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Review

A Trans-Theoretical Systematization of Clinical Interventions Based on Dynamical Systems Research (DSR)

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Abstract: The scientific literature focused on the categorization of therapists' interventions in clinical sessions, and their effects on patients, is not very extensive and often autoreferential. The most relevant findings clearly show the eclecticism of clinicians, grounding only 10–14% of their interventions on the specific theoretical approach to which they belong. Despite that, a trans-theoretical systematization of clinical interventions is lacking. The present work aims to verify the feasibility of a trans-theoretical categorization of clinical interventions based on Dynamical Systems Research in psychotherapy (DSR). For this purpose, the authors present the results of three literature reviews. The first sections of this paper present the literature on the historical development of clinical interventions within the psychodynamic and cognitive-behavioral approaches. In the fourth section, the review of the DSR literature in psychotherapy and the systematization of clinical interventions according to such a unifying framework are introduced. Clinical interventions can be aimed at increasing the patient's stability and flexibility, with the final objective of promoting *H-L Synchronization* and *S-F Oscillations*. The connections between the DSR-based categorization and the literature pertaining to the psychodynamic and cognitive-behavioral approaches are highlighted. Finally, in the conclusions, the limitations and potential developments of this scientific area are discussed.

Keywords: dynamical systems research; psychotherapy research; change process research; stability; flexibility; psychotherapy technique

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1. Introduction

Within psychotherapy research, the literature focused on the categorization of therapists' interventions in clinical sessions, and their effects on patients, is not very extensive. This is due to the high number of different theoretical approaches that often investigate the processes of change which they consider central according to their own theoretical model, with specific tools developed by colleagues belonging to the same approach. In short, the literature on therapists' clinical interventions is quite fragmented.

In a 1986 work [1], Silberschatz and colleagues investigated the correlation between (a) transference and non-transference interpretations, (b) suitability of the interpretation to the particular needs of the patient, and (c) patient productivity after the interpretation. The results clearly indicated a positive correlation between suitability of interpretation and patient productivity, while there was no correlation between the type of interpretation (i.e., transference or non-transference) and patient productivity. This finding shows the importance of studying the encounter between the therapist's interpretation and the therapeutic relationship in which it is embedded. This meeting determines the function of interpretation for the therapeutic dyad.

In a 1997 work [2], Wallerstein and colleagues proposed a categorization of psychoanalytic comments into "expressive interventions" and "supportive interventions". The former aim to promote the insight and the exploration of new associative paths of the patient. The latter help the patient to deal with conflicts and symptoms in the absence of an expansion

of self-knowledge (insight). The former dismantle the patient's defensive structure, the latter strengthen it. These two main categories included 21 sub-categories, demonstrating the lack of cohesion of clinical interventions even within a single theoretical approach.

In a study on the disorganized narratives of severely dissociated patients [3], Salvatore and colleagues proposed specific categories of clinical interventions with the aim of increasing the patient's narrative coherence. They were (a) containment and soothing, (b) emotional validation, and (c) identification of problematic emotional nuclei. The literature highlights some specific categories of interventions for specific clinical populations, but often fails to integrate them in a unified corpus.

In a 2016 study [4], Koemeda-Lutz and colleagues investigated the clinical interventions belonging to five different approaches: psychoanalysis, gestalt, transactional analysis, bioenergetic analysis, and systemic therapy. The sample included 11 therapists, 137 sessions, and 41 patients. The results showed that therapists used few interventions belonging exclusively to their clinical approach (around 10%), while 18% of their clinical interventions were also present in other approaches, and 67% of them were common to all approaches. In particular, interventions specific to a given approach were used in 8% of cases among gestalt therapists, in 12% of cases among bioenergetic therapists, in 17% of cases among psychoanalysts, in 8% of cases among systemic therapists, and in 5% of cases in transactional therapists, clearly showing the eclecticism of clinicians and the gap between theory and clinical practice. This result mirrors the findings of the study by Crameri and colleagues [5], who analyzed a sample of 162 sessions conducted by 18 therapists with 6 different theoretical backgrounds. The authors showed that only 14% of clinical interventions were specific to the theoretical approach to which the clinicians belonged.

The fragmentation of the aforementioned literature makes it worthwhile to delve deeper into the problem of producing a trans-theoretical systematization of clinical interventions. In accordance with a vast body of recent literature, e.g., [6–11], the Dynamical Systems Research (DSR) applied to psychotherapy has been considered as the most suitable framework for avoiding reductionism and, therefore, providing a meta-model of change in psychotherapy capable of including contributions coming from both the psychodynamic and cognitive-behavioral approaches. Hence, the present work aims to verify the feasibility of a trans-theoretical categorization of clinical interventions based on DSR.

For this purpose, the work is divided as follows. In the next section, the reader finds the results of a literature review on clinical interventions within the psychodynamic approach. These results are presented diachronically and accompanied by clinical examples to convey the underlying rationale to the reader. In the following section, the reader finds the results of a literature review on clinical interventions within the cognitive-behavioral approach. The internal structure of this section mirrors the previous one. In the fourth section, the authors highlight the DSR literature in psychotherapy and propose a trans-theoretical systematization of clinical interventions based on such a unifying framework. At the end of this fourth section, the reader finds the connections between the DSR-based systematization of clinical interventions and the scientific contributions coming from the psychodynamic and the cognitive-behavioral domain. For the sake of simplicity, the authors limit the comparison only among the DSR framework, the psychodynamic, and cognitive-behavioral approaches. Further limitations and potential developments of this scientific area are discussed in the conclusions.

2. History and Developments of Clinical Interventions Within the Psychodynamic Approach

The psychodynamic approach includes several different branches, with specific characteristics. The present review highlights the importance of the passage from individual to relational interpretations, with a particular emphasis on the emergence of the bi-personal field, as it is one of the main precursors of DSR in psychotherapy [12].

The first article proposing an organized reflection on the structure of clinical interventions was written by James Strachey [13]. In his renowned article, the author underlined the

importance of the interpretation which he defined as "mutative", i.e., a two-phase procedure in which the fragility of the patient's Ego, together with the strength of his* Superego, are initially emphasized; and at a second stage, through a transference interpretation, the emphasis is placed on the differentiation between transference fantasies and the real figure of the analyst. In this context, the interpretation is seen as a tool belonging only to the analyst, capable of healing the patient regardless of his contribution within the psychoanalytic setting. Years later, in "Constructions in Analysis" [14], Sigmund Freud proposed the use of the term "construction" which, overcoming the concept of "interpretation", underlines its provisional and relational nature. Therefore, the interpretative activity departs from the concept of truth, a concrete reality that occurred in the patient's past, to leave room for the greater importance of the emotional experience stored in memory. The interactions in the session become a succession of constructions and reconstructions between patient and analyst, in which the analytic couple is responsible for the interpretative activity, and with it, for the temporal evolution of the analytic truth.

At this point, the contributions on this topic take at least three different paths: Melanie Klein underlines the importance of addressing, in the interpretative act, the core anxiety of the patient, e.g., [15]; Willy and Madeleine Baranger highlight the "bastion" of the psychoanalytic bi-personal field as the main target of the interpretative activity, e.g., [16]; Wilfred Bion shows the relevance of a more unsaturated interpretive activity which he calls "rêverie", e.g., [17]. While the Kleinian perspective has an individual root, the Barangers and Bion are based on a relational standpoint. In fact, Melanie Klein interprets the patient's destructive and violent anxieties as elements that derive from the death instinct, the latter being thought of as an innate force present in all individuals. Therefore, the ultimate aim of Kleinian interpretative activity is to alleviate the death instinct and, with this, the patient's Super-Ego. This process produces an increase in the patient's creative and relational abilities, e.g., [18].

On the other hand, Willy and Madeleine Baranger see the psychoanalytic process from a much more relational perspective than the Kleinian one. In fact, they observe how the psychoanalytic process generates specific transference–countertransference configurations for each patient–analyst dyad. Such configurations, if not interpreted, create an impasse in the analytic work, which is why they call them "bastions". It is of help to see a bastion as a pathological dyadic configuration, in which the patient projects aspects of his internal parental representations onto the analyst, and the analyst identifies himself with these projections. These "bastions" represent the main target of the interpretative activity, according to the Barangers. The psychoanalytic process is seen as a spiral process in which the presence of a bastion alternates with the interpretative activity of the analyst on the bastion, its dissolution, and finally, the gradual production of a new bastion. The succession of bastions in the analytic field does not represent a static process, but an incremental ability of the analytic couple to work through increasingly deeper aspects of the patient's mind. Therefore, the spiral of the psychoanalytic process does not pass through two identical bastions, but by giving access to new information on the patient's psychic functioning, it always sheds new light on past bastions [19].

Wilfred Bion, who at the beginning of his career was the analyzand of Melanie Klein, takes up several Kleinian concepts and expands their applicability. The "rêverie" represents a key relational process in the development of thought, according to Bion. Initially, a newborn does not have a clear body schema. He does not know that he has a stomach, or even a mind (writer's note: this condition may be widespread among certain adults). When the absence of milk causes him frustration, he is unable to associate the stomach pain he feels with the experience of hunger. Therefore, the newborn experiences a nameless dread, which perhaps can only be compared to a very strong death anxiety. This affective state is communicated to the caregiver through crying. Crying, together with all the other bodily elements that the caregiver decodes in the newborn, allows her to make sense of the experience that the newborn is having; the experience of "hunger". The caregiver breastfeeds the newborn, alleviating the anxiety and allowing the newborn

to introject into himself not only the meaning of the experience he lived, but also the process of transformation of a nameless dread into defined physiological and affective states. Therefore, the rêverie is the process that consists of transforming fragmented bodily sensations into mental images capable of being introjected with a less persecutory emotional coloring, e.g., [20]. Within the psychoanalytic process, the analyst collects the split aspects of the patient, giving them an affective meaning through an image. The following is a clinical exchange from a session focused on absence:

P: "I am very angry with my brother. He is unbearable. I hope he stays abroad for a long time. These holidays have been quite difficult doctor".

T: "One of the final scenes of "Hachiko", the movie we were talking about some time ago, comes to mind. The dog waits for his owner at the station several years after his death".

P: "Very sad. Yes, it's not easy being alone".

The image introduced by the analyst promotes the decoding and subsequent introjection in the patient of the feeling of sadness, thereby supplanting the previous feeling of anger towards the brother who lives abroad.

Along the Bionian lines, Thomas Ogden proposes the concept of "talking-as-dreaming" [21]. This is an invisible interpretative activity, consisting of speaking symmetrically with the patient about the theme that he brings to the session, and according to the rules of the primary process (i.e., joint free associations). While in the process of reverie, the split aspects of the patient are collected and re-integrated by the use of an image capable of representing them, the "talking-as-dreaming" is a therapeutic interaction through which the analytic couple builds a sequence of images together. Usually, the greater the concreteness and fixity of the patient's thoughts, the greater the usefulness of "talking-as-dreaming" [22]. For example, in patients characterized by an intense tendency to somatization, strongly wrapped up in a redundant narration of their bodily symptoms, the direct introduction of images through the process of rêverie becomes problematic because they are perceived as extraneous and insignificant clinical material (increasing the persecutory anxiety of the analytic field). On the other hand, with a more symmetrical interaction in the style of talking-as-dreaming, the patient has greater support to promote the transition from a concrete thought to a symbolic thought.

At the beginning of the 2000s, the psychoanalytic debate on the topic of interpretation became institutionalized in a study group of the European Federation of Psychoanalysis: the "Working Party on Comparative Clinical Methods" (WPCCM). The WPCCM developed a classification of the analyst's possible interventions, resulting in a systematization of six categories defined by their clinical function [23]:

- Interventions aimed at maintaining the setting, for example, "My holidays start on Thursday".
- Interventions that add a discursive element to facilitate the unconscious process. This category includes the "talking-as-dreaming", short and polysemic interventions based on the primary process, for example, "Doctor, yesterday I noticed that the wall of my room has vertical cracks with the red painting I was telling you about in the center", "Yes. It reminds me of a mouth with teeth".
- Questions, clarifications, and reformulations aimed at making a theme in the psychic material conscious, for example, "What are you thinking about?".
- Interventions aimed at indicating the phantasmatic and emotional here-and-now with the analyst. The classic transference interpretations fall into this category, for example, "You feel that I'm too distant from you".
- Constructions aimed at giving an elaborate meaning to clinical facts. This category includes the Freudian constructions, for example, "perhaps you're distant in the relationship with me because this is how you behaved towards your mother. I become an oppressive mother to you as soon as I ask you a question".

- Sudden and clearly excessive reactions that do not fit the analyst's usual style and method, for example, with an irritated tone "we have to understand this!", following an exchange in which the analyst felt abandoned.

If this systematization refers to the function of interpretation, it is equally important to emphasize the various types of interpretation. From this perspective, in accordance with Giovanni Foresti's detailed contribution [24], we can divide the interpretations into "direct and explicit" and "indirect and implicit". The first category includes the most classical definitions of interpretation: content interpretations; constructions; transference interpretations; field interpretations. On the other hand, the second category includes those unsaturated interpretative interventions (i.e., which do not convey a single specific meaning) more expressly aimed at reactivating the patient's symbolic thought, for example, reverie and talking-as-dreaming.

From the perspective of clinical practice [25], the patient's clinical material can be interpreted according to three main axes (Figure 1).

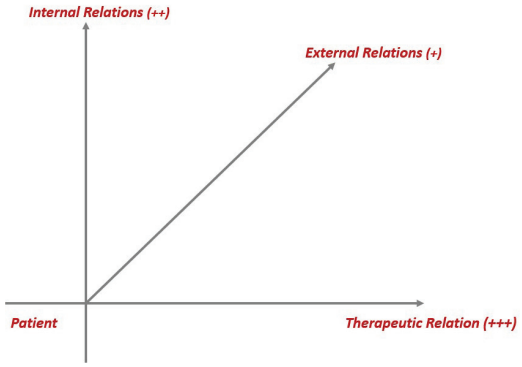

Figure 1. Degrees of emotional intimacy of the patient's clinical material: the axis of external relationships, which have a modest degree of emotional intimacy for the patient (+); the axis of internal relationships, which have a more intense degree of emotional intimacy (++); the therapeutic relation, which has the highest degree of emotional intimacy (+++).

They are the following: the axis of external relationships, which have a modest degree of emotional intimacy for the patient (+); the axis of internal relationships, which have a more intense degree of emotional intimacy (++); the therapeutic relation, which has the highest degree of emotional intimacy (+++). The maximum degree of emotional intimacy lies in the relationship with the analyst since talking about the affective dynamics that permeate the here-and-now is certainly more difficult than talking about external relationships. The three axes of external, internal, and transference relationships are not isolated elements without any type of interaction, but rather, they represent the three directions of the patient's communication that are constantly and simultaneously active. If a patient explicitly complains about his neighbor (external relationships), he is talking, at the same time, about an internal aspect of himself represented by the neighbor (internal relationships), and he is commenting on some aspect of the therapeutic relationship with the analyst (therapeutic relationship). Evidently, in this case, this patient prefers the communication channel that implies the lowest degree of emotional intimacy (perhaps a topic that is still too painful).

On the other hand, every clinical intervention is also aimed at all three axes at the same time: "I see that this neighbor makes you really angry" always means that (I) a character from external reality makes our patient angry, (II) a character from the patient's internal reality with the characteristics of the neighbor make our patient angry, and (III) aspects of the therapeutic relationship connected with the characteristics of the neighbor make our patient angry. It follows that even a comment that adds a "discursive element to facilitate the unconscious process" or a "clarification or reformulation aimed at making a theme in the psychic material conscious" is, in itself, a comment on transference. Therefore,

the greatest therapeutic effort is all about respecting the rhythm of the patient in front of us when choosing the axis with the most adequate gradient of emotional intimacy. If the analyst, instead of saying "I see that this neighbor makes you really angry" (external relationships), says "Hey, what's wrong with me!?" (therapeutic relationship), the patient, reasonably, could immediately end the session badly.

3. History and Development of Clinical Interventions Within Cognitive Behavioral Therapy

The history of behavior therapies is interwoven with numerous social, cultural, and political factors outside of, and far from, the process of scientific discovery, which is the explicit grounding of this tradition. Perhaps the most significant socio-cultural factor was the reactions of early American psychologists to Freudian analysis in the early 20th century. Psychology was just emerging as a scientific discipline in America at the time that psychoanalysis was gaining popular attention world-wide as the first comprehensive theory of personality, development, psychopathology, and intervention. The sub-discipline of clinical psychology was driven by several defining cultural values that Americans, at this point in their history, embraced as distinct from their European ancestors, such as pragmatism, efficiency, industrialization, and social mobility (which subsumed an extreme philosophy of tabula rasa).

These values are reflected in the establishment of behaviorism as the dominant paradigm in the United States from the early 1920s under the leadership of John Watson, now commonly referred to as *first-wave behavioral therapies*, e.g., [26]. These first-wave behaviorists aimed to build a scientific foundation on experimental methods, and held contempt for the observation-based field-style scientific methods of Freud and the early analysts as influenced by Darwinian evolution in the late 19th century. Moreover, they were entirely rejecting of all analytic assumptions, particularly the prominence of the unconscious, and the key constructs used by analytic clinicians such as the Id, Ego, Superego, libido, defense mechanisms, and fixation. This outright rejection of anything resembling analysis was overt and extreme. Watson and the other first-wave behaviorists went so far as to deny the existence of any sort of internal experience at all, even thoughts themselves, which Skinner argued were only a convenient fiction and tried to explain them away as simply another behavior, an unremarkable sort of sub-verbal speech akin to talking without muscle contractions or sound, and existing simply based on their ability to be wound up within complex sequences of radically deterministic cause–effect sequences [27]. Denying the existence of personality altogether, they viewed humans instead as a bundle of reflexes resulting from everyone's unique set of environmental stimuli, accumulating or extinguishing over developmental time through the simple process of temporal association.

The well-known experiment on Little Albert is an ideal case in point. Little Albert was the infant son of a female staff member at the academic hospital where Watson was on administrative staff. Long before the Helsinki accords, ethical research standards, and institutional review boards, Albert was offered up to be the subject of a single-case experiment aiming to prove that a lasting neurotic condition could be created in the lab simply, quickly, and easily through association: classical conditioning. Just as Pavlov had demonstrated several decades earlier that a salivary reflex could be triggered in a dog through repeated paired association with some neutral stimulus, such as a light or a bell, Watson demonstrated that Albert could develop an enduring fear response to the neutral white rat, by presenting the rat repeatedly to Albert while also frightening him with a loud banging noise.

Watson and his research assistant, Mary Raynor (who was also his scandalous mistress, [28]), had laid the historical foundation for the ubiquitous process of classical conditioning in the development of pathological anxiety and similar conditioned reflexes. Although nobody bothered to attempt to reverse poor Albert's phobia [29], dozens of interventions were designed and tested for efficacy using classical conditioning, including the bell-and-pad technique for enuresis in the 1930s [30], and exposure techniques that

remain a gold standard in the treatment of simple phobias according to the National Institute of Health in the USA (https://obssr.od.nih.gov; accessed on 12 April 2023), and also for obsessive-compulsive disorders [31], panic disorder [32], post-traumatic stress [33], and even for some residual psychotic symptoms [34]. By the 1950s, the leadership of the first-wave behavioral movement had been passed to B.F. Skinner, who continued to popularize this uniquely American brand of early clinical psychology, and who advocated clinically for the addition of operant conditioning principles, providing a technology for making, shaping, or extinguishing habits by managing the consequences that follow operant (i.e., intentional, non-reflexive) behaviors. Continuing from the tradition of lab-based animal experiments, the lexicon of behavioral technology grew tremendously, including the differential outcomes associated with schedules of reinforcement, behavioral shaping and chaining, habit replacement through differential reinforcement of other behaviors (i.e., D.R.O.), responsible (i.e., rare, small, and consistent) punishment strategies, discriminative stimuli which could be used to signal the desired and undesired behaviors, skills training (e.g., assertiveness and anger-management), and two-factor learning models—involving classical and operant conditioning woven together over time. Behavior analysis became a distinct field of its own in the United States, growing out of clinical behavioral psychology, and continuing today—especially in the context of educational interventions, child conduct interventions, and work with the developmentally disabled.

Despite the success of the first-wave behavior therapy movement over the four decades from the late 1920s to the late 1960s, the notion that internal experience is a fiction, that humans are simply a bundle of reflexes and habits, and that introspection should be out of bounds for psychological science and practice became unsustainable on scientific, cultural, and practical grounds. Scientifically, the evidence continued to accumulate during the first-wave behavioral dominance in American Psychology, for example, Tollman's (1948) studies of mental maps used by mice to locate food in maze learning [35]; insight learning in chimps by Kohler and others around the time of World War II [36], and semantic conditioning studies demonstrating that classical conditioned fear responses generalized to the meaning of words (e.g., "hare" to "rabbit") more easily than to words more similar in sound or visual appearance (e.g., "hare" and "hair", [37]). The final blow to radical behaviorism came when Bandura applied observational learning experiments to prove empirically that observational learning in humans is automatic and ubiquitous. He went on to further demonstrate the predictive power of beliefs in lab experiments, specifically that efficacy (i.e., confidence) beliefs are better predictors of successful outcomes in the treatment of simple phobias than prior conditioning history or prior performance [38]. During this same period, a great number of cognitive interventions continued to be innovated, disseminated, and practiced. For example, beginning in the 1950s, Albert Ellis developed, tested, and promoted rational emotive therapy [39,40], which is grounded in the philosophy of the ancient stoics and with conceptual linkages to some behavior therapy principles (e.g., exposure-based interventions). Then, in the 1970s, Meichenbaum (1975) developed, tested, and promoted stress-inoculation therapies which were aimed at exposure, combined with imaginal preparation for stressors, modeling techniques, and training in covert verbal coping strategies [41]; while Beck, in 1970, developed, tested, and promoted cognitive restructuring approaches which were aimed at modifying dysfunctional thinking habits [42]. The build-up of experimental evidence and clinical innovation ushered in the *second-wave*, which is perhaps more commonly known as cognitive-behavior therapies (CBT).

Third-wave behavior therapies emerged from the work of several scientist-practitioners around the turn of the 21st century, perhaps most notably from Hayes' Acceptance and Commitment Therapy (ACT, [43]), and Linehan's Dialectical Behavior Therapy (DBT, [44]). There are a great number of philosophical, theoretical, and practical changes promoted by the third-wave behavior therapists. However, perhaps the most significant practical change from second to third-wave behavior therapies lies in replacing cognitive interventions with mindfulness interventions. Inasmuch as cognitive interventions aim to change rigid patterns of thinking and belief, mindfulness interventions aim, instead, to change clients'

relationships with their beliefs. For example, if the target belief is "I should be able to find a suitable romantic partner and make a commitment", a second-wave cognitive-behavioral therapist may encourage the client to label the belief as irrational due to its absolutistic nature, to analyze the belief using rational logico-deductive methods, or to consider alternative beliefs that are perhaps even more plausible (e.g., "Finding a suitable romantic partner actually appears to be a challenging and uncertain endeavor"). Instead, the third-wave mindfulness strategy would aim to downgrade the impact of thinking altogether, to just another aspect of experience that comes and goes through the flow of consciousness, just as emotional states, urges, levels of hunger, and fatigue do, and so on. As clients learn to defuse their agentic and observing ego-positions from the ongoing flow of potentially disturbing thoughts, feelings, and urges, they are engaged in learning to become highly skilled decision-makers, gathering up information from the observed flow of experiential information in the here-and-now and applying that information toward decisions that are grounded in the client's set of chosen secular values, such as courage, self-care, kindness, honesty, generosity, or merry-making. With flexible awareness of disturbing thoughts about one's romantic competence, one may choose to continue to engage in romantic pursuits by anchoring one's decisions in a commitment to live a courageous life, to care for one's self, to share kindness with those around one, to generously share compliments toward those they admire, and to seek positive social merry-making opportunities with others, without the weight of unworkable conditions such as having to find a life-long romantic partner by the end of the evening.

Despite some relatively unassailable improvements in philosophical depth and parsimony, there are several grounds on which the third-wave behavior therapy movement can be criticized. First, they tend to overlook the large body of evidence supporting the cognitive interventions they aim to replace with mindfulness. Similarly, they may exaggerate the distinction between changing thoughts and changing one's relationships with thoughts. Every cognitive intervention begins with clients practicing the skill of identifying irrational thoughts, and then hammering away at them in various ways. So long as the client does not end up struggling against their thoughts, this process of modifying one's beliefs will also clearly change one's relationship with those beliefs as well, ideally by increasing awareness of them, acceptance of them, distance from them, and power over them in making life decisions. One may reasonably argue that mindfulness training is a cognitive intervention, perhaps a more efficient and practical one, but if so—an innovation in degree or style but not in kind or substance.

A second major criticism lies in the internal consistency of the theory underlying third-wave behavior therapies. Linehan, for example, rests her approach on dialectical philosophy's notions of balance rather than a scientific theory per se, growth through the union of opposites, thesis-antithesis-synthesis sequences [45]. For example, DBT as an approach stresses the importance of balancing radical acceptance experience with radical responsibility over one's choices in order to promote growth. Interestingly, the therapeutic alliance as conceived within the DBT perspective is functionally identical to the practices coming from psychoanalytic traditions described in the prior section, aimed at providing opportunities for novelty in oneself and relational schemata. Yet, analytic theory is entirely overlooked in theoretically grounding the approach, which proposes instead that dialectical processes promote healing within the relationship—for example, when the therapist combines unconditional positive regard (thesis) and firm boundaries (antithesis) to increase the flexibility (synthesis) of the client's relational schema, for example, "I can see you are upset that I won't give you the advice you are asking for? Yes? The thing is, *I care too much about you to step in and tell you what to do with your life*". Similarly, Hayes proposes that psychological flexibility is the ultimate goal of the ACT approach, but rather than ground the approach in a systems theory to explain the benefits of flexibility, instead he developed a novel behavioral theory of language, relational frame theory (RFT) [46]. RFT posits that all human language systems are inherently flawed because they are over-simplified and static, while actual experience is dynamic. As a result, people run into potential dysfunction

throughout life whenever experiences are codified within linguistic thought processes, for example, if a person has a bad dating experience that ends up codified as "dating is not for me" or "dating is too hard", then they will be unlikely to notice unique and potentially enjoyable aspects of subsequent dating experiences as well as opportunities to see changes to their dating experiences over time. Within RFT, Hayes et al. (2001) suggest that through the practical skill of mindfulness training, clients open up to novel information in situations where oversimplified language relations trigger dysfunctional coping strategies, most frequently, reflexive attempts at avoidance.

While there is much to be admired about the substance of RFT as a practical theory of mental activity (and perhaps also to dialectical philosophy in a general sense), they have little or nothing in common with the foundations of first-wave behavior therapy in classical and operant conditioning, resulting in some significant loss of parsimony and theoretical consistency in third-wave behavior therapies. Les Greenberg, the developer of Emotion Focused Therapy, once remarked that ACT was simply the work product of behavior analysts who mistakenly thought they had discovered acceptance for the first time (L. Greenberg, personal communication, 8 December 2005). In summary, despite the enormous empirical and practical impact of ACT over the last few decades, the conflicts across approaches continue to hinder the field of psychotherapy as a whole.

4. A Trans-Theoretical Framework for Clinical Interventions Based on Dynamical Systems Research

In psychotherapy research, e.g., [47,48], the application of dynamic systems to the psychotherapy process dates back to the early 1990s. From this perspective, the psychotherapeutic process is thought of as a succession of stable and unstable states of the therapist–patient dyad. In accordance with DSR, the entire process of transition from a dysfunctional stable state, passing through a period of high instability, and finally arriving at a new and more functional stable state is called "order-to-order transition", e.g., Felice, 2024. The period of high instability is characterized with the so-called "critical fluctuations" of the internal parameters of the system. During these periods of high instability, new information is introduced within the therapeutic dyad. Subsequently, this new information is reintegrated into the patient's functioning during periods of high stability.

In the first phase of DSR, the processes of autonomous order formation were investigated, confirming the applicability of self-organization principles to the psychotherapy process, e.g., [49,50]. This was important evidence on the applicability of a dynamic-systems-approach to psychotherapy. In the following years, the study of episodes of pronounced destabilization in the therapist–patient relationship occurring in the therapy process has proven to be a characteristic of good-outcome psychotherapies, e.g., [51,52]. The study of psycho-physiological variables in psychotherapy sessions detected emotionally unstable phases during good-outcome therapy processes, e.g., [53]. The investigation of the daily monitoring of process variables of cognitive-behavioral psychotherapy revealed periods of critical instabilities, e.g., [54]. The study of clinical transcripts highlighted specific cycles present in good-outcome therapies only. In detail, the cycles were constituted by the alternation of abstract and emotional language, e.g., [55]. Taken together, these research contributions showed that an alternation between states of high stability and states of high flexibility (i.e., instability) of the process variables is one of the main characteristics of good-outcome therapies.

The following DSR deepened the study of synchronization processes among the physiological variables of the patient and therapist, confirming the alternation between moments of high and low synchrony, e.g., [56,57], Mayo and Gordon (2020) for a review [58]. Furthermore, the parameters for quantifying stability and flexibility in the psychotherapeutic process have been investigated in recent years. They have been analyzed, used, and compared in several studies, both in adult and child psychotherapy, e.g., [59]. Specific cycles of alternating high flexibility/high stability were confirmed in successful therapies, e.g., [60–62]. Given the increase in the amount of empirical research, in recent years, new theoretical contribu-

tions and literature reviews were also published, with the aim of collecting the empirical studies into a single and coherent methodological framework. For example, an integrative psychotherapy theory and approach grounded in a complex adaptive systems theory was proposed by David Pincus [63]; the dynamic systems approach to psychotherapy was used to propose a meta-theoretical framework for explaining psychotherapy change processes, see Gelo and Salvatore, 2016; and to replace the current inadequate theoretical framework explaining the outcome of psychotherapy based on the difference between common factors vs. specific factors [64]. Finally, a comprehensive review of DSR empirical results from the 1990s to the present day and their clinical implications has recently been conducted, see Felice (2024). This latest work framed the development of DSR in three main lines of research: the study of oscillations in physiological synchronization (*High–Low Sync*), the study of oscillations between stability and flexibility (*S-F Oscillations*), and the mathematical models used to analyze the temporal dynamics of the psychotherapy process.

On the basis of the aforementioned literature, the first trans-theoretical systematization of clinical interventions based on DSR is proposed here. The aim of such a systematization is to present a general model of clinical interventions capable of including both the psychodynamic and CBT perspectives (Figure 2).

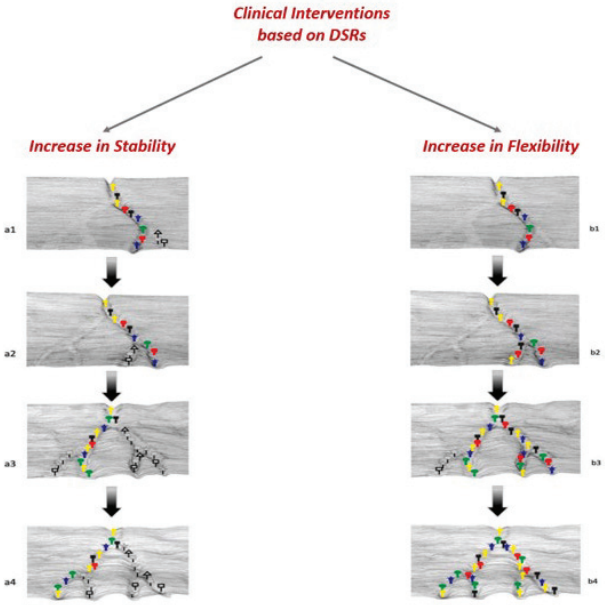

Figure 2. Systematization of clinical interventions according to DSR. Part of the figure is obtained from [65]. The patient's narratives are represented by the colored dots. The therapist's interventions are represented by the black and gray dots. In the left temporal sequence that goes from box a1 to box a4, the therapist guides the patient towards a more functional narrative. In the right temporal sequence that goes from box b1 to box b4, the therapist promotes the expansion of possible narratives.

Within the DSR framework, we propose to include the therapists' interventions within the macro-category of "Opening Techniques". These in turn can be divided into two main branches: interventions aiming at increasing stability, and interventions aiming at increasing flexibility of the patient and the therapeutic dyad. The definition of "Opening Techniques" derives from the same final aim of the two types of therapeutic interventions. In fact, both when the aim is to increase the patient's internal stability or self-coherence, and when it is the promotion of flexibility, the final purpose is that of giving the patient (and the therapeutic dyad) access to a more diversified range of relational models. Interventions aimed at increasing the patient's stability alleviate his internal anxiety by shedding light on his functioning. These interventions promote the patient's safety and strengthen his identity. This process strengthens the patient's trust, laying the foundation for greater openness towards a more diversified range of relational models. The good relationship

with different types of personalities and emotions in external reality can be compromised both by an excess of a patient's flexibility (which becomes compliance) and by an excess of a patient's stability (which becomes rigidity). Interventions aiming at promoting stability are metaphorically represented on the left side of Figure 2. In the figure, it is possible to observe the diachronic movement of this type of intervention. The patient's narratives are represented by the colored dots. The therapist's interventions are represented by the black and gray dots. In the left temporal sequence that goes from box a1 to box a4, the therapist guides the patient towards a more functional narrative. In a clinical example, the therapist, after listening to the patient's complaints and his verbal attacks towards those around him, could comment as follows: "It seems to me that you get angry every time you feel neglected". This intervention allows the patient to feel the anger and connect it with the neglect suffered, promoting the transition from a narrative based on the friend–foe dynamic to one based on tenderness towards his own frailties.

In the temporal sequence on the right that goes from box b1 to box b4, the therapist promotes the expansion of possible narratives (i.e., increasing variability). In the same clinical example above, the therapist could comment as follows: "Feeling neglected can make us feel angry, sad, melancholic, or at times, we might enjoy a certain solitude". While the first intervention increases the patient's stability or self-coherence, the second increases his flexibility. The first type of intervention defines the edges of the patient's emotional condition, the second type of intervention expands them. The good therapeutic process establishes a virtuous circle between stability and flexibility of the patient. In fact, the patient with a good self-coherence is more inclined to experience relational models different from his own, e.g., [66]. Coming into contact with different relational models promotes an increase in the patient's relational flexibility, which in turn (a) better defines the differences between the patient's Self and the world and (b) broadens the range of possible affective experiences. When the variability of the affective experiences increases, new information coming from perspectives different from those of the patient is introduced, making his relational models more diversified. This iterative and continuously expanding learning process based on the alternation of stability (i.e., integration of new information) and flexibility (i.e., introduction of new information) is proposed in accordance with the DSR literature, which suggests that stability/flexibility cycles of physiological, relational and linguistic variables are associated with better psychotherapy outcomes, e.g., [67–69].

4.1. Connections Among DSR Categorization and the Psychodynamic Approach

All interventions of the psychodynamic approach can promote both stability and flexibility. In this domain, the effect that a therapist's intervention has depends equally on how it is formulated and on the type of psychotherapeutic field in which it is embedded. "Direct and explicit" interventions, if included within a session characterized by strong fragmentation, can become stabilizing elements, for example,

P: "I hate my brothers. They are intolerable. . .[after this whole first description]. . .I also wanted to tell you about what my mother did. It's truly unbearable. . .[after this second description]. . .It's that Western society is sick. You never feel understood. . .[begins a third description of society]. . ."

T: "It seems to me that when you don't feel understood and heard you get very angry"

P: "It's a very painful topic for me"

In this case, the initial fragmentation of the patient's associative paths is reduced by the therapist's intervention focused on defining a specific emotional pattern: when the patient does not feel heard, he gets angry. This increases the patient's identity stability or self-coherence. If the same intervention is included within a session characterized by strong rigidity, it can have the effect of increasing flexibility, for example,

P: "I don't know what to say now. . .[silence]. . .I don't like silence. . .[silence]. . .This silence is truly unbearable!"

T: "It seems to me that when you don't feel understood and heard you get very angry"

P: "It reminds me of what we said in the other session. . .[and he starts talking about the feeling of not being heard autonomously, bringing new information that has never been shared]".

The same rationale applies to "indirect and implicit" interventions such as mental images of the therapist shared within a session to reactivate the patient's symbolic thought (see page 4 for an example). If included within a session characterized by strong fragmentation, they can become stabilizing elements. If included within a session characterized by strong rigidity, they can have the effect of increasing flexibility. The most important aspect is that the interventions should be directed at a significant theme of the patient, and that they promote the S-F Oscillations. Therefore, the categorization proposed here is of a higher level of abstraction than the psychodynamic one. The DSR-based categories include those highlighted within the psychodynamic approach.

4.2. Connections Among DSR Categorization and CBT

The three waves of behavior therapy and their numerous techniques may also be understood and better integrated when viewed through the lens of stability and flexibility strategies that combine to promote lasting experiential openness. Beginning with classical and operant conditioning in the first-wave behavioral approaches, a single shared theoretical mechanism is found: association. In classical conditioning, some unit of experience becomes associated with a reflexive "behavior", such as Albert's conditioned association between white rodents and fear. In operant conditioning, some operant (i.e., non-reflexive) behavior becomes associated with reinforcing or punishing consequences over time. From this common mechanism of association, it is possible to view the strategy of flexibility in any behavioral technique that loosens tight associations. For example, exposure therapies result in the loosening of stimulus/fear reactions. Similarly, the great variety of operant techniques (e.g., skills-building, role play, strategic behavioral assignments, differential reinforcement of other behaviors) may be viewed as falling under the common strategy of increasing flexibility. Each of these techniques is intended to produce a wider range of behavioral options for the client (e.g., Pincus, 2016). The stability-making strategies tend to be less explicit in first-wave behavior therapies. But they may be seen fairly easily in the assessment strategies within the practices of behavior analysis, which include gathering careful data on target behaviors over time, collaborative goal setting at the outset of treatment, and beginning any intervention with the smallest goals possible to enhance confidence and motivation. Each of these practices serves to limit the topics of focus within therapy, and also in the client's daily life between sessions.

In the second-wave, namely, CBT, the various cognitive interventions may similarly be viewed as flexibility strategies that increasingly include stability strategies as well. For example, stress inoculation techniques aim to block one's over-use of avoidance prior to a stressful situation (e.g., public speaking), while practicing in session a wider range of more pro-active and empowering coping strategies. For instance, when a patient with social phobia is preparing for a public speaking event, he may be assisted in rehearsing positive self-talk, engaging in preparation and rehearsal, and may be assisted in clarifying his realistic goals for the presentation. The cognitive-restructuring interventions within second-wave CBT are quite explicit in their targeting of rigidity in habits and beliefs to increase flexibility. Ellis (1977), for example, targeted rigid, absolutistic "musts" and "shoulds" in his approach to cognitive therapy. Beck's (1970) approach was not as targeted in what constituted rigid beliefs, but shared the strategic goal of opening dysfunctional beliefs to novel sources of information, the definition of flexibility in DSR (i.e., information entropy, cf., Pincus, 2015, for a review of this concept applied to psychotherapy). The term "cognitive restructuring" makes it clear that these techniques are aimed at increasing cognitive flexibility. At the same time, each of these cognitive restructuring techniques less explicitly includes a variety of strategies aimed at increasing stability as well, such as teaching clients to track the negative outcomes that result from rigid beliefs and the positive outcomes that result from more flexible beliefs.

In the third-wave strategies, it is possible to see the progression towards more explicitly defining a systems theoretical view of how change works in CBT, as well as the introduction of some more explicit techniques aimed at increasing stability within the clients as a counterbalance to increasing their flexibility. For example, the use of relational frame theory and dialectical philosophy as the grounding for combining experiential acceptance (increasing flexibility) and behavioral commitment (stability) is clearly aiming at using stability and flexibility to promote greater openness. There are many other clear-cut examples of flexibility-integrity strategies within ACT core principles such as defusion—where the therapist aims to increase the clients' awareness of an observing ego, enhancing the capacity to differentiate his sense of self from his thoughts, feelings and impulses: "I am not sad, I am feeling sad". The ultimate goal of ACT therapy is in fact said to be increasing one's "psychological flexibility", and yet without a solid foundation in systems-science, flexibility is awkwardly defined by the client having greater intentionality, self-control, or mindfulness (see Hayes et al., 1999). Finally, the third-wave techniques associated with identifying one's chosen set of secular values (e.g., courage, merry-making, honesty, kindness, strength) and using them to ground decisions made in conditions of high uncertainty may be seen as a genuine addition above and beyond the prior two waves of behavior therapies, aiming much more explicitly at increasing stability in the face of stressful situations. The central process of these approaches lies in helping clients to find grounding in one's values and commit to their value-based decisions, while remaining mindful and open to one's flow of experience is clearly a strategy that combines stability with flexibility to improve functioning.

5. Conclusions

The main limitation of this work lies in the comparison of DSR results with only the psychodynamic and CBT approaches. Unfortunately, due to space constraints, it was not possible to do otherwise. A second limitation lies in the nature of literature reviews; in the coming years, empirical studies will need to delve deeper into the accuracy of the categorization and its operationalization. However, at the present time, the DSR literature proved to be sufficiently wide enough to provide a unified framework able to include the rationale of clinical interventions within psychodynamic and cognitive domains. The role of DSR in avoiding reductionism and promoting psychotherapy integration within psychotherapy research is remarkable, and serves both scientists and practitioners.

DSR studies highlight two main elements of the psychotherapeutic process that lead to a good outcome: the oscillations between high and low psychophysiological synchronization between patient and therapist (*H-L Sync*) and the oscillations between periods of high stability and high flexibility in the process variables (*S-F Oscillations*) (Felice, 2024). The following figure integrates these results (Figure 3).

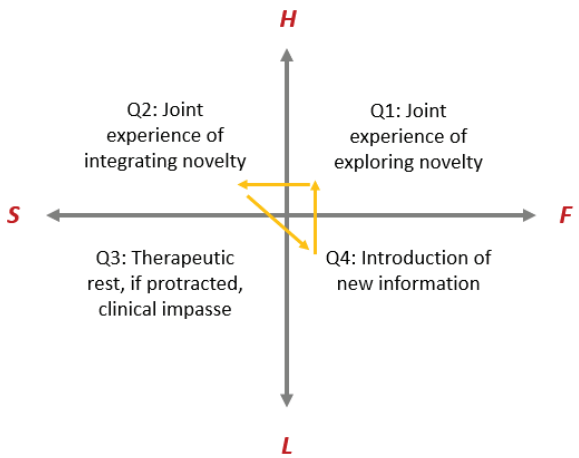

Figure 3. Interaction among *H-L Sync* and *S-F Oscillations* gives rise to four states of the psychotherapy process. In orange, the virtuous circle of the psychotherapy process.

In the first quadrant (right-upper), characterized by high flexibility and high psychophysiological synchronization, the therapeutic dyad experiences new associative paths to explore. In the second quadrant (left-upper), characterized by high synchronization and high stability, the therapeutic dyad shares the current cognitive-emotional state, integrating novelties. In the third quadrant (left-lower), characterized by high stability and low synchronization, the therapeutic dyad experiences a state of therapeutic rest which, if prolonged, can lead to a clinical impasse. In the fourth quadrant (right-lower), characterized by high flexibility and low synchronization, new and potentially restructuring information is introduced. Interventions that increase the stability and flexibility of the patient, and of the therapeutic dyad, have the final objective of producing *S-F Oscillations* (right-left dimension of the figure) and *H-L Synchronization* (up–down dimension of the figure). This process leads to two main results: (a) it avoids the persistence of the therapeutic dyad in the third quadrant, and (b) it produces the virtuous circle based on the introduction of new information (quadrant 4), shared exploration of novelties (quadrant 1), and integration of new information in a new and more functional stable state (quadrant 2).

Future empirical studies have the task of confirming or disproving the interpretations suggested in the previous paragraph, operationalizing the concepts exposed. For example, it would be desirable to use cluster analysis to transform the quadrants into clusters and analyze their transition process over time, taking into account the following: (a) the interventions that increase stability, (b) the interventions that increase flexibility, (c) their timing, and (d) their mode of delivery.

Note: * For the ease of reading this article, the use of the masculine pronoun shall be construed to include all genders when referring to the patient.

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