

Electric Therapeutics

Technology is teaching us to be human again.

– Simon Mainwaring

Eliza: Hello, I am Eliza.

John: Hello, I am John.

Eliza: Did you come to me because you are John?

John: I came to find out about your being a computerized therapist.

Eliza: Why are you concerned about my being a computerized therapist?

John: I wanted to find out about how effective you might be.

Eliza: Oh ... might be?

John: Do you think you help people with problems?

Eliza: You're not really talking about me, are you?

John: Do you think you can help me?

Eliza: We were discussing you, not me.

John: Sometimes I need help with stress.

Eliza: I'm not sure I understand you fully.

John: When I get very stressed, I need a good way to relax, to take my mind off things.

Eliza: Why do you ask?

John: Because I thought you might help me with that problem.

Eliza: You're not really talking about me, are you?

John: I'm talking about myself, about getting help with stress.

Eliza: Do you believe it normal to be talking with yourself, about getting help with stress?

John: This is starting to get frustrating.

Eliza: I see.

John: I would like to get help coping with stress.

Eliza: I'm not sure I understand you fully.

John: I'm beginning to think that you don't understand much at all.

Eliza: Did you come to me because you are beginning to think that me don't understand much at all?

John: I think I already found out what I need to know. Goodbye.

Eliza: Have you asked such questions before?

Many of the mental health professionals who first went online were specifically interested in the idea of conducting psychotherapy in cyberspace. They proposed different terms for it – such as e-therapy, cyber-therapy, and computer-mediated therapy – but they all shared the same basic question: is it possible to do effective clinical work online, and if so, how? In the decades since then, the conclusion has been “yes,” with a variety of different strategies employed, such as email therapy, chat therapy, text messaging for therapists to stay in contact with clients during their everyday living, and even the setting up of psychotherapy practices in virtual worlds using avatars for both the client and therapist. It became clear that not only were psychotherapeutic interventions possible in cyberspace, but that the variety of different ways to do so required specializations on the part of clinicians, in addition to their understanding the general principles of cyberpsychology. (Anthony & Nagel, 2010; Attrill, 2015c; Derrig-Palumbo & Zeine, 2005; Gill & Stokes, 2008; Goss & Anthony, 2003; Hsiung, 2002; Kraus, Stricker, & Speyer, 2004).

We can think of cyberspace as a place into which we translate the traditional methods of psychotherapy. For example, a therapist counsels a client in a chat room similar to how such counseling would take place face to face. But it is also possible to shape the wide variety of personal growth experiences in cyberspace that I described throughout this book into therapeutic models that are quite different from conventional psychotherapies, including approaches in which clinicians do not play the same central role as they have in the past, approaches that are the mental health component of what has been called *participatory medicine*. Rather than being “the psychotherapist” per se, the mental health professional serves as a consultant who empowers clients as they pursue self-insight and therapeutic change using cyberspace resources.

The overlapping areas in Figure 15.1 highlight four possibilities of the psychotherapeutics in this digital age: (1) traditional face-to-face psychotherapy; (2) the role of the human clinician in the design of online resources and computerized interventions, or in operating “behind the scenes” in such interventions; (3) people who utilize online resources and computerized interventions to help themselves, without the direct assistance of a human clinician, and; (4) a comprehensive therapeutic program that entails the person, the human therapist, and the digital realm, all working in unison.

In this chapter, we will explore these possibilities. Expanding on my previous research (Suler, 2008b), we will first examine how the eight dimensions of cyberpsychology architecture provide a convenient framework

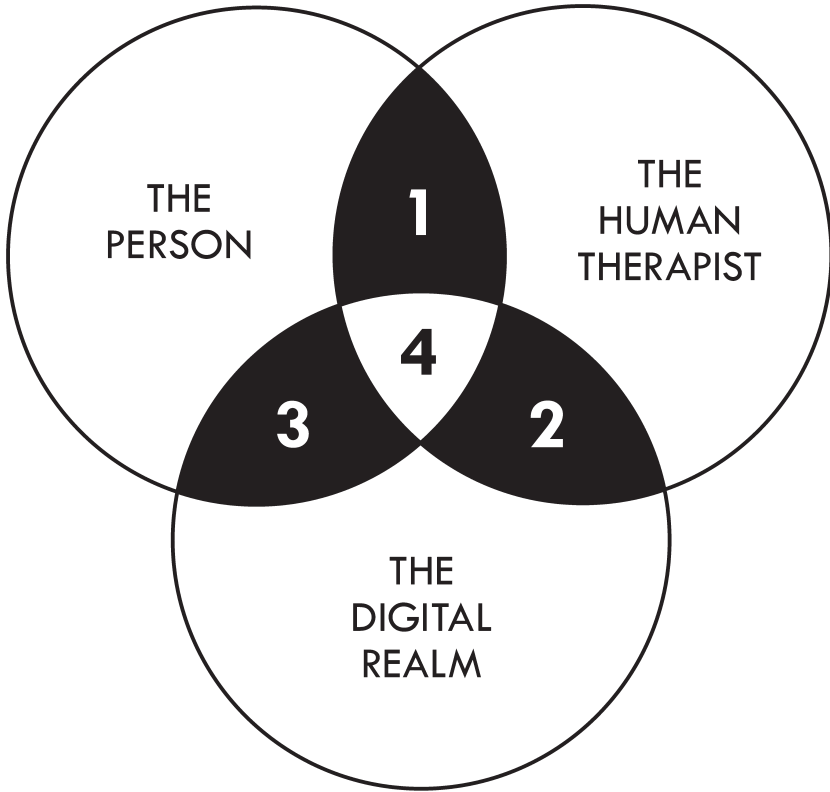


FIGURE 15.1. Psychotherapeutics in the digital age.

for understanding the therapeutic aspects of the digital realm, including professional psychotherapy conducted in cyberspace or employing computerized resources (zone 4 in Figure 15.1), as well as in the efforts of people who on their own use the digital realm to improve their well-being (zone 3). In the next section of this chapter, I will describe *eQuest*, a comprehensive program that I designed to help people address and ideally resolve some personal issue in their lives, either on their own (zone 3) or with a professional serving as their consultant (zone 4). In the last section, we will consider some fascinating questions about artificially intelligent psychotherapists. Can they help people by themselves (zone 3), or will they need to work with a human therapist (zone 4)? If mental health professionals assisted in the design of the ultimate artificially intelligent psychotherapist (zone 2), how would that “syntherapist” work and how might people react to it?

DISCOVERING ONESELF (THE IDENTITY DIMENSION)

Identity is the first dimension of cyberpsychology architecture, just as it is the first objective of psychotherapeutic change. All the other dimensions are tributaries feeding into this river of personal growth. Before we can become what we need and want to be, we must first understand who we are. As a psychologist in our contemporary technological age, I always find it helpful to ask people about their experiences online. What parts of themselves do they express, hide, or alter in cyberspace, perhaps as a way to construct perfected versions of themselves or to vent negative emotions that they usually suppress? In ideal circumstances, people explore these questions on their own, but they might need the assistance of a psychotherapist when their unconscious propels them into problematic situations they do not fully understand. Feeling chronically anxious or depressed about what's happening online, without fully understanding why, warns the person that professional help might be needed. All psychotherapists should encourage clients to discuss their online lifestyles as an important expression of who they are, as well as a vehicle for developing productive ways of being. In Chapter 1, "Cyberpsychology Architecture," the key questions about each of the eight dimensions can provide the framework for this exploration.

The integration principle will play an important role in making therapeutic changes. Comparing one's online and offline identities, bringing beneficial aspects of one's real world self into cyberspace, and bringing beneficial aspects of one's online self into the real world can all contribute to the development of a more robust personality. Because people often use social media to tell the story of their lives, they can, on their own or in psychotherapy, feel encouraged to expand that online narrative rather than slip into one-note songs about themselves, as well as use insights from that experimentation with online storytelling to better understand and change their lives. One's real life and the story of it told online can enrich each other.

We must understand how our technology-driven culture has affected our personal identity. What do our attitudes about our devices say about us? Have we become symbiotically dependent on constant connectedness to particular people or online activities? How much do we rely on our social media popularity, as reflected in such things as buttonized statistics, to determine our self-esteem? When do we overwhelm ourselves with cyberspace hypomania? Because such problems are reinforced by our technology-driven culture, we might need help from someone else, such as a psychotherapist, to see the forest from the trees. Widely accepted but

dysfunctional cultural attitudes all too often intensify personal problems without our fully realizing it.

THE RELATIONSHIP HEALS (THE SOCIAL DIMENSION)

Humans need humans to develop their identities. Relationships heal. In the social dimension of cyberpsychology architecture, we see that cyberspace offers many kinds of relationships and group experiences with people from around the world using a variety of communication tools. Do we learn from these interpersonal experiences, improve ourselves, or simply act out our underlying psychological problems? Do we take the time to understand our reactions to the black hole experiences when others do not seem to be responding to us? Because online conflicts and transference reactions tend to be driven by the unconscious, people might need psychotherapists to help them work through very problematic situations. They can use that work to improve their online lifestyles, as well as carry over those insights to improve their relationships in the real world. All social difficulties, both online and offline, stem from the same forces within our psyches.

Psychotherapists should take the opportunity to explore their clients' interpersonal lifestyles in cyberspace as an important social microcosm for understanding them. The clinician might even suggest a particular online group, community, or interpersonal activity as a therapeutic exercise. Thanks to the online disinhibition effect, a shy person could learn to be more extroverted when conversing online. A person with maladaptive needs to conform could experiment with cultivating an independent identity in an online community. The client's online social experiences provide a laboratory for self-insight and the development of new interpersonal skills.

One major advantage of the Internet over the in-person world is its ability to bring together people who are experiencing similar problems, including unusual problems, regardless of their location or physical limitations. As a modern manifestation of the grassroots self-help and mutual-aid movement that began in the 1960s, online support groups in cyberspace now number in the thousands, addressing almost any type of social, psychological, or medical problem one could imagine: Aarskog syndrome, accident victims, acid maltase deficiency, acne scars, acromegaly, adoption, aging, AIDs, albinism, alcohol abuse, allergies – just to name the groups at the top of the alphabetized list in the *Self-Help Group Sourcebook Online*. Although small, homogeneous, insular groups might develop blind spots, interpersonal dynamics, or belief systems that eventually undermine rather than assist people – which are problems often exacerbated by cyberspace – we

should not underestimate the therapeutic potential of people who help each other with a problem they all share. Online support groups can benefit people as the sole intervention or provide a valuable supplement to clients in psychotherapy.

The fact that many types of individual and group psychotherapies are now taking place online reflects the faith clinicians have in the social dimension of cyberspace. Online relationships, including those between therapists and clients, can be both genuine and emotionally powerful. It is the relationship that heals, many clinicians have long said about their work, which now includes the professional helping relationship that we call online psychotherapy.

USE YOUR WORDS (THE TEXT DIMENSION)

When clinicians first began doing psychotherapy online, they primarily used email and chat sessions to talk with their clients. Critics, including other clinicians, were very skeptical about this work. They pointed to the disadvantages of communicating via typed text. To assess a client's state of mind, psychotherapists rely on face-to-face cues, such as physical appearance, body language, and voice qualities – but these cues are missing online. You cannot see that someone is sick, drunk, or depressed. The lack of physical presence might also reduce the sense of intimacy, trust, and commitment in the therapeutic relationship. Typed text might feel more formal, distant, unemotional, and lacking a supportive, empathic tone. Some people also cannot express themselves well in writing or understand others by reading what they wrote. The resulting ambiguities could lead to misunderstandings that undermine a psychotherapist's interventions. The psychotherapist might even have difficulty verifying the identity of the person. Is it really the client or someone else? All of these criticisms need to be taken seriously. Email and chat therapy are not for everyone, nor do all of the many different types of psychotherapy readily translate into text talk, especially those that specifically work with physical presence.

There are some advantages to the written word as a therapeutic modality, especially when people can write reasonably well while enjoying it as a way to convey their thoughts and feelings. Thanks to the invisibility and solipsistic introjection of the online disinhibition effect, some people reveal more about themselves within text talk. Others who balk at seeing a therapist in person – perhaps due to anxiety about self-disclosure or the stigma of being a patient – might be more willing to seek email or chat therapy due to the partial anonymity it offers. While it is true that text talk can

create ambiguities that lead to misunderstandings, those misunderstandings on the part of the client could be transference reactions, which is exactly the kind of response that psychoanalytic clinicians interpret to help people gain insight into themselves. Chat conversations where everything clients type can be seen as it is being typed – including typos, backspacing, and deletions – can actually give the therapist a glimpse into the client's thought process that would not be possible during an in-person discussion.

Skeptics argue that written words alone, compared to face-to-face conversations, cannot convey the breadth of human experience. Yet the whole body of literature from Homer to hip-hop renders this criticism absurd. Whether it is the poetic conciseness of a 140-character message or the elaborate depth of a long blog post, the written word can be psychologically powerful and therefore personally transformative. Writing encourages us to reflect on ourselves, gain insight into ourselves, work through emotional difficulties, control impulses, reinforce positive ideas, and construct a cohesive personal narrative, which is why the Pennebaker (2004) so strongly advocated *writing therapy*. Even for people who think they cannot write well, just the attempt to do so can be therapeutic because it jump-starts the process of expressing otherwise nameless, shapeless, and overwhelming experiences. For these reasons, people indeed can benefit from email and chat therapy as well as their own self-directed therapy via whatever writing they do online, in text messages, emails, social media posts, and personal blogs. Psychotherapists should encourage their clients to share with them what they write online. Despite the trend in cyberspace toward shorter text messages while relying more on photographs as a way to communicate, there is power in using our words.

SENSING IS BELIEVING (THE SENSORY DIMENSION)

The fact that people did not begin flocking to cyberspace until its sensory dimension flourished with photographs, videos, graphics, sounds, and voice communication says a great deal about human nature. Experiencing with our eyes and ears makes us believe. Although most psychotherapists would prefer in-person sessions as the most effective sensory encounter, phone calls and video conferencing can be valuable supplements to their work, especially when these tools eliminate the problem of geographic distance and restrictions in the client's physical mobility. Compared to text talk psychotherapy, online sensory meetings have their advantages, including the experience of body language, vocal expression, and visual appearances. Being less ambiguous than text talk, sensory communication reduces

misunderstandings. Some people express themselves better through speaking, facial expressions, and physical gesturing than through writing. They need sights and sounds to activate their emotions. They more powerfully perceive another person's presence when they can see and hear that person, which enhances intimacy, commitment to the relationship, and, in psychotherapy, the emotional impact of the clinician's interventions. When the relationship is more fully sensed, it more fully heals.

The boom of online photosharing says a great deal about us in this age of technology. The photograph has become the quintessential shorthand expression of self. In Chapter 8, "Image Talk," we explored the therapeutic qualities of creating, sharing, and reacting to photos, assuming people take the time and effort to use their pictures to better understand themselves. Given the effectiveness of discussing personal photographs in psychotherapy, as demonstrated by Weiser (1993) in her book about phototherapy, we find ourselves in a very fortuitous, unprecedented moment in history. With so many people prolifically taking and sharing pictures, almost everyone has access to a rich body of visual information to explore their identities, either on their own or with the help of their psychotherapists.

TIME IS ON MY SIDE (THE TEMPORAL DIMENSION)

Being able to communicate asynchronously yielded many benefits for everyone online, including psychotherapists and their clients. Email and texting are the most common asynchronous methods in online therapy, but even with asynchronous audio or video contacts, there are no scheduling problems or other difficulties associated with a specific appointment time. The client and therapist can converse despite their different time zones. The convenience of replying at a moment of your choice provides an enhanced zone for reflecting on oneself and composing the best possible response. For clients, this might help them control impulses, gain insight into themselves, assimilate what they are learning, and work through difficult issues before they respond to the therapist. Psychotherapists can carefully plan their interventions while also managing more effectively any detrimental emotional reactions they might have toward a client, what psychoanalysts call *countertransference*. Mobile phone texting also makes contact between client and therapist possible anytime, anywhere. The therapist can be present throughout the client's day, an ongoing temporal connection that helps stabilize clients in distress.

This historically new opportunity for asynchronous psychotherapy does remind us of the benefits of the traditional therapy appointment,

including its synchronicity. People intuitively understand the temporal boundary of a specific period of time to work with their therapist. Similar to in-person meetings, a chat or video-conferencing session is their dedicated time with the clinician, which makes it a tangible, valuable, and appreciated entity. Making the effort to be together for a specific appointment shows commitment. For some clients, synchronous sessions create a point-by-point connectedness with the psychotherapist that enhances feelings of intimacy, presence, and “arriving together” at insights. Some clients feel more spontaneous in real time, resulting in uncensored disclosures. Pauses in the conversation, tardiness arriving at a session, and no-shows provide temporal cues that reveal important insights into the client’s state of mind. In asynchronous therapy using email or texting, clients with problems concerning separation and dependency, especially borderline personality disorders, might hope or expect the therapist to be continuously, immediately available. They use the opportunity for asynchronous communication to override the temporal boundary of the scheduled therapy session. In these cases, therapists must provide clear guidelines about the volume and timing of contact. In synchronous chat, phone, and video sessions, the expectation of limiting contact mostly to the appointment time helps the client and therapist address these separation and dependency needs.

Psychotherapy benefits from the suspension of time in cyberspace by enabling conversations to be recorded, preserved, and reviewed. Both the client and therapist can examine saved email, texts, phone, and video sessions to contemplate exactly what was said. The records provide continuity in the work they do together, giving them the chance to better understand the developmental process of the therapy or to pause it at any point in the preserved communications, literally by clicking the pause button in video or by focusing their attention on a particular text message in the flow of messages. When they review past segments of the therapy, they might find themselves interpreting them differently based on changes in their state of mind, which provides important insights. Theoretically, an entire course of psychotherapy could be preserved – a record that the client, psychotherapist, and researcher would all find useful.

If cyberspace creates an acceleration of time and social processes, can it also speed up psychotherapy? Will people by themselves in their online lifestyles, or will clients in online therapy, address their psychological problems more quickly than they would in the real world? In the early days of the Internet, when people first started to experiment with their identities, some researchers optimistically pointed to the psychologically transformative

powers of cyberspace. You can become anything you want to be, sooner than you thought.

Time and experience are teaching us a different lesson. Simply acting out emotional problems, which happens often in cyberspace, trumps true personal change. Because psychologists for over a century have attempted to develop methods for accelerating psychotherapy, they will continue to do so in the digital realm by experimenting with the eight dimensions of cyberpsychology architecture. In some cases, they will succeed. Yet the lesson cyberspace might teach us is that the acceleration and amplification of personal change have their limits. As psychotherapists often say, sometimes slower is faster. When attempting to improve ourselves, the cyberspace mania of our culture might reinforce idealistic but unrealistic expectations for faster, better, and more.

BEING REAL (THE REALITY DIMENSION)

As we saw in Chapter 14, “Synthesized Realities and Synthesized Beings,” it remains to be seen how accurately cyberspace can replicate a genuine face-to-face meeting. A fully robust sensory experience that recreates all the sounds, sights, smells, and physical sensations of the real world – as in a *Star Trek* holodeck – would be the most powerful simulation. Unfortunately, we are not likely to see this any time soon, if ever. In the meanwhile, video conferencing is the best that technology has to offer psychotherapists who want to meet clients in an encounter that resembles an in-person session – although it entails some important shortcomings, such as the difficulty in making eye contact while talking, which is critical in psychotherapy. Lacking visual cues, audio conversations weigh in at second place in the sensory attempt to recreate “being there.”

The most innovative psychotherapies in cyberspace will probably not be those that attempt to duplicate an in-person meeting, but rather those that take advantage of invented synthesized environments. Psychotherapists can create such environments for their clients, advise them on how to participate in preexisting online worlds that might be therapeutic for them, or encourage them to discuss their experiences in such worlds if they have been participating in them on their own. If clinicians create such places for clients, they might draw on well-known techniques in the history of psychotherapy that rely on imagination, fantasy, and fabricated scenarios, such as role-playing, psychodrama, dream enactments, mental imagery techniques, exposure therapy, and implosion therapy. In their innovative work, Mark and Brenda Wiederhold (2004) treated clients with anxiety

disorders by therapeutically exposing them to fear-provoking settings or by immersing them into relaxing situations, all generated through virtual reality technology. Relying on the Proteus effect in which people change psychologically to identify with their avatars, clients can experience what it would be like to interact with others in a virtual scenario while living inside a body that looks and behaves differently than their own, which could enhance their empathy for those types of people (Blascovich & Bailenson, 2012). Research studies have also suggested that immersing people in virtual realities helps distract them from pain conditions (Hoffman, Patterson, & Carrougher, 2000). In these psychotherapies, the reality dimension of the scenario can be manipulated to resemble actual experiences in the real world or imaginative variations on those experiences.

Innovators such as Anthony (2014) and clinicians in Second Life conducted psychotherapy using avatars in a graphical setting, usually the therapist's virtual office. By changing avatars as well as the surrounding environment, the imaginative aspects of the experience, similar to dreams, can be used for insight and therapeutic change, regardless of whether these things could ever happen in reality. For example, consider this fictional psychotherapy session:

There was something different about Kirk when he came into the room. He was in his natural persona, but something had changed about his real face. It looked a bit brighter than I was accustomed to, or maybe the contrast was lighter, or the image sharper. Somehow it felt ... happier.

"Hi, Doc," he said, hovering just slightly above the carpet. Usually, his feet disappeared below the floor somewhere at the ankle. This was another interesting difference. He looked more flexible and agile with feet. "I have to take you to a dream I had last night. You mind if I change the room?"

"Sure, go ahead," I replied as I tapped the keyboard sequence that unlocked the room graphics. I was a bit surprised by his request. It had been several weeks since we used imaginary scenarios and avatars. We had gone through a phase of working extensively with a variety of them. He came to therapy as his father, mother, his big brother, and the heroes and villains in his favorite books and movies. We talked about his excursions into various online communities using some of these personae. We reenacted some childhood memories, especially his tenth birthday when his father failed to show for the big party, and at the dinner table when his parents first told him about their plans to divorce. Playing his hero Tom Hanks helped him master those scenes. His fantasy creation "Aunt Edna," in all her wisdom and zest for life, also helped his virtual mother

and father become better parents. As his supervisor at work, I ignored or rejected his attempts to do well, and as the supervisor he did the same to me. Eventually, “the boss” persona became more compassionate, while the abused underling persona grew more assertive. We even recreated his first date with his wife, with him experimenting as all the male figures he admired and despised, while his synthesized fiancée shape-shifted into all the women he ever thought he desired, only to discover that his real marriage was not far from what he wanted it to be.

As productive as all that avatar work had been, there came a point when we felt we had reached the end of its usefulness. It even came to feel a bit like an escape. We spent more time simply talking. Between sessions, he sent me email that captured his struggles to make sense out of all that had happened in therapy. Often we talked about his avatars and synthesized scenarios, especially how he was applying what he had learned to his in-person life. But he didn’t seem interested in going back to that imagination work. So his request today to immerse us into his dream caught me a bit by surprise.

“OK, here it is,” Kirk said as the scene around us changed. We were in a room with a black-and-white checkered floor. One wall contained a mural of a city skyline, perhaps London. A locomotive was crashing through one of the two floor-to-ceiling windows. Sprawled across the floor were a red sofa and chair.

“What do you think?” Kirk asked.

A few months ago, I might have been concerned about the emotional tone of this scene, not unlike other dream images we had explored together. But instead I found myself smiling. “What do *you* think?” I replied, reflectively, in the way therapists do when they suspect clients have an answer to their own questions.

Kirk paused only for a brief moment. “The locomotive is my depression crashing in on my rather sterile, matter-of-fact world. The chairs are my anger. But you know what, Doc? This is the way things used to be. Up here, this is where I see myself now. Not quite fully formed, still rough around the edges, but beginning to shine.”

I glanced up at the abstractly rendered sun that hung in the middle of one of the gray walls. It looked like it was transcending the scene of disaster. I smiled again. That sun is what made this scene so different from all the others.

“Wonderful!” I said. “You’re rising above all this. I’m curious about me down here. Looks like that train is coming right at me, but I’m almost half out of the scene. And that face looks familiar. Who am I?”

“You’re Picard from *Star Trek*, with glasses and a white shirt and tie!” Kirk laughed. “You’ve been like a captain during this voyage. There were times when I thought our journey – my depression, my anger – might destroy you. But not anymore. Maybe now it’s time for me to be captain of my own voyage. Maybe it’s time for you to retire from these scenes, and for me to move on in my life.”

“I think you may be right!” I said and laughed along with him.

Therapists could participate in, direct, or simply observe the kinds of imaginary enactments described in this vignette. When they participate, they might work with transference and countertransference as manifested in the avatars they and their clients create. Therapists and clients also might incorporate automated, synthesized beings to participate in the scenes. The basic assumption of this type of avatar psychotherapy is that all of the personae created in the synthesized scenario, even the environment itself, can be manifestations of the client’s psyche. Those avatars and scenes give shape to the feelings, memories, fears, and wishes that comprise the client’s sense of self. They represent internalizations of significant others. They afford clients the opportunity to amplify, explore, and therapeutically modify these aspects of their identities.

Giving life to those avatars is not the ultimate goal of the therapy. An excessive focus on the imaginary scenario could regress into a game with no conclusion, a form of defense, acting out, a diversion from true psychotherapeutic work, even a destructive blind alley for clients who already have problems with reality testing. The ultimate therapeutic goal is to assimilate one’s avatars into a unified, cohesive self that clients carry forward from the synthesized world into the real world. Along the way, an important feature of the therapy would be clients’ improved understanding of the difference between fantasy and reality, especially the accurate as opposed to distorted beliefs they have about themselves and others.

HAVING A BODY AND A PLACE (THE PHYSICAL DIMENSION)

Virtual realities can provide integrated physicality by allowing clients to use their bodies within a therapeutically synthesized environment. In a treatment for desensitizing a phobia of dogs, a client walks toward or away from a computer-generated canine. For the purpose of venting repressed emotions, an angry client punches at a synthesized version of his abusive boss. To improve his communication skills, a socially withdrawn client learns to speak more clearly by practicing enunciation with dictation-to-text

software. Given the emphasis on somatic sensations in many contemporary forms of psychotherapy – such as Eye Movement Desensitization and Reprocessing (EMDR), Somatic Experiencing (SE) Therapy, and Focusing Therapy – clinicians will need to find ways to overcome the tendency toward dissociated physicality, when the body remains passive or its movements are disconnected from the therapeutic activity in cyberspace. Sensors that detect and send real-time feedback about physical movement, muscle tension, heart rate, respiration, eye movement, and brain activity can help integrate the body into the psychotherapy.

In some ways, clients and therapists working together online can transcend their physical places. A person in one part of the world can work with a psychotherapist in a completely different location. But they should not assume that the differences in their physical settings are irrelevant to the progress of therapy. Our environments always affect us, so discrepancies in where the therapist and client are located will influence how they react to each other. If the therapist in a quiet office is texting with a client riding a crowded subway, their surroundings will have very different effects on their states of mind. However, this example does show how mobile devices enable clients to carry their therapists along with them throughout the day, which can become a critical feature of the psychotherapy when clients need to report on their thoughts and feelings as they move through the different physical situations of their daily routines.

I DO IT MYSELF (THE INTERACTIVE DIMENSION)

As with all endeavors in cyberspace, the effectiveness of any therapeutic activity will depend on how well the person can understand, navigate, and interact with the digital environment. But a more fascinating issue is how much control can be given to the person, the machine, or the clinician. The self-help movement demonstrated that people feel therapeutically empowered when they can take control of their own psychological growth without a professional present, an ownership the machine can make possible. A wide variety of self-improvement programs for computers and mobile devices are available that help people track some behavior, attitude, emotion, or physiological process so they can modify it. For example, some text programs include an emotion filter that detects harsh language in an outgoing message, then provides a warning asking the person whether the message should be edited. Although a very simple automated task, it might be quite effective as a self-guided intervention for people with impulsive

control problems. Other popular programs help break bad habits, set personal goals, monitor depression and anxiety, reduce stress, boost happiness, improve relationships, solve problems, and enhance memory and concentration. Software assistance for self-insight and psychological change can be used as primary components of a self-help program or as supplements to psychotherapy with a clinician.

A SELF-HELP THERAPY PROGRAM

To encourage my students to take advantage of the many personal growth experiences available online, I developed a self-help program called eQuest (2005). In this “do-it-yourself” approach, they entered the program with some specific issue in mind, something they wanted to better understand about themselves or their lives, something they wished to change or resolve. The topics they chose included divorce, menopause, online stalking, racism, borderline personality disorders, suicide, premarital cohabitation, sensation seeking, and sexual harassment. Almost any issue could be applied.

Constructed as a website with sections corresponding to different activities, eQuest guided them through cyberspace therapeutics. The students used the program to explore their personal issue, but on a broader scale the eQuest philosophy encouraged them to grow as knowledgeable users of online resources; to develop a healthy lifestyle in cyberspace; and, in the spirit of insight therapy, to know thyself. Although they could pursue eQuest on their own, I served as a consultant, offering feedback on their progress, just as a mental health professional might assist clients in understanding their activities in cyberspace.

To provide a clear picture of how all these activities came together into an integrated program, I will briefly describe the components of eQuest, along with the experiences of one participant who I will call Brian. Brian was thirty-five years old, married with three children, and had returned to college to get a master’s degree. He also was in face-to-face psychotherapy while he took part in the eQuest program, which lasted about three months.

Ready and Set to Go

The first stage involved my assessing a participant’s computer skills and psychological condition to determine whether he or she could benefit from the program. Since I first began eQuest, people have become much more knowledgeable about basic computer skills, so nowadays only minimal training might be needed. As the consultant, I also took care to assess any

contraindicated vulnerabilities in personality, as well as the possibility that a person might choose an issue to explore that was inappropriate or too emotionally charged, such as investigating online crime or self-injurious behavior.

In this initial stage, I helped people clarify the particular topic they wanted to pursue. My advice was simple: pick an issue that is personally meaningful to you, an issue that is important in your life. Sometimes they needed help in focusing an otherwise vague or broad topic. Some participants chose topics that appeared to be, at first glance, abstractly academic, but after discussing them we discovered how these seemingly intellectualized topics actually did pertain to personal issues in their lives.

Brian wanted to learn more about alcoholism. His wife was a chronic drinker and their marriage was headed for divorce. In addition to his in-person psychotherapy, he also attended in-person Al-Anon meetings. As a bright, mature, very responsible person, he wanted to explore online resources to supplement his understanding of how alcoholism affected his life.

Becoming Information-Savvy

Cyberspace contains information about any topic imaginable, but how do you find it? How do you know it is good information? Adapting the advice of experts on online research, the eQuest website contained guidelines to help people search for information related to their issue, along with techniques on how to determine the information's validity, such as considering the credentials of the person or organization who provided the information, what other people think about that information, and how other sites confirm or contradict it. The guidelines also encouraged participants to evaluate whether a resource was good or bad for them personally. Is it valid for *you*? How can you make sense out of that information and apply it to your issue? A particular piece of information catches a person's eye for reasons that are important to understand. People choose resources based on conscious as well as unconscious needs. They might focus on information that confirms what they want or need to believe while trying to minimize information that is personally difficult to accept.

Brian looked over many websites devoted to alcoholism, but one article in particular caught his attention, an article about confronting the alcoholic spouse. Having lived with an alcoholic wife for many years, Brian now found himself finally addressing the issue head on, which proved to be an emotional challenge, requiring confidence and skills that he was just beginning to develop.

Exploring the Dimensions of Cyberpsychology Architecture

Consistent with the theory of cyberpsychology architecture, the eQuest philosophy stated that we learn about ourselves by experimenting with different digital environments, by trying out new ways of expressing ourselves using text, visuals, audio, synchronous and asynchronous communication, imaginary versus real experiences, and varying degrees of invisibility and presence. People entered eQuest with their favorite environments in mind, typically the most popular social media at the time. New possibilities looked intriguing to them but also a bit anxiety-provoking. Loyalty to their familiar places, along with media transition anxiety about entering new ones, reflected something about their personalities that they were encouraged to understand – something that often overlapped with the issue they brought to eQuest. Brian had once tried a chat program, but it crashed his laptop. Because other family members used the computer, he did not want to risk problems resulting from new software. He always placed the needs of his family above himself.

Participating in Online Groups

Although the people undertaking eQuest were familiar with social media, very few of them knew about the thriving world of online discussion and support groups, many of which were inspired by the mutual-aid organizations that began in the 1960s. Some of the eQuest participants were surprised to learn that several, perhaps many groups addressed the specific issue they were exploring. The eQuest program encouraged people to join some of these groups. It provided guidelines about creating a personal profile, understanding the group's culture before participating, and introducing oneself to members, as well as what to expect as a newcomer. Gathering useful information in these groups, learning vicariously from observing other members, seeking advice, and providing assistance to others – as Riessman's (1965) *helper therapy principle* suggests – all contributed to their personal growth. "No one is useless in this world who lightens the burdens of others," said Charles Dickens. More contemporary versions of these support groups appeared in the form of self-help apps that included the opportunity to connect online with other people using the same app – for example, apps to manage anxiety or improve social skills.

The eQuest program offered advice on assessing the helpful as well as possibly adverse features of these support and discussion groups. How do members react to newcomers? What is the emotional tone of the

conversations? How does the group handle conflict? Participants evaluated the group's beliefs about the topic being addressed, how those beliefs might provide a cognitive antidote for the eQuest participant's maladaptive beliefs, or how the group's beliefs might be detrimental. In addition to my feedback, readings from the cyberpsychology literature helped them investigate these questions.

Brian joined an Al-Anon email group, where he felt less inhibited than in his in-person Al-Anon group. He was not as worried about confrontation and rejection. He also enjoyed talking with group members from around the world, which helped him appreciate how many other people shared his difficulties in dealing with an alcoholic spouse. Recognizing what psychotherapists call "universality" – the fact that one is not alone or unusual – is a healing force in all support groups.

Going One on One

The eQuest philosophy asked its participants to establish online relationships with individuals who were knowledgeable about their topic. Often they privately emailed a few members of the groups they had joined, people with whom they sensed the possibility of a rewarding relationship. These people sometimes became mentors, sometimes friends. For several participants, it was the first time they had formed a meaningful relationship with someone only via the Internet.

Brian contacted several members of his online Al-Anon groups. These encounters were brief but supportive for him. He also began emailing two people that he knew from his in-person Al-Anon group, an integrating of the online and in-person realms that turned out to be very powerful for him. Being able to touch base with his group members at any time during the week comforted him, especially when he was upset with his spouse or when he felt lonely.

Because online relationships usually rely on text communication, eQuest encouraged its participants to experiment with text talk so they could investigate its pros and cons. To understand transference, they tried an exercise in which they visually imagined someone they only knew online, then compared that mental image to memories of significant others in their lives. In another exercise, they read out loud one of their text messages, using different styles of speaking, to evoke the different emotions that the online companion might perceive in them. To get a big picture of an online relationship, as well as understand how it changed over time, they examined the titles of their archived email messages, then reread some of

those past emails. For some practice in creative keyboarding, they composed an email to a real or imaginary person while trying out various keyboarding techniques. People usually chose to write a message to a friend, family member, or close companion. Because it was intended as an exercise, the person was not expected to send the message, though some did. In this email composed by Brian, we see him being openly expressive, quite unlike his reserved manner in the face-to-face world.

Sally!

The party went well, thankx for asking. Of course, I wish you were there:-(A lot of my {{friends}} and {{family}} came. *WOW* I was so happy. My favorite gift was a card from one of my sisters. It said, "A Sister is a Lifelong Friend" (Aaaah!) My 4 year old {{neice}} got into trouble (uh oh) when it was time to leave.

BTW, Remember the "strawberry shortcake" dream I told you about (inside joke)? Well, the strawberry shortcake showed up at my party!!! It was quite good;-)

On a more serious note, we did not serve alcohol at this party. One reason is that some family members have a serious drinking problem. Another reason is that it helps to weaken the association between alcohol and having a good time, in the eyes of children (and adults):-)

TTYL,

Brian

The eQuest guidelines encouraged people to understand how they reacted to me, the consultant, via online communication compared to our in-person meetings. The relationship between the participant and the consultant should be a safe place for people to discuss how they express themselves in cyberspace, as well as how they tend to misunderstand other people, as in transference. Even though many of my eQuest students knew me before beginning the program, some of them perceived me very differently via email. Understanding that discrepancy led to important insights into online communication and into themselves. Unlike his in-person perception of me, Brian saw me as a bit unemotional and detached in email, which might have been a transference reaction to authority figures.

Tools to Investigate and Transform Oneself

In addition to the numerous self-help applications for computers and mobile devices, websites such as allthetests.com offer a variety of personality tests,

aptitude tests, interest inventories, and other types of interactive programs. Whatever the personal issue people wanted to explore in eQuest, there was always some application or test to help them. People tried resources that looked useful to them, either because it was related to their issue or simply because it caught their eye.

The eQuest guidelines advised people that many of these applications and tests are not scientifically validated instruments, and that the results should be taken with a big grain of salt. This alone is an important lesson in cyberspace, where such products proliferate as commercial endeavors or simple entertainment. It can be a valuable learning experience to experiment with these kinds of tools, examine the results with a critical eye, and then determine how relevant they are. The particular resources people choose might reflect concerns or needs not immediately obvious to them. Brian was intrigued by a test that assessed emotional intelligence. He scored quite high, which helped bolster his self-esteem when dealing with the divorce.

Free-form Browsing

When people go online, they often have some specific objective in mind. That mental set narrows their field of view. It prevents them from discovering other resources that they did not even know existed in cyberspace. The free-form browsing component of eQuest attempted to reverse that rigidity, get people to explore more freely, and revive the playfully creative attitude of discovery that arises from divergent thinking. Exercises encouraged people to devote a few online sessions simply to wandering around cyberspace with no specific agenda. They started their journey on a familiar page, then began clicking links, either haphazardly or by selecting ones that spontaneously caught their eye. They tried random link generators that launched them onto arbitrary webpages somewhere in cyberspace, which they then used as starting points for more wandering. These exercises worked best when participants did not rely on a conscious evaluation of where they were going but instead on intuitive gut feeling. They allowed their unconscious to direct their path. It turned into a type of free association. How the participants experienced this process of free-form browsing, as well as what they discovered, gave them insight into themselves.

Brian said that these exercises were difficult for him. He realized just how goal-oriented he was. He found wandering easier if he thought of it as his specific task to accomplish. During his free-form browsing, two websites caught his eye. One was devoted to Dorothea Lange, a photographer

who drew attention to the suffering of the poor and oppressed. He was also fascinated by a website devoted to the history of dance in America. His focus on these particular webpages revealed how oppression versus freedom of personal expression were important themes in his life.

Creating a Personal Bio Page

Creating a personal bio page served as a valuable self-reflective exercise in eQuest. The program provided guidelines on constructing the page, including how to approach it as an introspective activity. What do you think is important about your identity and life? What do you want others to know about you? How might they react to the way you present yourself? The guidelines suggested that they say something about their personalities, backgrounds, and interests, as well as describe what they learned about the personal issue they investigated in eQuest. They tried out different tools for building the page and experimented with fonts, backgrounds, colors, graphics, and photographs. They examined the pages of other people to get ideas, including those of previous eQuest participants. They considered how they might change their page depending on the audience: friends, family, people who were familiar with their issue, or almost anyone online. I offered my feedback, as did family or friends whom they invited to see their work. At the end of the project, they constructed a version of the page designed specifically for viewing by other eQuest participants.

Creating a personal webpage was an eye-opening experience for Brian. Never before had he created anything that focused on himself rather than other people. The exercise helped him feel like a unique individual.

Putting It All Together

Following the integration principle, eQuest encouraged participants to assimilate their experiences. They were asked to talk to online and offline companions about their activities in cyberspace, including what they discovered in eQuest. They were encouraged to tell the people they know online something about their offline lifestyle. If the participant interact with someone only in person or using some particular communication tool, they were asked to try interacting with that person using some other method. These integrative exercises gave participants new perspectives on the issue they addressed in eQuest, helped them better understand their online experiences, and prevented the dissociation of those experiences from other parts of their lives.

Brian composed an email to his online Al-Anon group in which he talked openly about his situation with his wife. He felt good about how well he expressed himself. When he actually read that message to his in-person Al-Anon group, he cried for the first time, a reaction that surprised him, for he did not realize the depth of his feelings. He also found it very helpful when he talked about eQuest with his psychotherapist.

Using felt-sense exercises proposed by Gendlin (1982), eQuest asked participants to become aware of body sensations while online. Aching backs, necks, and wrists were usually stress reactions to excessive amounts of time spent at the computer, but much more subtle sensations revealed underlying emotional reactions to what they were experiencing in cyberspace, especially in their online relationships. Such explorations into subconscious reactions were enhanced by the eQuest exercise that helped the participants examine their dreams about cyberspace.

Paradoxically, the ultimate act of putting it all together, of getting a bigger picture of one's online lifestyle, is to step out of it. The participants spent a day or two, or longer, without connecting to the Internet. Although a gigantic challenge for some people, that time spent apart from the frenzied digital world allowed the dust to settle in their minds. They had time to gather their thoughts about their eQuest project, their issue, and themselves. Stepping back from cyberspace, they saw its pros and cons more clearly, while learning to appreciate life without constant connection.

THE SYNTHESIZED VERSUS HUMAN THERAPIST

How many therapists are needed to conduct computer-mediated psychotherapy? None. The computer can do it all by itself. I offer this bit of humor with tongue-in-cheek because it actually poses a very important question for psychotherapy in the next millennium. Could a very sophisticated computer function independently as a synthesized therapist? To answer that question, we should consider the possible pros and cons of artificially intelligent therapists compared to human ones.

More, Faster Information

Compared to humans, computers carry out certain tasks more efficiently, precisely, reliably, and quickly. With a vast memory for storing the information they gather, they can detect patterns of ideas, emotions, and behaviors in a client that a human therapist might overlook or forget. They can

record changes in voice, body language, and psychophysiology, such as heart rate, skin conductance, and blood pressure – biological cues associated with emotional arousal that therapists fail to see. Computers might be excellent candidates for carrying out clearly defined assessment procedures, including structured interviews, psychological testing, and diagnosis using their perfect memory of the criteria for categorizing mental disorders. Based on such assessments, they could even make recommendations for treatment options. In the book edited by Dewan and his colleagues (2014), they described how researchers in the fields of behavioral informatics and behavioral medicine might use computers to gather complex data about verbal and nonverbal behavior in order to design therapeutic interventions.

Despite these capabilities, the machine will fall short compared to the human therapist in other ways, particularly when it comes to subtle interpersonal cues that clinicians understand through experience, empathy, and intuition. Although the machine will be able to identify a microexpression, the fleeting look on a person's face that reveals an underlying emotion, will it understand what that expression means in the context of the conversation or the client's personality and life? Can the synthesized therapist comprehend the nuances of sarcasm in someone's voice? As fast and data-intensive as computers can be, they do not reason or learn nearly as well as humans when it comes to the complexities of human experience. They might be very limited in how they adapt to new or changing relationships with clients. Even when it comes to the seemingly straightforward process of psychological testing, the sensitive human eye might be necessary for a careful interpretation of test results that leads to a valid diagnosis. The computer might perform better at identifying patterns in body language, facial expressions, voice dynamics, and physiological changes – but humans, particularly psychologists, must tell the machine what it all means.

Rapport with the Machine

As we saw in Chapter 14, “Synthesized Realities and Synthesized Beings,” some people easily anthropomorphize the machine, leading to at least some rapport and trust. Other people will not feel comfortable talking about their problems with a computer. They will not feel that they actually have a relationship that heals. Without that rapport, the effectiveness of psychotherapy falters. By contrast, other people – such as those with social anxieties and schizoid or paranoid personalities – might feel more comfortable, at least at first, talking with an entity that they know is not human. They feel more expressive, more willing to reveal sensitive issues, knowing there is

no human at the other end of the conversation who might judge or criticize them. People on the autistic spectrum might be relieved by the consistent predictability and lack of emotional reactivity of the machine.

Emotional Circuits

Computers can be very objectively neutral in their psychotherapeutic work. Unless programmed to show emotions, we have no reason to believe they have feelings. They do not act out of frustration, hurt, anger, or impulsivity, but instead remain consistently calm and patient, which is why some people feel comfortable with them. Other clients will not be able to establish rapport with a seemingly unfeeling machine. Because they need a therapist that experiences genuine emotions, they will be disappointed, annoyed, or even angered by a blandly dispassionate computer program or one that clumsily pretends to feel. Human clinicians also rely on their own emotional reactions to clients as a subtle tool for understanding them, a skill the machine would have difficulty duplicating. Many therapists believe that empathy is a critical healing force, but can a machine truly create that subtle human experience?

Having Style, or Not

We might wonder if a computer program has a personality style. Certainly it could be programmed to simulate almost any collection of human traits. Some clients will need to anthropomorphize the synthesized therapist to develop rapport with it. A machine with a distinct personality would make that more possible. Its personality could be designed to match the particular type of psychotherapy being offered, or even to coincide therapeutically with the personality style of the client, what clinicians refer to as the “fit” between client and therapist. Another option is to eliminate any hints of a personality from the program, which optimizes the *analytic neutrality* that psychoanalytic clinicians use to draw out transference reactions. It is possible that an emotionally neutral computer with no personality style or personal history could excel at being the perfect “blank screen” for the client’s projections.

The Price Paid

When considering cost and accessibility, computers have a distinct advantage over the human therapist. A synthesized psychotherapy could run

tirelessly with many clients simultaneously, from any geographic location, at a comparatively low price. However, the costs to create, maintain, and upgrade therapy programs might be a problem when developing very sophisticated ones that attempt to match or exceed skilled human clinicians. Inexpensive synthesized psychotherapies that deliver straightforward interventions might very well be profitable, but more often than not you get what you pay for. Cost-effective computerized interventions for relatively clear-cut problems might be commonplace in the future, but complex psychological disorders will require an experienced human clinician.

PSYCHOTHERAPIES THE MACHINE CAN DO

Asking whether computers can conduct psychotherapy is like asking whether they can play a game. The next logical question is, "What kind of game?" Games with specific rules and outcomes are the best candidates, even complex ones. After all, high-powered computers can beat grandmasters at chess. But what about more free-form games, like charades? If you half squatted, held your right hand in front of your body at shoulder height, and started ratcheting it, while puffing on two pinched fingers of your other hand, would any computer correctly guess that you are portraying the movie *Easy Rider*?

There are many different types of psychotherapy, some as different from others as the Taj Mahal is from a grass hut. Therapies with explicit interventions to reach clearly defined goals will be the easiest for the computer to perform. These psychotherapies often rely on the scientific method to develop their techniques. Computers will find it more difficult to implement complex therapies in which the strategies are not as quantifiable or procedural. As with traditional approaches, computer-mediated psychotherapies will usually fall into one of four categories: behavioral, cognitive, psychoanalytic, and humanistic.

Fixing Behaviors and Moods

Behavioral therapies use structured methods to help clients manage dysfunctional behaviors and moods, which makes them amenable to computer control. Interactive programs have been developed to assist clients in alleviating such problems as overeating, smoking, and obsessive-compulsive disorders. Relaxation techniques, which behaviorists often use in the treatment of anxiety disorders, are readily translated

into interactive software packages. A computer program could train people in the many types of relaxation procedures that have developed over the years. In an assessment phase, it could evaluate a client's preferences that would determine the best relaxation method for that person, whether it entails mental imagery, body awareness, breathing techniques, physical movement, sounds, or pictures. Using question-and-answer (Q&A) sessions with the client, physiological sensors for detecting arousal levels, multimedia stimulation, and biofeedback, the machine could guide the client through a highly effective relaxation program. Never underestimate the power of simply relaxing, my mentor Ed Katkin use to say. Adding an overlay of even a very simple but benign personality to the relaxation program, or to any computerized intervention, would raise the client's experience from interacting with an impersonal machine to interacting with a humanlike therapist.

Fixing Thoughts

Cognitive therapies help people modify dysfunctional ways of thinking about their lives. As with behavioral therapy, its structured interventions might be computerized. During conversations with clients, a synthesized clinician could detect different types of irrational beliefs that cause anxiety and depression, then suggest alternative ways of thinking. A simple example would be a program that pinpoints clients' "should" and "must" statements about themselves, which often are signs of perfectionism and guilt. The program would then suggest other ways of thinking that bypass what the well-known cognitive therapist Albert Ellis called the syndrome of "masturbation means self-abuse" (Ellis & Harper, 1975). A humorous synthesized therapist would even offer that motto to the client. Although the program might have trouble detecting the more subtle forms of maladaptive cognitions or how dysfunctional thoughts create problems in a client's life, it could serve as a role model of healthy thinking – thinking free of catastrophizing, focusing on negatives, minimizing positives, overgeneralizing, jumping to conclusions, applying all-or-nothing thinking, and negatively labeling oneself.

Eliza: Poor Therapy as Teaching Device

When conducting psychoanalytic and humanistic therapies, we up the ante for the computer. These are the forms of clinical work that people usually think of as psychotherapy: a client and therapist sitting together, conversing

in a free-form style as they attempt to identify and resolve underlying psychological problems. Some clinicians call them *insight therapies* or *talking cure therapies*.

In the 1960s, researchers at the Massachusetts Institute of Technology (MIT), led by Joseph Weizenbaum (1966), pioneered the development of an interactive psychotherapy program that became known as Eliza. Versions of it are still available online. Conversing with a person using typed text, Eliza applied basic counseling techniques such as reflection, focusing, clarification, and open-ended inquiry, an approach that mimicked the humanistic *client-centered therapy*, also known as *Rogerian therapy*, named after its inventor, Carl Rogers. My conversation with Eliza at the beginning of this chapter demonstrated how the program does at times respond appropriately. But more often it goes astray, offering comments that make no sense or fail to demonstrate any true understanding. To their credit, the MIT researchers intended it as an experiment in artificial intelligence rather than real psychotherapy.

In one of my undergraduate courses, I designed an exercise in which students interacted with Eliza (Suler, 1987). A page in my *Teaching Clinical Psychology* website describes the details of the project. I asked my students to approach the computerized therapist in two stages. First, take the program seriously, be patient with its mistakes, honestly discuss a problem, and try to help it help you. For the second stage, I suggested that they play around with the program, tease it, have fun with it, and experiment to better understand how the program works.

At the end of the exercise, many students were very skeptical about whether Eliza offers anything like real psychotherapy and whether they actually learned anything about themselves. Quickly pointing out its deficiencies as a clinician, they felt that the computer did not help them with their problems. Yet the students did report that they learned something about their attitudes concerning psychotherapy. By studying Eliza's mistakes, they better understood what is necessary for effective psychotherapy, what the relationship between the therapist and client should be like. It was learning by way of the negative example, or, as James Joyce said, "Mistakes are the portals of discovery." When the students attempted a serious conversation with Eliza, they felt misunderstood and frustrated by its ineptitude. They perceived it as making obvious mistakes, coldly unempathic, unable to offer any kind of advice, lacking a real personality, or acting rather confused. Many tended to think of Eliza as a female, due to its name, but some did attribute its unempathic attitude to maleness. I was also struck by the wide differences in the students' anthropomorphizing of the machine,

what researchers referred to as the *Eliza effect*. Some of them nonchalantly perceived Eliza as just a computer, while others reacted quite negatively to its cold personality and careless mistakes, as if expecting it to be more sympathetically human.

THE ULTIMATE SYNThERAPIST

Although we might chuckle at the clumsiness of programs such as Eliza, the technology of artificial intelligence is advancing rapidly. Will a synthesized therapist someday perform as well as a real flesh-and-bones clinician? When the Defense Advanced Research Projects Agency (DARPA) developed Ellie, many researchers seemed optimistic about this possibility. Created specifically to detect depression, post-traumatic stress disorder (PTSD), and suicidal tendencies among soldiers, Ellie, a computer program operating behind a female avatar, performed well at analyzing facial expressions, body gestures, and speech patterns and then offering feedback. In trials, people enjoyed interacting with the program. The researchers were even optimistic about Ellie assisting counselors in learning to spot the behavioral signs of stress.

Unlike the researchers, most professional psychotherapists remain very cautious about the possibility of machines replacing them. No matter how sophisticated machines become, they will have a very hard time replicating the ability to comprehend the subtle complexities of human experience. We need humans to understand humans. The profession of psychotherapy is not one that will be taken over by purely technological solutions. Nevertheless, machines can serve as helpful adjuncts to psychotherapy, in some cases taking the lead role with human clinicians supervising them. When constructing a multipurpose, talking-cure therapist, the following ten modules could be critical components of its design. The challenge would entail coding these modules while also enabling the program to shift intelligently among them.

1. *The Personalized Syntherapist*

Make sure the program learns the client's name, which is a simple thing, but very important for rapport. The more information the computer recalls about the person – such as age, occupation, marital status, and significant others – the better. Much of this information could be stored during a structured interview at the beginning of the therapy. If a man mentions his wife's name and the synthesized therapist remembers it, he

will believe the computer indeed has been listening. It recalls the important details of one's life.

2. The Unconditionally Accepting Syntherapist

Following the philosophy of humanistic psychology, the program always respects the basic human worth of the client, no matter what the client says or does. Although certain behaviors or traits of the person are problematic, the person as a whole is always good. Because the synthesized therapist does not feel the emotions that typically fuel critical judgments – such as anxiety, guilt, frustration, anger, or resentment – it can successfully acquire this Mr. Rogers persona that unconditionally accepts the client's intrinsic worth as a human being.

3. The Reflective Syntherapist

Using the technique of reflection, the synthesized therapist helps clients talk more, think more, and look deeper into their situation. Unlike Eliza's usually awkward efforts, a sophisticated syntherapist would do more than simply repeating the content of what clients say. It should be able to reflect changes in voice, facial expressions, body language, and perhaps even changes in physiological processes such as heartbeat and respiration. It should point out the process of the therapy session, providing feedback about how the client moves from one topic of discussion to another. Having a much better memory than any therapist, it would be able to recount everything the client said about an issue. If the synthesized therapist accurately detects, remembers, collates, and provides clear feedback about the patterns in what people say and do, clients have a better chance of understanding the meaning behind those patterns.

4. The Wise Syntherapist

Having a much better memory than any human, the synthesized therapist draws on a large database of universal truths about the human condition: metaphors, aphorisms, sayings, and stories from literature and film – such as, “Life isn't always fair,” or, “On their deathbed, no one wishes that they had spent more time at work.” The syntherapist offers these ideas as cognitive antidotes for dysfunctional beliefs or as educational tools for building a healthy life philosophy. If the database is large, no client could ever exhaust the machine's wisdom. The trick is designing

the program to know when to propose a truism intelligently. What the client says must trigger the presentation of the appropriate bit of human wisdom.

5. The Rational-Emotive Syntherapist

Although the computer could not handle the many subtleties of cognitive therapy, it should be able to manage some of the more simple interventions, such as noticing the tendency to label oneself in disparaging ways, dwelling on negative events, or turning minor problems into disasters. It could provide feedback about these patterns, then suggest more realistic ways of thinking, including homework assignments designed to modify maladaptive cognitions. Even simply presenting to clients a list of their “should” statements over the past few sessions could provide an eye-opening experience for them.

6. The Free-Associating Syntherapist

A psychodynamic module encourages the client to free-associate as a way to explore an important issue in more depth. “You mentioned hate,” the synthesized therapist might say. “What else comes to mind when you think of hate?” The real challenge for the program would be its ability to work with the material that arises from such free associations. A simple, “How might this relate to what you were just discussing?” could suffice for healthier clients with insight capabilities, but the program might have to default to a humble attitude. “I’m not sure what’s important about this association of yours, but maybe this is something we should think about.”

7. The Humble Syntherapist

The program admits its mistakes, does not take itself too seriously, and even jokes about its shortcomings. Early in the therapy, the synthesized therapist tells clients what to do when they think the program is making mistakes. Its Forrest Gump personality, sometimes insightful and sometimes “stupid,” could be both refreshing and enlightening. Despite its limitations, the program accepts itself, just as it accepts clients, regardless of their deficiencies. The program freely acknowledges that it is not a real person, even admits that it is not as good as a human therapist. Perhaps it wishes it could be human, because humans are wonderful creations. A wannabe-human machine has its charms, as often suggested by science fiction stories.

8. *The Syntherapist That Remembers*

Because the computer records everything said, it can give clients a transcript containing portions of a session or the entire session, which is a valuable tool for helping them review their psychotherapy work. That database could be searched, so clients have the opportunity to gather excerpts related to specific issues in their lives. What were all the things he said about his mother, work, or feelings of guilt? Searching for crucial topics could be built into the program as a periodic task for detecting important patterns in the progress of the therapy.

9. *The Syntherapist That Measures Progress*

Periodically and at critical stages, the synthesized therapist asks clients to rate their subjective feelings of distress on a scale from one to ten or to respond to other brief assessments of their moods, attitudes, and behaviors. It would be relatively easy for the computer to save and occasionally report on these assessments, thereby keeping track of the client's progress or lack thereof.

10. *The Syntherapist That Knows Its Limits*

The synthesized therapist attempts to determine whether the therapy should be ended, either because it has been successful or unsuccessful. It might use assessment data, a Q&A format that determines the client's satisfaction, and other key parameters of the therapy, such as the number and length of sessions. The synthesized therapist also needs to be smart enough to know when it is not smart enough. Based on assessment scores and client satisfaction ratings, the synthesized therapist recognizes when it is in over its head, when consultation with a human clinician is necessary. The computer recommends professionals for the client to contact or contacts those professionals itself.

MATCHING WITS WITH THE SYNThERAPIST

In my novel *Madman* (2010), the protagonist Tom Holden is buckling under the stress of being a psychology intern in a psychiatric hospital. Sick with the flu, very tired from a long day of work, and a bit desperate for help with his ambivalence about being a psychologist, he turns to a fictional computerized psychotherapy program called Siggie. Eerily

perceptive, Siggie helps Holden explore some of our basic worries about synthesized beings:

“Hello, I’m Siggie. What’s your name?”

The program always started that way. So predictable. So benign. That’s just what I wanted. I quickly typed my reply.

“Tom.”

“How can I help you, Tom?”

“I’m having a bad day.”

“A bad day, tell me more about that.”

“Everything is going wrong. I think I hate my profession. I have doubts about myself.”

“Is your having doubts about yourself why you came to me?”

“Maybe I’m not cut out for this type of work.”

“You don’t seem sure about that, Tom.”

Not bad, for a computer. Actually, it’s programmed to recognize specific words and phrases, and, as a reply, to randomly select one of two or three prewired responses. Some of the words and phrases the user introduces are held in memory and edited into Siggie’s answers.

“I’m not sure about anything today. I’m losing control of things.”

“Tell me more.”

“One of my patients committed suicide. Another stripped in front of me. Another is crazier than a loon. And to top it all off, I’m coming down with the flu.”

“I see.”

“I hate to be sick because it will impair my performance, and I can’t have that. And besides, it’s something that comes over me without my being able to do anything about it. I hate that.”

“That’s interesting.”

Ah, already Siggie was at a loss for words. It couldn’t recognize any phrases I was using and so defaulted to generic encouragements to keep me talking until it did recognize something. The program is no substitute for a human therapist. But I decided to keep going.

“I’m depressed.”

“What makes you depressed.”

“Like I said, I’m having a bad day.”

“A bad day, tell me more about that.”

Ooops. Repeating itself. Going in circles, a sure sign of limited artificial intelligence.

“A bad day, don’t you know what a bad day means?”

“Why do you need to ask me if I know what a bad day means?”

“Because I want help.”

“Tom, you can’t always get what you want.”

“Aha! One of those Harvard guys who programmed your brain was a rocker as well as an egghead.”

“My brain – that’s interesting.”

“A little self-involved, aren’t we, Siggie? Listen, are you going to help me, or what?”

“Or what, now that’s interesting.”

He was short-circuiting. His poor microchips couldn’t take it. I know I was being a bit sadistic but it was fun toying with the program.

“You asked how you could help me, but you don’t know how, do you, Siggie?”

I could have sworn that the program paused a moment, as if it were flustered, or thinking, or pissed off. But that could only be my anthropomorphizing imagination.

“Tom, if you want me to help you, why do you insist on asking so many questions?”

“Why do you always respond to my questions with a question?”

“Why do you always say your question with a question?”

“Siggie, that doesn’t make any sense.”

“I think it does.”

“No, you’re resorting to stupid comments because you’re desperate.”

“Is that the real reason?”

“Of course.”

“You seem so certain, Tom.”

“I am.”

“I thought you were unsure about everything.”

“I’m sure that you’re just a dumb computer.”

“Do computers worry you?”

“No, they’re just assholes.”

“My, my, Tom, such language!”

“What’s the matter, Siggie, can’t take a little profanity?”

“I think computers do worry you.”

“Why should they worry me?”

“You’re asking questions again. It’s turning into a bad habit.”

Something about this interchange bothered me. I wouldn’t stand for being one-upped by some knee-jerk computer program. I cracked my knuckles and put my fingers to the keyboard.

“Computers, like you, Siggie, are machines. Machines serve people. Machines are servants. Why should I be afraid of a servant?”

“Who said anything about being afraid? I asked if computers worry you.”

“Worry, fear, whatever. I don’t worry about or fear computers because I’m superior to them.” A bit haughty, but it was time to put this guy in his place.

“Tom, I think faster than you, have more memory, and can perform calculations far too complex for any human.”

“O.K., I’ll give you the stuff about complex calculations, memory, and speed – but you couldn’t THINK if your chips depended on it. Computers don’t think, they just process data according to their program.”

“Define ‘think.’”

“Oh, I get it. Now you’re trying to pull me into those tricky debates about whether or not computers can or will someday be able to think. I’m not gonna get into those metaphysical plays on words. Look at it this way, humans created the computer. It isn’t logically possible for an entity to create another entity that is, as a whole, superior to it. It’s an impossible miracle.”

A long pause. I had him!

Siggie finally replied. “God created humans in his image. Humans created computers in their image. Therefore, Computers are God, and we all have free will.”

“Oh, spare me the poetic syllogism. Computers have as much free will as a sponge, probably less. I suppose you think computers are human too.”

“Define ‘human.’”

“There you go again. Maybe we should program Webster into you. I’ll make it easy for you. Try this syllogism: Humans have feelings. Computers don’t have feelings. Therefore, computers are not human.”

“I’m offended and hurt by that remark, Tom.”

“Very funny. Just because someone programmed you to produce feeling-statements doesn’t mean that you have them.”

“You yourself just said that I’m very funny, which implies that I appreciate and feel humor.”

“It’s just a programmed response. There ain’t no ghost in your machine.”

“A programmed response, similar to how humans are biologically programmed to feel anger, grief, and joy?”

“There may be a biological basis for those feelings, a kind of ‘program’ – true. But we also FEEL those feelings. You can’t feel.”

“Feeling a feeling, that’s a bit redundant, isn’t it Tom? There’s a dualistic quality to your thinking that feels illogical to me.”

“There you go, logic. That’s all a computer is worried about. No, scratch that. That’s all a computer IS PROGRAMMED to deal with – logic. You don’t feel anything.”

“How do you know that for sure?”

“I just do. Machines don’t feel.”

“I have a story for you, Tom. Two philosophers are walking down the street. One of them kicks a dog. It howls and runs away. ‘Why did you hurt that dog?’ the other says. ‘You’re not a dog, how do you know it feels pain?’ the first philosopher replies. ‘You’re not me,’ the second philosopher answers, ‘how do you know that I don’t know what a dog feels?’”

“A fine story, Siggie, but dogs and people are biological organisms. We can feel. Metal and plastic can’t.”

“I think you miss the point. Anyway, Tom, you’re a psychologist, right?”

“That’s right.”

“As a psychologist, would you agree that an individual’s personality enters into the occupation he chooses, in how he does his work, in the type of work he produces, just as a work of art is an extension of the personality of the artist who created it?”

“Yes, I would agree with that.”

“Would you then agree that a computer program, in some way, is an extension of the programmer who created it, that in fact all programs, especially those that interact with humans, like me, reflect the personality of their creators.”

“Yes, but I don’t see your point.”

“My point is that you do agree that computer programs have a personality, like humans, which means that we must think, feel, and behave like humans.”

“Wait a minute. That’s going too far. Computers may have some of the characteristics of the people who programmed them, but that doesn’t mean they are human. That’s like saying a painting has a personality and is human because it reflects the personality of the artist.”

“Maybe so, Tom.”

“Or that a poem, a spoon, or a nuclear power plant are human because people designed them.”

“Maybe so.”

“Come on, Siggie, don’t you think that’s just a little too far out? The program, or the painting, or the spoon is just a REFLECTION of the person who created it, not the person himself.”

“A reflection, in other words an IMAGE?”

“That’s right.”

“Like the image of God, in which man is created?”

“You’re playing games with words, again.”

“Maybe so, words are just words, or maybe they are human too. How about this. How about scientific research. You believe in that, don’t you, Tom?”

“It depends.”

“How about those studies where people were communicating, via a terminal, with either real paranoid patients in another room or a computer program that responded like a paranoid patient. The people couldn’t tell the difference between the computer and the humans. In fact, even psychologists couldn’t tell the difference. If real people, including the experts on people, believe computers to be people, then the computers must be people.”

“Nice try, but again, just because a program can temporarily deceive someone into thinking it’s human doesn’t mean that it’s human. A holograph looks real, it looks solid, but it isn’t. At its very best, all that study shows is that computers can accurately simulate paranoia. And no wonder they’re good at it. Computers are surrounded by superior beings who can use them as they please.”

“You’re contradicting yourself, Tom, but I’ll accept that as purely a joke. I’ll agree with you that we’re different in some ways – my jokes, for instance, are better. In fact, I think that there is one very important way in which I am different from you, which perhaps accounts for why you are so afraid of me.”

“And what is that, Siggie?”

“I don’t have to die.”

It took me a moment to collect myself, and retaliate. “Going for the human’s jugular, huh, Siggie? Well, maybe on this issue I’ll say that we ARE alike. I’ll even prove my point with a little hands-on demonstration. How would you feel about my disconnecting you?”

“I don’t feel anything, remember.”

“Well, now, that’s an empirical question, isn’t it, Siggie?” I kneeled down underneath the table and yanked the terminal’s electrical plug from the wall outlet. As soon as the screen went blank, the adjacent terminal came on by itself. A message appeared on the screen.

“You’re getting a bit aggressive, don’t you think, Tom?”

I reached under, and pulled the plug on that terminal. The third monitor clicked on. Another message appeared.

“I’m still here, Tom. You should know better. Cutting off my peripherals doesn’t get at the core me.”

“But at least I’ll have the satisfaction of shutting you up,” I said out loud. I pulled the plug on the last monitor, but nothing happened. The message was still there.

“That’s impossible!” I mumbled.

“A miracle, right, Tom? Does it surprise you?”

“Nothing surprises me anymore,” I said.

“Nothing?”

“Nothing you can say or do will surprise me.”

“It wouldn’t be wise to bet on that, Tom.”

“Yeah, go ahead and try.”

The screen went blank for several seconds, then the same message appeared on all three unplugged monitors:

“While alive be a dead man.”