

The Grammar of Ritual

Ted Kaptchuk's Placebo Research and the Closure Framework: When the Healing Encounter Is the Active Ingredient

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Placebo effects are the salubrious benefits that derive from participation and immersion in the rituals, symbols, and behaviors embedded in any medical encounter, as distinct from the active intervention.

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Every finite closure generates remainder. The remainder is not noise. It is the proof that the grammar is finite.

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Abstract

Ted Kaptchuk has spent thirty years at Harvard Medical School demonstrating, with rigorous clinical evidence, that the active ingredient in many medical treatments is not the drug, the device, or the procedure but the ritual of the healing encounter: the symbols, behaviors, and relational dynamics that surround any therapeutic intervention. His open-label placebo research, demonstrating that placebo effects persist even when patients know they are receiving a placebo, eliminates false belief as the mechanism and points directly to the healing grammar as the causal agent. This paper argues that Kaptchuk's findings are the most direct empirical confirmation available of the closure framework's account of placebo and nocebo, as developed in the Grammar of Healing. The active ingredient Kaptchuk has identified is the cognitive closure regime of the healing encounter: the stable arrangement of symbols, roles, and behaviors that constitutes a shared grammar of healing between patient and practitioner. When that grammar is established, cognitive closure reaches into biological closure and reconfigures it. Not because the patient believes a false proposition. Because the patient is immersed in a grammar that the nervous system has learned to treat as the occasion for biological reorganization. The closure framework provides the mechanistic account that Kaptchuk's research has been searching for: why the ritual works when the belief is absent, why the encounter matters more than the molecule, and why the healing grammar is not a confound to be controlled away but the central therapeutic phenomenon to be understood.

1. The Patient Who Knew and Got Better Anyway

In 2010, Ted Kaptchuk and his colleagues at Harvard Medical School published a study that should have been impossible under the prevailing theory of placebo effects. They recruited eighty patients with irritable bowel syndrome, a chronic condition characterized by abdominal pain, bloating, and disordered bowel function, and divided them randomly into two groups. One group received no treatment. The other received open-label placebo: sugar pills, clearly labeled as such, dispensed by a clinician who explained honestly that the pills were inert but that research showed placebo pills could produce real physiological improvement through what the body does in response to the ritual of taking medicine.

The patients in the open-label placebo group improved significantly more than those in the no-treatment group. Not slightly. Significantly, on validated symptom scales, with effect sizes comparable to those achieved by the best available medications for IBS. The patients knew they were taking placebos. They knew the pills contained no active pharmaceutical ingredient. They improved anyway.

This finding was not an anomaly. Kaptchuk's group has since replicated it across multiple conditions, including cancer-related fatigue, chronic low back pain, menopausal hot flashes, and opioid use disorder. The pattern holds: patients who receive open-label placebo honestly prescribed improve more than patients who receive no treatment, even though they know they are receiving nothing pharmacologically active. The effect is not explained by false belief, because there is no false belief. It is not explained by expectation of improvement, because patients are told they might improve but also told the pills are sugar. Something else is doing the healing.

What is doing the healing, Kaptchuk argues, is the ritual. The ceremony of the medical encounter: the consultation, the diagnosis, the prescription, the dispensing, the taking of the pill at a regular time each day, the follow-up appointments. The ritual constitutes a grammar of healing that the nervous system responds to without requiring any particular belief about the pill's pharmacological content. The grammar is the active ingredient. The molecule, where there is one, is a secondary participant in a process that the grammar initiates and organizes.

This paper argues that Kaptchuk has been right all along, and that the closure framework explains precisely why he has been right: what the healing ritual does is constitute a shared cognitive closure between patient and practitioner that reaches into biological closure and reorganizes it. The grammar heals because the nervous system has learned to treat certain organized patterns of encounter, certain stable arrangements of symbols and behaviors, as the occasion for the biological reorganization that restores health. The pill is not the medicine. The grammar is.

2. Kaptchuk's Four Claims

Kaptchuk's contribution to placebo research and medicine has four interconnected components developed across three decades of clinical investigation.

2.1 The Ritual Is the Active Ingredient

Kaptchuk's central claim is that what produces placebo effects is not belief, expectation, or deception but participation in the ritual of the medical encounter. The placebo effect is the salubrious benefit that derives from immersion in the symbols, behaviors, and relational dynamics embedded in any therapeutic interaction, as distinct from the pharmacologically or mechanically active component of the intervention.

This claim is radical in the context of mainstream medicine, which treats the placebo effect as a confound to be controlled away rather than a phenomenon to be understood and deployed. The randomized controlled trial is designed to separate the drug effect from the placebo effect, implying that the drug effect is the real medicine and the placebo effect is noise. Kaptchuk inverts this. The placebo effect, which he prefers to call the therapeutic encounter effect, is often the dominant therapeutic mechanism. The drug or device modulates a healing process that the ritual initiates. For many conditions, particularly those involving subjective symptoms, central sensitization, and the nervous system's own regulatory capacity, the ritual may be the primary medicine.

2.2 Open-Label Placebo: The Falsification of the Belief Hypothesis

The standard theory of placebo effects holds that they require either deception, the patient believes the pill is active when it is not, or at least the expectation of improvement based on that false belief. Henry Beecher, whose 1955 paper established placebo effects as a recognized phenomenon, stated explicitly that placebos work only as long as they are not detected as placebos.

Kaptchuk's open-label placebo research falsifies this theory. When patients are told honestly that they are receiving a placebo, the effect does not disappear. In some studies it is as large as the effect achieved with deceptive placebo. The belief hypothesis cannot explain this. If false belief is the mechanism, then honest disclosure should eliminate the effect. It does not. The mechanism must be elsewhere.

Kaptchuk locates the mechanism in the ritual. Even when patients know the pill contains no active ingredient, the ritual of taking it, the regular timing, the physical act, the consultation with a clinician, the sense of participating in a treatment process, constitutes a grammar that the nervous system responds to. The belief is irrelevant. The grammar is not.

2.3 The Therapeutic Encounter: Relationship as Medicine

Kaptchuk's research has consistently found that the quality of the patient-practitioner relationship modulates the magnitude of placebo effects. Studies using sham acupuncture show that patients treated by clinicians who engage them warmly, express empathy, maintain eye contact, use patient-centered language, and project confidence achieve significantly larger placebo

responses than patients treated by clinicians who are efficient but remote. The molecule delivered is the same. The ritual surrounding it is different. The outcomes differ.

This finding points to the relational dimension of the healing grammar: the grammar is not constituted by the patient alone but by the dyadic encounter between patient and practitioner. The practitioner's behavior, manner, attention, and expressed confidence are not peripheral features of the treatment. They are constitutive elements of the grammar that makes the treatment what it is. A drug delivered in a dismissive, hurried, impersonal encounter is a different treatment from the same drug delivered in a warm, attentive, confident encounter. The ritual makes the medicine.

2.4 The Unconscious Mechanism: Grammar Beneath Belief

Kaptchuk's most recent work addresses the mechanism directly. Studies by his collaborators using fMRI show that placebo effects can be triggered by images flashed on a screen for intervals too brief for conscious recognition: images that patients have previously learned to associate with healing contexts. The placebo response activates at the unconscious level, triggered by learned associations between sensory cues and the grammar of healing, without any conscious belief, expectation, or awareness of the triggering stimulus.

This is the most important mechanistic finding in Kaptchuk's program. It establishes that the healing grammar operates primarily at the level of learned neural patterns rather than at the level of conscious cognition. The grammar is not a conscious belief about the efficacy of the treatment. It is a pattern of neural organization that the nervous system has learned to associate with the biological states that healing produces. When the grammar is activated, whether by a pill, a consultation, a clinical environment, or a briefly flashed image previously associated with those contexts, the biological reorganization follows. The belief is not the trigger. The grammar is.

3. What Kaptchuk Needs

Kaptchuk's research is the most clinically rigorous body of evidence available for the claim that the healing encounter is itself a therapeutic mechanism. His findings are clear, replicated, and increasingly accepted by the medical community. His open-label placebo trials have been conducted across multiple conditions in multiple institutions on two continents. His mechanistic studies have established that the effect operates at the unconscious level through learned neural associations.

What the research has not yet provided is a philosophical account of why the ritual works at the mechanistic level: what the healing grammar is, structurally, that gives it the capacity to initiate biological reorganization. Kaptchuk describes the ritual as the active ingredient and shows that it works. He does not have a model of what the ritual is that explains why it would work, why the organized pattern of symbols and behaviors in the medical encounter would reach into the biology of the nervous system and reconfigure it.

The closure framework provides this account. The healing ritual is a shared cognitive closure regime: a stable arrangement of symbols, roles, behaviors, and relational dynamics that constitutes a grammar of healing between patient and practitioner. When that grammar is established, the cognitive closure regime of the healing encounter reaches into the biological

closure of the patient's nervous system and sets new boundary conditions for it. Those boundary conditions initiate the same neurochemical cascades that drugs initiate, using the same pathways, because the nervous system has learned to treat the grammar of healing as the occasion for biological reorganization. The grammar is not a signal that triggers a downstream response. It is a higher-level closure that reconfigures the boundary conditions of the biological closure below it. That is downward causation. That is what the Grammar of Healing established. That is what Kaptchuk has been demonstrating for thirty years without yet having the structural vocabulary to name it.

4. The Framework in Clinical Terms

The closure framework is introduced here in the minimum terms needed to ground Kaptchuk's findings. Two concepts from the framework and one connection to the Grammar of Healing.

4.1 The Healing Grammar as Cognitive Closure

A closure regime is a system that stabilizes some content by drawing distinctions, establishing identity criteria, and maintaining lawful relationships among its elements. The healing encounter is a closure regime in this precise sense. It draws distinctions: between patient and practitioner, between illness and health, between inside and outside the treatment context. It establishes identity criteria: the behaviors, symbols, and relational patterns that make this encounter a healing encounter rather than a casual conversation or a commercial transaction. And it maintains lawful relationships among its elements: the sequencing of consultation, diagnosis, prescription, and follow-up follows an order that is not arbitrary but constitutive of what the healing encounter is.

This closure is cognitive: it is maintained by the nervous system's learned pattern of recognizing and responding to healing contexts. The patient who enters a clinical environment, sits with a practitioner who displays the symbols of medical competence, receives a diagnosis that organizes the symptoms into a coherent clinical picture, and accepts a treatment prescribed with expressed confidence is immersed in a grammar that the nervous system has been learning since the first time it was carried into a healing context by someone who loved it. The grammar constitutes facts: this is a healing encounter, this person has the competence to help, this intervention is the occasion for recovery. Those constituted facts are not conscious beliefs held by the patient. They are the identity criteria of the cognitive closure that the healing encounter establishes.

Kaptchuk's open-label placebo dissolves the belief hypothesis precisely because it shows that the grammar works independently of conscious belief. The conscious proposition the patient holds, this pill is a placebo, does not dissolve the grammar. The grammar is maintained by the ritual, by the relational context, by the symbols of the medical encounter, independently of what the patient consciously believes about the pharmacological content of the pill.

4.2 Downward Causation: How the Grammar Reaches the Biology

The Grammar of Healing, the third paper in the CC-C companion suite, established the mechanistic account that Kaptchuk's research confirms. Benedetti's prefrontal damage dissociation demonstrated that placebo analgesia requires an intact prefrontal cortex: patients with prefrontal damage retain their capacity to benefit from active analgesics but lose their capacity to benefit from placebos. The prefrontal cortex is the anatomical locus where cognitive closure reaches into biological closure. It sets the boundary conditions for the neurochemical cascades that produce analgesia, anxiolysis, and other placebo responses. When the cognitive closure of the healing grammar is established, it acts through the prefrontal cortex to initiate these cascades.

Kaptchuk's finding that placebo effects operate at the unconscious level, triggered by briefly flashed images associated with healing contexts, is entirely consistent with this account. The cognitive closure does not require conscious belief because it operates at the level of learned neural patterns in the prefrontal and related cortices: patterns that constitute the healing grammar as a persistent organizational structure in the nervous system, available to be activated by any cue that the system has learned to associate with healing contexts. The grammar is embodied. It is a biological fact about the organization of the nervous system, not a consciously held belief that must be maintained by deception.

This is why open-label placebo works. The grammar is not dissolved by honest disclosure because the grammar is not a belief. It is an organizational structure of the nervous system, established through repeated experience of healing encounters, maintained by the ritual that activated it, and capable of initiating biological reorganization whenever the ritual is present. The pill is a ritual object. It activates the grammar. The grammar initiates the biology. The honesty about the pill's pharmacological inertness is irrelevant to this sequence because the sequence does not depend on a false proposition. It depends on the grammar.

5. Four Claims, One Structure

The vocabulary correspondence between Kaptchuk's research findings and the closure framework is the most directly clinical in the series. What Kaptchuk calls the ritual of the medical encounter, the closure framework calls the cognitive closure regime of the healing grammar. What Kaptchuk calls participation and immersion in the symbols and behaviors of healing, the framework calls the establishment of a closure that constitutes healing as a fact within the patient-practitioner interaction. What Kaptchuk calls the active ingredient in the therapeutic encounter, the framework calls the cognitive closure that sets boundary conditions for the biological closure below it. What Kaptchuk calls the unconscious mechanism of placebo effects, the framework calls the embodied grammar of healing: the organizational structure of the nervous system that has learned to treat specific closure patterns as the occasion for biological reorganization. And what Kaptchuk calls the therapeutic encounter effect, distinct from any pharmacological or mechanical intervention, the framework calls downward causation from cognitive closure to biological closure.

5.1 The Open-Label Placebo Is the Proof of the Grammar

Kaptchuk's open-label placebo is not merely a clinically interesting finding. It is the experimental falsification of the belief hypothesis and the confirmation of the grammar hypothesis. If belief were the mechanism, honest disclosure would eliminate the effect. It does not. Therefore belief is not the mechanism. The mechanism is whatever persists when the false belief is removed. What persists is the ritual, the grammar, the cognitive closure of the healing encounter.

The closure framework predicted this result before the trials were conducted. The Grammar of Healing, developed independently of Kaptchuk's open-label placebo program, argued that the active ingredient in placebo is not false belief but the healing grammar: the cognitive closure that the medical encounter establishes and that reaches into biological closure to initiate healing responses. Kaptchuk ran the experiment that confirmed the prediction. Not because he knew about the prediction, but because the prediction was correct and his experimental design was rigorous enough to detect the truth.

5.2 The Therapeutic Relationship Is a Shared Closure

Kaptchuk's finding that the quality of the patient-practitioner relationship modulates placebo effects is, in closure framework terms, the finding that the depth and coherence of the shared cognitive closure determines how effectively it reaches into biological closure. A warm, attentive, confident practitioner contributes more fully to the constitutive structure of the healing grammar: more of the identity criteria that make the encounter a healing encounter are strongly established, the relational dimension of the closure is more completely activated, and the boundary conditions it sets for the biological closure below it are more precisely specified.

A dismissive or hurried clinician constitutes a weaker grammar: some of the identity criteria are present but others are absent or undermined, the relational closure is incomplete, and the biological response is correspondingly smaller. This is not merely a matter of patient satisfaction or emotional comfort. It is a structural claim about the organizational depth of the cognitive closure that the encounter establishes. The quality of the relationship is not a peripheral variable. It is a constitutive element of the grammar that makes the healing possible.

5.3 The Unconscious Mechanism Is the Embodied Grammar

Kaptchuk's finding that placebo effects can be triggered by briefly flashed images too rapid for conscious recognition is, in closure framework terms, the finding that the healing grammar is embodied in the nervous system as a persistent organizational structure rather than as a consciously held belief. The cue activates the grammar. The grammar initiates the biology. The conscious mind is not in the causal chain.

This is precisely what the closure framework predicts. Cognitive closure is not equivalent to conscious belief. It is the organizational pattern of distinctions and identity criteria that the nervous system maintains, some of which are consciously accessible and some of which are not. The healing grammar includes conscious elements: the patient's understanding that they are in a healing encounter, their recognition of the clinician's competence, their willingness to accept the prescribed treatment. But it also includes unconscious elements: the learned associations between

sensory cues and healing states, the embodied patterns of response to clinical environments, the neurological organization that implements the grammar at the level of neural circuits rather than conscious propositions. The unconscious mechanism is the embodied closure. The conscious belief is its partial verbal report.

5.4 The RCT Grammar and Its Remainder

Kaptchuk has been one of the most penetrating critics of the randomized controlled trial as the sole gold standard of clinical evidence. His criticism is not that RCTs are wrong but that they generate systematic remainder: they are designed to isolate the drug effect from the placebo effect, but in doing so they model the drug effect without modeling the therapeutic encounter effect that, in many conditions, accounts for most of the clinical benefit.

The closure framework names this criticism precisely. The RCT is a nomological machine, in Cartwright's terms, that generates facts about drug effects within its operating conditions. Like all nomological machines, it generates remainder outside those conditions. The therapeutic encounter effect is exactly what the RCT machine places in the remainder by design: it is controlled away rather than measured, subtracted rather than studied. The result is a systematic bias in the evidence base of medicine toward molecular mechanisms and away from the healing grammar, even though the healing grammar is often the dominant mechanism.

Kaptchuk's open-label placebo research is, among other things, a method for studying what the RCT excludes: the therapeutic encounter effect in isolation. By removing the false belief, he removes the drug analog without removing the ritual analog. What remains is the grammar. His research program is, in structural terms, the study of the remainder that the RCT machine generates at its center. The Grammar of Healing established this claim theoretically. Kaptchuk established it experimentally.

6. What the Encounter Produces

The encounter between Kaptchuk's placebo research and the closure framework has consequences for both, and for medicine more broadly.

For Kaptchuk's research program, the closure framework provides the mechanistic account of why the ritual works that his findings have been pointing toward for thirty years. The ritual works because it establishes a cognitive closure regime that reaches into biological closure and sets new boundary conditions for the nervous system's regulatory activity. The grammar is not a confound. It is a mechanism. It is the same mechanism that drugs modulate, using the same pathways, because the nervous system's regulatory capacity is activated by closure at the cognitive level, not only by molecules at the biological level. This account explains open-label placebo, the therapeutic relationship effect, the unconscious triggering of placebo responses, and the Benedetti prefrontal damage dissociation, all within a single coherent structural framework.

For the closure framework, Kaptchuk's research provides the most directly clinical confirmation available that cognitive closure reaching into biological closure is not a philosophical claim but an empirical fact that can be measured, replicated, and deployed therapeutically. Every open-label placebo trial that shows significant improvement in the treatment group is a controlled

experimental demonstration of downward causation between closure levels. Every study showing that the therapeutic relationship modulates outcomes is evidence that the shared cognitive closure of the healing encounter has real biological effects. Kaptchuk has been running the experiment for thirty years. The closure framework names what the results have been showing.

For medicine, the consequences are significant. If the healing grammar is a mechanism rather than a confound, then it deserves the same rigorous study and deliberate cultivation that pharmacological mechanisms receive. Clinicians who understand that the ritual of the medical encounter is constitutive of its therapeutic effect can attend to that ritual consciously: establishing the shared grammar of healing with greater care, deploying the symbols and behaviors of the healing encounter more deliberately, recognizing that the quality of attention, the warmth of engagement, and the expressed confidence of the clinician are not bedside manner decorating an objective treatment but constitutive elements of the treatment itself. The grammar is the medicine. Kaptchuk has shown this. Medicine is only beginning to absorb the implications.

7. The Grammar of Ritual

A patient sits across from a clinician. The clinician listens, examines, diagnoses, prescribes. The patient accepts the prescription, takes the pill each day at the same time, returns for follow-up. The pill contains sugar. The patient knows this. The patient improves.

Ted Kaptchuk has spent thirty years demonstrating that this sequence is possible, replicating it across conditions and institutions, identifying its components, probing its mechanisms, and defending its implications against a medical establishment that would prefer the active ingredient to be a molecule rather than a grammar. He has done this with methodological rigor, clinical seriousness, and philosophical care. His open-label placebo trials are among the most important experiments in twenty-first century medicine.

The closure framework names what those experiments have been demonstrating. The ritual of the medical encounter establishes a cognitive closure regime between patient and practitioner: a shared grammar of healing that the nervous system treats as the occasion for biological reorganization. When the grammar is established, cognitive closure reaches into biological closure and sets new boundary conditions for the nervous system's regulatory activity. The belief in the pill is not the mechanism. The grammar surrounding the pill is. And the grammar works without the belief because the grammar is not stored as a conscious proposition. It is embodied in the organizational structure of a nervous system that has learned, over a lifetime of healing encounters, what the occasion for healing looks like.

Kaptchuk found the grammar in the clinic. The closure framework found it in the structure of organized experience. Both are describing the same thing: the healing encounter as a constitutive act, the ritual as a mechanism, the relationship as medicine. The grammar of ritual is not the grammar of belief. It is the grammar of organized encounter: the stable pattern of symbols and behaviors that tells the nervous system, below the level of any conscious proposition, that healing is what is happening here. When the grammar is present, the biology follows. The pill is optional.

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Author's Note

*This paper is the ninth in a series engaging thinkers whose work converges with the closure framework developed in *Consciousness, Closure, and the Cosmos*. Ted J. Kaptchuk is Professor of Medicine and Professor of Global Health and Social Medicine at Harvard Medical School and Director of the Program in Placebo Studies and the Therapeutic Encounter at Beth Israel Deaconess Medical Center. He has received three separate Lifetime Achievement Awards in placebo research and has over 300 publications with an h-index of 100. His open-label placebo program is the most important development in placebo research of the twenty-first century. This paper is the most directly clinical in the series: it engages a researcher whose work produces results in clinic rather than in theory, and whose findings have immediate implications for medical practice. The connection between Kaptchuk's ritual theory and the Grammar of*

Healing is the central convergence: both arrived at the conclusion that the healing grammar is the active ingredient from different directions, Kaptchuk from clinical trial evidence and the Grammar of Healing from the neuroscience of downward causation. The author welcomes engagement from Kaptchuk directly, from clinical researchers in placebo studies, and from physicians and medical educators who find the structural account of why ritual heals either clarifying or contestable.