

Chapter 25

Primary Memetic Syndromes: Eating Disorders, Factitious Disorders, Malingering, Meme-Directed Destructive Behaviors

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25.1 Gene × Meme Interaction, Evolutionary Adaptation, and Syndromes

The conditions in this category are characterized by a strong meme-driven quality. As with any other human behavior and experience, early gene × meme interaction determines the brain state that may be more or less receptive to infusion of destructive memes and more or less vulnerable to a takeover by such memes.

Memetic infection is a normal physiologic process for which the human brain is adapted, just as normal microbial flora take up residence in the human gut and serve an essential function. It is only when there is a conflict between the gene-driven needs of the human organism and the demands of the memes that problems arise. Both genes and memes are replicators and their reproductive drive may be at odds with each other. For example, a sexually repressive meme cannot hope to replicate unless it replicates by infecting more and more brains as an infected person is less likely to reproduce biologically. One solution for such a meme may be to accept sexuality as a necessary sin, which persons are expected to commit, but can still be “saved” if the person “repents” by following the rituals and showing other signs of continuing dedication to the meme.

The ability to process incoming memes rationally is an important task of human education, and the more able a person is in this capacity, the less likely is the person to be a victim of later infection by an epidemic meme. Nevertheless, as in viral epidemics, there may be highly infectious memes that will infect even the most immunologically competent individuals. And some such memes may be quite innocuous despite their contagiousness, as in fashion or fads (like the hoola-hoop of the 1950s). Yet, at times they may be quite detrimental to health, such as certain dietary fads and drug use.

Endemic culture of violence in the ghettos is an example of an abundance of toxic memes in geographically segregated areas.

25.1.1 Eating Disorders

Some conditions, such as eating disorders, may start as a mild meme infection, i.e., imitating others, but then may become a final common pathway syndrome in interaction with existing dormant memes (e.g., disparaging selfplex, low self-esteem) and early gene \times meme interaction (e.g., 5-HTTLPR *s/s* influenced by childhood abuse – Chapter 14). Once the syndrome develops, the physiologic effects such as of starvation may create or enhance psychiatric symptoms (Zandian et al., 2007).

In the case of anorexia nervosa, a strong distortion in body image coupled with a relentless pursuit of thinness in turn causes metabolic and endocrine changes that may result in further reduction in rational meme processing and perpetuation of the self-destructive behavior. Single nucleotide polymorphisms (SNP) of the brain-derived neurotrophic factor (BDNF) gene have been described in both anorexia nervosa and bulimia nervosa (Dmitrzak-Weglarz et al., 2007; Rybakowski et al., 2007; Sulek et al., 2007). The genetic polymorphism may be associated with personality traits such as persistence and harm avoidance that may predispose the individual to the meme takeover.

Altered pleasure mechanisms in the nucleus accumbens may also underlie eating disorders. After all, eating should be pleasurable for all organisms, so eating disorders may well be classified under pleasure spectrum disorders. The main reason I am discussing them here is that they have an overwhelming memetic component – deliberate pursuit of a distorted body image.

Direct stimulation of the serotonin receptor, 5-HT₄ in nucleus accumbens reduced the physiological drive to eat and increased CART (cocaine- and amphetamine-regulated transcript) mRNA levels in mice. MDMA (ecstasy) seems to stimulate the 5-HT₄ receptors in nucleus accumbens and release CART which results in its appetite suppressant effect (Jean et al., 2007). Memes may also act like MDMA, directly stimulating the serotonin receptors in nucleus accumbens causing appetite suppression.

What is the evolutionary significance of eating disorders? Some have argued that foregoing food and not feeling hungry (and even feeling pleasure without food), coupled with hyperactivity, might have adaptive value at times of scarcity as well as

potential competition for mate (Faer et al., 2005; Gatward, 2007; Guisinger, 2003). Meme-induced pursuit of ideal body weight may trigger off an ancient adaptive gene-derived neurobiologic mechanism to deal with food scarcity.

There may be differential genetic polymorphisms between restrictive type of eating disorders and bulimia nervosa. The behaviors of bingeing and purging are strongly memetic as are the perfectionism and body image distortions in anorexia nervosa.

25.1.2 Destructive Meme Infections and Epidemics: Mass Hysteria, Factitious Illness, Suicide, Suicide Bombing, Aggression

We already discussed in Chapter 24 how memes may attach themselves to the brain's pleasure mechanism in the service of their own replication and perpetuation. Memes in the environment may at times acquire overwhelming power and infect the brain massively and take over the meme-processing apparatus and co-opt it for their own replication. Such memes may sweep through a whole population in a frenzy, as in mobilizing for war, religious fanaticism, and mass hysteria. In less virulent form, the memes may simply gain epidemic proportions as fads.

At the individual level, at times of stress, susceptible individuals may unconsciously adopt behaviors, emotions, or symptoms of others to whom they were exposed in earlier life. These may result in factitious symptoms or malingering (Palmer, 2007).

In the case of suicide, there is clear evidence of an infectious nature of the behavior on top of the often coexisting serious pathology such as depression and psychosis. Suicide can thus be considered to be a final common behavior pathway for various mental conditions, including depression, psychosis, neurotic distress, and situational distress. Epidemics and clusters of suicides have been reported, particularly among adolescents. Imitation of suicide depicted in media has also been reported (Gould, 1999, 2001; Gould and Shaffer, 1986; Gould et al., 1988; Phillips and Paight, 1987). In a vulnerable individual, or at times of stress-induced vulnerability, suicide memes may take hold and proliferate, leading to the suicidal behavior.

Suicide bombing is another example of memetic contagion. An upsurge of such terrorist acts often follows another. A recent survey of general population concerning suicide bombing revealed that Suni fundamentalism was associated with increased support for suicide bombing (Kazim et al., 2008). Terrorist groups may serve the function of a "family" for members of the society who lack a sense of belonging. Acts of terrorism may be seen as "propaganda by deed" to recruit members to the family and its beliefs. Terrorism is also instrumental in building a counterterror industry that may have its own culture and pathology (Palmer, 2007).

Aggression is another evolutionarily adaptive neurophysiologic entity common to all animals. Instrumental or purposeful aggression as in attacking a prey or

in combat is different from affective or angry aggression in both behavior and physiology.

Conspecific aggression is usually related to establishment of sexual and social dominance and mostly exhibited by males. While physical aggression may have been adaptive in the stone age in achieving social and sexual dominance, physical aggression is memetically suppressed in modern societies which value memetic dominance over physical force. It should be noted, however, that such “civilized” behavior of gentlemen is a recent memetic acquisition in Western societies, and that there are still areas on the globe where physical violence and aggression are widely accepted.

In memetically civilized societies, however, physical violence is often a manifestation of mental retardation, low intelligence, brain damage, or other physical conditions that reduce the effectiveness of the frontal lobes concerned with memetic control of behavior. Certain memetic subcultures and meme infections, as with media violence, may provide a more permissive state for physical violence in susceptible individuals (Cantor, 2000; Mitrofan et al., 2008; Villani, 2001).

25.1.3 Irrational Beliefs and Delusions

Irrational beliefs and delusions may be shared memes within a subculture (e.g., religions, cults). Individuals with inadequate meme-processing abilities are likely to accept irrational and often anti-gene memes (e.g., sexual repression, denial of some forms of pleasure). Some, even though infected with such memes, may be able to set aside the irrational memes, and recognize their irrationality and not allow them to dominate their emotions and behavior. These are normal individuals who recognize that some of their beliefs are irrational, but temporarily and sporadically express allegiance to them for the sake of belonging to the communal activities that are pleasurable. On the other hand, some of the infected individuals may be able to derive pleasure only through means acceptable to the irrational memes, i.e., through loyalty and blind obedience to the group that shares the memes whose only concern is the propagation of the memes (religion, cult, -ism, etc.) themselves. This may lead fanaticism, suicide bombing, etc., as discussed in Chapter 24.

25.2 Treatment

As we discussed earlier, meme infection is a normal and necessary part of human development and acculturation. Only when there is conflict between gene-driven needs and meme-driven needs, and/or when there is conflict among the memes within the brain, including newly arrived ones, will there be symptoms and need for intervention.

As discussed in the previous section, education geared to evaluate and process memes rationally, i.e., in a way compatible with the adaptive gene-driven requirements, is essential for primary prevention.

Encouraging individuals to utilize critical thinking as opposed to blindly following what is fashionable or “group-think” may be sufficient in dealing with fads – in fashion, food, religion, or ideology. Insofar as the fad is innocuous, normal individuals may decide that the pleasure it affords outweighs any potential detriment.

For more chronic syndromes, such as epidemics of fibromyalgia, chemical sensitivity, and hypoglycemia, the memetic diagnosis connects an internal sense of distress to an explanatory concept (misattribution). For treatment of these conditions, see Section 23.1.4.

Eating disorders are memetically driven physiologic aberrations primed by gene \times meme interaction in early life. The first order of business in symptomatic anorexia nervosa and bulimia is restoration of normal weight and physiology through tube feeding and medications. Genotyping may be useful as 5-HTTLPR *s/s* may be at a higher risk for anorexia nervosa rather than bingeing. In those with *s/s*, serotonin reuptake blockers, the usual treatment for anorexia nervosa (and obsessive–compulsive syndrome), may not be effective (Gorwood, 2004; Murphy et al., 2004). Olanzapine might be effective in such patients (Dunican and DelDotto, 2007). Bulimia nervosa tends to respond to antidepressants and mood stabilizers (Berkman et al., 2006; Couturier and Lock, 2007; Ramoz et al., 2007; Reinblatt et al., 2008; Stefano et al., 2008).

Meme-oriented therapies include various individual psychotherapies, group therapy, family therapy, and milieu therapy, which have varying degrees of efficacy (Guarda, 2008; Herpertz-Dahlmann, 2009; Herpertz-Dahlmann and Salbach-Andrae, 2009; Keel and Haedt, 2008). Problems of mentalization, otherwise known as theory of mind (see Chapters 8 and 11), have been postulated in anorexia nervosa and treatment geared to an understanding of how the body or body image is representing mental distress has been proposed (Skarderud, 2007a, b, c).

There is clearly a need for a more specific meme-oriented therapy in eating disorders. Such therapy should first recognize the memetic content of the eating disorder – how the patient perceives herself physically and as a person. Her strivings should be taken at face value and as belonging to a selfplex. Then, collaboratively with the therapist, the patient should delineate other selfplexes that may exist, e.g., when she was younger, how she imagined herself to be when age X. Then a rational strategy may be developed to attain the shape and character the patient would like to be, i.e., a new memetic ego ideal. An avatar utilizing virtual reality may be particularly useful. An avatar is an image of oneself shaped like the person she wants to be, and seeing herself eat, exercise, and socialize may be an excellent self-model to imitate.

Malignant meme infections, such as fanaticism, religious or otherwise, are potentially both self-destructive and other destructive, but as the affected are unwilling to seek help, there is little psychiatry can do for them. Only when they are actually attempting a criminal act, such as homicide or suicide bombing, could treatment

be attempted. For such criminal acts, the first order of business would be to isolate the fanatic memes from contaminating others, especially those who have not been immunized. Then, isolating them from sources of supportive and sustaining memes, i.e., the pleasure connection, should reduce the reproductive power of the malignant memes. Then the educational process of identifying resident memes, and sorting them to constructive and destructive memes could begin. When irrational memes are deprived of their pleasure (dopamine) connection, they are likely to be discarded or replaced with more constructive memes.

Adjunctive general and specific meme-oriented therapies discussed in Chapters 17 and 18 can be used in conjunction with any of the therapies discussed in this chapter.

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