MILTON H. ERICKSON'S PATHS OF



EFFECTIVE PSYCHOTHERAPY

Ernest Lawrence Rossi and Kathryn Lane Rossi

n this update of Milton H. Erickson's classic paper, "The Burden of Responsibility in Effective Psychotherapy" (Erickson, 1964/2008), commentaries by Ernest Rossi and Kathryn Rossi, with some occasional comments by Roxanna Erickson-Klein, are added to illuminate Erickson's innovations as a psychotherapist. This is one of the earliest of Erickson's papers that initially awakened Ernest Rossi's interest in how Erickson may have been turning on epigenomic expression and brain plasticity in the client. This is now seen as the psychosocial genomic basis of psychotherapy.

At least a decade before neuroscience was organized as a scientific discipline in the mid-1970s, Erickson was presciently aware that the client could make changes to their own mindset. His 1964 paper illustrates the empathic and gentle informality of his conversational approach to hypnotic induction that was so characteristic of his naturalistic therapeutic technique. So subtle and apparently undemanding was his attitude, however, that many students have not understood the powerful hypnotherapeutic implications of his words. We add our comments on Erickson's seemingly humble and unassuming therapeutic conversations so students and clinicians can gain insight into how they can facilitate their patients' own private engagement with the autobiographies of their crises and opportunities, as well as the sources of their problems and symptoms, and most importantly, their highest ideals about the best they can be. Erickson encouraged his patients to explore as many new pathways as they could to

achieve their goals. They were able to learn how to practice their own well-meaning empathetic efforts to facilitate creative consciousness and cognition in their everyday lives, as well as in the consulting room (Hill & Rossi, 2017).

Erickson's three brief cases reviewed in this update remind us that the locus of creative transformation in all forms of psychotherapy is within the patient's own mind and body, not the therapist's, and the burden of responsibility for effective psychotherapy is the patient finding their own inner work and pathways to their own best future. The "burden" of the therapist's responsibility in effective psychotherapy is to know how to facilitate the patient's own creative inner therapeutic work.

Erickson's 1964 paper begins as follows:

The following case material is presented because it offers so concisely and clearly a modus operandi in hypnotherapy with the type of patient who has had long experience in failing to derive desired benefits from extensive, traditionally oriented therapy. The three persons reported upon are typical of dozens of others that this author has seen over the years, and the results obtained have been remarkably good despite the fact that the patients were seen on only one occasion for an hour or two.

Comment: Immediately, right here in Erickson's first two sentences, we witness his

The basic rest-activity cycle, or BRAC, was first described by Nathaniel Kleitman in his book, Sleep and Wakefulness (1963), which he reviewed 22 years later in the Journal of Sleep Research and Sleep Medicine (Kleitman, 1982). This natural 90-120 minute cycle of energetic activity in both body and brain brings to question why much of the therapeutic profession ignores this natural cycle and operates under the organizational convenience of the 50-55 minute "hour". It can explain why it is not uncommon for clients to begin to open up and talk about a breakthrough just as they are being ushered out of the clinic. Unfortunately, the clinician's schedule is at variance with their clients' natural processes, despite the evidence, and shows, again, Erickson's prescient and sensitive appreciation of his clients' needs and capacities.

empathic, comforting, and compassionate informality with the words patients were seen on only one occasion for an hour or two. This was, apparently, no big deal! It wasn't until the 1980s that neuroscience recognized that the range of "an hour or two" embraced the typical time parameters of the basic rest-activity cycle (BRAC) and 4-stage creative cycle of therapeutic consciousness and cognition (Lloyd & Rossi, 1992, 2008; Rossi, 1982, 2002, 2007, 2012).

Erickson continues:

In each instance hypnosis was used for the specific purpose of placing the burden of responsibility for therapeutic results upon the patient himself after he himself had reached a definite conclusion that therapy would not help and that a last resort would be a hypnotic "miracle". In this author's understanding of psychotherapy, if a patient wants to believe in a "hypnotic miracle" so strongly that he will undertake the responsibility of making a recovery by virtue of his own actual behavior and continue that recovery, he is at liberty to do so under whatever guise he chooses, but neither the author nor the reader is obliged to regard the success of the therapy as a "hypnotic miracle". The hypnosis was used solely as a modality by means of which to secure their cooperation in accepting the therapy they wanted. In other words, they were induced by hypnosis to acknowledge and act upon their own personal responsibility for successfully accepting the previously futilely sought and offered but actually rejected therapy.

Comment: In these italicized words Erickson is correcting two centuries of misconceptions about the essential intent of hypnotherapeutic consciousness and cognition, and so-called

"suggestion". Erickson's naturalistic therapeutic suggestion is not a process of stimulus-response Pavlovian conditioning or programming, or insinuating the therapist's commands in an indirect or hidden manner. Rather, patients were induced by hypnosis to acknowledge and act upon their own personal responsibility for successfully accepting the previously futilely sought and offered but actually rejected therapy.

Case 1. A telephone call was received in the office from a man who stated that he wanted an appointment. He refused to give any reason except that it was for a proper medical reason he preferred to explain in person. At the interview the man stated that he was suffering from Buerger's disease, that he was a diabetic, and that he had cardiac disease and high blood pressure—"Too much for a man with a family the size of mine and only 50 years old." He went on, "That isn't all. I've been psychoanalyzed for eight months for five hours a week. During that time my insulin dosage has

had to be increased, I've gained 40 pounds, my blood pressure has gone up 35 points, and from 1½ packs of cigarettes I have gone up to 4½ packs a day. I am still the psychoanalyst's patient, I have an appointment with him for Monday, but he is paid up to date. He says he is slowly uncovering the psychodynamics of my self- destructive behavior. I myself think that I'm digging my grave with power tools." Then with utter gravity he asked, "Would it be unethical for you, knowing that I am another physician's patient, to give me the benefit of two hours of hypnotherapy this afternoon? My analyst disapproves of hypnosis, but he certainly hasn't done me any good."

Comment: Note the patient's intuitive understanding that about two hours would be required to accomplish his inner creative work. Today we hypothesize this is an example of our natural basic rest-activity cycle (a so-called "mind-body ultradian rhythm") that usually requires about 90–120 minutes in normal everyday life. While awake this is the natural



space–time path of most life activities (work, play, eating, seeing a movie, etc.). While asleep this is the natural rhythm of our paths of slow—wave sleep and REM dream cycles for updating consciousness, memory, and behavior on all levels from mind to brain and genes. We hypothesize this is the scientific rationale why Erickson utilized about 90–120 minutes as the length of his typical sessions of therapeutic hypnosis and psychotherapy with most of his patients (Rossi & Rossi, 2008, 2014, 2015a, 2015b).

Erickson continues:

The simple reply was made that, from my point of view, the question of professional ethics did not enter into the situation at all, that every patient, including mine, has the right to seek from any duly trained and licensed physician whatever proper help he desires, that medical ethics should properly be centered about the patient's welfare rather than a physician's desire to keep a patient.

He was then told to close his eyes and repeat his story from beginning to end, to do this slowly, carefully, to drop out the question of ethics and in its place to specify what he wanted from the author. This he was to do slowly, thoughtfully, appraisingly, and as he did so, the mere sound of his own voice would serve to induce in him a satisfactory trance in which he could continue to talk to the author, listen to the author, answer questions, do anything asked of him by the author and that he would find himself under a most powerful compulsion to do exactly that which was indicated.

Comment: These words in italics are not a formal induction of therapeutic hypnosis in

the usual sense, when patients believe they are being put into a hypnotic trance by the power of the therapist's monotonous, repetitive, and comfortable suggestions to "relax" and "sleep". However, we can now recognize how Erickson's words were trance-inducing for this patient who was so interested in telling his own numinous story and getting help that it focused his attention with high expectancy—the two characteristics of modern therapeutic hypnosis. This leads me to call those important words an "Ericksonian bridge" or pathway between traditional direct suggestion by a therapist and psychotherapy as we practice it today by facilitating the patient's own creative cycles. Erickson often did not distinguish between formally induced therapeutic hypnosis and the "general waking trance" (Rossi, Erickson-Klein, & Rossi, 2008a; Rossi & Rossi, 2008), when his patients were in a state of high expectancy and focused attention. We hypothesize that this state of high expectancy and focused attention is the common pathway between Ericksonian therapeutic hypnosis and all other forms of effective contemporary psychotherapy that seek to facilitate consciousness, cognition, and behavior change on all levels from mind to brain and genes that are the integrated quantum pathways of psychosocial genomics today (Rossi et al., 2008a, Rossi, Erickson-Klein, & Rossi, 2008b; Rossi, Iannotti, Castiglione, Cozzolino, & Rossi, 2008).

The man was taken aback at these unexpected instructions, but leaned back in his chair, closed his eyes, and slowly began his recitation with pertinent additions. Shortly his voice began to trail off, indicating that he was developing a trance, and he had to be told several times to speak more loudly and clearly.

Comment: Unexpected instructions indeed! Only now, about 10 years after the first publication of this update, do I realize that this simple word "unexpected" could imply what I call the "novelty-numinosum-neurogenesis-effect (NNNE)", when any unexpected surprise could turn on activity-dependent gene expression and brain plasticity to facilitate the growth of new neural pathways and networks in the brain that would underpin the pathways of neurotherapeutic consciousness and cognition (Hill & Rossi, 2017; Rossi, 1973a, 1973b, 2002).

No mention was made of the question of ethics, but with a wealth of detail he outlined the therapy which he thought to be indicated. He was asked to repeat this several times, and each time he did so more positively, emphatically, and inclusively. After four such repetitions the author pointed out that he, as a physician, had offered no advice or therapeutic or corrective suggestions, that every item in that regard had come from the patient himself, and that he would find himself under the powerful compulsion arising from within him to do everything that he thought was indicated. To this was added that he could remember any selected parts of his trance state, but regardless of what he remembered or did not remember he would be under a most powerful compulsion to do all that he himself thought to be indicated.

Comment: Indeed, a most powerful compulsion to do all that he himself thought to be indicated becomes a new, self-suggested pathway followed by the patient whether he could remember it or not. Notice the comprehensiveness of Erickson's path of effective psycho-

therapy. Notice how he has placed the entire burden of effective psychotherapy onto the patient in a sensitive, empathic, and agreeable manner.

He was aroused, a casual conversation initiated, and he left.

A year later, in excellent physical shape, he brought in an old childhood friend of his and stated very briefly, "I eat right, I sleep good, my weight is normal, my habits regular, my diabetes is under good control, my Buerger's disease has not progressed, my blood pressure is normal, I never went back to my analyst, my business is better than ever, I'm a new man and my whole family thanks you. Now this man is my boyhood pal, he's got emphysema, a very bad heart, look at his swollen ankles, and he smokes like a chimney. He's been under a doctor's care for years." (This man was smoking one cigarette and had another out of the package ready to light.) "Treat him the way you did me, because I told him you talked to me in a way that just takes complete hold of you."

He left the office with the new patient remaining.

Case 2. Essentially the same procedure was carried out, checking against the first patient's file as this was done, and almost precisely the same words were used that were applicable.

At the close of the interview the man left, leaving his cigarettes behind him. Six months later a long-distance call was received from the first patient, stating, "Well, the news is bad, but you should feel good. Joe died last night in his sleep from a coronary attack. Af-

ter he left your office, he never smoked another cigarette, his emphysema was much better, and he enjoyed life instead of worrying all the time about running out of cigarettes and about the cigarettes making his condition worse."

Case 3. A telephone call was received early in the morning. A man's voice said, "I've just realized that my condition is an emergency. How soon can I come in?" He was told that a cancellation had just been received and he could be seen in one hour's time. At the specified time a 32-year-old man walked in, smoking a cigarette, and stated hastily, "I'm a chronic smoker. I need help. I've been in psychotherapy twice a week for two years. I want to quit smoking. I can't. Look! I've got six packs in my pockets right now, so I can't run out of them. My analyst says I am making progress, but I was only carrying two packs a day when I first went to him. Then slowly I increased my reserve and emergency supplies until it is up to six packs a day. I'm afraid to leave home without at least six packs in my pocket. I read about you. I want you to hypnotize me out of smoking."

He was assured that this could not be done, but that the author would like to have him retell his story slowly, carefully, with his eyes closed, and to give it in good detail, letting his unconscious mind (he was a college graduate) take over all dominance, and that, as he related his story, he was to specify in full and comprehensive detail exactly what it was he wished in relation to cigarettes, but that during his narrative he would find himself going unaccountably into a deep and deeper trance without any interruption of his story.

The procedure and results were almost exactly comparable to the two preceding cases. Two years later another telephone call was received from the same man asking for a half-hour appointment at noon and volunteering to pay an hour's fee. He again declared it to be an emergency.

Exactly at noon he came striding into the office and remarked, "You won't recognize me. You only saw me for an hour two years ago. I am Mr. X, and I had had two years of analysis for excessive smoking with only an increase in my smoking. I can't remember what went on when I saw you, but I do know that I haven't smoked a cigarette since then. It's embarrassing, too, because I can't even light one for my girl. I've tried many times, but I can't.

"But I went back to that analyst, and he took all the credit for my stopping smoking. I didn't tell him about you. I thought I needed to see him about what he called a character defect in me. Here I am with a college education, and the longest I've worked at a job has been three months. I can always get a job, but I'm 34 now, and four years of psychoanalysis has wound up with my last job lasting only five weeks. But I'm 34 now, and I've got the promise of another job with a future to it. Now I want you to do something about whatever is wrong with me because I've quit the analyst. I've had better jobs than the one coming up, but there is nothing to hold me to it. It will be the same old story. Now, hypnotize me and do what I should have had you do two years ago, whatever that was."

His former case record was looked up to re-

fresh the author's memory. As precisely as possible the technique of the previous occasion was followed, and he was again dismissed. Two years later he was still at the 'new job' but had been promoted to a managerial position which he has held for over a year. A chance meeting with him disclosed this fact and also that he is married and a father and that his wife voluntarily gave up smoking.

Erickson's original 1964 summary was as follows:

Three of a long series of similar cases are reported here to illustrate the use of hypnosis as a technique of deliberately shifting from the therapist to the patient the entire burden of both defining the psychotherapy desired and the responsibility for accepting it. Often this is the most difficult part of psychotherapy. In all the patients this author has handled successfully in this manner, all had a history of a steady, persistent search for therapy, but a failure to take the responsibility of accepting it. Additionally, all such patients with whom the author has had a known success were of a superior intelligence level.

In traditional ritualistic and conventional psychotherapies much, often futile, effort is made to induce patients to assume adequately the responsibility for their own behavior and for future effort. This is done without regard for the patients' consciously thinking and firmly believing as an absolute truth the futility of any effort on their own part.

But utilizing hypnosis as a technique of deliberately and intentionally shifting to the patients their own burden of responsibility for therapeutic results and having them emphatically and repetitiously affirm and confirm in their own thought formulations and their own expressed verbalizations of their own desires, needs and intentions at the level of their own unconscious mentation, facilitates the therapeutic goals becoming the patient's own goals, not those merely offered by the therapist he is visiting.

That this procedure always is successful is not true. There are many patients who want therapy but do not accept it until adequately motivated. There are other patients whose goal is no more than the continuous seeking of therapy but not the accepting of it. With this type of patient hypnotherapy fails as completely as do other forms of therapy.

Comment: This is an example of the essence of Erickson's original thinking and contribution to the naturalistic pathways approach to medical hypnosis. It is fundamentally different from previous concepts of *traditional ritualistic* hypnosis and most conventional programming psychotherapies. Erickson and Rossi called this the "naturalistic and utilization" approach to therapeutic hypnosis and psychotherapy (Erickson, 1957/2008, 1958/2008).

Another of Erickson's most original contributions was his invention of hand levitation in facilitating the induction of therapeutic hypnosis, rehabilitation, and psychotherapy (Rossi & Rossi, 2008). What was most innovative about Erickson's hand-levitation approach is that he replaced the traditional hypnotic induction via passivity-inducing suggestions for relaxation and sleep with the exact opposite: hand levitation is a rather paradoxical activity that usually requires an active effort by the patient. Erick-

son would typically offer positive suggestions for achieving positive therapeutic goals while the patient was experiencing the active effort of hand levitation.

Erickson (Erickson & Rossi, 1981/2014) frequently commented that successful hand levitation requires activating muscle tonus (the slight continuous contraction characteristic of a muscle at rest) on a deep physiological level. Erickson's patients would often tremble, vibrate, shake, sweat, and feel hot with the strain they were experiencing—the opposite of the traditional passive hypnotic induction via quiet suggestions for relaxation and sleep. Erickson's hand levitation technique activated the patient's mind and body while they were receiving positive inspiring suggestions for therapeutically reconstructing themselves. Erickson, of course, did use the traditional pas-

sive eye fixation techniques with relaxation suggestions when they were appropriate, but there was always a special twinkle in his eyes when he used the active hand levitation approach that he seemed proudest of—he got his patients to work and sweat just as farmers and laborers did! What was the work and sweat all about? There seemed to be some secret and unexpected therapeutic efficacy associated with activating the patient's mind-body while administering positive therapeutic suggestions.

What could this secret be?

It was while searching for the source of this secret efficacy of associating positive therapeutic suggestions with hand levitation and thereby activating the patient's mind-body that Ernest Rossi (1986, 2002) accidently stumbled upon the concept of activity-dependent gene expression and brain plasticity in the

The 4-Stage Creative Cycle

This natural process is reflected across nature and can be clearly seen in the natural flow when humans encounter novel experiences or seek to solve problems. The history of our realization of the four stages is lengthy and includes the German philosopher, Hermann von Helmholtz, and the French mathematician, Henri Pointcaré (Hill & Rossi, 2017). The stages can be described as:

Stage 1. Information—gathering of information and data: What is this all about?

Stage 2. Incubation—working out what the problem or novel information is really all

about. How does this affect me? What does this mean to me?

Stage 3. Breakthrough and illumination—a flash of insight, resolution, or revelation (an "aha!" moment) followed by an expansive and creative response to change. Things make sense now and I can create something better in my life.

Stage 4. Verification—the whole experience is quietly reviewed and considered, and the benefits integrated into everyday life. I understand, appreciate, and accept what I have learned.

new neuroscience of psychosocial genomics, the 4-stage basic rest-activity cycle, and the 4-stage creative cycle of creative consciousness and therapeutic cognition (Hill & Rossi, 2017; Lloyd & Rossi, 1992, 2008; Rossi, 2002). It suddenly seemed intuitively obvious that Erickson's activating hand levitation approach could be turning on what the molecular biologists and neuroscientists were calling "activity-dependent gene expression and brain plasticity".

Could this really be the secret of the therapeutic efficacy of Erickson's hand levitation approach?

Ernest Rossi (2002, 2005, 2007) simply generalized Erickson's activity-dependent hand levitation approach to an ever-growing potpourri of novel activity-dependent hand mirroring approaches to therapeutic hypnosis, psychotherapy, and psychosocial genomics. The approach and techniques, now broadly termed "mirroring hands", is most recently described in the book by Richard Hill and Ernest Rossi (2017). Pilot studies document how this therapeutic approach is efficacious in turning on gene expression in the consulting room (Rossi, Iannotti, et al., 2008). The broader cultural and educational implications of such research is that all novel, fascinating, awesome, mysterious, and numinous psychological experiences of art, beauty, and truth turn on gene expression and brain plasticity when we are creatively engaged while awake as well as when we are updating and reconstructing our mind, memories, and well-being during our dreams while asleep (Rossi, 1972/2000). Current research on brain rhythms and diurnal variations in hypnotic responsiveness (Jensen, 2016; Jensen, Adachi, & Hachiman, 2015a; Jensen et al., 2015b) continues to explore the role of activity-dependent gene expression, brain plasticity and the basic rest-activity cycle in the new neuroscience pathways of psychosocial genomics (Cozzolino, Iannotti, et al., 2014; Cozzolino, Tagliaferri, et al., 2014; Lloyd & Rossi, 1992, 2008).]

Jensen (2016, p. 139), for example, reviews the most recent research as follows:

If the absolute power of theta or the amount of theta power relative to other oscillations facilitates hypnotic responding as proposed by the theta hypothesis, then not only would we predict more hypnotic responsivity when theta tends to peak during the day (e.g., in the mid-morning and late afternoon/early evening, on average), but we would anticipate that there would be times within each 90-120-minute cycle when individuals are more prone to respond to suggestions. As Green and colleagues (Green, Smith, & Kromer, 2015) point out, an ultradian pattern of hypnotic responsivity was noted by Ernest Rossi more than 30 years ago (Rossi, 1982). Rossi has also noted that Milton Erickson preferred to meet with clients for 90 minutes or longer and that Erickson was aware that people cycled in and out of receptive states. Erickson would then pay close attention to clients and simply wait until they became naturally more open to new ideas and suggestions during the session. His work did not always involve the use of a formal hypnotic induction. Thus, Rossi notes, Milton Erickson was less a genius of manipulation "but rather a genius of observation" (Rossi & Nimmons, 1991, pp. 2-3). Given these considerations, Green and colleagues' conclusion that the mid-morning may be the

best time to be hypnotized might be qualified by saying that all else being equal, and on average, the mid-morning might be the best time to be hypnotized.

However, close observation of individual clients for signs of responsivity to the mirroring hands approach to therapeutic hypnosis (Hill & Rossi, 2017), indicates that there is a beneficial response even in the late afternoon, which gives weight to Ernest Rossi's comment that mirroring hands is more "hypnosis without the hypnosis". Rather than a formal induction, or therapist direction of the subject, mirroring hands seeks to engage the subject's natural inclinations to move into a trance, or what Erickson called a general waking trance (Rossi et al., 2008a).

SUMMARY OF OUR 2019 UPDATES AND PROPOSALS

In hindsight, we now have a clear 20/20 vision of the major insights in the 200-year history of hypnosis from its pre-scientific sources before James Braid (Zilboorg & Henry, 1941) to the present. These insights remind us of the journey and prepare us for future exploration to find an overarching theory of how therapeutic practices and academic disciplines including quantum field theory, complex systems, psychology, psychotherapy, neuroscience, psychosocial genomics, and therapeutic hypnosis benefit those who suffer and are in need.

New fields of research. Continuing case studies of Milton H. Erickson's naturalistic approaches to therapeutic hypnosis as illustrated in this paper is fomenting evi-



dence-based neuroscience and psychosocial genomic research on the mind-body nature of the therapeutic pathways of consciousness and cognition (Erickson, 1958/2008, 1964/2008).

A biopsychosocial model. Ernest Rossi's related 30-year-old question about the naturalistic basis of Erickson's therapy, "Hypnosis and ultradian cycles: A new state(s) theory of hypnosis?" (Rossi, 1982), is now being evaluated as a hypothesis about a biopsychosocial model of therapeutic hypnosis by other research groups (Green et al., 2015; Jensen, 2016; Jensen et al., 2015a, 2015b).

Integration of multiple disciplines. More recently, well-documented scientific evidence for natural circadian (~ 24 hours) and ultradian (less the 24 hours) cycles and rhythms of responsiveness in human behavior and cognition in everyday life represents a new integration of neuroscience, psychobiology and medicine, as well as therapeutic hypnosis. The Nobel Prize in Physiology or Medicine in 2017, for example, was awarded jointly to Jeffrey C. Hall, Michael Rosbash, and Michael W. Young for their discoveries of molecular mechanisms controlling the circadian rhythm of life and consciousness.

Jerome Groopman, a staff writer since 1998, who writes primarily about medicine and biology, had this to say about the profound implications of the Nobel Prize for all of us:

The Nobel committee made clear this morning, the science that informs and occasionally up-ends our understanding of human health and disease often comes from unexpected places. Studies of the

circadian rhythm in flies have shed light on the genes and proteins that synchronize our own bodies with the day; they may lead to treatments for a wide range of maladies, from jetlag to obesity to heart disease. The joy of science is to learn for learning's sake; whatever wondrous insights emerge may then be used to address the problems that we confront in our daily lives. The message embedded in today's Nobel Prize announcement couldn't come at a better moment—or a more fraught one. (Groopman, 2017, para. 3)

An integrated quantum field theory. This leads us to propose that the ultimate foundation of therapeutic consciousness, cognition, hypnosis, meditation, and virtually all the so-called alternative and complementary approaches to medicine, may be emerging as an integrated quantum field theory—as discussed in earlier articles in *The Neuropsychotherapist* (Rossi & Rossi, 2018)—of the fundamental pathways of physics, math, chemistry, biology, and neuropsychotherapy (Feynman, 1948; Feynman & Hibbs, 2005; Loewenstein, 1999, 2013; McFadden, 2008; McFadden & Al-Khalili, 2014; Rossi & Rossi, 2008, 2014, 2015a, 2015b).

Many paths in effective therapy. The many paths to effective neuropsychotherapy could be best summarized with an anecdote about Erickson's penchant for casually asking patients at the very end of sessions about how many different paths they could find to climb Piestewa Peak (informally known as Squaw Peak, a popular small mountain near Erickson's office). Which path might be best

for a lonely guy or gal to start up a conversation with an attractive stranger? As patients were opening the door to leave at the end of a session Erickson might stir some humorous homework (post-hypnotic suggestions) with a twinkle in his tone about how many different ways they could return home and come back again next time.

Broadening the client's possibilities. When I asked Erickson why he would play such apparently silly games with patients just as they were opening the door to end a session, Erickson responded that he believed such patients had problems because they had a too narrow or rigid approach to life. His apparently silly questions were oriented toward broadening and expanding the patient's paths of neurotherapeutic consciousness and cognition.

The value of autobiography. A fundamental contribution of our integrated quantum field theory is the familiar but often forgotten value of autobiography, which is the essential therapeutic method and function of Erickson's 1964 paper.

Discovery and therapeutic integration of natural cycles and rhythms. Patients seek help in counseling, coaching, meditation, psychotherapy, and spirituality because they are stuck in Stage 2 of the 4-stage creative cycle; they need support and empathic guidance to continue replaying their crisis/opportunity periods of private inner work and creative replay to resolve the entirely natural quantum uncertainty that is usually manifest every 90 to 120 minutes of the basic rest-activity cycles, about 12 times every day.

Integration of quantum's many paths and Erickson's many paths. Our quantum field theory integrates Feynman's path integral of physics with Erickson's natural pathways of medical hypnosis and rehabilitation in Stage 4 of the creative mathematician's toolbox—insightful simplification/reintegration.

Introduction of STEM approaches to consciousness research. Current and future research into the pathways of effective consciousness and cognition in neuropsychotherapy and therapeutic hypnosis must utilize the science, technology, engineering, and math (STEM) approaches to research.

REFERENCES

Cozzolino, M., Iannotti, S., Castiglione, S., Cicatelli, A., Rossi, K., & Rossi, E. (2014). A bioinformatic analysis of the molecular-genomic signature of therapeutic hypnosis. The International Journal of Psychosocial Genomics: Consciousness and Health Research, 1, (1), 6-11.

Cozzolino, M., Tagliaferri, R., Castiglione, S., Fortino, V., Cicatelli, A., Guarino, F., . . . Iannotti, S. (2014). The ceative psychosocial and cultural genomic healing experience: A new top-down epigenomic psychotherapeutic protocol International Journal of Psychosocial Genomics: Consciousness and Health Research, 1, (1), 18–26.

Erickson, M. (2008). Naturalistic techniques of hypnosis. In E. Rossi, R. Erickson-Klein, & K. Rossi (Eds.), The collected works of Milton H. Erickson, Vol. 1: The nature of therapeutic hypnosis (pp. 261–270). Phoenix, AZ: The Milton H. Erickson Foundation Press. (Original work published 1957)

Erickson, M. (2008). Further clinical techniques of hypnosis: Utilization techniques. In E. Rossi, R. Erickson-Klein, & K. Rossi

- (Eds.), The collected works of Milton H. Erickson, Vol. 1: The nature of therapeutic hypnosis (pp. 271–301). Phoenix, AZ: The Milton H. Erickson Foundation Press. (Original work published 1958)
- Erickson, M. (2008). The burden of responsibility in effective psychotherapy. In E. Rossi, R. Erickson-Klein, & K. Rossi (Eds.), The collected works of Milton H. Erickson, Vol. 3: Opening the mind: Innovative psychotherapy (pp. 67–71). Phoenix, AZ: The Milton H. Erickson Foundation Press. (Original work published 1964)
- Erickson, M., & Rossi, E. (2014). Experiencing hypnosis. In E. Rossi, R. Erickson-Klein, & K. Rossi (Eds.). The collected works of Milton H. Erickson, Vol. 12: Therapeutic Approaches to Altered States (pp. 63–64). Phoenix, AZ: The Milton H. Erickson Foundation Press. (Original work published 1981).
- Feynman, R. (1948). Space-time approach to non-relativistic quantum mechanics. Reviews of Modern Physics, 20, 367-387. Retrieved from https://www.physik.unimuenchen.de/lehre/vorlesungen/sose_18/Quantum-Field-Theory/Uploaded-Material/Feynman_Approach_1948.pdf
- Feynman, R., & Hibbs, A. (2005). Quantum mechanics and path integrals [Emended edition by D. F. Steyer]. New York, NY: Dover. (Original work published 1965)
- Green, J., Smith, R., & Kromer, M. (2015). Diurnal variations in hypnotic responsiveness: Is there an optimal time to be hypnotized? The International Journal of Clinical and Experimental Hypnosis. 63, 171–181. doi:10.1080/00 207144.2015.1002675.
- Groopman, J. (2017, October 3). The year's first Nobel went to three Americans who pioneered the study of the biological clock. What does it mean? *The New Yorker*. Retrieved from https://www.newyorker.com/tech/elements/the-real-message-of-the-2017-nobel-prize-in-physiology-medicine
- Hill, R., & Rossi, E. (2017). The practitioner's quide to mirroring hands: A client-responsive

- therapy that facilitates natural problem solving and mind-body healing. New York, NY: Crown House Publishing.
- Jensen, P. (2016). Brain oscillations and diurnal variations in hypnotic responsiveness: Is there an optimal time to be hypnotized? International Journal of Clinical and Experimental Hypnosis, 64(1), 137–145. doi:10.1080/00207144.2015.1099408
- Jensen, M., Adachi, T., & Hachiman, S. (2015a). Brain oscillations, hypnosis, and hypnotizability. *American Journal of Clinical Hypnosis*, 57, 230–253. doi:10.1080/00029157.2014.976786
- Jensen, M., Adachi, T., Tomé-Pires, C., Lee, J., Osman, Z., & Miró, J. (2015b). Mechanisms of hypnosis: Toward the development of a biopsychosocial model. *International Journal of Clinical and Experimental Hypnosis*, 63, 34–75. doi:10.1080/00207144.2014.961875
- Kleitman, N. (1963). Sleep and wakefulness. Oxford, United Kingdom: University of Chicago Press.
- Kleitman, N. (1982). Basic rest-activity cycle: 22 years later. Sleep, 5(4), 311-317. doi:10.1093/sleep/5.4.311
- Lloyd, D., & Rossi, E. (Eds.). (1992). Ultradian rhythms in life processes: An inquiry into fundamental principles of chronobiology and psychobiology. New York, NY: Springer-Verlag.
- Lloyd, D., & Rossi, E. (Eds.). (2008). Ultradian rhythms from molecules to mind: A new vision of life. New York, NY: Springer.
- Loewenstein, W. R. (1999). The touchstone of life: Molecular information, cell communication, and the foundations of life. New York, NY: Oxford University Press.
- Loewenstein, W. (2013). Physics in mind: A quantum view of the brain. New York, NY: Basic Books.
- McFadden, J. (2008). Quantum evolution: How physics' weirdest theory explains life's biggest mystery. New York, NY: W. W. Norton.
- McFadden, J., & Al-Khalili, J. (2014). Life on the edge: The coming of age of quantum biology.

- New York, NY: Crown.
- Norcross, J., & Wampold, B. (2011). Evidence-based therapy relationships: Research conclusions and clinical practices. *Psychotherapy*, 48, 98–102. doi:10.1037/a0022161
- Rossi, E. (1973a). The dream protein hypothesis. The American Journal of Psychiatry, 130, 1094–1097.
- Rossi, E. (1973b). Psychological shocks and creative moments in psychotherapy. The American Journal of Clinical Hypnosis, 16, 9–22.
- Rossi, E. (1982). Hypnosis and ultradian cycles: A new state(s) theory of hypnosis? *American Journal of Clinical Hypnosis*, **25**, **21**–**32**.
- Rossi, E. (1986). The psychobiology of mind-body healing. New York, NY: W. W. Norton.
- Rossi, E. (2000). Dreams, consciousness and spirit:

 The quantum experience of self-reflection and co-creation (3rd ed.). New York, NY: Zeig,
 Tucker, Theisen. (Original work published 1972 as Dreams and the growth of personality)
- Rossi, E. (2002). The psychobiology of gene expression: Neuroscience and neurogenesis in hypnosis and the healing arts. New York, NY: W. W. Norton.
- Rossi, E. (2005). A discourse with our genes: The psychosocial and cultural genomics of therapeutic hypnosis and psychotherapy. Torino, Italy: Editris.
- Rossi, E. (2007). The breakout heuristic: The new neuroscience of mirror neurons, consciousness and creativity in human relationships. Phoenix, AZ: The Milton H. Erickson Foundation Press.
- Rossi, E. (2012). Creating consciousness: How therapists can facilitate wonder, wisdom, truth and beauty. Phoenix, AZ: The Milton H. Erickson Foundation Press.
- Rossi, E., Erickson-Klein, R., & Rossi, K. (2008a). Novel activity-dependent approaches to therapeutic hypnosis and psychotherapy: The general waking trance. *American Journal of Clinical Hypnosis*, **51(2)**,

- 185–200. doi:10.1080/00029157.2008.10401
- Rossi, E., Erickson-Klein, R., & Rossi, K. (2008b). The future orientation of constructive memory: An evolutionary perspective on therapeutic hypnosis and brief psychotherapy. *American Journal of Clinical Hypnosis*, 50(4), 343–350. doi:10.1080/00029157.2008.10404301
- Rossi, E., Iannotti, S., Castiglione, S., Cozzolino, M. & Rossi, K. (2008). A pilot study of positive expectations and focused attention via a new protocol for optimizing therapeutic hypnosis and psychotherapy assessed with DNA microarrays: The creative psychosocial genomic healing experience. The Journal of Sleep and Hypnosis. Retrieved from https://pdfs.semanticscholar.org/1f88/a622818b-e39639200917cdbf4d7a9349c857.pdf
- Rossi, E., & Nimmons, D. (1991). The 20-minute break. Los Angeles, CA: Tarcher.
- Rossi, E., & Rossi, K. (2008). Novel activity-dependent approaches to therapeutic hypnosis and psychotherapy: The general waking trance. In E. Rossi, R. Erickson-Klein, & K. Rossi (Eds.), *The Collected Works of Milton H. Erickson*, Vol. 3 (pp. 261–280). Phoenix, AZ: The Milton H. Erickson Foundation Press.
- Rossi, E., & Rossi, K. (2014). Quantum perspectives of consciousness, cognition and creativity: The Dirac equation in a new contour integral model of brain plasticity. *Journal of Applied and Computational Mathematics*, 3, 1–8. doi:10.4172/2168-9679.1000183
- Rossi, E., & Rossi, K. (2015a). Quantum perspectives of psychosocial genomics: An RNA/DNA epigenomic theory of consciousness and cognition. The International Journal of Psychosocial and Cultural Genomics: Consciousness and Health Research, 3, 15–25.
- Rossi, E., & Rossi, K. (2015b). A student's guide to the galaxy of consciousness research: The quantum field theory of psychosocial genomics. The International Journal of Psychosocial and Cultural Genomics: Consciousness & Health Research, 3, 54–62.

- Rossi, E. L., & Rossi, K. L. (2018, November). An integrated quantum field theory of the evolution of life, consciousness, cognition and the neuroscience of neuropsychotherapy, *The Neuropsychotherapist*, 6, 42–51.
- Tsuiji, Y., & Kobayshi, T. (1988). Short and long ultradian EEG components in daytime arousal. Electroencephalography and Clinical Neurophysiology, 70, 110–117.
- Zilboorg, G., & Henry, G. (1941). A history of medical psychology. New York, NY: W. W. Norton.

FURTHER READING

Feynman, R. (1985). QED: The strange theory of light and matter. Princeton, NJ: Princeton University Press.

Feynman, R., Leighton, R., & Sands, M. (1965).

- The Feynman lectures on physics (Vols. 1−3). NY, New York: Addison–Wesley.
- Rossi, E., & Rossi, K. (2016a). A quantum field theory of life and consciousness: The quantum heat engine of psychosocial genomics. The International Journal of Psychosocial and Cultural Genomics: Consciousness and Health Research. Retrieved from https://www.ernestrossi.com/ernestrossi/keypapers/IJP-GCHR%20Vol.%202%20Issue%20I,%20 February%202016,%20pp.6-30%20QUANTUM%20HEAT%20ENGINE.pdf
- Rossi, E., & Rossi, K. (2016b, April). How quantum field theory optimizes neuropsychotherapy. *The Neuropsychotherapist*, 4, 14–29.
- Rossi, E., Erickson-Klein, R., & Rossi, K. (2008–2016). The Collected Works of Milton H. Erickson (16 Volumes). Phoenix, AZ: The Milton H. Erickson Foundation Press.

BIOGRAPHY



Ernest L. Rossi, PhD, is an internationally renowned therapist, teacher, and pioneer in the psychobiology of mind-body healing. The author of more than 24 professional books, Dr. Rossi worked with Milton Erickson for eight years and co-authored three classic volumes on therapeutic hypnosis with him. Rossi has also edited four volumes of Erickson's Collected Papers and four volumes of Erickson's Seminars, Workshops and Lectures. He has been conducting research in the psychosocial genomics of ultradian rhythms and their relation to mind-body healing and psychotherapy for over three decades.



Kathryn Rossi, PhD, is a licensed psychologist and certified yoga instructor (RYT 500). She is co-editor of the 16-volume *Collected Works of Milton H. Erickson* and is editor and co-author of numerous books and articles with Ernest Rossi. Her unique contribution is on the understanding of yoga as a therapeutic practice in relation to psychotherapy, cognition, and consciousness She is in private practice in Los Osos, California