Chapter 18
Specific Memetic Therapies

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18.1 Psychotherapies as Memetic Therapies

Existing formal psychotherapies including counseling are essentially memetic, i.e., memes are transmitted back and forth between the patient and the therapist through the process of talking. Psychotherapies work through meme manipulation in the brain of the patient.

Psychotherapy and counseling have nonspecific and specific effects. The nonspecific effects have to do with the supportive presence of another human being, the therapist, who is interested and committed in helping the patient. The specific effects have to do with the particular form of psychotherapy and its presumed theoretical mechanism for helping, e.g., cognitive reframing, insight, or corrective emotional experience. It is generally recognized that psychotherapy and counseling work, especially in conjunction with medications in more serious mental illness, but it is not entirely clear whether the nonspecific or specific effects are more important in the effectiveness of psychotherapy, as the effectiveness does not seem to depend on the form of psychotherapy (Bergin and Garfield, 1994; Consumer Reports, 1995).

Nonspecific aspects of psychotherapy do have specific memetic effects including (1) the therapist is ipso facto a role model, a model for imitation in thinking and behavior, a source of memes; (2) during the regular therapy session, the patient

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feels protected and supported, i.e., the meme pool to which the patient is exposed is benign and protective, and may neutralize the pathogenic memes in the brain; (3) rational and critical thinking is encouraged during the sessions that enhance the brain's meme-processing abilities. We will now briefly discuss how some of the prevalent psychotherapies may work from the memetic point of view.

18.2 Behavior Therapy, Dialectical Behavior Therapy (DBT), Cognitive–Behavioral Therapy (CBT), Rational Emotive Behavioral Therapy (REBT), Interpersonal Therapy (IPT)

Behavioral therapy is based on Pavlov's classical conditioning and B.F. Skinner's operant conditioning paradigms and attempts to change the behavior of the patient through association and contingency management. Behavior analysis is an important part of the treatment. Techniques derived from behavior therapy include systematic desensitization, exposure and response prevention, various forms of behavior modification, flooding, various operant conditioning, observational learning, habit reversal training etc. (Skinner, 1971, 1991; Spiegler and Goevremont, 2003).

In memetic terms, behavior therapy engages perhaps the most fundamental aspect of meme formation – learning and memory. Through association and approach-avoidance, the organism develops memory traces (see Chapter 8). Behavior therapy attempts to synthesize as well as infuse new memes by providing favorable conditions for learning salutary behaviors, and thus reinforce existing salutary memes as well.

Dialectical behavior therapy (DBT) was first developed by Marsha Linehan to treat borderline personality disorders, and has subsequently been used to treat other conditions including substance abuse and binge eating. Borderline personality patients exhibit emotional vulnerability to stimuli, i.e., excessive arousal of negative emotions, and tend to blame others for the distress. On the other hand, they have internalized the invalidating environment and show self-invalidation, i.e., have unrealistic and excessive expectations of themselves and develop self-blame and guilt when they are not met. Emotional vulnerability and self-invalidation are the first pair of "dialectical dilemmas." Borderline patients frequently experience a series of relentless crises, often contributed to by their own dysfunctional lifestyle and tendency for emotional overreaction. Because of their inability to modulate emotions, such patients have difficulty in facing the emotions associated with loss and grief, and thus suppress negative emotions. The unrelenting crises and inhibited grieving represent the second set of dialectical dilemmas. The final set of dilemmas consist of "active passivity," i.e., they are active in finding others to help them solve problems but are passive in helping themselves and "apparent competence," i.e., they have developed the appearance of competence in the face of invalidating environment without actually achieving a generalizable competence. A pattern of self-destructive behavior often results due to the excessive painful emotions and helplessness. DBT uses the dialectical use of acceptance on the one hand and change on the other. The philosophical concept of dialectics involves the juxtaposition of

thesis and antithesis, resulting in a resolution of the opposites through synthesis. In DBT, there are individual and group sessions that consist of four training modules – mindfulness, interpersonal effectiveness, distress tolerance, and emotion regulation. Through mindfulness training derived from Buddhist meditation, the patients learn to accept the here and now free from worries and thoughts. Through interpersonal effectiveness training that incorporates assertiveness training, patients learn to develop more satisfying ways of dealing with others. DBT identifies the triggers for distress and regulates the reaction to them and uses behavioral principles in reinforcing healthful behavior and not reinforcing self-destructive behaviors (Chen et al., 2008; Dimeff and Linehan, 2008; Kiehn and Swales, 1995; Linehan, 1993, 1987; Linehan et al., 2008; Lynch et al., 2007; Rizvi and Linehan, 2001).

In memetic terms, DBT explicitly augments the behavioral therapy components already discussed with mindfulness training, which is a broad-spectrum anti-meme therapy (see Chapter 17). Furthermore, the dialectical aspect of the therapy focuses on the mutually contradictory selfplexes and attempts to develop more integrated selfplexes through dialectical synthesis.

The basic tenet of cognitive–behavioral therapy (CBT) is that thoughts mediate between stimuli and emotions, i.e., an external stimulus causes emotional responses through a cognitive process that evaluates the stimulus. The cognitive processes may be recognizable as thoughts, though sometimes they may be automatic and barely recognized. Such a cognitive process may be distorted and not reflect reality accurately, thus arousing inappropriate or excessive negative emotions. Treatment is geared to identifying the thoughts that distort reality and to correct them through realistic evaluation of reality. Behavioral techniques are often used both to test reality and to enhance a sense of mastery (Beck, 1976/1979; Trower et al., 1988). Schemas or core beliefs concerning the self and the world may be distorted in many patients, and therapy may be effectively directed toward them (Riso et al., 2007).

Thoughts are memes, and schemas are memeplexes and often include selfplexes as well as memeplexes that represent the external world, some of which are in conflict with each other. CBT may be seen as a process of identifying the memes and memeplexes that are pathogenic, i.e., replicating and drawing attention causing distress. The cognitive and behavioral processes in CBT involve an augmentation of the meme-processing ability of the brain by processing the faulty memes through the newly acquired filter (which itself is a meme introduced by the therapist) of rational thinking and reality testing. With the help of the modeling of the therapist's rational thinking and judicious inquires, the patients acquire reinforcement to the hitherto less than effective faculties of their own.

In rational emotive behavioral therapy (REBT), which may be considered to be a subset of CBT, the basic tenet is A-B-C, i.e., activating events or adversities are evaluated by beliefs that may be rational and flexible or irrational and self-defeating, that lead to consequences that may be adaptive or pathological. The therapist attempts to directly challenge the irrational beliefs of patients that often manifest themselves as inflexible "musts" and "shoulds" and emphasize their ability to choose a more flexible rational belief (Dryden, 2002; Ellis, 1962/1994). The therapist in essence

attempts to classify the patients' memeplexes into rational and irrational and directly introduce memes to reinforce the "rational" memes.

Memetically informed CBT: CBT could be greatly enhanced with the concept of memes. The therapist could explain to the patient the alien, infectious nature of the pathogenic thoughts and beliefs. Then, such pathogenic thoughts, beliefs, and schemas could be identified, and when possible, the source and circumstances of the infection as well. Then, the therapist and the patient could jointly develop a strategy of neutralizing the pathogenic memes through various exercises and behavior as well as deliberate introduction of new counterbalancing or neutralizing memes.

Interpersonal psychotherapy (IPT) identifies the interpersonal context in which psychiatric distress arises. It then utilizes supportive and psychoeducational methods such as coping skills training to resolve and/or prevent problematic interpersonal situations. The problem areas identified usually fall within four areas – unresolved grief, role disputes, role transitions, and interpersonal deficits. In unresolved grief, the therapist facilitates the mourning process. Assessment of role expectations and realistic problem solving is utilized in role disputes, including the possibility of recognizing the incompatibility of role expectations in some marriages or jobs. In role transitions, such as parenthood or retirement, explicit issues about the change are discussed so as to adapt to the new role. For patients who have interpersonal deficits, and thus often extreme isolation, therapy is geared to reducing the isolation and to form new relationships through skills training (Weissman et al., 2007).

In memetic terms, treating unresolved grief is a means of suppressing replication of memes associated with the lost object. In role disputes and role transitions, IPT enhances the more salutary and adaptive selfplex and equips it with better coping skills (memes). For patients with interpersonal deficits, IPT tends to support the development of a more interpersonally skilled selfplex.

18.3 Psychodynamic Psychotherapy

Psychodynamic psychotherapy, first systematized by Sigmund Freud as psychoanalysis, has many schools, forms, and theories, but they all place importance in the role of the unconscious in emotions and behavior. Most are developmentally oriented, i.e., unconscious conflicts and traumas in childhood are important factors in psychopathology, and making them conscious and dealing with them will result in a resolution of the pathology. Psychoanalysis in its classical form is most intensive and attempts to unveil the unconscious root of the psychological conflict through free association and analysis of the transference phenomena. Analysis usually has multiple sessions per week and lasts several years. Other forms of psychodynamic therapies, such as supportive therapy, brief therapy, couples and family therapy, may be briefer and more focused with less ambitious goals. Psychodynamic therapies work through identifying the unconscious conflicts and the distressing emotions

and behaviors they cause, often reliving the conflicts and attendant emotions in the therapeutic relationship, until they are resolved through rational understanding and letting go of the neurotic behavior pattern that has been analyzed within the therapeutic setting (transference neurosis) (Nersessian and Kopff, 1996; Prochaska and Norcross, 1999).

In memetic terms, free association, the technique used in psychoanalysis and often in psychodynamic psychotherapy, is an excellent way of identifying the unconscious (latent) meme content of the patient's brain. Patients often remember meaningful events of the past during therapy, both happy and traumatic memories, and can trace the experience to particular emotions they experienced. This is an excellent way of understanding how certain memes and memeplexes have formed and how they may have remained relatively dormant but still replicating and in conflict with other memes. Psychodynamic psychotherapy derives its effect from two sources – the insight the patient gains and the corrective emotional experience of the patient in relation to the therapist. Insight involves the processing of conflictual memes that arose from the experiences seen through the eyes of a child, through the adult "ego," i.e., a sorting and reassigning of values to memories and other memeplexes (e.g., I was bad, I did accomplish it) for suppression or replication. The corrective emotional experience with the therapist comes from the realization that the therapist is consistently there and caring, unlike the authority figures that the patient had always come to expect. This results in a dissonance in the memeplex schema, how the world is supposed to be (cold and hostile) vs. how the world actually is. Thus, a more realistic memeplex concerning the world is eventually constructed. The therapist also serves as an identification (memetic source) figure of someone who is wise and caring.

18.4 Toward a United, Integrated Memetic Concept of Psychotherapy

It should be clear that all psychotherapies are geared in some way or another toward the manipulation of memes and can be explained in memetic terms. What, then, is the contribution of memetics in psychotherapy?

I believe memetics can serve as a unifying concept of all psychotherapies and would lead to the development of new psychotherapeutic concepts and techniques. Currently, psychotherapeutic "schools" tend to be dogmatic about their particular theory and emphasis. Thus, the therapist is either a cognitive–behavioral therapist or a psychodynamic psychotherapist. Though emotions and behavior can be observed and explained in either terminology, there is no common value-neutral terminology. Memetics can provide that terminology which bridges among cognitive, behavioral, psychodynamic, and neurobiological phenomena. A general understanding of chemical phenoma became only possible with the discovery of the atoms and their components, the protons, electrons, and neutrons. Until then, there was nothing in

common between hydrogen, lithium, and sodium. Now we know that having only one electron in the outer shell, these elements have in common certain chemical properties such as being unstable in their elementary forms.

All psychotherapies, to a varying degree, attempt to identify pathogenic memes, trace their origins, and neutralize them and build a salutary selfplex. Regardless of the brand, the nonspecific effect of providing a memetic source (identification figure) is an important ingredient of effectiveness. Could a memetic understanding facilitate the psychotherapeutic process?

Memetic understanding could certainly lead to more efficient therapy, regardless of brand. For example, the therapist may decide, during a psychodynamic psychotherapy, that a meme infusion might facilitate the memetic exploration. The therapist could then actively provide such an infusion, "You must have been very angry and sad that your father ignored you. *I would have been very proud of you!*"

Perhaps, there need not be opposing schools of psychotherapy if we accept memetics as an underlying general concept of psychotherapy. The therapist could utilize various techniques as they are called for, from free association to flooding, provided the therapist and the patient understand the memetic rationale for each technique as it is applied. For example, a patient could have a session of free association and a Rorschach test to attempt to determine some unconscious memetic material that may be relevant to a particular symptom, may have a Myers-Briggs personality inventory, participate in mindfulness training and self-hypnosis for broad-spectrum meme suppression and dialectical behavioral therapy (DBT) to develop more integrated selfplexes.

Note that what I am proposing is not a simple eclecticism – a little of this and a little of that without a particular theoretical orientation. Memetics is a theoretical orientation, and memetics should integrate psychology and neuroscience. Memes are clusters of neurons that are associated through reinforcement (Edelman's reentry). It should be eventually possible to identify the memes and memeplexes within the brain, and augment or suppress them through physical means such as microinjections and/or stereotaxic electrical stimulation. This is not to say that the neural clusters themselves are memes. Memes are the patterns of information that the neural clusters embody, i.e., the patterns could also be encrypted in other media including electronic, optical etc. Thus, memes can reside in brains, in computers, and in books and other media.

Psychotherapy *is* a sophisticated pharmacotherapy of the brain. In my seminars with medical students and other trainees, I say to them, "Please raise your left hand" all raise their hands. Then, I say, "Please, Oh-reun pal ul olyu-yo." They look at me with a puzzled expression. I shout, "Please, *Oh-run pal ul olyu-yo*." Still nothing, but now with a fearful expression. Then, I say, "Please raise your right hand," they all raise their right hands, relieved. Then, I ask them, "What happened exactly? Why did you raise the left hand when I said it in English, but not when I said it in Korean?" "Because we don't understand Korean." "OK. Let's see exactly what happened. When I said, 'raise your left hand' I emitted a pattern of sounds, that is, I vibrated the air molecules in the proximity of my vocal cords, right? Then

the air molecules next to that area vibrated, and eventually, what happened?" "The sound entered your brain" "No, the sound does not enter the brain. The sound or the vibration patterns of air molecules causes the tympanic membrane to vibrate. Then what?" "The tympanic membrane's vibration is transmitted to the ossicles, then to the fluid in cochlea, then the hair cells are stimulated, and an electrical current is generated in the auditory nerve and after several relays through release of neurotransmitters in the midbrain, eventually ends up in the auditory cortex in the temporal lobe. Then neurotransmitters are released to cause electric currents to association neurons that are connected to the association areas in the temporal cortex, and some electrical signal goes to the hippocampus and amygdala. Now, at which point of this system, did the English and Korean version of my request differ? If you recall, they were more or less the same duration and intensity, until I shouted the Korean."

"Well, actually, even though the pattern of air vibration had subtle differences, until the electrochemical stimuli reached the auditory cortex, the process was more or less similar. Then, in the auditory cortex, the English phrase was recognized, i.e., stimulated clusters of associated neurons (memes) and the Korean phrase did not. If you knew Korean, then the phrase may have stimulated a different set of neurons that has a connection with the memes standing for 'raising' and 'right' and 'hand.' The phrases caused differential emotional reactions, i.e., differential stimulation of the amygdalae, as could be read by your fearful expressions when I shouted. And when I said, finally, in English what puzzled you in Korean, you were relieved, i.e., your anxiety subsided. Psychotherapeutic, eh? Understanding, that is a selective electrochemical stimulation of parts of your brain containing existing memes."

18.5 Need for New Meme-Literate Psychotherapies

We alluded to new therapeutic techniques such as meme infusion and meme neutralization. Certainly, much of this can be done with existing techniques such as talking with patients, relaxation, meditation. However, could this be done more directly, through an intravenous injection, as it were? Perhaps flooding may be considered to be a brute method of meme infusion geared to generate an immune reaction. Perhaps, some of the so-called brainwashing techniques should be reexamined and, if used humanely and with full informed consent, might expedite certain forms of therapy. Advertising is often geared to meme infusion through both conscious and unconscious means. Certain techniques derived from successful advertising could be utilized in a therapeutic fashion, perhaps in the form of multimedia including recurring images and earworms. Physical environments might be specifically designed to have a saturation of desired memes for some patients. Drugs may be developed that might particularly enhance susceptibility to incoming memes and might be used within the frame of psychotherapy. Hypnosis could be utilized more frequently and effectively with meme manipulation in mind.

Memeplex constructive therapy in the form of avatars is a very promising new development. Constructing a more desirable digital self with physical and behavioral characteristic that might be made to order, for example, more slender, more assertive self who exercises more and is more sociable, can be an excellent role model (meme source) and observing the digital self in cyberspace as a role model is mimetically a wonderful therapeutic technique (Bailenson, 2006). Eventually, such avatars could be created to order on a personal computer, and used for truly individualized do-it-yourself psychotherapy.

Psychodrama and techniques derived from it such as role playing are used extensively in psychotherapy. With an understanding of memetics, psychodrama could be greatly expanded and systematized in diagnosis and treatment. For example, by playing various scripted roles in either real or virtual groups, one might try out different selfplexes or ways of behaving, thinking, and feeling, which in turn may improve the facility with which different selfplexes may roll into each other and by recognizing the utility of the different selfplexes reduce conflicts among them.

For example, a patient has difficulty with her supervisor. She may be asked to construct three avatars – descriptions of herself with tendencies to feel and behave in three different ways, perhaps one being angry and impulsive, another assertive and methodical, another sad and withdrawing. It is important to assign emotions to the avatars, i.e., they must have clear emotional responses to any interactions and happenings. She might then role play each of the avatars in cyberspace, i.e., her avatar interacts with the supervisor avatar (which was also constructed by the patient). One may then let the patient direct the interaction and see which avatar has most success. She might then "tweak" the avatars so that the success increases. Once she has created a successful avatar in cyberspace, she may role play that avatar in a real psychodrama session with feedback from live people. She may then practice playing the newly constructed selfplex until she becomes completely comfortable with it, then actually try it out in real-life situations. As Shakespeare said, the world is a stage and we are all actors in it – we all know how to play the role of a successful person (or a wise person or a villain) if that is what we want to be.

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