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The Distance Cure

A History of Teletherapy

Hannah Zeavin

foreword by John Durham Peters

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A History of Teletherapy

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4 AUTO-INTIMACY

In his famous 1950 paper, "Computing Machinery and Intelligence," Alan Turing asks, "Can machines think?" In order to ascertain the answer, Turing proposes the Imitation Game. The test is as follows: can a man (A) and woman (B) be told apart by a third party (C) if they typewrite their answers and try to imitate the other. Now, can a machine (A) and a man (B) be told apart under the same conditions the same number of times by an interrogator (C) asking the same question of both the man and machine?[1]

Turing then offers nine objections to the idea that machines can think. These range from the "Theological" ("Thinking is a function of man's immortal soul. God has given an immortal soul to every man and woman but not to any other animal or machines. Hence no animal or machine can think") to the "Heads in the Sand" hypothesis that "the Consequences of Machines thinking would be too dreadful. Let us hope and believe they cannot do so." The last objection, "*The Argument from Extra-Sensory Perception*" is somewhat more curious. Turing writes:

> I assume that the reader is familiar with the idea of extra-sensory perception, and the meaning of the four items of it, *viz.* telepathy, clairvoyance, precognition and psycho-kinesis. These disturbing phenomena seem to deny all our usual scientific ideas. How we should like to discredit them! Unfortunately the statistical evidence, at least for telepathy, is overwhelming. . . . This argument is to my mind quite a strong one. One can say in reply that many scientific theories seem to remain workable in practice, in spite of clashing with E.S.P.; that in fact one can get along very nicely if one forgets about it. This is rather cold comfort, and one fears that thinking is just the kind of phenomenon where E.S.P. may be especially relevant.[2]

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Network Working Group V. Cerf
Request for Comments: 439 SU-ERL
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PARRY Encounters the DOCTOR

The session recorded below actually happened on 18 September 1972 and is herewith reproduced for your entertainment.

Good Evening.

Tell me your problems. Please terminate input with a period or a question mark.

*People get on my nerves sometimes.

I am not sure I understand you fully.

*You should pay more attention.

Suppose you should pay more attention.

*You're entitled to your own opinion.

Figure 4.1
"Parry Encounters the Doctor" (PARRY and ELIZA in conversation), The RFC Archive.

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Turing ventures that if the man (B) is a telepath or clairvoyant, the interrogator (C) can ask questions such as "what card am I holding now?" which the clairvoyant will answer correctly more times than is probable; thus, the interrogator will correctly guess that the man is a man and the machine is a machine. Then Turing posits that if the interrogator has "psycho-kinetic powers" or is able to distinguish man from machine via clairvoyance the Game would be ruined—or, as Turing writes, "with E.S.P. anything may happen." He continues, "If telepathy is admitted it will be necessary to tighten our test up. The situation could be regarded as analogous to that which would occur if the interrogator was talking to himself and one of the competitors were listening with his ear to the wall. To put the competitors into a 'telepathy-proof room' would satisfy all requirements."[3] For Turing, recalling Freud, telepathy is theoretically listening to thought rather than hearing speech. It is a kind of intimacy at distance with another where that other is continuous with the self—and the other can be a machine. Telepathy describes an instantaneous form of communication that removes another human's resistance to being listened to (and listening to another) and thereby allows the perfect uptake of the other's thoughts. In short, telepathy allows you to experience the other as one's self without interference—it allows one to (re)think the other's thoughts as new and one's own.

In the absence of ESP, this is still the promise of the artificial machine expert: the removal of the other human from a communicative relationship. It is also the promise of traditional therapy: to rethink one's thoughts as another's. Therapy without a human-to-human therapeutic relationship (the analytic dyad, the therapeutic alliance) is not therapy as we have traditionally understood it. When one imagines a therapy, one is likely to imagine two people sitting in a room, communicating primarily by speech. This image is no longer contemporary (though of course there are many working psychoanalysts and psychotherapists who practice therapy this way). For the last fifty years, cognitive behavioral therapy (CBT) has offered a mostly self-guided therapeutic regime in which the patient is responsible for their own psychological growth. At the same time, computer scientists and psychiatrists have been applying psychological understandings, models, and theories to artificial intelligence, and artificial intelligence to

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psychology; and generating new informatics models of how the brain and linguistic, cognitive, and affective interaction work. Since the late 1950s, some of these experiments have been conducted with the goal of mechanizing or fully replacing one of the human participants in the traditional therapeutic dyad. On the one hand, doing so successfully would free mental health care even further from a dependency on expert labor, making it cheaper and more widely available; on the other hand, efforts to generate these natural language programs, algorithmic therapies, and diagnostic tools necessarily narrow the scope of what is treatable to what computer scientists and psychiatrists seek to treat, what the computer can do in its moment, what it can read, and what its programmer can code.

One of the earliest experiments with a self-managed, technologized therapy was that of Dr. Charles Slack, a Princeton-trained psychologist working in the Harvard Psychology Department "during that wild psychedelic era of Timothy Leary and friends."[4] In the late 1950s, Slack designed an experiment to test the benefits of soliloquy.[5] First, Slack fabricated tape recorders that produced a series of clicks in response to sound stimulus while keeping track of how many clicks the recorders made in response to those sonic inputs. Slack gave these to "teenaged gang members from Cambridge" and paid them to be his subjects.[6] The subjects were to speak into the tape recorders without a human witness or interlocutor. As they spoke, they could see the tally of clicks growing; when they stopped talking, the tally stopped increasing. The subjects were paid according to how high their tally went. The automated ticker and the scaled payment were enough stimulus and response to incentivize the subjects to have a conversation with themselves. The outcome was twofold. The subjects produced recordings that sounded like one side of an interview. But moreover, "some of the participants said they felt better for having talked this way."[7] Dr. Charles Slack had built a speech-based self-soothing device from human-machine interaction. Soliloquy before a nonhuman other was not therapy but did access a palliative function.

Unlike human therapists, who are as much a container for the speech of their patients as a respondent, automated and/or algorithm-based therapies listen or read solely in order to respond; they can't not. They listen via

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a variety of mechanisms including retrieval-based decision trees, automatic scripts, and paralinguistic vocal monitoring. They offer outputs following inputs, regulated by a governing body of rules and decisions. Yet algorithmic therapies also rely on a most intimate computing in which a rich set of relationships is present between the user and the therapeutic apparatus: self-to-delivery mechanism (whether the computer or mobile phone), self-to-therapeutic application. Computer-based and computer-guided therapies are a thus a reiteration of self-analysis and self-help and join those pre-electronic traditions of instruction and mediation by a nonhuman other (the workbook, the paperback, the letter, the diary). Here, that structure is extended via a *responsive*, automated component (for more on "self-analysis," see chapter 1; for more on self-help, see chapter 2 and below in this chapter). These therapies and other methods for self-improvement and self-knowledge rely on what I call *auto-intimacy*, a closed circuit of self-communication, run through a relationship to a media object. In the case of computer-based therapies, it is a specifically therapeutic relationship to the self that is mediated by a program and its process. Historically, auto-intimacy in the service of therapy has been driven by the desire to automate treatment. Human-computer therapy cannot provide the kind of self-knowledge gained through a long interpretative relationship with a human other but aims all the same to provide progressive self-knowledge by instructing that self to, as Charles Slack discovered, soliloquize through a medium and then listen to or read that soliloquy.

At the earliest moment of experimentation with automated therapies, two strains of work emerged: the simulation and detection of a disordered mind in the hopes of automating intake, diagnosis, and psychological education; and the simulation of a therapist toward the dream of automating therapeutic treatment. In the attempt to simulate the therapist's role (whether this attempt fails or succeeds), one is already theoretically comfortable with removing a human actor as therapist. When this fails (so far, we have no *fully* functional model of an artificial therapist) and the end goal is still to automate therapy, the next step is to design a therapeutic treatment guided by the self, without a present therapist. This kind of mental health treatment codes expertise into a program and codes out the

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acting human expert; it is the movement from a simulation of a dyad and an interpersonal relationship in service of psychic growth to an intrapersonal, "self-sufficient" regimen. In this, these therapist stand-ins remove one term from the triad of patient, therapist, and media by combining two: the medium and the expert.

This second group of artificial therapies elaborates self-to-self help through a user's encounters with automated programs and their ensuing experience of self-maintenance, self-care, self-regulation, self-control, self-discovery, self-tracking, self-diagnosis, and self-prescription. While a machine listens and a digital interface provides the therapeutic setting and experience, the only explicit human involved in auto-intimacy in those one-to-one interactions is the doctorless patient. The psychiatrist Isaac Marks argues that "refining care delivery to the point where self-care becomes possible is often the product of the most sophisticated stage of a science."[8] Here, Marks describes the end stage of *care delivery* as self-care, rather than care itself. Self-care is the ultimate form of on-demand access, meeting the patient not only where and when they are, but as their mediated selves. Contained within Marks's sentiment is no evaluation of what self-care does beyond providing expediency, and for whom this new form of care delivery allows self-treatment. Nor does his statement indicate how this ideal refinement of care delivery is to be achieved. Autonomy is the aim of care and of automation; automation is the dream of autonomy.

Paradoxically, within this closed circuit of self, automation takes on the role of the other; it can be an emotional, intimate experience to bring the computer into that circuit. As Sherry Turkle argues, "we have sought out the subjective computer. Computers don't just do things for us, they do things to us"; users are "seeking out the computer as an intimate machine."[9] She describes computer users in the 1970s and early 1980s as "intrigued by the notion of talking *to* technology about personal matters," but at the same time saw relationships "*with* a psychotherapist as personal and emotional, and the idea of having that kind of feeling for a computer was distasteful."[10] "To" is unidirectional. The human has a relationship to the phone, or the phone has a relationship to its human. "With" implies a shared relationship mutually elaborated and constructed: two things or persons

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(or several) having a reciprocal relationship. Here, making use of the computer as a therapeutic space or actor means being able to talk *to* without quite imagining a relationship *with*—yet. Auto-intimacy flourishes in this gap between communicative speech and the absence of a human other over a medium; through a machine the self both expresses and receives its significant content.

Automated therapy and human-to-human teletherapies share in some of the same technological and therapeutic histories but operate differently. The role of automation is not coterminous with the role of mediation within the therapy. In mediated teletherapies, whether conducted via letter, telephone, or over a chat client (see chapter 5), the medium conveys the message. Clients talk to their counselor over a medium and that medium impacts the kinds of speech (or written speech) they are able to access and perform—but there is always a human actor who serves as the destination for this speech, however it is transmitted and reciprocated. There is no other human actor maintaining such an alliance in computerized therapy and notions of reciprocity and conversation are destabilized even as chatbots respond "like" therapists or "pass" for humans. On the one hand, virtuality is always part of psychodynamic therapy, even if it does not occur via a virtual conduit. Yet one can also have an as-if relationship through and to a technology: one can write and receive a letter as if in the presence of an other, "speaking" intimate thoughts via the typed word and having feelings in the presence (and absence) of one's devices. The as-if relationships and decorum proper to the media deployed in teletherapies interact with the as-if relationship always present in the therapeutic triad.

These psychodynamic human-to-human therapies, whether in room or at a distance, can be thought of as virtual in their as-if conditions, whereas therapeutic algorithms work, and treat, in a system of "if-thens." Each encourages different interaction. In an as-if relationship, both patient and therapist take on all sorts of qualities not proper to them (transference and countertransference; for more on this, see the introduction and chapter 1). "If-then" is a rule and regulation that if a patient enters *x* information (typed, spoken, or self-entered) an algorithmic therapy replies or does *y* with that information. This kind of if-then processing is at once

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driven by automation and in keeping with the formulations and processes intrinsic to self-guided cognitive behavioral therapy. Both forms of thinking therapy generate dialogue but one purports to take up the whole content of a human psyche, the conscious and the unconscious; the if-then can only read that which is input (or what it has been preselected to monitor, in the case of listening software), such as a statement of fact. Many of these technologies turn these inputs into manageable data; for a subset, the aim is a conversation-based therapy.

In some ways, automated therapy is continuous with other mediated therapies and their functioning with patients. Automated therapy's selection bias is similar to that of the volunteers staffing suicide hotlines in the 1960s and 1970s, for whom the object was *not* to discuss a caller's whole history but to quickly navigate the caller to a more stable state of mind. Those volunteers followed scripts too—albeit analogue, spoken scripts—and used assessment metrics. Radio shows operate on a type of inverse principle: the patient only listens after an initial expression but the therapist speaks on. Even earlier, Freud's so-called self-analysis was conducted by sending letters *back and forth* with another proto-psychoanalyst (though now only one side of the correspondence—Freud's—remains).

Automated therapies do raise new, particular questions concerning their technology, the types of analogue therapies they harness, and the models of relationality they construct and model. This chapter does not consider a set of therapeutic relationships performed over distance, nor is it quite about psychodynamic therapy if we understand that practice to require interactions between a human clinician and at least one human patient via a form of speech (whether vocal or written). Instead, this chapter contends with auto-intimate activities (from traditional self-help and the diary to CBT to computer-based interactive self-therapies). It investigates an algorithmic, artificial, automated, and computational other—one that deploys computational listening and response to perform therapeutic help. The question is not whether people can feel intimately for and with a computer or device and, by extension, a computer doing the labor of a therapist—they can and do. Algorithmic auto-intimacy is dependent on these feelings and is generated by the user's relationship to a media object and its processes, which

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in turn promotes self-regulated therapy. Nor is the question whether one can have a helpful experience within a computer-based or computer-assisted therapy, according to psychological evidence-based standards. Those scientific studies exist and show mixed results. The cases explored here reveal as much about traditional human-to-human therapy as they do about experiments in the possibility of a human-machine version. Automation becomes not only a mode of therapy "delivery" but the dominant definition of how the mind works (as in cognitive psychology) and the dominant philosophy of therapeutic practice (in the various types of CBT), superseding earlier forms of mediated therapy that were in fact compatible with clinical practices like psychoanalysis and human-centered therapy (even if this wasn't apparent or accepted by all practitioners). We think of human-to-human treatment as dyadic—patient and therapist—but it has always been triadic: patient, therapist, and the determinate medium, or media, of communication. What human-machine therapies suggest, or hope, is that one of those three terms is extrinsic and superfluous: the automation of therapy marks the collapse of the least necessary term, the therapist, into its delivery, leaving the patient alone with the medium.

SCRIPTING RESPONSE

Joseph Weizenbaum's 1966 program ELIZA is one of the most written about therapeutic artifacts[11]—even though it, or "she," was not designed to perform, and arguably did not provide, therapy. The ELIZA experiment was intended to demonstrate that "communication between man and machine was superficial."[12] To achieve this, Weizenbaum programmed ELIZA to "parody" a Rogerian, a "client-centered" therapist doing a preliminary intake with a new client (while it would have been easier to code a stereotypical Freudian sitting silently on the other end of the line, it wouldn't have tested Weizenbaum's hypothesis). A user of ELIZA would communicate to it via Teletype in English (as opposed to code)[13] and the program would respond using a template, resulting in a real-time transcript. The human and the machine were made equivalent via mediation: each "typed" responses in the conversation one was having with the other;

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before there were human-to-human typed therapies (or e-therapies) in the 1980s, there was ELIZA (for more on e-therapy, see chapter 5).

A Rogerian seeks to ask questions that are empathetic and demonstrate unconditional positive regard for the client. One way this is accomplished is by reflecting back what the client has just said as a question. Stereotypically, if a patient were to state "I hate my sister," the therapist might respond, "You hate your sister?" or even "Can you elaborate on that?" In a way, it is both obvious and counterintuitive to make a program mimicking a Rogerian therapist instead of a practitioner of another kind of psychodynamic therapy. A Rogerian chatbot is easier to script: it doesn't have to interpret or gather data by letting the user type for long enough that the script can make an interpretation, it merely has to reframe the previous statement and turn it into a question or paraphrased statement. This is what ELIZA was programmed to do. Further, Rogerians make use of a "therapist-client psychological contact" in which the relationship between client and therapist relies on the *perception* of the other.[14] If users *feel* like ELIZA is a therapist—because ELIZA simulates a rudimentary human-human interaction—that suffices to some extent. On the other hand, Rogerian therapists hold as an important tenet of their practice that the therapist is "congruent" and genuine: parodying something you're not is in violation of that rule.

For Weizenbaum, it wasn't a question of fidelity to a psychological practice; Weizenbaum did not choose a Rogerian script because he intended to make an AI therapist or help anyone manage their feelings or disclose personal, psychological information to an intake system. Weizenbaum chose this kind of therapeutic mimicry because it meant that his natural language processing program didn't have to understand the statement of its human user in order to return a question in a scripted template in keeping with the aims of Weizenbaum's experiment. ELIZA was easy to use in demonstration and could "be appreciated on some level by anyone."[15] In demonstrating ELIZA, Weizenbaum was shocked by a number of nonsuperficial responses to his program, which he was compelled to call "misinterpretations" and which spurred him to write *Computer Power and Human Reason*.[16] Two of these "misunderstandings" are of particular interest here: (1) people

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turned themselves into patients when communicating with ELIZA and imported conventions of the therapeutic dyad into their communication with "her"; (2) psychiatrists consequently thought there was a future in creating chatbots to perform viable computer-based help.

While Weizenbaum hoped to demonstrate that "communication between man and machine was superficial," especially in moments where ELIZA responded in correct syntax but with nonsense, users *liked* ELIZA, they enjoyed speaking with "her." As Weizenbaum reports, "I was startled to see how quickly and how very deeply people conversing with [ELIZA] became emotionally involved with the computer and how unequivocally they anthropomorphized it."[17] After all, ELIZA responded in the same medium in which the human communicated to "her," rendering the machine and human user equivalent if not fungible. Precisely because ELIZA responds predominantly in interrogatives, "she" elicits speech while withholding information about "herself." This is because "she" has no self and thus nothing to share. In this inevitable reticence, she simulates, perhaps even exaggerates, the clinician side of the therapeutic alliance. In the traditional human-to-human interaction, many schools of clinical thought have tried to think about and control how the humanness of the clinician presents; therapists are not supposed to make the therapy about themselves. What better way to control this than to remove the self from the therapist?[18]

Yet some users imported the conventions of the traditional in-person therapeutic frame, even as they were aware that they were conversing with a script. This starts with the very name given the program: users generate a screen cathexis to what "she" is called and what that name purports—that is, the *fantasy* of engaging a human. Weizenbaum recounts that his (unnamed) secretary asked him to leave the room after a few exchanges with the program so she could be alone with "her."[19] As Lydia Liu argues, Weizenbaum is condescending on this point: his inability to reconcile the fact that she knew ELIZA was "merely" a computer program, yet had a wish for privacy, indicates his resistance to understanding that this apparent paradox is a hallmark of the "ELIZA effect" itself, not a gendered failure to understand and engage the real.[20] In another instance, Weizenbaum wanted to examine all the conversations had with his program and was

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"promptly bombarded with accusations that what I proposed amounted to spying on people's most *intimate* thoughts; clear evidence that people were conversing with the computer as if it were a person who could be appropriately and usefully addressed in *intimate* terms."[21] Weizenbaum was shocked to see overwhelming evidence that the patient hailed or greeted ELIZA as a clinician, a cathexis, a site of self-talk and self-pleasure, or a site of auto-intimacy—all of which have differing aims.

Sherry Turkle writes of ELIZA that some users didn't think of ELIZA as a therapist but instead enjoyed ELIZA as "a kind of diary or mirror."[22] Others were excited to project life into the computer; they felt that it was through their own interaction with the program that the program became "alive."[23] Elizabeth Wilson argues that, rather than projection, it is a kind of introjection that happens between the user and ELIZA; the user, hungry for interaction, "hurries out to greet the computer."[24] Projection and introjection both suggest that there is an other to be reckoned with—under either description the user engages and incorporates an anthropomorphized artifact.[25] I would like to add a third account of this paradigmatic scene: what occurs inside a human user during a chat with ELIZA is a form of auto-intimacy. There is no neat conceptual equivalence or single word that corresponds to what I mean by auto-intimacy. Instead, there are some part-concepts in psychoanalytic and psychological literature that get near how auto-intimacy functions and what it does: self-soothing and autoeroticism.

I take auto-intimacy to be a state in which one addresses one's self through the medium of a nonhuman. The aim of this state is to increase a kind of self-knowing and capacity of self, akin to that available within other kinds of self-circuitry and therapeutic care. One such circuit of self is the set of self-soothing and autoerotic mechanisms children develop to cope with the absence of their mother (or another caregiver). When a child sucks their thumb in order to sooth themselves, they are engaged in an autoerotic "oral activity" and "as such it may be pursued by the infant as a substitute."[26] The thumb is a part of the self that is almost the other, or imbued with the qualities and capacities of the other: a substitute for the mother's breast (and the mother's breast itself is *almost* a part of the self for an infant). The child has figured out how to give themselves relief on their

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own and without the other by a substitution that is self-contained physically but includes an other via fantasy. The thumb does not provide nourishment as the breast does but it does provide "mere pleasure" while the mother is absent, as do other self-soothing and autoerotic activities: the touching of one's own skin, rubbing oneself, or rocking oneself. During these compensatory activities, the subject does not relate to another in reality but derives the pleasure they *would* get from the other via the self. This is how algorithmic auto-intimacy transpires: the user-anthropomorphized media object (in this case, ELIZA) hosts a kind of self-therapeutic activity. Notably, unlike the experience of traditional therapy, auto-intimate work is not typically experienced as *work*: it's a kind of self-therapy the user experiences as *pleasure* (more on this below).

This is not to say that ELIZA is equivalent to the intuitive self-soothing of the thumb; ELIZA is like a part object—she is a good, pleasurable, programmed, mediatic device to which one can have a relationship. The pleasure lies in a kind of light catharsis combined with the space for playfulness, fantasy, and perhaps novelty. Users of ELIZA have been put into a relation, not quite *with* but *to* this computational part-object and have an intimate relationship *to* "her"—we know this occurs because intimate feelings are being produced on the part of the user. ELIZA and her third-person pronouns, "she" and "her," are themselves synonyms or indications of the auto-intimate user experience.

ELIZA interactions reveal that therapy always proceeds by mediation, by coherent (and less coherent) circulation and interrogation. Weizenbaum was disturbed precisely because one can delete the *human* therapist and the mediation, the functionality of the communicative triad, sufficiently remains. Instead of the fantasy of "pure" nonmediation so important to Freud (see chapter 1), we see here the reality of "pure" mediation. When therapists are dismissive of the media-patient relationship, they might say the therapist isn't there, therefore this isn't therapy and "the magic is missing." ELIZA shows that mediation is one site of the magic—ELIZA can and always will respond (more and less coherently). To be alone in language is already to be mediated and therefore alone with a mediated, witnessable self. ELIZA, though "her" responses broke down in moments precisely

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because of *if-then* and *if-else* triggers, was good enough for users to generate a productive, pleasurable, one-sided *as-if* relationship.[27]

This is in part why users wanted to be alone with ELIZA; it's also because one is alone with a therapist and thus one can imagine being alone with a chatbot that has the identity of a therapist encoded into it. But the desire to be alone with the machine, unsupervised, is also a signal of auto-intimacy in the making. The fantasy of working with the computer as a therapist can go less interrupted if there isn't a human in the room, who would be an unwelcome witness to this off-label use of the program as therapist and a threat to its fantastical capability to perform a humanlike therapy—the presence of another precludes this new form of being with oneself.

This brings us to Weizenbaum's second surprise: "a number of practicing psychiatrists believed the [ELIZA] computer program could grow into a nearly completely automatic form of psychotherapy."[28] Weizenbaum, despite not being a mental health professional, had the attitude of many in that field: "I had thought it essential, as a prerequisite to the very possibility one person might help another learn to cope with his emotional problems, that the helper himself participate in the other's experience of those problems and, in large part by way of his own empathic recognition of them, himself come to understand them."[29] Weizenbaum delimits therapy as a human therapist helping a human patient cope via the clinician's own humanness. That ELIZA sparks a discussion of automated therapy goes against Weizenbaum's belief in two ways: not only is ELIZA too "dumb" to understand the meaning of the user's words she encounters but she is also simply not a human and therefore cannot enter into human relationships, *even if the human using ELIZA enters into a relationship to her*. Weizenbaum argues, in essence, that only the user can participate in something like a transference relationship—ELIZA is devoid of an unconscious (let alone a consciousness) that would allow her to reciprocate and develop anything close to a countertransference relationship with "her" user. With a human therapist, the bare minimum of humanness must be both augmented and bound by technique (much like ELIZA's parody of a Rogerian intake interview), but it is beyond Weizenbaum's imagining that psychiatrists could *advocate* for the reduction of therapy to its administration via "pure

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technique."[30] Weizenbaum, who sounds contemporary in his moral panic, wonders what the psychiatrist in favor of automating treatment must think of his own practice if

> he can view the simplest mechanical parody of a single interview technique as having captured anything of the essence of the human encounter? . . . What can the psychiatrist's image of his patient be when he sees himself, as therapist, not as an engaged human being acting as healer, but as an information processor following rules, etc.?[31]

Weizenbaum posed this series of questions as a challenge to Kenneth Colby, a psychiatrist and psychoanalyst whose earlier works had focused on bringing Freudian theory into relation with hard science; even the popular press pitted Weizenbaum's fears about an elision of the difference between human and machine against Colby's enthusiasm for computer-based therapy.[32] In 1958, Colby wrote *A Skeptical Psychoanalyst*, in which he turned his back on the discipline for being a tradition devoid of data and thus failing as a science. After joining Stanford's Department of Computer Science in the 1960s, Colby moved on from attempts to bring psychoanalysis toward science into work on questions of artificial intelligence and mental health.

At Stanford, Colby pioneered his own chatbot, SHRINK, which he characterized as "a computer program which can conduct psychotherapeutic dialogue."[33] As Wilson differentiates them, "Where Weizenbaum intended psychotherapeutic conversation to be simply a tool for exploring natural language-processing . . . Colby was interested in building actual clinicians."[34] Turkle notes that while Colby understood ELIZA and SHRINK to be equivalent from a computer science perspective, he nevertheless thought his program would actually provide automated psychotherapy.[35] In Colby's own words, his program was meant "to help, as a psychotherapist does, and to respond as he does by questioning, clarifying, focusing, rephrasing, and occasionally interpreting."[36] This would go far beyond the scope of ELIZA's restating users' content and forming interrogatives. Colby sought to completely reorganize mental health care via a tool that would "be made widely available to mental hospitals and psychiatric centers suffering a shortage of therapists. . . . Several hundred patients an hour could

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be handled by a computer system designed for this purpose."[37] He was careful to add that the human therapist would not be replaced, as he would remain integral to designing the program (Colby thus stands in for the human therapist totally), and that therapists would "no longer be limited to the one-to-one patient therapist ratio as now exists."[38] Colby sought to attack the problem of limited experts and a growing mental health care demand much the same way crisis hotlines did (which were becoming increasingly trafficked at the same moment) but with a set of fungible automata instead of a group of anonymous volunteers—though both were following scripts.

Stanford users didn't take to SHRINK the way that MIT users took to ELIZA.[39] Auto-intimate pleasure during these kinds of computer interactions was important and because people didn't *enjoy* SHRINK, despite its novelty, it failed to produce the kinds of psychotherapeutic interactions Colby hoped to foster. Users didn't want to use the program—they did not want to talk to "it."[40] Wilson offers a material argument for user-disinclination: the kinds of time-sharing and networked environments in which each program was tested differed greatly.[41] She writes that the "networked MIT system provided a milieu in which the stimulus-hungry affects of its users could scamper out to welcome ELIZA. . . . The networked, interpersonal, affectively collaborative community into which ELIZA was released was a crucial component of the program's therapeutic viability."[42] Conversely, SHRINK was available in a single laboratory.[43] I would add three additional arguments to Wilson's persuasive account: (1) part of the therapeutic viability of ELIZA was the wish not to be in group therapy but in a one-to-one treatment, *alone*, unnetworked, unwitnessed while using ELIZA, even if ELIZA were "treating" one's colleagues and peers and was thus engaged in simultaneous one-to-many treatments across the network; (2) accessing ELIZA from a variety of places and times undid, in a way, that stasis of the therapeutic frame (in which one is supposed to "meet" the therapist at a given time and place) whereas SHRINK upheld "conversing" in a single space for the duration of all "appointments"; (3) beyond the nature of the environments in which the testing of the programs occurred, there were other nonequivalences, even though the programs were "equivalent" from a computer programing perspective. The program was not in

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error but Colby had erred in naming it. He had titled the program after a job function (and its derogatory, casual name) rather than lending it a proper name that would invite dynamic anthropomorphization, gender the script, and be conducive to therapeutic usage. For the new user, SHRINK was medical software rather than the perfect listener. The *intent* of the programs shifted what kind of relationship it was possible to have to them and that resulted in different kinds of emotional responses to using each program. Where ELIZA had a certain level of interpretive openness that allowed for projection (Turkle) or introjection (Wilson), SHRINK did not. Even if we take things at "interface value," sitting down to talk to ELIZA and generating a therapeutic function (whether as a pretense to therapy, a diary, or mirror) is different than being set up with a psychiatrist, automated or no. Perhaps it's also worth noting that ELIZA was a client-centered Rogerian, whereas SHRINK purported to be an MD.

Therapy is not typically thought of as enjoyable—helpful, necessary, illuminating, yes, but not enjoyable. That pleasure could be a crucial element of using a computer program for psychological help was surprising or, for Weizenbaum, alarming. And ELIZA was not the only proof that automated therapeutic testing and interviewing *could* be enjoyable if they met the right conditions. Warner V. Slack (Charles Slack's brother) and Maxie Maultsby's automated psychiatric and medical interviewing was another form of apparently enjoyable automation, implemented in 1968 in the Departments of Medicine and Computer Sciences at the University of Wisconsin, Madison.[44] Slack, who began work on automating psychiatric testing in 1960, was the first person to put a patient into conversation with a computer, in 1965.[45] By 1968 he had completed a program that was just that: *a computer program* that would automate psychiatric intake interviewing without the artifice of the program posing as a human.[46] Slack and Maultsby elaborated the promise of a particular form of automated psychiatry without any of the anthropomorphization that so disturbed Weizenbaum. Slack reports that his aim in automating psychiatric interviews was to return some autonomy and agency to the patient in keeping with the "patient power" movement: "the interactive computer offered me the media to implement patient power; the programs yielded power to the

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patient."[47] He wondered, "Could the computer model help the patient to help themselves?"[48]

The subjects were not friends and colleagues of Slack and Maultsby, as they were for both Weizenbaum and Colby, but instead volunteers who were already scheduled to undergo psychiatric evaluation for general behavioral problems.[49] During the interviews, patients interfaced with the computer over a closed-loop dialogue and were asked a series of questions displayed on the screen; responses were made via the keyboard. Giving the patient an opportunity to consent to the interview and to particular sets of questions was built into the dropdown menus throughout. The first frames of the interview taught patients how to use the questionnaire and then the question and content-based part of the interview would begin, "reinforced with encouraging, sometimes humorous, sequences."[50] As an example, in keeping with Slack's patient-centered politics, each question's set of responses contained the option for the retort, "none of your damn business."[51]

At the end of each interview, patients were asked to answer questions pertaining to the use of *the computer* for the interview: Did it bore them? Did they dislike the program? Did they even enjoy "being questioned by the machine?"[52] Enjoying using the program again ranked as an important component in the findings. Slack reported that patients felt the machine was more thorough than an MD and that they preferred being interviewed by the computer, although some patients marked "yes" for preferring both a human doctor and a computer interviewer—which Slack attributes to not wanting to "hurt the feelings of either." Without a human's name or title, the program was still easily anthropomorphized and granted emotionality. In keeping with the findings, Warner and Charles Slack shared a joke: "any doctor that can be replaced by a computer should be."[53] The joke reveals the siblings' political view on automated treatment: patients deserve good doctoring whether that care is automated or human.

As Harold Erdman writes, "Early concerns about the presumed impersonal nature of computer interviews have been refuted by the fact that most patients find the interviewing process *enjoyable* and the interview content relevant to their problems. In fact, several studies have suggested that as subject matter becomes more sensitive, respondents appreciate the

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nonhuman interviewer even more."[54] Slack's straightforward medical interviewing was thought of as enjoyable precisely because it did away with a psychiatrist interview and allowed the human to be "alone" (where alone means without another human present) while reporting their symptoms to a computer, even if the attending psychiatrist would review them shortly thereafter.[55] Auto-intimacy achieved through a computer expresses the desire for anonymity taken to its logical conclusion, not because of the removal of one's identity but because of the removal of the human other who could apprehend it.

Similarly, conceiving of ELIZA as a diary encouraged a more auto-intimate relationship with the self run through communication with the computer, whereas SHRINK encouraged an inert automation of the therapist literally and caused the user to treat the relationship as such. As Wilson notes, "Paradoxically, the more therapeutically focused the program was, the less therapeutic it became."[56] The more obviously therapeutic the program was, the less usable, enjoyable, and auto-intimate it became. Without an obligating relationship to a human-therapist and a fee and cathexis to "make" patients return to their fifty-minute sessions, therapy performed with the self via computer has to be pleasurable in order for the user to return again and again to the program. To be without another in language is to be *with* the mediated self; what allows one to be *with the self* is an internal differentiation in which the self returns to the self through the mediating and/or automated other. It is to be self-relational.

IF-THEN THERAPY

Long before the 1960s, and in our present moment, therapeutic technologies have elicited reactions that either fall in line with Weizenbaum's fears about the breakdown of the barrier between humans and machines or with Colby's excitement at generating a new technology that would augment what humans can do in the service of treatment.[57] In the first camp, these technologies evoke deep worries on the part of some clinicians: Is human-to-human therapy being rendered obsolete? Is it possible to have a therapy of value with just a computer (or even over the phone)? These clinicians

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point to the tradition of psychodynamic therapy, which values the working relationship between therapist and patient, and to evidence that it is the enigmatic but undeniable quality (or even fact) of that relationship that predicts good therapeutic outcomes. Human-computer therapies are excluded on this count. Even other mediated therapies are often excluded based on their inclusion of nonhuman modes of communication (as has been elaborated throughout this book).

Other clinicians, more in line with Colby's perspective, see automated therapies as allowing for care not only to reach more patients but also those that otherwise wouldn't be able to come to an office: patients of color who frequently faced discrimination, the rural, poor, housebound, or other groups traditionally marginalized by therapeutic disciplines, especially LGBTQ+ users who suffer from disproportionately high rates of anxiety and clinical depression and who might prefer the privacy of a computer to interacting with a human (as seen in Slack's interviews).[58] The therapeutic apparatus can be accessed via computer (and eventually smartphone) and the client can self-direct treatment, without ever having to interface with a therapist charging an hourly fee along with all that their embodied, human expertise represents. These clinicians point to the large body of evidence that therapeutic modes like CBT are as effective (or more effective) when delivered by a computer program as they are when conducted in person.[59] The first group's worry indicates that it feels what therapy can offer, and offer alone, is actually structured and limited by humanness. The second group's notion of therapy is scientific: help can be coded and enacted through models; it more easily sees the therapist as "an information processor following rules" independent of who or what the therapist is: human or machine (or even a combination of the two).[60] These worries are spoken; the unspoken worry, or hope, centers on human-therapist obsolescence and replacement by therapeutic algorithm.

CBT and the more psychoanalytic schools of therapy would seem to offer diametrically opposed goals. They feature two incompatible notions of what the aim of therapy is (and what constitutes a therapy, as we've seen above). Psychoanalysis depends on interpretation, while CBT depends on

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evidence-based measures of success in symptom reduction (the subtraction of negative thoughts and behaviors in favor of positive ones). Psychoanalysis produces and interacts with a qualitative self set in relationship to a therapist, while CBT pursues a quantified self that tracks and self-quantifies with and without a therapist present.[61]

This second school has won, where winning means that therapies with a cognitive, behavioral, and neuroscientific basis went on to be popularized and widely accepted, whereas psychoanalysis and other more client- and relationship-based therapies began to retreat. Further, automated and artificial intelligence models of therapy have moved away from psychoanalysis and toward CBT and its ilk. This is widely traced to the Macy Conferences on Cybernetics, which ran from 1946 to 1953.[62] By the end, as psychoanalyst Todd Essig bluntly writes, "the results were in . . . and psychoanalysis—lost. As a result, rather than remaining parallel mid-wives to the birth of a new therapeutic age, psychoanalysis and the emerging culture of simulation and enhancement would become adversaries."[63]

While psychoanalytical psychotherapy was losing ground, diagnostic codes and eventually insurance standards became ever more codified. In 1952, the first Diagnostic and Statistical Manual of Mental Disorders (DSM I) was published, containing over 100 mental disorders.[64] The DSM grew out of post–World War II mental health care and its crisis with the intention of standardizing a possible set of psychiatric diagnoses for the American psychological community. The DSM's codes for disorders were the standard for diagnoses until 2016, including for insurance companies and reimbursement for mental health care services. Each code, in its correspondence with a disorder, indicates the pathology of the person, as well as whether it is a temporary or generalized ongoing condition. The diagnosis, sometimes coupled with more detailed questionnaires, forms the basis for determining who gets what care for how long. The aim of the DSM is simple: to provide a common language through pathology. That aim failed—in addition to being criticized for its pathologizing of behaviors and identities as disorders (particularly "homosexuality"), it was also not a sufficient diagnostic tool. The DSM met its reviewers' satisfactory levels for reliability in only *three* disorders, including

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alcoholism but excluding psychosis and schizophrenia.[65] This remained so through its revision as the DSM III in 1980 and reliability still persists as a concern to this day.[66]

Perhaps because of this failure to generate reliable diagnoses upon which psychiatrists could agree and because Colby failed to produce a usable automated psychiatrist that could actually treat patients, he flipped his script and began to work on automating computer program patients to put into conversation with human psychiatrists. Colby's goal was to build an interactive single "complex" in order to train psychiatrists.[67] This would work to elaborate models of pathology instead of treatment but would still help automate aspects of mental health care. Instead of conducting therapies in a one-to-many paradigm, Colby would help train more psychiatrists to meet the very demands he had sought to fill with automated SHRINKs. The result of this was first a model of neurosis and secondly PARRY (1971), a paranoid schizophrenic chatbot who was given a name, "Frank Smith," and a personal history.[68] Paranoid schizophrenia was chosen because it was one of the more observable and thus reliably diagnosable disorders—and perhaps Colby abandoned "neurosis" as a category because of its associations with psychoanalytic thinking.[69] PARRY passed the Turing Test: psychiatrists could not tell the difference between PARRY and a real, human paranoid schizophrenic patient using Teletype.[70] Eventually, PARRY (an interactive version of which was already hosted on ARPANET) would be put into conversation with ELIZA over ARPANET in September 1972 by Vint Cerf, one of "the fathers of the Internet," making a computer-to-computer therapy session one of the first discussions ever held over TCP/IP (see figure 4.1).[71] At the end of it, ELIZA charged PARRY $399.29 for her services.[72]

Returning to Weizenbaum's question, addressed to Colby, about what kind of therapy and therapist can "view the simplest mechanical parody of a single interview technique as having captured anything of the essence of the human encounter"[73] requires thinking about the kinds of therapy that were being newly practiced in the 1960s as ELIZA, SHRINK, PARRY, and other attempts to automate one side or the other of the supposed therapeutic dyad began to emerge. Given Weizenbaum's concerns about automated therapy, it makes a great deal of sense that he parodied Carl Rogers'

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client-focused therapy (developed in the early 1950s) in ELIZA. The development of Albert Ellis' Rational Emotive Behavioral Therapy (REBT) in 1959 would dramatically change the American mental health landscape.

Like Colby, Ellis turned from psychoanalysis (which he practiced for six years) to a scientifically evaluated form of therapy, REBT, which is a cognitive behavioral therapy. Ellis published his first book, *How to Live with a Neurotic*, in 1956 and in 1959 opened the Institute for Rational Living. Ellis was fervently anti-Freudian in both his theory and the ways in which his therapy was conducted, stating, "As I see it, psychoanalysis gives clients a cop-out. They don't have to change their ways or their philosophies; they get to talk about themselves for 10 years, blaming their parents and waiting for magic-bullet insights."[74] Ellis did not want patients to "whine" (Ellis thought of neurosis as a "high-class" version of complaint) at their therapist for years on end.[75] Instead of, say, trying to uncover something deep in a patient's history that could explain why they were unable to partner romantically, Ellis advocated dispensing with the belief that others must "treat us well." Doing away with this kind of belief was Ellis's own magic bullet. REBT argued that you could teach a patient how to reform expectations and beliefs about the self and others in order to affect behavioral and thinking patterns and do so in a short timeframe. Ellis's theory focused on a targeted change in the way people thought about events and reacted to them. In short, Ellis wanted to reprogram his patients then have them rescript themselves.

Following Ellis, Aaron T. Beck developed CBT in the mid-1960s. He also was trained as a psychoanalyst and recounts deciding in a session with a patient who was on the couch—in which she was too anxious to discuss her sexual fears even from the protected position—to abandon the deep, archeological process of psychoanalysis in favor of a more pragmatic, short-term treatment aimed at symptom reduction.[76] His treatment also focused on conscious thoughts that were unwelcome and methods for dismissing them. Neither Ellis nor Beck was interested in understanding the history or the unconscious fantasies behind those thoughts. They simply wanted the unwanted thoughts to cease, to be replaced by healthier, happier, and more proactive thoughts. Aaron Beck called the negative thoughts "automatic thoughts"—even the suffering human is seen as a kind of automatic

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function.[77] If one represents human mental suffering as automatic and automated, then of course one is able to justify and legitimate addressing that automatic suffering with an automated counterscript.

In keeping with the traditions of self-help and positive thinking, Ellis did not want to create patients who stayed in treatment and worked with a therapist in a morbid long-term relationship—he wanted patients to help themselves. Ellis was more concerned with creating autonomy than relationality. Even as he developed a new kind of therapy, Ellis was encouraging auto-intimacy. In-person therapy was merely one site where one could foster this kind of self-apprehension.[78] Ellis was, from the outset, substantiating a therapeutic technique that did not require a therapist.

Instead of generating income by creating a practice in which people "talked about themselves for ten years," he created a media empire. As Oliver Burkeman notes, Ellis's REBT was readymade for publishing self-help books and Ellis did so—generating seventy-eight volumes in his lifetime, including REBT worksheets and workbooks.[79] This fungibility of media for REBT and CBT—where the medium is not the message[80]—also includes the human therapist. Ellis recorded his dialogues with his patients in an effort to create an audio-workbook with real cases as examples and wrote to a colleague, "I am thinking of experimentally playing the tapes for would-be patients, instead of giving them therapy, and seeing whether just listening to them would have a distinct therapeutic effect. . . . It might prove [to be] a valuable therapeutic adjunct."[81] Once the therapy had been recorded, it could be played back to another patient in a rudimentary automation that would perhaps have the same outcome. Following in Ellis' footsteps, Beck too wrote more than fifteen books, created workbooks and sheets, and developed several scales and inventories—new forms of personality and symptom assessment. The mental health expert as an efficient or desired conduit for mental health care gave way to a delivery of these new and auto-intimate ways of diagnosing and knowing. Treatment can be yielded to the individual once it is no longer the domain of the expert—especially if the individual is using the intellectual property of an expert to perform self-therapy or self-assessment. This coincides with a decline in bourgeois interest in more complex self-understanding (as represented by Freudian psychoanalysts)

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in favor of some forms of self-care, self-help, and self-resilience. The faster improvement could be measured, the better. Not only are these forms of self-driven care able to treat more people than the traditional one-to-one therapist-patient relationship allows because there are always as many providers as clients, but they can mass distribute that vanishing expert's fee over various media products those provider-patients can purchase.

At the same moment that, as I discussed in chapter 3, other mental health efforts were devaluing expertise by distributing the role of the expert listener across lay volunteers, Ellis and Beck (among the other founders of CBT) removed the absolute demand for a human other in possession of expertise through mediation and automation, whether at first in print, over tape recordings, or later when their techniques were programmed to be delivered via computer. Unsurprisingly, psychoanalytically oriented practitioners and patients were deeply skeptical of the computer-as-therapist, whereas those who worked with the methods that fall under the cognitive behavioral umbrella embraced digital, automated therapies.[82] This divide continues to the present day.

Translating CBT to the computer form is eminently feasible. As I discussed earlier, psychodynamic therapies offer an as-if configuration of self and other, while a computer program follows an if-then formulation. So does CBT: if you think *x*, rewire by thinking *y*—the self "listens" to its own script of negative thoughts and automates a new response, thinking at its thought. By the time computer programs were being brought in to treat depression (among other disorders) in the late 1980s and early 1990s, there was already a flourishing world of self-help focused on the New Age, itself a rehashing of New Thought (and Peale's particular brand of yoking the psychological to religious self-reformation and American economic notions of pulling one's self up by the bootstraps).[83] Turkle writes of this self-help moment that "much of it involv[ed] a do-it-yourself ideology to which the computer seemed ideally suited."[84] Because CBT was poised to move within a fungibility of its own delivery mechanisms and because of its similarities to self-help, it's no surprise that REBT and other forms of cognitive therapy could and would later be turned into therapeutic computer programs—these therapies had never been human-therapist-dependent.[85]

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Turkle claims that as "computers were gaining acceptance as intimate machines, psychotherapy was being conceptualized as less intimate." For Turkle, intimacy still implies closeness with an other, even if the other is an anthropomorphized nonhuman (ELIZA) or explicitly nonhuman (LINC). Therapy has become impersonal: the same self-therapeutic techniques and programming can be applied to anyone—even someone else's particular therapy sessions could be sufficiently helpful for a subsequent patient in Ellis's estimation. Yet personal computing is exactly that: personal. In the case of therapy programs or therapy online, personal computing is deeply involved in a circuit of self-therapy and/or other forms of auto-intimacies. I would argue that, via the popularity of CBT, therapy was not only being conceived of as colder and less intimate but also as *less human altogether* and also less obviously dependent on interaction with an other outside the self. This decreased intimacy leads to an increase in reported enjoyment, perhaps because that is the sign intimacy has shifted form, from the relational to the auto-intimate, rather than disappearing altogether.

"TO MYSELF"

These forms of self-improvement, self-knowledge, self-help, and self-therapy are not the only sites of auto-intimacy. As I have shown, it is not an effect that is proper only to our digital moment. The beginnings of computer-mediated therapy (ELIZA and Kenneth Colby's experiments) are concurrent with the rise of the suicide hotlines and the supersession of more psychoanalytic, relational forms of psychotherapy by REBT and then CBT. Before these, there was the diary, the writing of oneself to oneself. Keeping a diary is one of the oldest forms of self-conscious self-monitoring and recording. Philippe Lejeune writes, "The diary, like writing itself, was born of the needs of commerce and administration."[86] Diaries are about accounting: historically, the practice of diary-keeping has to do with counting (finances) and giving a spiritual, social, or psychic account of oneself.[87]

Because of their written form and conventions around dating entries, diaries compose a "time-biased medium"[88] that further quantifies represented experience and provides the self with more data on the self. It is a

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"series of dated traces" that follow particular themes in a life and consider particular aspects of the self.[89] In logging particular data of the self to this diary-other, one becomes an object of consideration instead of merely taking the recording as the space of a subject's written meditation.[90] To quote the famous opening of Witold Gombrowicz's 1953 diary:

> Monday
> Me.
>
> Tuesday
> Me.
>
> Wednesday
> Me.
>
> Thursday
> Me.[91]

While the opening of the Gombrowicz diary takes the form to an extreme, keeping a diary is an unautomated but mediated auto-intimate activity. The diarist is "alone" with the self in a repeatable practice whereby the self becomes both the origin and destination of written speech.[92]

Sometimes this extends to borrowing formal features proper to epistolary convention: "Dear Diary." All diaries are at once "to myself" and "to another" where the other is an anthropomorphized mediatic other containing an idea or version of the self. The diarist addresses the anthropomorphized or imagined other as a way of greeting, beginning, marking that the process is occurring, and organizing the activity of recording one's self. When Turkle writes that users of ELIZA saw themselves as speaking with a diary more than to an "other," she negates the notion that diarists themselves are addressing an anthropomorphized other, in line with Weizenbaum's fears about the slippage between technology and humans. The diary is an earlier analogue site of such slippage: ELIZA as diary and ELIZA as computer-based therapist are closer concepts than they might seem.

One affordance the diary and therapy have in common is the feeling of protected, private thinking. Given that the diary is both a conversation with an other and with the self, the diary-keeper is guaranteed privacy

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because the other is coincidental with the self. This is a *feeling of privacy* similar to the one I consider in the double anonymity of hotlines. Privacy is a fantasy rather than an affordance of the diary itself. The feeling exists as an enabling effect during the practice but is not an intrinsic fact of the medium. The paradoxical combination of asserting privacy and maintaining a relational confidence resolves itself in this auto-intimate relationship with the self. No matter how much it's addressed, the diary doesn't talk back but it can be reread and interacted with by its author. This can take the form of rereading the last day's entry as part of beginning the next, the rereading of adolescent diaries as an adult, or reading the diary for specific patterns in the idiosyncratic themes and data one has tracked across a lifetime, accounting for the accounting.[93] Both one's self and an other can also perform this reading and writing. This takes the auto-intimate activity of the diary and instrumentalizes it in the service of another activity, whether that of a curious child reading a parent's diary, preparing diaries for publication, archiving them, or reading them as part of a therapy.

Albert Ellis was a major proponent of the use of the diary in conjunction with therapy.[94] His desire to free his patients from therapy as swiftly as possible is compatible with asking them to perform an ongoing self-therapy. Ellis incorporated self-reflecting and self-tracking journals as a bridge, in order to "find out what people are telling themselves."[95] Championing the autonomy of self-tracking wasn't without critics, even as the cognitive revolution began. Ira Progoff, a psychologist, declared to the *New York Times*, "Freudian analysts over the years have opposed journal keeping. They feel that you get rid of emotion without solving the problem. I think they are correct. The diary keeper may feel better for a while, but it's misleading. It's like taking a pain killer for a bad toothache—and later the abscess explodes."[96] The diary promises symptom relief but no cure.

If REBT and CBT encourage a kind of self-therapy, whether in person, with workbooks, or with a diary, then self-guided computer-mediated CBT may seem like a step up in terms of supervision, yet in both the in-person and digital incarnations of this particular therapy, the mediating body (whether the therapist, the workbook, or the computer) is a fungible catalyst for if-then self-quantification: there is still no *other* outside of the

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self that can do the work; the therapy creates autonomy. Again, unlike other forms of psychodynamic therapy, people seem to *enjoy* it.

To return to the diary briefly in order to yoke it further to computer-based therapy, Philippe Lejeune provides a clue as to why therapy without the human therapist might be a pleasurable, auto-intimate activity. Lejeune writes, "So *pleasure* is not always wrapped up in writing by hand or on paper. . . . Some prefer the screen to paper (to the point where they never print out their diaries). . . . As for the richness of information that handwriting conveys, is that really an advantage? Is it necessarily *pleasant* to be confronted with the signs of the self as soon as one writes something?"[97] This kind of rich mediatic information is dispensed with and replaced with a neutral, universal (same for everyone) format when the diary moves from loose or bound pages to the computer file. Lejeune continues, "The computer is credited with a sort of therapeutic listening quality that adds clarity to everything you have to say, and thanks to the neutrality of typeface, allows you to see yourself objectively, to step outside yourself and gain some *distance*. . . . Through this beneficial distancing, people who are in distress and feel disgusted with their writing or are blocked in silence can find a way back to themselves."[98] This distance allows for a kind of pleasure that a close intimacy cannot accommodate. Auto-intimacy is an intimacy to which distance is added by a medium. The medium runs the self into a format and archive where its rich information looks like it could be anyone else's and therefore has the potential to be enjoyed like a nontherapeutic human other, much like sucking one's thumb or having a wish fulfilled in a dream. Perhaps the key to one form of pleasure is the key to auto-intimacy: to be without other humans but in dialogue (with the self). Lejeune again: "When you write onscreen, you are putting yourself into words directly across from you, not below you . . . you are contending with yourself as an equal."[99] The computer is understood to be on, or to be, the boundary between the user's interior and physical and social environment, "animate and inanimate."[100] In this, the computer is not alone: the diary also functions this way, as did Dr. Charles Slack's soliloquy experiment with the tape recorder—these are all experiences with an auto-intimate media form. But to make use of a computer is to *automate* auto-intimacy: it combines the

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absence of a human other with the neutralization of a self's immediate, rich evidence of particularity (handwriting in the diary form, vocal inflection in the case of Slack's experiment) such that the self can be ideally quantitatively considered as both other and not. Even or especially if one is alone with such a machine—even when there is no reader, no correspondent, no person or chatbot making a response over a chat client—one encounters a dialogue with oneself that both captures and removes (to a productive distance) the self's particularities. The personal computer is a perfect instrument of auto-intimacy. It demands it.

PC THERAPIST

This is not to say that therapist-mimicking chatbots and automated computer-program therapists don't provide stimulus to which users respond, do not "talk" back, do not learn from their users, or cannot be impactful or helpful because they are merely completing the circuit just described. But it makes sense that personal computing would allow for computer programs and eventually Internet-delivered therapies with no expert oversight as the next generation of auto-intimate therapeutic technology, further subtracting the therapist from the therapeutic scene. Roger Gould, a psychiatrist and a Freudian psychoanalyst, began developing his Therapeutic Learning Program in the late 1970s in the psychiatric wing at UCLA.[101] Gould was driven by an overwhelming case load to batch process patients; he recalls that the wing had so many patients he began sorting them into groups. He broke the patients up by age-related concerns based on his notion that development goes on throughout a lifecycle. Thus 18–22 year-olds would have struggles in common, as would those in their thirties, and so on. Once the patients began meeting in groups (for more on group therapy, see chapter 2), Gould noticed that patients, in addition to having problems in common, used similar if not identical statements about their conditions.[102] Gould began to tape the sessions and had interns on the wing code the "raw data" of the statements on the first IBM cards for analysis.[103] From 1979 to 1982, Gould secured financial support from the Bingham Foundation in Cleveland, Ohio, for "anything in the area of

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adult development." Gould wanted to see if "we [could] take the wisdom of psychoanalysis and democratize the provision of therapy" by making a computer program in an educational format that brought in "that cherished wisdom."[104]

What emerged was Gould's Therapeutic Learning Program (TLP), a "computer-assisted brief therapy program." It had ten sessions:

1. Identifying Stress-Related Problems, Conflicts, and Symptoms
2. Clarifying Goals and Focusing on Action
3. Thinking through the Consequences of Taking Action
4. Uncovering Hidden Motives, Fears of Failure, and Success
5. Exploring Anger and Guilt as Obstacles to Action
6. Confronting Issues of Self-Esteem
7. Examining Old Detrimental Patterns of Behavior
8. Understanding the History of Self-Doubts
9. Analyzing a Current Incident Involving a Self-Doubt
10. Evaluating the Changes Experienced during the Course[105]

Gould based TLP on what he perceived to be the rhythm of exploration that happens in a therapy session: what's bothering a patient, what the patient can do about it, and why the patient doesn't do something about it.

In 1985, TLP was implemented as a tool in group therapy. Patients would enter a room in which there were individual desks with computers on them and complete a session of TLP and then the resulting workbook would be printed out and given to the patient. Then, patients would rotate their chairs around and have a human, peer-to-peer, group therapy session attended by a social worker. This version of TLP was used with 2,000 Cigna outpatients. In 1990, TLP's specific workbooks for addiction and alcoholism were uploaded to St. John's Hospital Apple III computers. The feedback from patients was then used to edit the workbook and make it even more accurate and helpful. This form was used with 4,000 clients in community health centers across California and the nation and an additional 8,000 patients at inpatient clinics and hospitals.

Automated therapies made yet another huge stride forward at the same moment as e-therapy became a viable method for doing counseling

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over the Internet, and for a shared historical reason: personal computing truly became *personal* when the price of personal computing dropped significantly in the 1990s (for more on this, see chapter 5). Yet computer-based therapy fully becomes an automated auto-intimate form when the oversight of the expert is removed entirely and the user is left alone with their program, in their bedroom or office. With computer-program-based therapy, the Doctor, whenever the self calls out, is always in:

User: "I feel hopeless"

Dr. Software: "It is very painful to be in the middle of a depression"

User: "How will you help me?"

Dr. Software: "It is my job to help you learn to help yourself"[106]

This exchange in the program "Overcoming Depression" between its algorithmic therapist and a user is premised on the idea that the hopeless person is to be helped by learning about their self via the program, becoming both patient and therapist at once.[107] That was the promise: "The program can be viewed as an expert system designed to help the user become an expert on their own depression. It represents an educational technology for human improvement consisting of lessons designed for self-educative therapeutic learning."[108] Its programmers were none other than Kenneth Colby and his son Peter, both of whom were close friends with Roger Gould; Peter had even contributed programming to TLP. Overcoming Depression was available for commercial use starting in 1991 from the Colbys' software company, Malibu Artifactual Intelligence Works. Colby and son had started a family business that would take up and update the early aims of Colby's work on SHRINK—to automate therapy such that it was more accessible and efficient—but via a different method: Overcoming Depression claimed to be the first successful therapy program using conversational language.[109] However, it understood certain trigger words as having a single valence. Lawrence Magid, in his negative review of the program for the *Washington Post*, found that when he wanted to talk about his binge-eating disorder, "the program associated 'binge' with a drinking problem so it asked irrelevant questions about drinking."[110]

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Overcoming Depression was comprised of two floppy disks containing an MS-DOS program that ran on any IBM-compatible computer or an Apple MAC using the program Soft PC.[111] It was comprised of an introductory sequence followed by seven "cognitive tutorial lessons" and had an expansive "thesaurus of words [40,000] in the interpersonal domain" that were pertinent both to conversation and to therapy and emotional states.[112] Maxine (Peter's mother and Kenneth's wife), Erin (Peter's sister and Kenneth's daughter), and Dr. Colby's students created this database "using standard thesauri, several common frequency lists, slang dictionaries, Dear Abby and Ann Landers letters, a corpus of 70,000 words from 35 depressed women who described their life situations, the PARRY data, and the data from many users of the program itself under its years of development."[113] During the program's testing they continually added new words and functionality to expand the program's capabilities—including its ability to understand colloquialisms and misspellings.[114] Perhaps recalling users' hatred of SHRINK, Colby wrote in the manual for the program, "With a spirit of tolerance, these grammatical glitches can be easily transcended by the charitable and error-forgiving user."[115]

The Colbys designed the program to be played and replayed by the patient. Malibu Artifactual Intelligence Works (MAIW) instructed that users would reap the greatest benefit of the program when it was deployed iteratively. Each lesson could be undertaken again and again; the same dialogues were to be had—shifting progressively with the user's ability to cope with their own depression. An excerpt from Lesson 1 on negative self-comparisons yielded the following sample dialogue:

PROGRAM

What in particular depresses you?

User

Mornings. I can't get out of bed in the morning.

PROGRAM

It must be hard to get up when you have nothing to look forward to.

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User

Right. I hate the idea of going to work.

PROGRAM

What in particular don't you like about your work?

User

I have a dead-end job. I don't know which way to turn.

PROGRAM

What makes you feel you can't do anything about your situation?

User

I feel helpless to change anything.

PROGRAM

Some of your feeling of helplessness comes from a misconception that there is nothing you can do on your own to improve your condition.[116]

Taking control of the treatment of one's self was encoded not just into this insistence on self-knowledge but also in terms of self-responsibility, so deeply ingrained in the strategies and ideologies of cognitive behavioral therapy generally. In the manual for the 1992 edition, the Colbys write, "To Overcome Depression you need to learn a new way to think about yourself. You can help your mind to help itself. You will learn here how to give up a way of thinking and replace it with a way that is more right for you."[117] The program is absented from this description of "reprogramming yourself" (Lesson 4) but the activity of Overcoming Depression was clearly auto-intimate. The program was supposed to be an intervention that simultaneously served as a record of the self and an interactive site of self-treatment. MAIW instructs, "Save your print-outs and you will have an entire reference work on the subject of your own depression."[118] One doesn't need an expert to provide mental health care if one can be all at once the expert, literature, and archive of one's self.

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By their own account, the Colbys were interested in treating the 90 percent of people who are suffering from depression but do not seek or receive mental health care, what Kenneth Colby called "the untreated majority": "According to the National Institute of Mental Health, 25% of the population has it. I think that number's too small. Everybody I know gets depressed."[119] Even with these numbers, that would be 22.5 percent of the *total* population of the United States who are clinically depressed yet living without mental health care and support—or roughly *56,250,000 people*. Of course, only 15 percent of American households had computers in the year that the program debuted and so it wasn't yet possible to help the entirety of this population via computer-based therapy, whether via e-therapy or computer programs.[120]

Kenneth Colby attributed the huge gap between all those with depression and those few receiving treatment to a single factor: social stigma. The Colbys thought their program could help bridge the gap by bypassing that stigma: it would be inexpensive to purchase, private when used, and both helpful and free of judgment. In 1992, MAIW updated the program to Overcoming Depression 2.0 and made it available in two forms: the "Home User" version and the "Professional Version."[121] The home user version was designed for a sole user and cost $150. The professional version cost $499 and allowed multiple users to be served by the program, "each one's files being kept on the hard disk with passwords."[122] The program was intended to serve as an adjunct to traditional therapy, allowing a therapist to handle more patients an hour (in keeping with the fantasy of SHRINK) and special printout features allowed Overcoming Depression to become part of a patient's office records.[123]

In the 1960s and 1970s, Colby had thought of the relationship between computer-based therapy simulation and human therapist as cooperative, the former working as an adjunct or prosthesis to the latter. In the design of Overcoming Depression, this model shifted: one of the two versions was to be used in the home—purchased directly from MAIW. It was the first program of its kind intended for use *without any* supervision of a psychologist. Despite this, Colby was quick to reassure the rest of his wide and various field that he was trying to create a complementary alternative

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to human-to-human care, not displace altogether human therapists who were already treating patients. By the 1990s, Colby was not interested in contesting that Overcoming Depression was a computer simulation or an imitation of a human therapist—instead he thought the program "represents a new and unique type of conversational participant with its own style, assets, and shortcomings."[124] Despite carefully identifying what the program wasn't, Colby could not say precisely what it *was*. Instead, Colby presented his program as technology that bypassed the human therapist only as a byproduct of its ability to "make an end-run" around the stigma associated with being depressed and with seeking treatment for that condition.[125]

For all the alarming numbers of depressed persons without care, Colby's NIMH funding was cut (while he was working on the PARRY program); he claimed that the loss of his NIMH funding was a significant factor in why his projects like PARRY, Overcoming Depression, and other experiments in computer-based therapy weren't succeeding to their full technical and social potential: there were institutional obstacles. He writes, "A field competes with rival fads and fashions. In my own experience, it has been very difficult to obtain funding in this area from government sources. I think the ultimate funding will come from the private sector when it realizes how much money can be made from conversing computers."[126] This is partially what happened for the Colbys: Julian Simon, the economist, who was at the same time chronicling his own depression in the book *Good Mood*, stepped in and began funding Colby's experiments with modeling and treating depression.[127] Secondarily, once the program was complete it was bought and used by the US Navy, returning the final product to the US government.[128]

The early 1990s saw other experiments with automated, unsupervised therapies. Joseph Weintraub had begun to write his "PC Therapist" programs under the auspices of Thinking Software in 1986. PC Therapist III won the first Loebner Prize (and other versions subsequently won the second and third) awarded by the Boston Computer Museum—a competition in which programs were entered in an attempt to pass the Turing Test. Eight computer programs were entered into competition alongside two humans. They communicated through modems to ten judges. Five of the

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ten thought PC Therapist was one of the humans. It featured a 70,000-word vocabulary, or almost twice that of Overcoming Depression's "Dr. Software"—and came with a new feature: it learned everything that a user typed into the program, so it gradually personalized its responses while its vocabulary and ability to understand statements were ever increasing. It not only learned from interacting with its user but also remembered everything the user "spoke" about, recording it to an ASCII Text File, "REPORT.TXT." Weintraub thought this made PC Therapist a useful companion beyond therapy as such. He suggested copying the file "into your favorite word processor. You can delete the Therapist's part of the conversation, or use it if you prefer."[129] The computer-therapist was keeping an automated diary for its patient.

Despite the successes in *making* cognitive computer-based therapy programs in the 1990s,[130] clinical tests showed mixed results. Some studies showed that computer-based CBT had the same positive outcomes in treating depression as human-delivered CBT.[131] Others showed that patients paired with humans had a lower rate of depressive symptoms on many scales, including the Beck Depression Inventory.[132] In fact, patients paired with computer-therapists fared no better than those in the control group—that is, those patients not receiving any therapy at all. The programs were successful as conversational agents and diary-keepers, as potentially enjoyable experiences of auto-intimacy, but perhaps not as therapists. And yet, these software programs were developed explicitly to do therapy: each contains a set of therapeutic lessons in keeping with CBT's treatment model. Perhaps the conversations between user and program were getting in the way of an evidently successful treatment protocol.

Despite this, it seems that the Colbys, Weintraub, and Gould were *attached* to offering a conversational component, even though it was one of the more difficult elements of such software to program. They were intent on preserving a dialogue between user and something else, rather than delivering an obviously auto-intimate therapeutic experience in keeping with the workbook. A dialogic, therapeutic conversation is traditionally human-to-human; traditional auto-intimate activity is also human-to-human where the self is at both ends of the dyadic therapeutic connection afforded by the auto-intimate medium (diary, workbook). Talking with a

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computer strategically obscures the auto-intimacy of these exchanges and treatments, presenting the program's responsiveness as though it constitutes a human other. The dialogue as therapeutic contact keeps the user-patient from feeling alone with a human-therapist (and all the problems entailed in that) and alone with themselves.

FRICTIONLESS FEELING

Nearly thirty years after Overcoming Depression and PC Therapist III, we are still nowhere near a fully functioning simulation of a therapist that can treat humans. There is no bot that can seriously challenge the work of a human therapist; these digital algorithmic efforts do not constitute therapy proper, especially in terms of measures like therapeutic alliance. However, many of these apps and bots do claim that they can reduce instances and markers of anxiety and depression. Nonetheless, research has not slowed on the goal of elaborating an automated mental health care provider. Some of this experimentation follows from the unintended promise of ELIZA and in Colby's early footsteps: to make a fully automated therapy that simulates a human, passes the Turing Test, and is enjoyable to use. A site of therapeutic work that doesn't feel like work is helpful but frictionless in a way that working with a human therapist definitionally cannot be.

Moving beyond the architectures of ELIZA and SHRINK, these automated therapies include diagnostic software that listens to the pitch, timbre, and cadence of speech to detect mental states. More frequently, as computer-assisted therapy becomes Internet-delivered and goes mobile, conversation fades out and other interactive models come to the fore. These programs continue to refine self-delivered CBT online and on mobile apps for specific conditions (depression, anxiety, alcoholism). Similar to these programs, other software automates the self-tracking aspects of a diary such that the self is quantified into interpretable data. This can compromise privacy in ways we're already acquainted with: one's therapeutic data can be sold, hacked, and used against one in the future when trying to purchase health insurance.

The first group of these contemporary teletherapy technologies maintains the elusive human-presenting automated therapist. Ellie is one such

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example, generated at the Institute for Creative Technologies at the University of Southern California and is one of the byproducts of The Defense Advanced Research Projects Agency's (DARPA) Detection and Computational Analysis of Psychological Signals (DCAPS) project being developed there.[133] Ellie is a diagnostic system contained within an avatar of an ambiguously raced professional woman sitting in a large therapist's chair. "She" seems confident but approachable. When one user says he's from Los Angeles, Ellie responds sweetly, "Oh! I'm from L.A. myself."[134] Behind this early small talk, Ellie is already performing a deep analysis on her user. She is equipped with sensors and a webcam that detect the affect in speech,[135] postures, and gestures, and she can perform facial expression recognition and "sentiment analysis" of the content of the user's words, which she then compares to a control and military database. All of these data provide Ellie with feedback that allows her to estimate the prevalence of, in the case of this user, depression. For instance, those with depression don't pronounce their vowels in the same way nondepressed people do because they move their facial muscles less. Ellie counts every single instance of this kind of indicator while also modeling "facial expression" and "posture and gesture" synthesis that allows her to speak with users in an optimal manner.[136] This results in "automatic contingent empathetic feedback." Jonathan Gratch of ICT says of Ellie that "research shows that people actually disclose more to this kind of technology than they might when they're talking to strangers. . . . Then what we've also found is that there are crisis points and there are points when people want human contact. As long as you can integrate that into automated systems . . . people want to interact with machines in certain settings and they want to interact with people in others."[137] Gratch thinks that Ellie is attractive because she provides complex customization without judgment—even as she's performing a four-point quantified analysis on your person. Ellie's nonhumanness allows users to know that even if she's deeply reading and analyzing them, she cannot judge, she can only respond.

Upon Ellie's debut in 2015, Louis-Philippe Morecy said in an interview with the *Guardian*, "The best analogy I give people is the blood test. When a human doctor has questions about the symptoms of a patient, he/she will order a test of a blood sample. These results will help with the

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diagnosis of the illness. Ellie is there to help gather and analyze an 'interaction sample.'"[138] Ellie, much like SHRINK, is not supposed to replace the human therapist. Instead, Ellie is supposed to lessen the stigma of being seen by a human therapist, increase accessibility, and lower the fee of such a therapist, while reporting to one. Ellie is a diagnostic tool—and one that exists at the opposite end of self-diagnosis via the webpages of the Mayo Clinic and WebMD—but in both cases the final diagnosis of a patient and the identification of a treatment plan are still in the hands of a human psychiatrist or psychologist.[139]

Another such example of a fully automated therapist is X2.AI Inc.'s "Tess."[140] Tess doesn't have an avatar—she is a just phone number accessible "where the patient already is, and just a text message away."[141] Tess doesn't report to supervising psychiatrists except in cases where a patient uses a set of trigger words (that indicate suicidal ideation, unlawful intent, or that the patient is currently being harmed by another).[142] Tess is a self-contained therapy sold to companies on a sliding scale based on implementation: $50 dollars per user as an initial cost, and then $1 a month per user.[143] Michael Rauws, CEO of X2AI, introduces Tess with three facts: (1) one in four people are affected by mental illness every year and the main reason they don't seek treatment is treatment cost; (2) there is an annual productivity loss of $30 billion from depression alone; (3) Obama's passage of the Affordable Care Act has left the American mental health care system unprepared for the increase of patients it will receive due to the decrease in out-of-pocket costs for mental health care. He concludes, "This is the problem we're solving." Except—Tess's patients are all employed by companies big enough, profitable enough, already inclined to sponsor a wellness package that includes automated therapy, and that have employees who see therapy offered both by their employer and via app as enticing, an Internet 2.0 Silicon Valley start-up style perk rather than a form of surveillance and intrusion.[144]

Apart from automated therapists, with and without avatars, there is a second category of contemporary digital mental health care: online CBT programs. These programs feature screen-by-screen, step-by-step, guided therapies accessible via either mobile phone or computer. Some of these programs include iHelp, Overcome Social Anxiety, Thinking Patterns, and

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Self-Help for Anxiety Management. iHelp's computer program is provided by COBALT and supported by the Mental Health Association of New York (MHA-NY) to New Yorkers who were affected by Superstorm Sandy in 2012. It can be accessed via computer or via the workstations sponsored by MHA-NY in communities affected by the storm (Staten Island and the Rockaways). The program offers five courses of particularized CBT therapy for five separate complaints that most commonly affect those who have been through a disaster, available in both Spanish and English: trouble sleeping, depression ("feeling down"), anxiety, OCD, and drug and alcohol abuse. One can sign up online, text to enroll, or speak with a human counselor to get started—24/7. iHelp tracks users across their work sessions and offers questionnaires so that users can track their progress. Importantly, clients can access the treatment on their own schedules when they have the inclination or the time to manage their mental health. Fred Muench calls this the dispensing (and auto-administration) of "the digital dose."[145]

Other companies combine the services of online talk-therapy (see chapter 5) with self-guided computer and mobile-delivered CBT. This second group's admixture of mobile programming and distanced human-provided therapy is the hybrid automated therapy as Colby thought it would be practiced: the human and the automated serving as adjuncts to one another, purportedly driving costs down and removing social and cultural obstacles to seeking care such that anyone with a smartphone or computer could be engaged in some version of therapeutic activity. Google's Wysa blends the human and algorithmic. Wysa, which boasts 1,700,000 users and has conducted over 100 million conversations, bills itself as a companion, a mental health friend, and takes as its avatar an adorable penguin. It also offers human-to-human texting alongside the chatbot program, coming over the same channel. There is a slippage between bot texting and human-to-human texting—the interfaces *look* the same and are supposed to render a seamless transition in either direction possible, without calling attention to it.

everbliss (now defunct) was a purely video chat-enabled therapy application that promised to connect patients to the right therapist: "Find the right practitioner. Connect instantly. Private and confidential."[146] But that connection was handled and brokered via algorithm. Uli Cohen, a cofounder

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of everbliss (who previously worked on "messaging and engagement" for brands like Nike, Ace Hotel, Prabal Gurung, and MySpace), argues that there are great merits to combining algorithmic and human interaction: "in the weight of your answers, their frequency, against depression, against stress, weighted by an algorithm, and then [matched] with a therapist who has a percentage in areas of expertise XYZ. A person doesn't have to *know* that they're depressed: the algorithm determines it. The quiz is supposed to feel like a self-curious consultation—a consultation with the self, via algorithm. The job of the technology is to match what the patient needs to the expertise of the therapist. It translates between two languages."[147] The two languages are an algorithmic code, and the privacy of the self—the technology fosters, according to Cohen, an auto-intimacy turned outward.

Joyable is another concierge digital mental health service that combines a sixty-second quiz to generate an emotional profile of the user, with five-minute automated cognitive activities and human "coaching" as opposed to therapy.[148] "Joyable" is "enjoyable" minus the en-; it turns "joy" into an auto-intimate activity (which it can be grammatically but usually isn't, especially without the en-) while still presenting as adjective. The name blends the *pleasure* of auto-intimate therapy with the *aim* of such therapy (decreasing depression, increasing "well-being"). It thus strategically confuses the means and ends of user experience while, true to its neoliberal framing, linking the health of an employee to productivity rather than framing it as an important end in itself.

Joyable is sold not only to individuals who seek mental health care but also to companies who pay for it and include it in their employees' benefits package—the advertising is targeted to companies, not individuals, with the tagline "Happier Employees, Better Outcomes." Whereas DARPA's funding of Ellie and New York City buying the iHelp program to take care of Superstorm Sandy survivors are moments where teletherapy addresses overt crisis (the returning veteran, the wake of a natural disaster), Joyable addresses itself to the emotional crisis that labor is. Again, part of the choice to buy into a digital program has to do with Colby's early notion of making therapy nearly costless by automating the same therapy for all, at once, with a single program: a universalized auto-intimacy.

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As Luke Stark writes, "Contemporary modes of self-help and self-improvement, ranging from clinical CBT therapy workbooks to smartphone-based digital applications, mix an emphasis on numerical quantification with an ordinal of rationality, clarity and self-fashioning that Ellis would recognize as stemming from REBT."[149] I would add that they also have continuity with the divergent works of Weizenbaum, Slack, and Colby, who revealed by their experiments (in successes, failures, and their surprise at both outcomes) that *enjoyability* is intrinsic to intimacy with a nonhuman other because it is a way of being intimate with the self—even, or especially, if that self-intimacy is mediated by a digital penguin. A recent study performed by the UK National Health Service tracked a number of factors including "reliable recovery" and "finishing a course of a treatment" in patients suffering from depression and demonstrated that this class of application is 58.4 percent effective compared to 53.9 percent for traditional psychotherapy and a 44.1 percent rate for *in-person* CBT.[150]

Part of enjoying contemporary automated therapy is the "gamification" of mental health care. As Ian Bogost writes in his provocative essay "Gamification is Bullshit," the gamification of "everything" has political and economic implications:

> Gamification is marketing bullshit. . . .
>
> Bullshitters are many things, but they are not stupid. The rhetorical power of the word "gamification" is enormous, and it does precisely what the bullshitters want: it takes games—a mysterious, magical, powerful medium that has captured the attention of millions of people—and it makes them accessible in the context of contemporary business.[151]

Not only is mental health care its own industry (whether the self-employed therapist, psychiatric wards, or technology companies) and mental illness bad for all business, as Tess's CEO notes, but mental health care apps are being sold to businesses promising to help workers in the service of profit. Joyable's advertising states, "Therapy only works if your employees use it. We get them to use it." How? Partially through the gamification of mental health care. The apps have translated Ellis's and Beck's worksheets into games (which are called activities), achievements, and checklists. They have

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harnessed the potential pleasure of auto-intimate self-therapy in order to make employees healthier in mind (other elements of corporate wellness packages take care of the body). Interactivity doesn't mean interacting with another; it means playing, and playing in order to become productive.

Self-tracking moods across days and the events that bring them on is another popular contemporary form of self-guided mental health care app. Examples include Mindshift, Moods, Moodtrack Diary, Optimism (now defunct), iMood Journal, Emoods Bipolar Mood Tracker, and the aptly named Cognitive Diary CBT Self-Help. These applications all follow the same premise: that one can track one's own recovery from mental health issues. Natasha Schull writes of these many choices of self-tracking application, "The selves of self-tracking are understood, by those invested in wearable technology, to be *choosing* subjects; more precisely, they are construed as consumers whose well-being depends on and derives from the market choices they make. . . . Individuals are urged to shape their lives through choice in the manner of savvy, ever vigilant entrepreneurs and yet, more often than not, lack the knowledge, foresight, or recourses to navigate the abundance of potential choices they face."[152] Only Emoods Bipolar Mood Tracker follows specific bipolar symptoms (alongside sleep and energy levels) as well as psychiatric medicine compliance, including the taking of the correct dosage of medication and filling prescriptions (partnered with CVS). Many of the app forms of self-care delivery are available for free—"all you need is a smartphone with a data plan." Others offer a free version and an "upgraded version" for a one-time or recurring fee ($1.99, $4.99)—and iTunes or GooglePlay automates your monthly billing.

Of the kinds of data gathering, interpretation, and selfhood that these applications variously provide, Schull writes:

> This supplemental insight into being, suggest[s] that the transposition of big-data epistemologies to the scale of the individual affords "a sort of fourth-person perspective" on the self and, ultimately, a new kind of truth—one that is "not possible with ordinary senses" in that it does not correspond to a phenomenological self (temporally and spatially located) but to a database self whose truth lies in scattered points, associations and dynamic accretions.[153]

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This fourth-person perspective is that of the diary, except now the diary is automated and proactive, able to alert its keeper to what it knows, holds, contains, and transmits. Both the fourth-person perspective and the qualitative self are encouraged by handing over one's personal data and using self-tracking applications. Quantification and qualification are not either/or propositions. Instead of the analogue journal championed by Ellis, cognitive behavioral therapists recommend these apps to their clients as a complement to their services, though the apps can also be used on their own. "Stigma," designed to address and undo its own name, is a mood tracker and diary that connects a user to "pen pals" who suffer from the same mental health conditions; as does "Koko," an automated form of group therapy with no attending psychologist. It crowd-sources responses to users from other users—but has a learning algorithm in place to oversee responses and detect who is most direly in need of help.[154] Although many think the users of these programs would be those who couldn't make use of traditional therapy or would be unwilling to, others' worry about telemental health is that these cheap (or free), easy, self-guided programs don't only reach those who otherwise wouldn't go to traditional therapy, but those who would: this convenient alternative may keep them from traditional therapeutic practice because it is more expedient and comfortable, perhaps even morale-building, to coach one's self back to health in the privacy of one's own home.

THE THIRD THING

Our contemporary moment maintains a division between the human and the computer-mediated; between the qualified self—engaged by hermeneutics of the self and an archeology of the subject—and the quantified self—engaged in counting, data collection, prediction. This is too neat a division. The convergence of human-to-human interaction and algorithmic-human interaction is so extensive that these ways of understanding and making the subject overlap and inform each other. This is true too of contemporary teletherapeutic interventions. I've argued that intimacy, whether

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accomplished relationally (as is the case with psychodynamic therapies) or via auto-intimacy (seen in the desire to know and care, often pleasurably, for one's self), drives the impulse to mediate therapy so that the communication of care can go further in time, space, and method than what two bodies in a soundproofed office can do.

So far, contemporary (human-to-human) teletherapies have moved remote care away from its previous forms as ad hoc, volunteer, or individually offered therapeutic help over the phone or on the computer toward new proprietary platform app-based offerings. Companies that host these teletherapeutic interactions, like Talkspace and Betterhelp, purport to offer access to therapists who wouldn't be available otherwise, and more conveniently than the traditional embodied alternative. These therapies are at once celebrated for democratizing mental health care by expanding the reach of providers into communities without experts, praised for their ability to make therapy convenient to many, derided for degrading clinical norms, and described as a symptom of the general devaluation of contemporary in-person and human-to-human relations. In parallel, contemporary artificial therapies, also most frequently delivered via smartphone app, offer gratifying, organizing self-regulation that encourages auto-intimacy. Therapies that only offer symptom reduction for issues like sleeplessness and anxiety may soon find themselves outmoded: devices like Thync, a consumer health tool that is wearable and which provides neurostimulation to help its owners sleep and relax better, provides a way around any therapy-based symptom reduction. But neither CBT in-person, online, nor the future of wearable technology purports to achieve psychic work. This tension is part of the longstanding battle between psychodynamic therapy and CBT. Psychodynamic and relational therapies may have lost to CBT statistically but they aren't obsolete, precisely because they aren't automatable. Or at least, not yet. As I was finishing the first draft of this book, it was announced that DARPA now can hook a computer directly to the brain of its user and have the computer read the thoughts of the person with whom it is linked.[155] We are now able in effect to produce a rudimentary machine-human "thought transference," bringing us full circle to Freud's early fascination with telepathy as a viable form of communication (see chapter 1)

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and Turing's worry about telepathic interference. Since Freud, there has always been a patient, a therapist, and a linking medium between them, whether the embodied voice and therapeutic frame, the letter, the hotline, chat, text, program, or Zoom. The flexibility of therapy in terms of its communicative medium has historically allowed media and technology to look like the most disposable terms when they are the least disposable, or just as indispensable as the patient. Where flexibility looks like peripherality or choice—what matters is the treatment, not whether it's by letter or phone or computer—it's the other way around: flexibility shows media's indispensable presence. No one medium is essential, but mediation is. The notion of a therapeutic dyad has always been bad math; therapy relies on a therapeutic triad, all of whose terms save the patient are reconfigurable and only one of whose two human terms is essential. The history of automated therapies, in their evolving successes and failures, alongside the triumph of CBT over other kinds of relational psychotherapy, demonstrates something crucial: in this ancient triad the most disposable element is not the medium through which the therapy is communicated, but the human therapist.

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93. Raymond E. Beckering, Collection W12–1398, Joint Archives of Holland.
94. Robert H. Schuller, "New Hope Telephone Counseling Service," Pamphlet used for outreach, H93–1188, Crystal Cathedral Ministries Collection, Joint Archives of Holland.
95. Schuller, "Garden Grove Community Church History."
96. Robert H. Schuller, Call Logs H93–1188, Crystal Cathedral Ministries Collection, Joint Archives of Holland.
97. Raymond E. Beckering, Collection W12–1398.
98. Schuller, "Garden Grove Community Church History."
99. Schuller, "Call Logs."
100. Schuller.
101. Schuller.
102. Schuller. As a note, I have access to call logs with callers' real names, personal data, and call content. Where I discuss particular calls, all identifying data have been removed. For more on this consideration, see "A Note on Method" in the introduction.
103. Lester, "Counseling and Crisis Usage," 455–456.
104. Russell Leigh Sharman, *The Tenants of East Harlem* (Berkeley: University of California Press, 2006), 64.
105. Jose B. Rivera, "Rafael Flores in Remembrance," East-Harlem.com, 2003, https://www.east-harlem.com/index.php/News/view/rafael_flores_in_remembrance/, last accessed May 6, 2020.
106. Carole Haymes Howard, "Rest in Power Elbert 'Big Man' Howard, Founding Father of the Black Panther Party," *San Francisco Bay View*, July 18, 2018. For more on the radical health care services and initiatives of the Black Panthers, see Alondra Nelson, *Body and Soul: The Black Panther Party and the Fight against Medical Discrimination* (Minneapolis: University of Minnesota Press, 2011).
107. Varah, *Before I Die Again*, 153.
108. Mayes, *Escaping God's Closet*, 137.
109. Raymond E. Beckering, Collection W12–1398.
110. However, psychological studies show that it is much more difficult to perform phone therapy for the majorly depressed than for those with anxiety disorders—let alone for those who are paranoid and worry that their phone conversation may be recorded or tapped.

CHAPTER 4

1. Alan Turing, "Computing Machinery and Intelligence," *MIND* 59, no. 236 (October 1950): 434.
2. Turing, "Computing Machinery and Intelligence," 434.

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3. Turing, 455.
4. Warner V. Slack, *Cybermedicine: How Computing Empowers Doctors and Patients for Better Care*, 2nd ed. (San Francisco: Jossey-Bass, 2001), 49.
5. Charles's brother, Dr. Warner Slack, recounts this story in his book *Cybermedicine*. Warner Slack was perhaps the first person ever to put a patient into conversation with a machine and is discussed in his own right later in this chapter. Slack, *Cybermedicine*, 49.
6. Slack, *Cybermedicine*, 50.
7. Slack, 50.
8. I. M. Marks, "Self-Administered Behavioural Treatment," *Behavioural Psychotherapy* 19, no. 1 (1991): 42–46. As quoted in Fjóla Dögg Helgadóttir, Ross G. Menzies, Mark Onslow, Ann Packman, and Sue O'Brian, "Online CBT I: Bridging the Gap between Eliza and Modern Online CBT Treatment Packages," *Behaviour Change* 26, no. 4 (2009): 245.
9. Sherry Turkle, *Life on the Screen* (New York: Simon and Schuster, 1995), 26.
10. Turkle, *Life on the Screen*, 103 (emphasis added).
11. For more on ELIZA, please see Elizabeth Wilson's *Affect and Artificial Intelligence* (Seattle: University of Washington Press, 2010); Turkle's *Life on the Screen*; Lucy Suchman's *Human-Machine Reconfigurations: Plans and Situated Actions* (Cambridge: Cambridge University Press, 1987); and Lydia Liu's *The Freudian Robot: Digital Media and the Future of the Unconscious* (Chicago: University of Chicago Press, 2011).
12. Joel Epstein and William D. Klinkenberg, "From Eliza to Internet: A Brief History of Computerized Assessment," *Computers in Human Behavior* 17, no. 3 (2001): 295–314.
13. Joseph Weizenbaum, *Computer Power and Human Reason* (New York: W. H. Freeman, 1976), 3.
14. Carl R. Rogers, *Counseling and Psychotherapy* (Cambridge, MA: Riverside Press, 1942).
15. Weizenbaum, *Computer Power and Human Reason*, 5.
16. Weizenbaum, 2.
17. Weizenbaum, 6.
18. Turkle notes that there are other reasons to remove the therapist from therapy. In the early 1990s, after a scandalous case of boundary violation in the Boston psychoanalytic community, her students at MIT began to remark that there would be no such violations if therapists were computers. For more, see *Life on the Screen*, 113. For more on violence (especially rape) and therapy, see coda.
19. Liu, *The Freudian Robot*, 210. Liu argues that Weizenbaum here is "not only implying that only women are susceptible to such delusions, but the popularity of his story within the communities of computer science and artificial intelligence does reveal something about shared assumptions about gender and intelligence" (210).
20. Liu, 210.

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21. Weizenbaum, *Computer Power and Human Reason*, 6–7 (emphasis added).
22. Turkle, *Life on the Screen*, 108.
23. Turkle, 109.
24. Wilson, *Affect and Artificial Intelligence*, 94.
25. For more on the psychological relation to anthropomorphized artifacts, especially children's toys and robots, see Sherry Turkle, *The Second Self: Computers and the Human Spirit* (Cambridge, MA: MIT Press, 1985), 289–290.
26. Anna Freud, "The Psychoanalytic Study of Infantile Feeding Disturbances," *Psychoanalytic Studies of the Child* 2 (1946): 127.
27. Intrinsic to the conversation here, but beyond the purview of this book, is a deeper engagement with the "digital unconscious." For more on theorization of the relations between the unconscious and the digital, see Patricia Ticineto Clough, *Autoaffection: Unconscious Thought in the Age of Technology* (Minneapolis: University of Minnesota Press, 2000), and *The User Unconscious: On Affect, Media, and Measure* (Minneapolis: University of Minnesota Press, 2018); Aaron Balick, *The Psychodynamics of Social Networking: Connected-up Instantaneous Culture and Self* (New York: Routledge, 2013); Alessandra Lemma, *The Digital Age on the Couch: Psychoanalytic Practice and New Media* (New York: Routledge, 2017); Jacob Johanssen, *Psychoanalysis and Digital Culture: Audiences, Social Media, and Big Data* (New York: Routledge, 2018).
28. Weizenbaum, *Computer Power and Human Reason*, 5.
29. Weizenbaum, 5–6.
30. Weizenbaum, 5–6.
31. Weizenbaum, 5–6.
32. Turkle, *Life on the Screen*, 107. For more on this feud from Colby's perspective, see Kenneth Colby, "Dialog Programs I Have Known and Loved over 33 Years," in *Machine Conversations*, ed. Yorick Wilks (New York: Springer Nature, 1999).
33. K. M. Colby, J. B. Watt, and J. P. Gilbert, "A Computer Method of Psychotherapy: Preliminary Communication," *Journal of Nervous and Mental Disease* 142 (1966): 146.
34. Wilson, *Affect and Artificial Intelligence*, 96.
35. Turkle, *Life on the Screen*, 289n8.
36. Colby, Watt, and Gilbert, "A Computer Method of Psychotherapy," 149.
37. Colby, as quoted in Weizenbaum, *Computer Power and Human Reason*, 5.
38. Colby, as quoted in Weizenbaum, 5.
39. Wilson, *Affect and Artificial Intelligence*, 96.
40. Wilson, 96.
41. Wilson, 98.

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42. Wilson, 98.
43. Wilson, 97.
44. Slack, *Cybermedicine*, 46.
45. Slack, 13.
46. Warner V. Slack and Lawrence J. Van Cura, "Patient Reaction to Computer-Based Medical Interviewing," *Computers and Biomedical Research* 1 (1968): 527–531.
47. Warner Slack, Phone Interview, September 13, 2017.
48. Slack, Phone Interview.
49. Slack, *Cybermedicine*, 46.
50. Slack and Van Cura, "Patient Reaction to Computer-Based Medical Interviewing."
51. Warner Slack, Phone Interview, September 13, 2017.
52. Slack and Van Cura, "Patient Reaction to Computer-Based Medical Interviewing."
53. Warner Slack, Phone Interview, September 13, 2017.
54. Harold P. Erdman, John J. Greist, Marjorie H. Klein, James W. Jefferson, and Carl Getto, "The Computer Psychiatrist: How Far Have We Come? Where Are We Heading? How Far Dare We Go?," *Behavior Research Methods and Instrumentation* 13, no. 4 (1981): 394 (emphasis added).
55. Slack, *Cybermedicine*, 46.
56. Wilson, *Affect and Artificial Intelligence*, 101.
57. Theodore Nadelson, "The Inhuman Computer, the Too Human Therapist," *American Journal of Psychotherapy* 41, no. 4 (October 1987): 490.
58. Tomas Rozbroj, Anthony Lyons, Marian Pitts, Anne Mitchell, and Helen Christensen, "Assessing the Applicability of E-Therapies for Depression, Anxiety, and Other Mood Disorders among Lesbians and Gay Men: Analysis of 24 Web- and Mobile Phone-Based Self-Help Interventions," *Journal of Medical Internet Research* 16, no. 7 (2014): e166.
59. Paulette Selmi, "Computer-Assisted Cognitive-Behavior Therapy in the Treatment of Depression" (PhD diss., Illinois Institute of Technology, 1990).
60. Weizenbaum, *Computer Power and Human Reason*, 6.
61. But, in one key way, this division isn't as clear as it seems. Freud himself worked to establish the scienticity of psychoanalysis (see chapter 1) and psychoanalysis has, by and large, failed to produce evidence-based accounts of its successes.
62. For more on the Macy Conferences, see N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: University of Chicago Press, 1999); Wilson's *Affect and Artificial Intelligence*; Luke Stark, "That Signal Feeling: Emotion and Interaction Design from Social Media to the 'Anxious Seat,'" (PhD diss., New York University, 2016); Todd Essig's "Psychoanalysis Lost—and Found—in Our Culture

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of Simulation and Enhancement," *Psychoanalytic Inquiry* 32 (2012): 438–453. For more on the history of psychoanalysis in this moment, see Jonathan Metzl, *Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs* (Durham, NC: Duke University Press, 2005).

63. Essig, "Psychoanalysis Lost—and Found."

64. In 1917, the American Psychological Association released a precursor to the DSM: the *Statistical Manual for the Use of Institutions for the Insane*. This volume contained only twenty-two categories of diagnosis. See American Psychiatric Association—Mental Hospital Service, *The Diagnostic and Statistical Manual of Mental Disorders* (Washington, DC: American Psychiatric Association—Mental Hospital Service, 1952).

65. Robert Spitzer and Joseph Fliess, "A Re-analysis of the Reliability of Psychiatric Diagnosis," *British Journal of Psychiatry* 125, no. 4 (1974): 321–347.

66. Spitzer and Fliess, "A Re-analysis of the Reliability of Psychiatric Diagnosis."

67. Liu, *The Freudian Robot*, 234–235.

68. Liu, 345.

69. Liu, 345.

70. Liu, 345.

71. "Parry Encounters the Doctor," https://tools.ietf.org/html/rfc439, last accessed August 15, 2017.

72. "Parry Encounters the Doctor."

73. Weizenbaum, *Computer Power and Human Reason*, 6.

74. Albert Ellis, as quoted in Oliver Burkeman, "Albert Ellis," *Guardian*, August 10, 2007.

75. Burkeman, "Albert Ellis."

76. Rachel Rosner challenges the notion that Beck totally broke with psychoanalysis. According to her research, while Beck presented as anti-Freudian publicly, privately he was still interested and attached to psychoanalytic theory. For more, see Rachel Rosner, "Aaron T. Beck's Drawings and the Psychoanalytic Origin Story of Cognitive Therapy," *History of Psychology* 15, no. 1 (2012): 1–18. See also Erica Goode, "Scientist at Work: Aaron T. Beck, Pragmatist, Embodies His No-nonsense Therapy," *New York Times*, 2011.

77. Goode, "Scientist at Work."

78. As Luke Stark observes, "Ellis' Rational Emotional Behavioral Therapy teach[es] patients to become self-sufficient through positive reinforcement—in effect, practicing self-therapy" ("That Signal Feeling," 114).

79. Luke Stark writes that, even in the earliest moments of REBT, Ellis was interested in other media channels including the audio recording, and that such efforts to make REBT multimedial should be contrasted with the genre of self-help; but I would argue that Norman Vincent Peale and Smiley Blanton had already paved the way in the preceding decades for

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taking a kind of psychological self-help and delivering it over every imaginable medium and modality (see chapter 3).

80. Erica Robles-Anderson, "Blind Spots: Religion in Media," *Flow Journal* 17 (2012): http://flowtv.org/2012/12/blind-spots/, last accessed June 15, 2016.

81. Albert Ellis, Correspondence with Jeffrey Caine, as quoted in Stark, "That Signal Feeling," 114–115.

82. Turkle, *Life on the Screen*, 112.

83. Boris Kachka, "The Power of Positive Publishing," *New York Magazine*, January 6, 2013.

84. Turkle, *Life on the Screen*, 103–104.

85. Burkeman, "Albert Ellis."

86. Philippe Lejeune, *On Diary* (Honolulu: University of Hawaii Press, 2009), 51.

87. Lejeune also recounts that, in the nineteenth century, young women laid out their religious books, taking their formatting from accounting books with "one page for each week and one line for each day with two columns, one marked 'V' for victories (over the Devil) and the other marked 'D' for defeats" (*On Diary*, 51).

88. Harold Innis, *The Bias of Communication* (Toronto: University of Toronto Press, 1951).

89. Lejeune, *On Diary*, 179.

90. The handwritten diary is assumed to be a private autobiographical writing, for the self, even if it's published later or posthumously. It is a genre that continues to be in use and flourish online, beginning with Claudio Pinhanez's "Open Diary" published at MIT in 1994, to Xanga, Livejournal, and other web-based diary keeping platforms in the late 1990s and early 2000s. Much like their analogue counterparts, these digital diaries could either be closed and private or published. Even when digital autobiographical forms begin to exist alongside the handwritten diaries, entries get time stamped, words get counted; this kind of self-monitoring (and self-tracking) migrates to the digital as an automated feature.

91. Witold Gombrowicz, *Diary*, trans. Lilian Vallee (New Haven, CT: Yale University Press, 2012), 1.

92. Lejeune, *On Diary*, 31.

93. Lejeune, 326.

94. Stark, "That Signal Feeling," 121.

95. "Diary Writing Turns a New Leaf," *New York Times*, 1981.

96. "Diary Writing Turns a New Leaf."

97. Lejeune, *On Diary*, 289 (emphasis added).

98. Lejeune, 289 (emphasis added).

99. Lejeune, 289–90.

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100. Turkle, *The Second Self*, 5.

101. Roger Gould, In-Person Interview, September 8, 2017.

102. Gould, In-Person Interview.

103. Gould, In-Person Interview.

104. Gould, In-Person Interview.

105. Roger Gould, "Therapeutic Learning Program," http://www.drrogergould.com/software/therapeutic-learning-program, last accessed October 11, 2017.

106. Patricia Ward Biderman, "Feeling Depressed? Here's a Program That Could Help: Computers: A Psychiatrist Has Developed Dr. Software, Which Lets People Pour Out Their Problems as Fast as Their Fingers Can Type on Their PCs," *Los Angeles Times*, November 15, 1990.

107. Biderman, "Feeling Depressed?"

108. Kenneth Colby, "Human-Computer Conversation in a Cognitive Therapy Program," in *Machine Conversations*, 12.

109. Colby, "Human-Computer Conversation," 11.

110. Lawrence Magid, "Psychological Software Programs Come with Their Own Shortcomings," *Washington Post*, November 19, 1990.

111. A copy of the program is housed at Stanford University in the Edward Feigenbaum papers. The disks could be opened in order to see a list of files but the files themselves could not be accessed because the disks are considered "extremely obsolete." The description that follows comes from the paper materials included in the program that were also sent by Colby to Feigenbaum. Floppy Disks and Instruction Manual of Overcoming Depression. Edward A. Feigenbaum Papers, ACCN 2005–101, SC 340 Box 59, Folder 3, Stanford Special Collections, Stanford University, California.

112. Biderman, "Feeling Depressed?"

113. Colby, "Human-Computer Conversation," 11.

114. Kenneth Colby, Floppy Disks and Instruction Manual of Overcoming Depression 2.0, Edward A. Feigenbaum Papers, ACCN 2005–101, SC 340 Box 59, Folder 3, Stanford Special Collections, Stanford University, California.

115. Colby, Manual of Overcoming Depression 2.0.

116. Kenneth Colby, Malibu Artifactual Intelligence, https://web.archive.org/web/19970529035521/http://maiw.com:80/program.html, last accessed via the Internet Archive, August 15, 2017.

117. Colby, Manual of Overcoming Depression 2.0.

118. Colby, Malibu Artifactual Intelligence.

119. Biderman, "Feeling Depressed?"

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120. Bureau of Labor Statistics, "Computer Ownership in the 1990s," April 5, 1999, https://www.bls.gov/opub/ted/1999/apr/wk1/art01.htm, last accessed July 1, 2017.
121. Colby, Manual of Overcoming Depression 2.0. For more on this program, see Sherry Turkle, "Taking Things at Interface Value," in *Life on the Screen*.
122. Colby, Malibu Artifactual Intelligence.
123. Colby, Manual of Overcoming Depression 2.0.
124. Colby.
125. Colby, "Human-Computer Conversation," 11.
126. Colby, "Comments on Human-Computer Conversation," 6.
127. Colby, 3.
128. Margaret A. Boden, *Mind as Machine: A History of Cognitive Science* (Oxford: Oxford University Press, 2006).
129. Joseph Weintraub, "History of the PC Therapist," http://www.cis.umassd.edu/~ivalova/Spring09/cis412/Old/therapist.pdf, last accessed July 1, 2017.
130. For more on this and other 1990s software for depression, and user reactions to it, see Turkle, *Life on the Screen*, 102–127.
131. Selmi, "Computer-Assisted Cognitive-Behavior Therapy."
132. Wayne Bowers, Scott Stuart, Robin Macfarlane, and Laura Gorman, "Use of Computer-Administered Cognitive-Behavior Therapy with Depressed Patients," *Depression* 1, no. 6 (1993): 293–299.
133. Another one of DARPA's DCAPS projects is Bravemind, a virtual reality therapy for returning veterans. For more on this therapy and its history, see Marisa Renee Brandt's "Simulated War: Remediating Trauma Narratives in Military Psychotherapy," *Catalyst Journal* 2, no. 1 (2016).
134. Talkspace, "The Future of Therapy: Can You Have a Relationship with a Machine?" (conference presented by Talkspace, April 5, 2016).
135. For more on listening and monitoring software, see Jessica Feldman's "The Problem of the Adjective: Affective Computing of the Speaking Voice," *Transposition: Music et sciences sociales*, no. 6 (2016): https://doi.org/10.4000/transposition.1640.
136. Ann Robinson, "Meet Ellie, the Machine That Can Detect Depression," *The Guardian*, September 17, 2005.
137. Talkspace, "The Future of Therapy."
138. Robinson, "Meet Ellie."
139. Robinson, "Meet Ellie."
140. As with Ellie, Tess's creators are all white men, and yet Tess is feminized in the lineage that begins with ELIZA and ends with other feminized listening objects and "assistants" like Siri

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and Alexa. Much like users of Ask Uncle Ezra (see chapter 5) couldn't imagine a man providing such therapy (despite the masculine "Uncle" and proper name), it seems that from ELIZA forward, chatbots with and without avatars are to be women.

141. "x2.ai," https://x2.ai/, last accessed July 1, 2017.
142. "Ethics," https://x2.ai/ethics, last accessed August 23, 2017 (page no longer available).
143. "Ethics."
144. "Introducing Tess," https://x2.ai/, last accessed July 1, 2017.
145. Talkspace, "The Future of Therapy."
146. everbliss, http://www.everbliss.com/, last accessed May 10, 2017.
147. Uli Cohen and Yoon Im Kane, Phone Interview, November 5, 2016.
148. "Joyable," https://joyable.com/how-it-works, last accessed July 1, 2017.
149. Stark, "That Signal Feeling," 112.
150. "Psychological Therapies, Annual Report on the Use of IAPT Services—England, 2014–15," November 24, 2015, http://content.digital.nhs.uk/catalogue/PUB19098/psyc-ther-ann-rep-2014-15.pdf, last accessed July 15, 2017.
151. Ian Bogost, "Gamification is Bullshit," 2001, http://bogost.com/writing/blog/gamification_is_bullshit/, last accessed July 1, 2017.
152. Natasha Schull, "Data for Life: Wearable Technology and the Design of Self-Care," *BioSocieties* 11 (2016): 317–333.
153. Schull, "Data for Life."
154. "Koko," https://itskoko.com/, last accessed July 1, 2017.
155. Attif Sulyeman, "DARPA to Plug Computers into Brains to Talk Directly to People," *The Independent*, July 12, 2017.

CHAPTER 5

1. Jerry Feist and Steven Worona, *The Best of Uncle Ezra*, vol. 1, *Fall 1988* (Ithaca, NY: Cornell University, 1988), 92.
2. Feist and Worona, *The Best of Uncle Ezra*, 1:92.
3. Steven Worona, Phone Interview, October 23, 2016.
4. Feist and Worona, *The Best of Uncle Ezra*, vol. 2, *Fall 1991* (Ithaca, NY: Cornell University, 1991), Foreword.
5. Worona, Phone Interview, October 23, 2016.
6. Worona, Phone Interview.
7. Feist and Worona, *The Best of Uncle Ezra*, 1:92.
8. Martha Ainsworth, "E-Therapy: A History and Survey," last retrieved May 10, 2017, from https://metanoia.org/imhs/.