam myoho renge kwo; Auooommm; One;* etc. Typical of these mantras are their repetitiveness, their content of "words" devoid of intellectual significance and their emphasis on vowel sounds. The expression of vowel sounds, as in the mantra, *Auooommm,* subserves emotional expression (Rousey and Moriarty, 1965; Rousey, 1974) and right temporal lobe functioning (Milner, 1962; Ornstein, 1974) as contrasted with consonants, which subserve object-relatedness (Rousey, 1974) and left temporal lobe functioning (Shankweiler and Studdert-Kennedy, 1967; Studdert-Kennedy and Shankweiler, 1970). A meditative state induced by dwelling on the word *One* has been associated with induction of the relaxation response and with the imagery of "mystical" experiences (Benson, 1975) and may be postulated to reflect a preponderance of right temporal lobe over left temporal lobe functioning.

BRAIN WAVE ACCOMPANIMENTS TO ASC

Brain wave accompaniments and responses to ASC have been of considerable and growing interest to investigators. Alpha and theta

brain wave production has indeed been described as the "royal road to serenity" (Maulsby, 1971) and to creativity (Brown, 1970). Brain wave patterning can be modified by biofeedback, hypnosis, autogenic training, meditation, and yoga. Alpha waves, with a normal frequency of 8–13 Hz, become well-established in humans by 8–11 years of age; they emanate from the occipital cortex in resting subjects; their activity is increased in subjects not engaged in information processing and when attention shifts to auditory stimuli (Durup and Fessard, 1936) and is usually blocked when attention shifts to visual stimuli, at which time faster beta frequencies appear (20–35 Hz), typically associated with externally directed problem-solving activity.

Brown (1974) noted that subjects utilizing biofeedback or meditation in an effort to increase alpha wave activity described associated feelings of relaxed attentiveness and a heightened awareness of inner thoughts and feelings; as a result of regular practice, they were able to produce more low-frequency (slow) high-amplitude alpha waves which might continue after the eyes have been opened. Benson et al. (1974) observed that meditators who had successfully learned the relaxation response utilizing a mantra displayed a regular increase in the intensity and synchronization of slow (5–8 Hz) alpha waves combined with intermittent theta wave activity (4–7 Hz). The combination of higher-amplitude alpha and theta waves in adults has been associated with feelings of unreality (Brown, 1974), rich fantasy production (Fischer, 1971), and intuitive problem-solving ability. Since theta waves constitute the predominant pattern of the EEG in two-year-old children, meditation could be construed as conducive to controlled regression to the imagery and affective state of the child who has not yet completed separation-individuation (Mahler, Pine, and Bergman, 1975) and who remains in decreasing degree symbiotic. Indeed, subjects trained in alpha-theta wave production sometimes report "oceanic" feelings of fusion with the universe, God, etc., as well as the increased "empathy" and dissolution of subject-object boundaries described by Lesh (1970).

The subject of cerebral hemispherical lateralization of function is of notable importance in relation to these considerations. Sperry (1968) advanced the view that the two hemispheres function differently in respect to mode of consciousness and awareness, but interact harmoniously in the normal individual with intact corpus callosum. Ornstein (1972) regarded nondominant hemispheric functioning as predominantly intuitive, spatial, receptive, tonal, and holistic, and Kimura (1973) as associated with the production of vowel-predominant sounds; by contrast, dominant hemispheric

functioning was regarded as predominantly analytic, linear, active, verbal, and organizational (Ornstein, 1972) and associated with the production of mixed vowel-consonant syllables (Kimura, 1973).

According to Ornstein (1972) and Galin and Ornstein (1972), alpha wave production is observed in dominant hemisphere EEG leads when nondominant hemispheric functioning is predominant. Glueck and Stroebel (1975) observed that mantra-induced meditation, particularly when an "assigned" mantra is used, increased occipital alpha wave production, initially in dominant hemisphere EEG leads, which suggests that such meditation initially activates the nondominant hemisphere; this is followed by the production of low-frequency high-amplitude alpha waves which sweep forward to the frontal areas, then appear in the nondominant EEG leads within 1–2 min, followed in turn by trains of theta activity mixed with alpha activity and alternating with periods of beta activity. It thus appears that the formation of automatic ideational speech in the form of a mantra not only activates the nondominant hemisphere but also activates the dominant hemispherical speech centers located in the posterior temporal, parietal and frontal lobes. Association fibers interconnect these speech centers with the rest of the cerebral cortex as well as with the thalamus via subcortical pathways (Penfield and Roberts, 1959).

The occurrence of rapidly induced slow-wave alpha synchronization involving both hemispheres may be taken to suggest that mantra-induced meditation facilitates "communication" among the various systems within the brain. Thus, meditators frequently report that they experience thoughts or ideas, which are ordinarily repressed, as entering conscious awareness. Indeed, Glueck and Stroebel (1975) postulate that during meditation there occurs a greater freedom of exchange between the cerebral hemispheres such that repressed memories, presumably stored in the nondominant hemisphere, become accessible to conscious awareness.

In the case of subjects undergoing psychotherapy, the meditative experience has been reported to facilitate the psychotherapeutic process (Shafii, 1973; Carrington and Ephron, 1975). In some cases, however, it arouses considerable anxiety. In a study of 187 hospitalized psychiatric patients who had been taught TM while hospitalized, Glueck and Stroebel (1975) found that a majority had remained actively interested in it but that 17% had stopped meditating regularly and 6% had stopped entirely. They suggest as an explanation for this "drop-out" phenomenon that

some meditators lack an adequate repressive barrier; in such cases meditation produces, not a felicitous freeing-up of previously repressed ideas, images and memories but instead mobilizes an influx into consciousness of aggressively charged material accompanied by burgeoning anxiety over threatened loss of control rather than the hoped-for effects of anxiety-reduction, muscular relaxation, and autonomic stabilization. In brief, in such cases meditation threatens to provoke psychotic decompensation.

Otis (1974) suggests another explanation for the "drop-out" phenomenon. He considers that some meditators appear unable to experience pleasurable feelings. In view of the fact that ergotropic arousal can be associated with either the fight-flight or the hyperphoric response (Schacter and Singer, 1962), it is likely that in the case of those subjects who experience disruptive degrees of anxiety during meditation there is little or no association of ergotropism with pleasant (positive, hedonic) images and affects. Such subjects could be viewed as deficient in "good" internal objects (Kernberg, 1968; Mahler, 1968; Rinsley, 1968) which would normally have been internalized during the first trimester of the first postnatal year, a period of mesodiencephalic and limbic predominance.

SPEECH AND COMMUNICATION: DEVELOPMENTAL CONSIDERATIONS

During the first six months of the infant's life, the predominant speech elements are vowels (Irwin, 1948); during this period, the predominant elements of the infant's psychological life are his drives and associated affective states and responses. Rousey and Moriarty (1965) have proposed that the child's vowel sounds reflect the expression of basic drives and affective states; they further postulate that ego development during the latter six months of the first year correlates with the increasing use of consonants, reflective of left temporal lobe or dominant hemispheric functioning (Shankweiler and Studdert-Kennedy, 1967; Studdert-Kennedy and Shankweiler, 1970), hence consonant sounds are taken to reflect mastery of instinctual drives and the capacity for object-relatedness.

The infant, whose beginning sense of self evolves through the normal separation-individuation process, has by six months of age begun to communicate with mother by means of vowels and

"soft" consonants such as, *h, l, m, n, p, t, w,* and *y,* including the sound pattern, *ma-ma-ma* (Brazelton, 1969), which is taken to mark the beginning of language as it communicates need and reflects the use of symbolism (Rousey, 1974). It will be noted that the period in which these developments occur coincides with the latter half of the early oral (oral-incorporative) and beginning of the late oral (oral-aggressive, oral-sadistic) stages of psychosexual development and with Mahler's symbiotic phase and early differentiation subphase.

During the second six months of the infant's life, the number of consonants increases to include the "hard" sounds, *b, d, f, g,* and *k,* exemplified by the sound pattern, *ba-ba-ba,* coincident with the late oral stage and with Mahler's differentiation and early practicing subphases. The later-emergent consonant sounds, *r, s, sh,* and *zh* (*zh* as in *azure*) coincide with the classical anal stage and with Mahler's later practicing and rapprochement subphases.

AUTOMATIC SPEECH AND SOUND PRODUCTION: GLOSSOLALIA

Many individuals who gravitate toward or seek meditative experiences do so to allay or seek relief from feelings of inner meaninglessness and emptiness, "inner disunity," and alienation and detachment from one's own subjective experiences and from other persons, characteristic of self-perceptions common among borderline personalities (Carter and Rinsley, 1977; Rinsley, 1978). Those meditators who rely on vowel-exclusive mantras utilize mentated or uttered vocalizations and speech sounds which originate in the nondominant (nonverbal) cerebral hemisphere (Milner, 1962; Chaney and Webster, 1966), hence which may be viewed as examples of instinctual or drive-related *affective communication.* By contrast, meditators who use mantras composed of a mixture of vowels and consonants, associated with the dominant (verbal) cerebral hemisphere (Kimura, 1973) may be considered as engaging in *object-related communication.*

Examples of the latter would include the Tibetan Buddhist mantra, *Om mani padme hūm* (Blofeld, 1977) which contains a preponderance of "soft" consonants which characterize the vocalizations of the young infant and a similar but shorter mantra, *One* (Benson et al., 1974) reportedly accompanied by "good feelings" suggestive of mother-infant

relatedness. The so-called Jesus Prayer, mentated or recited aloud ("Lord Jesus Christ, Son of God, have mercy on us!") is a well-known mantra used by Eastern and occidental devotees, in some cases with yogic accompaniments such as concentration on the breath and heartbeat, to induce a sense of inner unity (Blofeld, 1977) and to achieve a mystical state, defined as a loving union with a supernatural object (Group for the Advancement of Psychiatry, 1976); it is composed of vowels and "rapprochement subphase" consonants. Glossolalia, also known as "speaking in tongues," may be considered to be both an ASC-inducing technique and an example of object-related communication associated with the ergotropic state (Goodman, 1972); indeed, glossolalists characterize it as "joyful" and "ecstatic" (Kelsey, 1964; Harper, 1965; Horton, 1966; Brende, 1974; Synan, 1975). Glossolalic speech is unintelligible; it allows for the activation of both cerebral hemispheres by means of vowel-predominant sounds (nondominant hemisphere) and mixed vowel-consonant syllables (dominant hemisphere) (Kimura, 1973).

The glossolalia-related ASC constitutes a significant feature of the experience which Pentecostalists call "being filled with the Holy Spirit" as described within Christian tradition in the New Testament Book of Acts (Acts 2,3,4) and based upon Old Testament antecedents (Isaiah 28:11,12) (Kildahl, 1972). A modern revival of this phenomenon took place in 1900–1901 in Topeka, Kansas (Kelsey, 1964; Horton, 1966; Stagg, Hinson, and Oates, 1967; Kildahl, 1972) with an ensuing gradual and, within the past 15 years, accelerating mushrooming of interest and involvement in it to the point of significant infiltration of "neopentecostalism" (also called the "charismatic movement") within nonpentecostal denominations. The more conservative of the latter, including the Presbyterian, Lutheran, Episcopalian, and Roman Catholic Churches, now either tolerate small subgroups of glossolalists or embrace the movement as authentic. Estimates of the worldwide prevalence of glossolalia include 36 Pentecostal bodies with approximately 1 1/2 million members plus 23 other Pentecostal organizations reporting no statistics as of 1955 (Bloch-Hoell, 1964), with a doubtless many-fold increase since that time.

Glossolalic utterances generally display a preponderance of vowel sounds initiated by consonants; thus, a typical example of glossolalic speech: *Iana kanna, saree saree kanai, karai akanna kanai karai yahai, oh saramai, saramoiyai iana kanna,* a typical example of affective object-related language, that was actually uttered effortlessly by a housewife washing dishes in her kitchen

during an approximately ten-minute period, accompanied by a sense of contentment and well-being similar to that reported by practitioners of mantra-induced meditation (Kildahl, 1972).

The following example of glossolalic speech was analyzed in accordance with Rousey's principles: *Baia sheea leea batagadalia bashia tada katadalium.*

> "The main consonant sounds were *h, g, b, t,* and *d.* There is an occasional *sh* sound . . . and . . . numerous vowel sounds. Of note is the fact that there are no double consonant combinations . . . The intonation pattern is repetitive, rhythmic, and melodic . . . There is a preponderance of oral consonant sounds . . . and vowels. There is little indication of any advanced ego development or psychosexual development beyond the oral period . . . The repetitive, rhythmic and melodic pattern is suggestive of the self-stimulation seen in many infants. The recorded speech seems to reflect the ego state seen in a normal child who uses sounds in his own unique way to express feelings during the last half of the first year of life. The sounds are emotionally derived verbalizations without rational meaning but provide a sense of gratification. Perhaps the gratification obtained by a one-year-old child when . . . engaging in baby talk is to develop awareness of himself, test his ego boundaries . . . and the responses of the parent on whom he is totally dependent. Thus, it appears possible that the early affect states and memory traces of irrational verbalizations are . . . recalled by the successful attempt to 'speak in tongues'" (Brende, 1974).

Richardson (1973) has reviewed research studies directed toward a psychological interpretation of glossolalia, including the work of investigators who regard it as a symptomatic expression of psychopathology; he concludes, largely on methodological grounds, that the evidence for the latter is inconclusive. Richardson does, however, concede its possibility, quoting Vivier (1960),

> "Dynamically [glossolalics] can be considered as a group of people who, psychologically speaking, have had a poor beginning in life. This has been reflected by their difficulty in adjustment in the home situation in infancy and later childhood . . . they have been torn by insecurity, conflict, tension and emotional difficulties.
>
> "Being troubled by doubt and fear, anxiety and stress, they have turned from the culturally accepted traditional, orthodox, and formalized, to something that held out for them the unorthodox, the supernatural; to an environment of sensitiveness for emotional feelings and a group of people bound with the same purpose and clinging to each other for support."

To date there has been little reported work devoted to an understanding of the effect of glossolalia on personality functioning. Lovekin and Malony (1977) concluded that glossolalia exerted no significant integrative effect on 51 Roman Catholic and Episcopalian nonpatient adult subjects. Wilkerson (1963), however, reported that it has a therapeutic effect in symptomatic hard-core drug users and Brende (1974) reported beneficial effects of glossolalia in four hospitalized adolescents, the case of one of whom is reported below in greater detail.

Brende's (1974) four inpatient adolescents met the historical-developmental, familial and individual symptomatic criteria for the diagnosis of borderline disorder (Masterson, 1972, 1976). All had suffered from significant separation-individuation failure based upon a lack of early and ongoing stable parenting; all presented with primarily behavioral symptoms, including drug abuse, waywardness, sexual promiscuity, and gross maladaptiveness and all lacked the capacity for meaningful interpersonal relationships. All four reported their experiences with glossolalia in terms of powerful and magical feelings, feeling "good," feeling "loved" and, most significantly, *feeling in control* to a degree greater than reported by meditators utilizing more passive techniques based upon the relaxation response.

All four adolescents had learned to speak in tongues following exposure to a Pentecostal movement known as *The Way* (Wierville, 1967). They described, at that time, the giving up of conscious control of intelligible speech and abandoning themselves to the motor activity of speaking, to sound production per se, to the spontaneous ideas which came to mind, and to their feelings; they viewed their glossolalia as a sign of power and of "being special," conferred on them by being "filled with the Holy Spirit." Unlike other types of meditators, they were uninterested in relaxation as such, but rather actively sought something "special" – the love and power of the Spirit. They reported that the glossolalia-related hyperphoria they had experienced was similar to that associated with taking drugs, but that the grandiose feelings associated with drug taking seemed, with glossolalia, under better or full control. After six months of practicing glossolalia, the associated internalized "good" feelings appeared to have become stabilized and all four had ceased its practice after six to nine months.

An example of the effect of glossolalia on the course of treatment is the case of Lisa, a 16-year-old adolescent girl who was admitted to the

hospital with a diagnosis of depressive reaction in a schizoid personality and who was clearly diagnosable as a borderline adolescent utilizing Masterson's criteria (1972). Lisa was the product of a normal birth and was described as developing normally during her first year. Her mother, described as an immature woman, became an alcoholic and sexually promiscuous after divorcing Lisa's father when Lisa was eight years old, abandoning the child to be shuttled among relatives during the ensuing five years, including a final brief period with the natural father and a stepmother. Lisa "hated" the stepmother and mistrusted her father, and at age 13 began running away, feeling strong needs for affection and closeness which led her into sexual promiscuity.

At the time of admission, Lisa was described as extremely anxious and depressed; she stated that she was worthless and displayed profound mistrust of others, including the staff, who she stated would be "against" her. Her sensorium was clear and there was no evidence of sensory-perceptual losses or distortions. Her WISC scores placed her in the average range of intelligence. Her thought processes displayed obsessiveness, concretism, associative looseness, and tangentiality, their content characterized by topical vagueness and by overdetermined persecutory and nihilistic ideas bordering on but never reaching delusional proportions. Her depressed affect alternated with blandness and with an inappropriate, childlike sweetness which transparently covered pervasive underlying hostility. Numerous sado-masochistic fantasies included a preoccupation with blood, gore, and violence and with herself as recipient of violent assault by others. She was terrified of abandonment, which she had attempted to deal with by counterphobic efforts to run away, only to be "found" by others as proof that they cared for her, and by assuming the role of the masochistic, injustice-collecting victim in her heterosexual relations with peer boys. On the ward, her behavior alternated between the extremes of anaclitic-symbiotic clinging to staff and peers and sado-masochistic techniques for provoking their hostility and rejection.

Lisa's exposure to glossolalia occurred several months after her admission as a result of attending meetings of "The Way" movement while on temporary leave from the hospital. The friends who had invited her to one of these meetings encouraged her to try speaking in tongues, which she did despite considerable initial apprehensiveness; nevertheless, she soon found herself uttering a few strange words and sounds which then blossomed into a freely spoken "language." During this experience, she felt a sense of awe and an emotional peak followed by a feeling of inner vitality which she later described as being "filled with the Holy Spirit," which she took as evidence of God's authenticity and of her new-found special relationship with Him.

Lisa's enthusiasm for glossolalia persisted and within four months she appeared significantly improved; however, she then began to with-

draw from others and her depression returned, followed by her leaving the hospital against advice and reverting to her former dependent, sadomasochistic relationship with a boy friend. Following an arrest by the police in another state five months later, she resumed speaking in tongues and was returned to the hospital, where she was warmly received by the staff and her former wardmates.

During this second phase of hospitalization, which began ten months after she had first practiced glossolalia, Lisa's behavior was characterized by striking polarities, including alternating feelings of rage and helplessness, dependency versus "separating," holding back versus giving, and "good" versus "bad" feelings, all indicative of her efforts to work through the splitting defense of the borderline adolescent (Masterson, 1975). During periods of possession by the "Holy Spirit" or of feelings of symbiotic reunion with her "good God," she found it difficult to trust staff and wardmates, including the chaplain, and she referred to the hospital as "the Devil's playground"; at these times, she appeared actively psychotic. At other times, she attempted to proselytize other patients, exhorting them to speak in tongues as did she. Her extreme preoccupation with and dependence on "God" became a source of irritation to others, who felt that she therewith kept them at a distance. Indeed, Lisa could be seen as clinging to these experiences as if God and the Holy Spirit were serving her as symbolic parental surrogates and when others implied or urged that she eschew speaking in tongues, she indulged in it all the more.

A brief two months after her readmission, Lisa again left the hospital against advice. This time, she found employment but continued to experience feelings of helplessness and periods of depression. During a subsequent two-year period she maintained intermittent telephone contact with one of the older, experienced psychiatric aides, a maternal woman who had taken a particular interest in Lisa during her hospitalization, whose talks with her provided her with a measure of support. At the end of this period, some three years following her initial experience with glossolalia, Lisa married and has not been heard from since.

Lisa's experience with glossolalia occupied much of her time during her hospitalizations; she could use it repeatedly and at any time to ward off others or to call out for care, "love" and behavioral control. Her glossolalia served her as a form of regressive, affective and object-seeking communication representative of the "baby talk" which conveys emotion, expresses need, and serves to define and test the early self-object boundary in relation to the symbiotic, omnipotent parental (maternal) surrogate. Her glossolalia and the experiences related to it could also be viewed as examples of regression in the service of the ego (Kris, 1952;

Kildahl, 1972; Shafii, 1973) which served as a turning point, enabling her to begin, to some extent, to reinitiate emotional growth and the long-arrested process of separation-individuation within the context of a semistructured milieu which served Lisa as a sort of extended family and with the supportive assistance of a maternal staff member. The introjection of a "good object" in the form of God or the Holy Spirit during episodes of glossolalia appeared to catalyze Lisa's beginning efforts to work through her profound ambivalence, thereby to begin to resolve the "all good"–"all bad" split within her undifferentiated self-object representations and to begin to differentiate the latter (Rinsley, 1977).

Glossolalists generally appear to enact experiences not dissimilar to Lisa's. Although the glossolalic speech may be initiated or terminated at will, there is no rational understanding of its meaning and its utterance evokes joyful, hyperphoric feelings and a sense of power without loss of control. Glossolalists explain the associated sense of inner coherence or unity as a result of union with an externally perceived God or Holy Spirit, akin to feelings which Martin Buber (1958) described as constituting the "I-Thou" experience. In such cases, glossolalia appears to promote the introjection of a "good" (libidinal, positive) self-object representation, characteristic of the level of object-relations development of the symbiotic infant and the adult psychotic (Rinsley, 1977) but experienced only temporarily by the glossolalist who harbors no major psychopathology.

SUMMARY

In this paper, an attempt is made to examine possible relationships among nonpharmacologic self-induced altered states of consciousness (ASC), the relaxation response (Benson et al., 1974, 1977) and specifically the phenomenon of glossolalia, considered within a neurophysiologic and developmental context and with reference to the dynamics and psycho-social etiology of borderline psychopathology. A number of inferences, conclusions and hypotheses emerge from these considerations:

(1) Benson and his co-workers (1974, 1977) have convincingly demonstrated that the relaxation response underlies the ASC which accompanies certain forms of meditation, particularly those which may be grouped under the TM rubric.

(2) The brain wave accompaniments to ASC, particularly those

evoked by biofeedback and meditation, suggest the occurrence of dedifferentiation of dominant and nondominant cerebral hemispherical functioning with both neurophysiologic and associated experiential regression to a developmental level prior to self-object differentiation and the achievement of object constancy.

(3) Analysis of speech elements common to mentated or spoken mantras used by practitioners of TM and to glossolalic sound production according to the method of Rousey (1974) reveals significant similarities between the two, which are reflective of infantile affective and object-related communication characteristic of sound production at that developmental level.

(4) Although adequate studies of the physiologic and brain wave accompaniments of glossolalia have not been reported, subjective reports of glossolalists and analysis of glossolalic sound production strongly support Goodman's (1972) conclusion that the glossolalic phenomenon represents an ergotropically related ASC. Available evidence further supports the view that achievement of the glossolalia-induced ASC engenders developmental regression to an infantile level prior to self-object differentiation and the attainment of object constancy, and concomitant and associated neurophysiological regression reflective of a state of cerebral hemispherical dedifferentiation and subsequent reintegration.

(5) In view of the fact that developmental arrest or fixation at a level prior to self-object differentiation and the achievement of object constancy forms the basis for the etiology of borderline and psychotic psychopathology (Rinsley, 1977), one would expect to find a disproportionate number of borderline individuals drawn toward or actively engaged in glossolalia, an inference which is supported by the findings of Vivier (1960).

(6) Finally, by the same token, glossolalia could be viewed as having a possible role, along with other modalities and under carefully monitored conditions, in the treatment of some cases of borderline and psychotic disorder, and excerpts from a clinical case are presented in support of that possibility.

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The practice of one well-investigated relaxation technique, transcendental meditation (TM) has been found to enhance the trophotropic response, leading to decreased oxygen consumption and carbon dioxide elimination, reduced cardiac and respiratory rates, and increased galvanic skin resistance (Wallace, 1970). The trophotropic response associated with changes in subjective mental states has been accorded various names, such as deep trance, tranquility, dream state, etc.

Certain ASC have also been found to be associated with the ergotropic response, including an EEG arousal pattern. Olds and Milner (1954) demonstrated that artificially induced activation of the posterior hypothalamus can be associated with pleasurable activity and subjective states. Schacter and Singer (1962) found that the ergotropic response can be associated with either the fight-flight response or with a hyperphoric (euphoric) response depending on the social context, and Fischer (1971) has described a pleasurable, hyperphoric, aroused ergotropic state associated with inhibition of willed motor activity and oneiric hallucinatory experiences. Indeed, Gellhorn and Kiely (1972) have stated that such pleasurable, aroused, hyperphoric states, including those otherwise known as "peak" or "mystical" experiences, "ecstasy" and the like, which may be encompassed by the general term, ASC, represent combinations of ergotropism and trophotropism. ASC have also been described as follows (Tart, 1969; Group for the Advancement of Psychiatry, 1976): dissolution of boundaries separating the self from the external world accompanied by feelings of fusion with the environment, the universe, God, etc., and of power and grandiosity; perceptual alterations and distortions, including time sense and one's own bodily image; and oversuggestibility reflecting an enhanced tendency to accept the instructions and expectations of others in leadership roles. Although anxiety over potential loss of identity or control may precede these experiences, the subject often experiences a paradoxical gain through an associated or ensuing sense of heightened control of fantasy, feelings or action. The state of boundarylessness or fusion has been reported during contemplative meditation, in which the subject concentrates awareness on an external object without thinking about it (Deikman, 1966); again, the use of TM has been described as leading to "increased empathy," representative of the ability to experience the dissolution of subject-object boundaries (Lesh, 1970). In particular, the state of boundarylessness or fusion, together with the subject's oversuggestible dependency on or sense of surrender to a significant leadership figure whom the subject