# Sequences: Toward a Common Denominator of Family Therapy*

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*This paper presents a conceptual framework that is designed to help clinicians and researchers organize their observations of the complex network of interconnected sequences of behavior and thinking that constitute family interactions. This framework distinguishes four classes of recursive sequences, each of which is defined by its period, i.e., the amount of time it takes for a sequence to complete one cycle. The shortest sequences (S1) are those face-to-face interaction patterns that range in length from seconds to an hour. S2 sequences are played out over one day to one week, often depending on the routines of the family. S3 sequences range from several weeks to a year, and S4 sequences are those patterns of interaction and thought that repeat from generation to generation.*

*In addition to outlining this framework, the paper contends that in many families with a problem, pertinent sequences from each class may be related to the problem and to each other in a cybernetic manner. Suggestions are offered for identifying pertinent sequences from each class and for selecting interventions that best address the targeted sequence. We have found that this conceptual framework has enabled us to use techniques from many different schools of family therapy while avoiding the conceptual contradictions inherent in previous attempts to integrate approaches.*

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AS THE FIELD of family therapy matures, the pendulum appears to be swinging from an era in which discrete models of therapy were articulated and espoused to one in which comparisons among models are made in efforts to define common denominators of effective family therapy (5, 10, 24, 26). One such common denominator is the concept that families are patterned and thus repeat time and again the same class of interactions. A corollary to this concept is the idea that symptoms are related to, or part of, some of these interaction patterns. Thus Minuchin and Fishman (22) described a family as "a natural group which over time evolves patterns of interacting" (p. 11), and Haley (10) defined a problem as a "type of behavior that is part of a sequence of acts between several people" (p. 2). This concept of patterning has been identified by others, using

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such terms as *feedback loops* (13, 30), *homeostatic cycle* (12), *recursiveness* (16), *problem-maintaining behavior* (8, 31), *sequences* (10, 11, 19), *system of interaction* (19), *morphostatic and morphogenic processes* (20), etc. One is tempted to conclude that the idea of recursive patterned behavior connected to problems is indeed a pattern that connects (2) the many models of family therapy.

To describe a pattern in its entirety for any given family or interpersonal system is impossible because it requires the ability to observe and define a highly complex and continuous stream of behavioral sequences that are connected and persist over time. Such complexity led Hoffman (12) to remark:

> How is one to know which patterns to look for, let alone identify, when one is in the presence of a strange family, peering into the gloom of its manifold transactions. [p. 50]

Most family therapies have adopted a view that to articulate the entire pattern is time-consuming, potentially paralyzing, and unnecessary. Consequently, each approach has severely circumscribed the entire pattern, selecting instead limited sequences of behavior which, for that approach, separate the central from the peripheral (10). For instance, a structural family therapist, applying the concept of isomorphism, may explore in depth a small in-session sequence (21, 22), whereas a brief therapist may limit the sequence to the behaviors that constitute the attempted solution to a problem (8, 31), and a strategic therapist may look for a sequence of interaction that is an analogy for an incongruous hierarchy (10, 11, 19).

This circumscribing of the entire pattern through the selection of specific sequences has resulted in several parsimonious approaches to family therapy, all of which are quite effective. Unfortunately, such ecology-chopping has also contributed to fragmentation in the field, thus preserving the Tower of Babel image suggested by Hoffman (13), and weakening the potential for the concept of patterning to serve as a common denominator effective family therapy.

In order to establish patterning as a viable common denominator, it is necessary to grasp the complexity of the entire pattern while at the same time articulating how specific sequences, making up partial arcs of that pattern, may be extracted from it and used for therapeutic purposes. As Haley (11) suggests, "The chief merit of systems theory is that it allows the therapist to recognize repeating sequences and so make predictions. . . . There remains the problem of how to simplify the sequences so they become recognizable and useful" (p. 24). An approach that solved these problems would address the complexity of families and still keep that complexity sufficiently at abeyance to allow effective and economical therapy to occur (27). In this sense the approach would also address both the aesthetics and pragmatics of therapy as these terms are currently defined (16, 17).

In this paper we propose a model that examines the relationships among sequences and between any given sequence and the entire pattern of a family. The entire pattern of a family is defined as a system of interlocking recursive sequences and nonrecursive sequences. Recursive sequences repeat over time and are classified according to a specified range in their duration or period.[1]

Our model uses four classes of sequences. The first class includes sequences whose periods range from seconds to hours. The

[1] An examination of cyclical patterns through classification according to periodicity is not a novel idea. In the field of chronobiology (1), for instance, rhythmic behavior has been classified this way. In this field, circadian rhythms are those that occur one time in 20–28 hours; ultardian rhythms occur more frequently than circadian, and infradian rhythms occur at monthly, seasonal, or yearly frequencies.

periods in the second class range from a day to a week, in the third class from several weeks to a year, and in the fourth class span at least one generation. Although it is possible to increase the number of classes by shortening the range of periods included in a class, we have limited the model to these four classes, having found that they map our clinical experience well and correspond closely to the types of sequences used by the existing family therapies.

Nonrecursive sequences involve sequences of behaviors that do not repeat over time. Within a given generation, life cycle events such as births and marriage are nonrecursive sequences, but across generations they become recursive. Therapy is intended to be a nonrecursive sequence, although for some families it can become recursive as the family repeatedly enters and leaves therapy. In the everyday life of a family, a variety of nonrecursive sequences surround the recursive themes that are of interest to us because of their relationship to problems (29).

A simple example that draws upon one sequence from each of the four classes will help to introduce the model. A professor sought therapy for a writing block. Each day he would attempt to write but, instead, would engage for several hours in a typical sequence of procrastination: sharpening pencils, making phone calls, and finding other small tasks. He complained that he could never "get into" a writing stride. These sequences of procrastination occurred at home or in his office.

Examination of the professor's daily routine also revealed a problematic sequence. Having failed to write, he would experience a range of emotion from guilt and anger to self-pity and would therefore be moody at home. He would bitterly chastise his wife for her failings and then remain awake well into the night eating and watching television. The next day he would sleep late but still feel physically drained. Chastising himself for such irresponsible behavior, he would once again sit down and attempt to write.

Two sequences of yet longer duration were also involved. Several times a year the professor undertook trips abroad. As the time approached for a trip he would become increasingly anxious and unable to work, and upon his return, so many details would have accumulated that, again, he could not work. In addition, at about eight-month intervals, he experienced an episode of excruciating cluster headaches that persisted for several weeks, totally incapacitating him and leaving him drained for several more weeks.

Finally, discussions about his family of origin revealed that his father, although possessing considerable potential, had never realized it. His mother, on the other hand, was more success oriented and had groomed her son to succeed where her husband had failed. Hence, the professor replicated his father's struggle with success and also felt to succeed or not to succeed ultimately forced him into loyalty toward one parent over the other.

The writer's block could, therefore, be viewed as part of any and all of these sequences. Moreover, these four sequences represent just one sequence from each class. Many other sequences related to the marriage, parent-child interactions, and professional relationships also existed. These sequences influenced, and were influenced by, the sequences directly related to the writing block. Taken together, all of the sequences constituted the total pattern. The relevant question posed throughout this paper is: How does a therapist select from this pattern the sequence or sequences that, if changed, would have an impact on the problem of the writer's block?

In this model, sequences of shorter duration constitute partial arcs of sequences of longer duration and are thus viewed as embedded in the longer sequences. Embed-

ded sequences may relate to each other in one or both of two different ways. First, an event that is part of a sequence of a certain duration may *generate* shorter or longer sequences. For example, a mother-in-law's semiannual visit may set off escalating sequences between son-in-law and daughter that just begin to dissipate about the time she returns.

The second relationship among sequences exists when events in one sequence *calibrate* another sequence, that is, events in one sequence modify a variable that is central to the other sequence such that the intensity of that variable is increased or decreased. A common example of calibrating sequences is the way the sequence of psychosomatic symptoms in a child may modulate the level of overt tension in the parents' escalating sequences of conflict. An awareness of these calibrating and generating relationships among sequences enables us to determine which sequences are sufficient to effect a desired therapeutic outcome.

We have recently become aware that the model described in this paper contains themes that are quite similar to those developed by British psychiatrist Alan Cooklin (6). The fact that such similar ideas have developed independently and from different points of departure is testimony to their relevance and timeliness. We began from a focus on the shorter sequences of interest to structural/strategic family therapy and expanded our lens to include longer sequences, whereas Cooklin was originally interested in the long, generational sequences of object-relations theory and narrowed to include shorter sequences.

Cooklin distinguishes three types of sequences (short—in session, medium over months or years, and long—over a generation or more) and also uses the sine wave analogy to depict them over time. He has similar ideas about the relationship of the various models of family therapy to the different types of sequences and about how interventions directed at a short sequence may have an impact on longer sequences.

Like Cooklin, our model uses classes of sequences; however, we have also included a fourth class encompassing sequences of one to seven days duration. We have also focused more on the relationship among these classes, how they combine to form the total pattern of a family, and their relationship to problems. We have emphasized how sequences calibrate, generate, and are embedded within each other and how the assessment of problems should be related to such relationships. Despite these differences, the two papers are complementary and remarkably similar in certain areas.

We believe the model we propose serves as a common denominator (24) for family therapy because it explains how any sequence can be accessed from the entire pattern while still preserving its relationship to that pattern. The model thus acts as a metaframework for the many family therapy models, enabling us to understand not only how the models employ specific sequences but also how certain interventions characteristic of a particular model may be used to target a given sequence.

A question currently undergoing debate in the field of family therapy is whether constructs such as this total pattern actually exist for a given family or whether they are constructed by the observer (16, 24, 25, 29). In other words, is the sequences model a more thorough reflection of reality than more parsimonious models, or are we adding unnecessary complexity to our constructs. In this debate, we adopt neither an absolutist view, that such a pattern exists to be discovered as a reality by an objective observer, nor a radical constructivist view, that the pattern does not exist except as a construct in the mind of the observer. We take the position that family life is not entirely random and ordered only by an observer but rather that families are indeed patterned and that a model is useful

insofar as it affords a useful mapping of that pattern. Korzybski (18) makes this point.

> A map is not the territory it represents, but if correct, it has a similar structure to the territory, which accounts for its usefulness. [p. 53]

We believe that the sequences model, by including classes of sequences and hypothesized relationships among sequences, is a more useful map of the territory of family patterns than a parsimonious map that describes only one sequence or one class of sequences.

We accept, however, that the total pattern can never be known to the observer and that it is the observer who draws distinctions that punctuate the total pattern into sequences of that pattern and that different observers will draw out, and define as significant, different sequences. Our sequences model, then, affords a more complex process for drawing distinctions and forming hypotheses about the total pattern.

## Pattern and Sequence: A Visual Metaphor

A recursive sequence is defined as a set of acts (s1, s2, s3, sn) that repeat over time in some predictable fashion. A circle (Figure 1) is a useful metaphor for depicting a sequence, because it allows specific behaviors to be expressed in a circular relationship.

Another way to describe a sequence is to use an analogy drawn from the mathematics of periodic motion (6, 28). The most simple type of periodic motion is harmonic oscillation, examples of which are the movement of a point around the circumference of a circle, a swinging pendulum, or a vibrating spring. Just as such physical systems can be described as repeating the same motion over and over, families also exhibit sequences that repeat with monotonous regularity. Using the analogy of harmonic oscillation, the sequences depicted in Figure 1 may be portrayed graphically as shown in Figure 2. Such a graph contains a different sort of information about a sequence than a circle does. The passage of time (t) is measured by the horizontal axis. This figure shows three cycles of the sequence. The length of time required for the curve to repeat once is known as the period (T) and corresponds to the duration of the sequence.[2] At each point along the horizontal axis there also exists a corresponding point on the vertical axis as shown in Figure 3. In typical examples of periodic motion, the vertical axis measures such variables as the position of a swinging pendumlum, heart rate, glucose level, or electric current. In family interaction the vertical axis may measure some variable of interaction kept within limit by the *s* sequence. Hoffman (12) raised questions

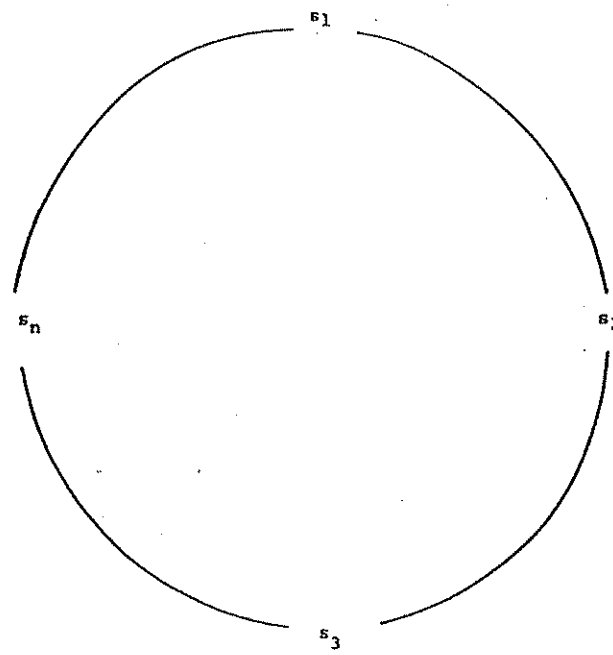


FIG. 1. A Sequence Depicted as a Circle

[2] Jackson (14) proposed a similar diagram. Unfortunately, with his death the concept of rules in the literature was deemphasized, and this type of analogy ceased to be used.

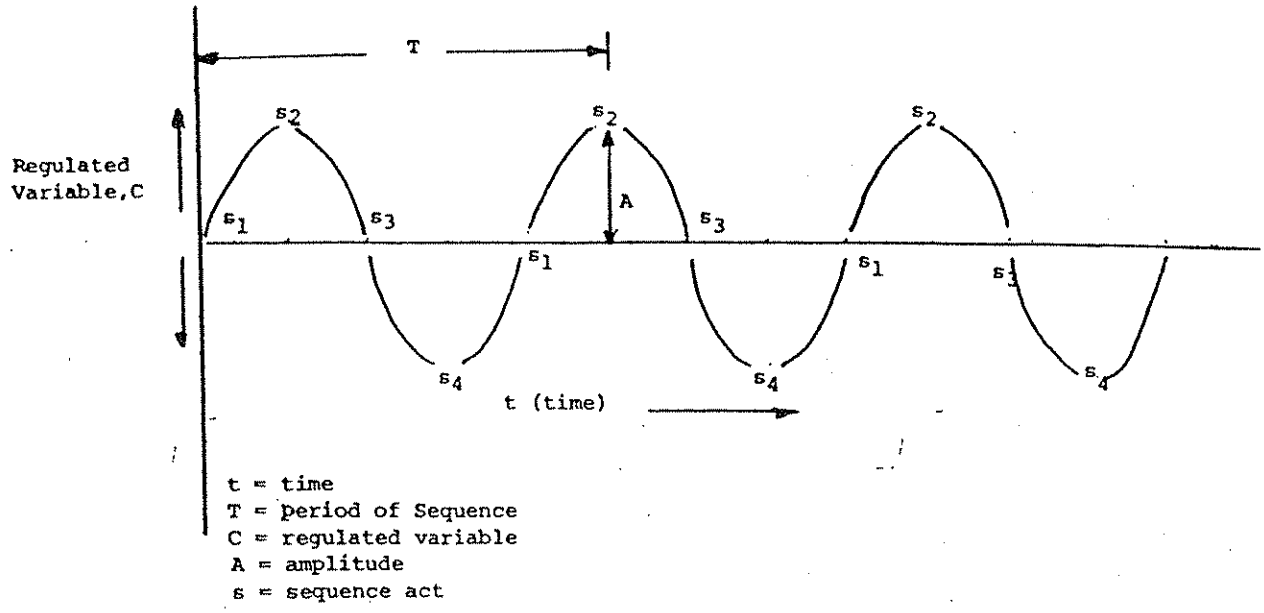


FIG. 2. A Sequence Depicted as a Sine Wave of Periodic Motion

about such variables:

> If one speaks of a homeostatic cycle, one should be able to define the factors which are being monitored by this cycle. It is too general to say tension between the parents and let it go at that. Presumably, these are essential variables which the parents—or whatever executive dyad is operating—must maintain within certain limits if they are to function together successfully. What might such variables be? [p. 505]

The variable may be conflict, intimacy, competence, assertiveness, symmetry, or any other characteristic that classifies interaction (16). As time passes, the intensity of the variable will increase and decrease in a periodic fashion, but it will not exceed a maximum value. This value is referred to as the amplitude (A) of the curve. As an example, a couple may become increasingly intimate until some threshold of intimacy is reached, at which time they become less

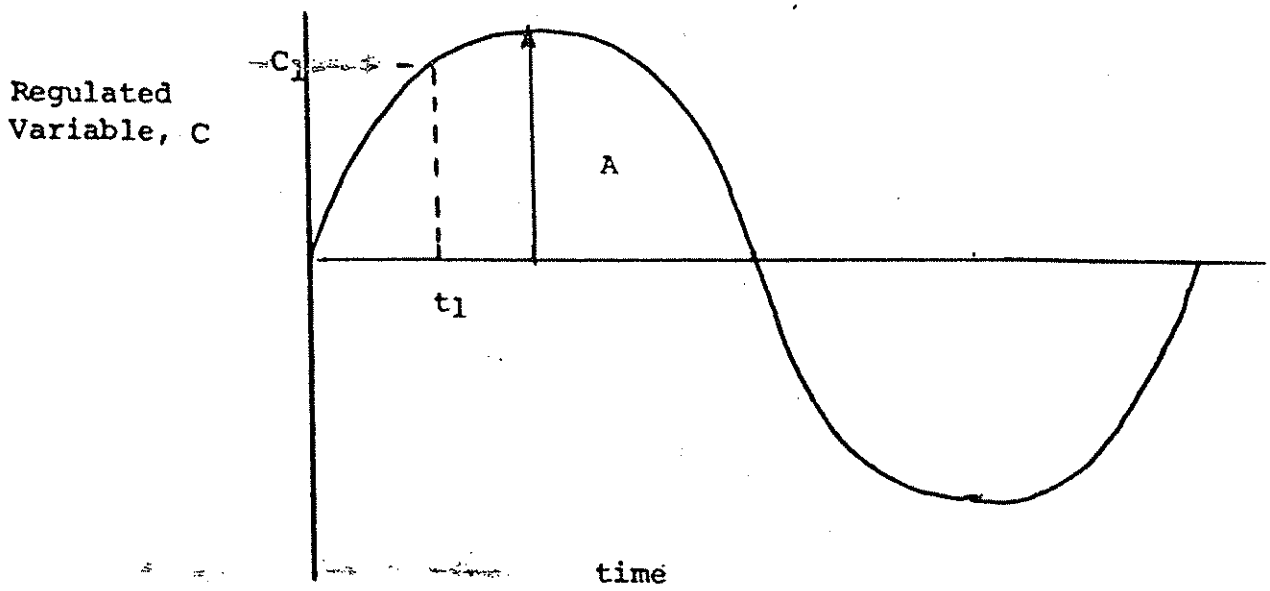


FIG. 3. The Relationship Between the Regulated Variable and Time

intimate, distancing from one another until intimacy reaches an uncomfortable minimum value. At this point, they again begin to approach one another, and intimacy increases.

In summary, using a graph derived from the mathematics of periodic motion, we are able to depict a sequence and show the following properties: the acts of the sequence (s) and time (t) shown on the horizontal axis; the period (T) of the sequence; the change in some variable of human interaction (C) as measured by the vertical axis; and the amplitude (A) or threshold of that variable.

The two ways of depicting sequences, the circle and the sine wave, are metaphors that offer complementary perspectives of a sequence. The circle provides a digital representation of specific behaviors that compose the sequence, whereas the sine wave provides analogical information by measuring a change in some key variable regulated by the sequence. We turn now to a description of each of the classes of sequences.

*Class 1 (S1)*

When two or more family members engage in face-to-face interaction, their acts may constitute a sequence or a series of similar sequences. These sequences define the characteristic style of relating of the members involved. Many such sequences are not context specific; consequently, they may occur at home, in the grocery store, or a therapist's office. As such they are readily observable and available for intervention within the context of a therapy session. S1 sequences may involve any number of issues, such as attempts to discipline, resolve conflict, regulate proximity, or make decisions. S1 sequences may last only a few seconds and repeat over and over during the course of one interaction that may last hours, or the interaction may involve only one sequence lasting from several minutes to hours. Whatever its form, the interactants of S1 sequences eventually disengage, thus completing one round of the S1 sequence as punctuated by the observer. An example of an S1 sequence is shown in Figure 4.

S1 sequences also include the entire range of nonverbal behavior that accompanies interaction. For instance, a couple may talk to one another but never make eye contact, or a mother may chastise a child with a smile on her face. The behaviors may also involve such transactions as a mother sitting with a 6-year-old until the child falls asleep. The style of an S1 sequence is also important. For instance, a mother and daughter may argue like two sisters, or a father may address an adolescent son in a way that treats the son like a child.

As a final example in this section, we will describe an S1 of the Gold family and then, in the following sections, describe how this S1 is related to and embedded within each other class of sequence (S2, S3, and S4). The Gold family consists of Mr. and Mrs. Gold, both in their early 40's, and their two sons—Jim, 16 and Rod, 15. The S1 of interest here is a rigid and common sequence that includes the following behaviors: Mrs. Gold makes a request of Mr. Gold; Mr. Gold forgets to comply with the request; Mrs. Gold chastises him in a parental and scornful manner; Mr. Gold apologizes, blaming neurological deficits that cause his forgetfulness, promises to try harder; Mr. Gold forgets to comply and so on.

*Class 2 (S2)*

The face-to-face interactions of S1 sequences constitute partial arcs of sequences having a longer duration. Another way to state the same principle is to note that an S1 sequence is always embedded within a sequence of longer duration, as indicated in Figure 5. These longer sequences, labeled S2, can influence S1 sequences but are in turn also influenced by them. The acts constituting an S2 are

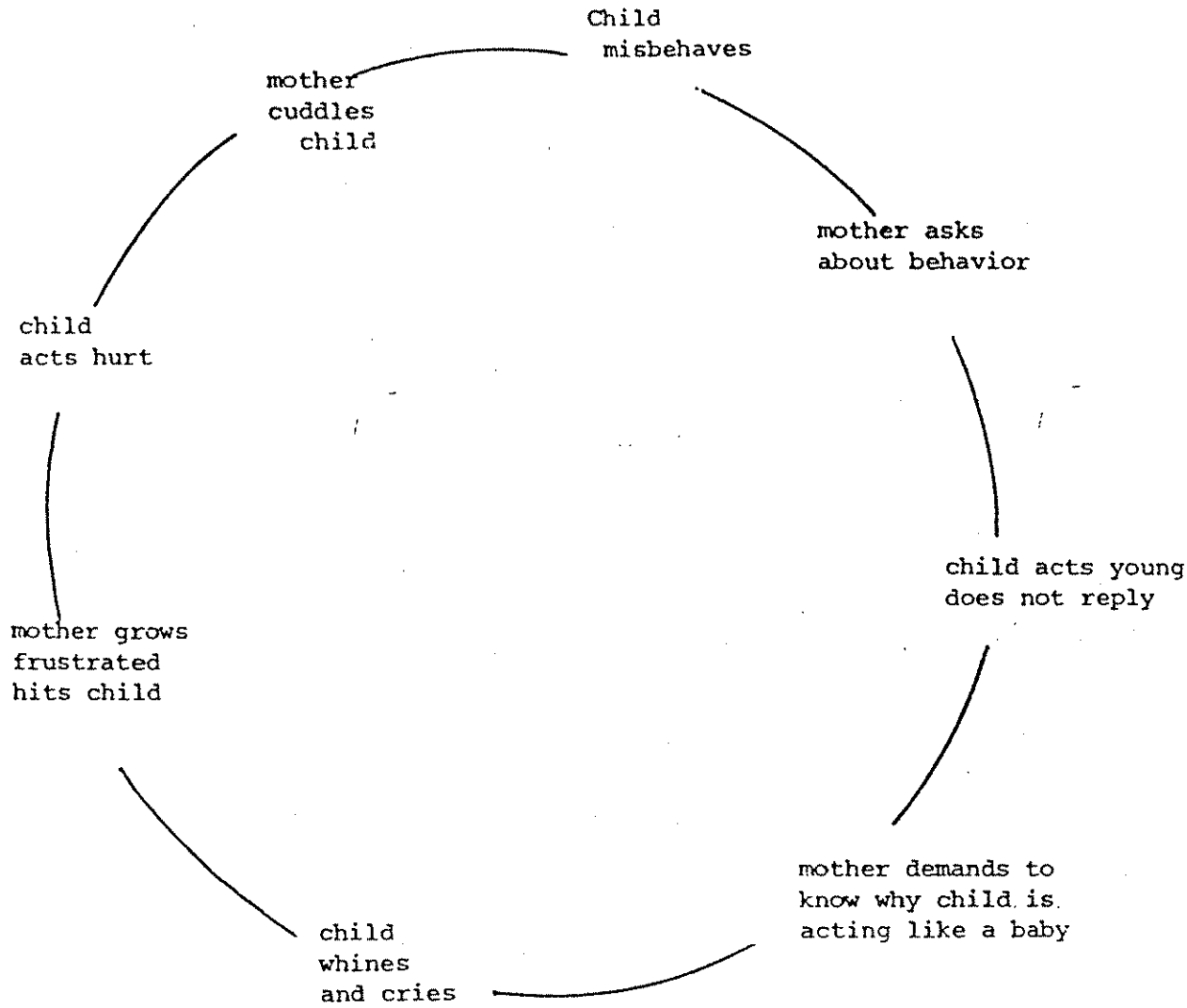


FIG. 4. An Example of an $S_1$ Sequence

generally part of the day-to-day behaviors that make up the routine of a given family. Such routines often have a period (T) of about 24 hours.

The acts of the S2 may *calibrate* a given S1 sequence. For example, a mother and daughter may repeat S1 sequences around the issue of discipline throughout the day. Later when the father comes home, he may support the mother or attack her for being ineffective. Whatever his behavior, it serves to calibrate the S1 sequence between mother and daughter. Reversely, the mother and father may argue every evening about the proper way to raise their daughter. This S1 sequence will also calibrate the mother-daughter interaction that occurs the following day.

In the example given above, the father calibrates the S1 between mother and daughter not only by his approval or criticism of the mother but also by the amount of time he spends with the daughter. If he spends little time with her, his wife will be more frustrated and less willing to listen to his suggestions. If, on the other hand, the S2 sequence is changed such that the father spends all day with the daughter, his response to an S1 sequence related to discipline may well change, because he would then experience the strain of dealing with a small child for a long period of time, and he

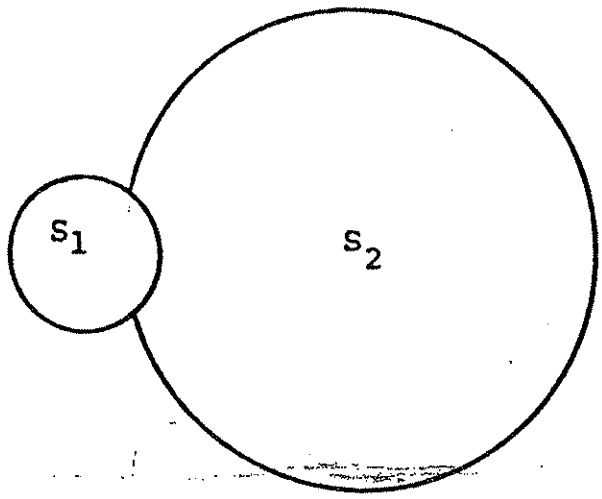


FIG. 5. The Embeddedness of Two Sequences

may well become more supportive of his wife.

The routine of a family is complex, and in many instances, the way an S2 sequence calibrates the S1 sequence may be quite subtle. For example, a mother may complain bitterly to her son that he does not obey her (S1) but then remain away from home until late in the evening, leaving the son with no adult supervision. Or a father may appear intrusive and overinvolved when speaking to his daughter and yet work two jobs, rarely being available to talk to her.

In a complex society such as ours, few traditional families exist in which one parent works and the other serves as homemaker and highly predictable S2 sequences are enacted. Instead, we have a vast array of alternative family arrangements, some with two parents juggling work schedules around domestic routines that include demands of school and peers; some with single parents or stepparents where children relate in many different ways to adults. The net result is that therapists must become skilled at recognizing a kaleidoscope of S2 sequences, many of which have the inherent potential to calibrate S1 sequences in a problematic way.

S2 sequences may also *generate* S1 sequences. For instance, if a parent expresses constant displeasure with one child, that child may at some later point engage in a conflictual S1 sequence with a sibling. Or a father's absence from home in the evening may generate an overinvolvement between a mother and son.

S1 sequences can also calibrate S2's. For instance, a mother's interaction with an infant may be so distressing to her that she becomes unwilling to leave the baby with a sitter and hence rarely has time on her own.

S2 sequences may have periods that exceed one day. For example, a child may have weekly visitation with a divorced parent. In such instances, an act that occurs during the visitation may generate S1 sequences in the blended family. For example, the child may return from the visitation upset and fight with the mother.

Returning to the Gold family, the S1 described above of father forgetting, mother chastising, and father apologizing is unstable, in the sense that tension builds between the couple as the S1 recurs, and the mother becomes increasingly biting, the father increasingly passive. To calibrate this escalating S1, the two sons involve themselves in different ways and at different times in a sequence whose form is dictated by which triangles are gathered together over the course of a day or week. In one variation of the S2, the son Jim interrupts the escalating S1 by provoking the mother with a disrespectful comment or by doing poorly in school. Mother and Jim argue until father comes home from work at which point mother demands that he discipline Jim. Father, of course, does not comply and the couple enter an S1, similar to the S1 over father's forgetting, but now over the safer topics of the discipline of Jim. Father then has a "talk" with Jim, who behaves for a while, and mother calms down. This sequence will continue until father again forgets a request, and off they go again.

S2 sequences cannot be ascertained

solely from direct observation. Questions that provide information about a typical day or that track the occurrence of a symptom provide clues about S2 sequences. Frequently, when S1 sequences are addressed in a session by asking family members to change face-to-face interaction, they will spontaneously reveal how that interaction is calibrated by S2 sequences. For instance, a mother, when asked to have her child sit quietly, may try and fail and then suddenly reveal that the child runs to grandmother's apartment whenever the mother tries to discipline her.

*Class 3 (S3)*

"Normal" families may seem quite boring. One reason for this is that the S1 and S2 sequences they have evolved are effective in resolving tensions and meeting the needs of family members. Tension either does not build to system-threatening proportions that require more drastic calibration or, when the system is distressed (at a new life stage, for example), it self-corrects in the sense of adjusting the S1 and S2 sequences accordingly.

In families in which the S1's and S2's are not efficient at resolving tensions or meeting needs or are not adjustable during times of change, particularly at life cycle transitions, the system will periodically be threatened to the point where symptomatic calibration may be required. The symptoms, while temporarily reducing the perceived threat, are usually ineffective in resolving it and hence will wax and wane over weeks to months or even years as calibrations are needed. This observation of a pattern in which symptoms or other events occur over a longer span of time, within which shortened S1's and S2's are embedded, leads us to add a third class of sequence (S3).

A well-known example of an S3 sequence is Haley's (11) leaving home cycle in which a young adult who is involved in parental conflict attempts to leave home; perhaps succeeds for several months until the parents threaten separation; then returns home because of symptoms, job, or school failure until the marriage stabilizes and improves again; and then he attempts to leave home once more. Couples sometimes have S3 sequences that govern intimacy or conflict (12, 30). Such a sequence may involve a gradual increase in intimacy over a period of time until a tolerable threshold is reached, followed by distancing between the couple, often accompanied by the appearance of symptoms or conflict.

S3 sequences connect the family to its ecology and hence often include participants other than the immediate family members, e.g., in-laws, schools, hospitals, or agents of social control such as probation officers. For instance, a foster family may take the foster children to an agency once a month to visit their natural mother. This event and the build-up and aftermath to it can affect the family profoundly.

Like the S2, the S3 sequence can *calibrate* sequences of shorter duration. Consider the example of a husband, an executive who works long hours, and a wife who is unemployed and at home all day. This S2 may have embedded in it an S1 in which the husband gives the wife daily lectures about improving her management of the domestic needs of the home. As time passes, the wife becomes increasingly incompetent and finally agoraphobic. This forces the husband to curtail his work and assume some domestic responsibilities. This temporarily changes the S2 and may eliminate the lectures (S1), helping the wife to function and overcome the agoraphobia. As she assumes the domestic role, the husband gradually begins to work long hours again, and the S3 sequence repeats.

S3 sequences can also *generate* sequences. For instance, an anniversary reaction may produce a change in the way a couple relate. Keeney (16) cites an example of an S3 that generates S2 and S1 sequences:

> For example, suppose a husband gets a call from his mother once every month or two where she complains of her life situation. Subsequently, he becomes anxious which in turn is followed by his son becoming disobedient. The next piece involves his wife's failure to curb son's behavior which results in mother-in-law giving her a scolding. This scolding, however, provokes husband and wife having a fight, bringing husband out of his anxiety space. At a certain level of escalation the couple shifts to triangulating their disobedient child. This parental coalition against the son results in his becoming obedient and mother reluctantly apologizing. A period of peace then commences, until the phone rings once again. [p. 45]

In this example, the phone call sets in motion the sequences involving husband and wife and husband, wife, and son.

To return again to the Gold family, the S1 between the couple and the S2 that calibrates the S1 involving the boys, both described above, are also unstable in the sense that tension gradually increases in the system as these sequences recur. At some point, as tension mounts threatening the family's coherence, the mother has a severe depressive episode during which she shuts down all activity and stays in bed. The children become solicitous of her and behave well, and the father acts competently, somehow temporarily relieved of his neurological deficit. The mother is hospitalized and heavily medicated, begins to come out of her depression, returns home and the father again starts to forget. . . This S3 had recurred several times over the previous 15 years, and mother had several well-spaced hospitalizations over that period.

Although every family has S3 sequences, not every problem need be connected to an S3. Part of the challenge of therapy is to determine whether a relevant S3 exists. Sometimes that may be determined from information available at intake of multiple hospitalizations. Questions regarding the onset of the symptom, chronicity, and periods of remission are also useful. Sometimes families are unable to articulate a relevant S3. In such cases the existence of an S3 may only become apparent at some point during the course of therapy when the symptoms or relationships appear to change in a manner independent of the therapy.

*Class 4 (S4)*

All families transmit patterns from one generation to the next. Because these transgenerational patterns have such long periods they are not easily recognized and are often not classified as sequences. But if one examines the behavior of families across generations, regularities that we call S4 sequences become apparent (3, 4). Bowen (4), for example, has demonstrated that the way a couple relates is closely connected to the level of differentiation of both spouses from their respective families of origin. In our view, the repetitive family patterns from one generation to the next that may stem from encoded differentiation levels constitute an S4 sequence in which shorter sequences are embedded.

S4 sequences are also encoded as values, rules, and beliefs and may derive from evolution of the family's group or may be idiosyncratic to a particular family. Commenting on the way history can be recreated in the present, Sluzki (24) noted:

> Part of it [history] may be prehistory, that is, elements of the members' own original family histories that persist through time as they keep symbolizing and actualizing standing agreements, re-presenting them, i.e., keeping them present. Thus, the shared history is one of the reservoirs of interactional rules and a coding manual of how to construct a reality that is activated whenever a corresponding fragment of that history is activated. [p. 473]

In the novel *A Boy's Own Story* (33), the hero, an adolescent male, describes just

such an S4 Sequence:

> My sister was his [the hero's father] true son. She could ride a horse and swim a mile and she was as capable of sustained rages as he. Still better, she was as blond as his mother. My grandmother had never wanted my father; as she told him, she pummeled her stomach with her fists every day while she was bearing him. Nonetheless, my father somehow got born and survived to serve his mother humbly and lovingly, washing the family's sheets in the bathtub when he was still only a child and brushing out her blond hair every night. One night, soon after my grandmother died, I stole into my father's study and found him standing behind my sister's chair, brushing her hair and crying. [p. 60]

Again, S4 sequences may calibrate or generate shorter S1, S2 or S3 sequences. Consider, for example, an S4 sequence repeated in some single-parent, black families: an adolescent becomes pregnant and bears a child. For a period of time the grandmother and adolescent mother share the parenting, with the grandmother often identified as the primary parent. As the child grows older and the mother reaches adulthood, the mother and grandmother struggle for parenting rights of the child. The child, caught in this struggle, begins to rebel and upon reaching adolescence has a baby. The mother, now a grandmother, takes over rearing the new baby, and the sequence repeats again. In this sequence, a woman can be a mother only by becoming a grandmother.

It is not uncommon for events in one generation to mirror events in a previous generation. For example, a father with no previous history of psychiatric illness may become depressed at the same age that his father first developed similar symptoms. In this example, the S4 event will generate many sequences of shorter duration: the S1's that regulate how the family treats the father, the S2's that involve changes of routine, and the S3's that regulate the ebb and flow of the depression.

The S1 pattern in the Gold family of mother attacking parentally and father placating sheepishly was isomorphic with the marital patterns in both the mother's and father's respective families of origin. Both parents emerged from an ethnic culture that conveyed a view of men and women and their relationship to each other that maintained these patterns over many generations. Included in this world view for women is the idea that men are weak, irresponsible and exploitive, and for men, that women are shrewish, dominating, and dangerous. This world view is maintained in each parent by the model they have of their parents' relationship, as well as by past and current interaction patterns they both have with their parents.

In traditional societies, S4 sequences such as those described for the Gold family may be passed from one generation to the next with little change. In rapidly evolving societies like our own, however, sequences that were adaptive in one generation may create stress if replicated in a subsequent generation.

We could, in fact, hypothesize an S5 sequence that would subsume the shifting values of a whole culture or society. Such an S5 would possibly span several generations and might be evidenced by changes in the moral values of a society, the rates of divorce, level of economic well-being, or changing status of women in our society.

### Sequences: A Pattern That Connects

Having described each of the four classes of sequences, we can now restate the proposition that the entire pattern defining any given family is an interlocking system of the four classes of recursive sequences and nonrecursive sequences. Hence, the entire pattern includes the past, present, and expectations about the future; the here-and-now sequences of face-to-face interaction (S1); the calibrations of these S1

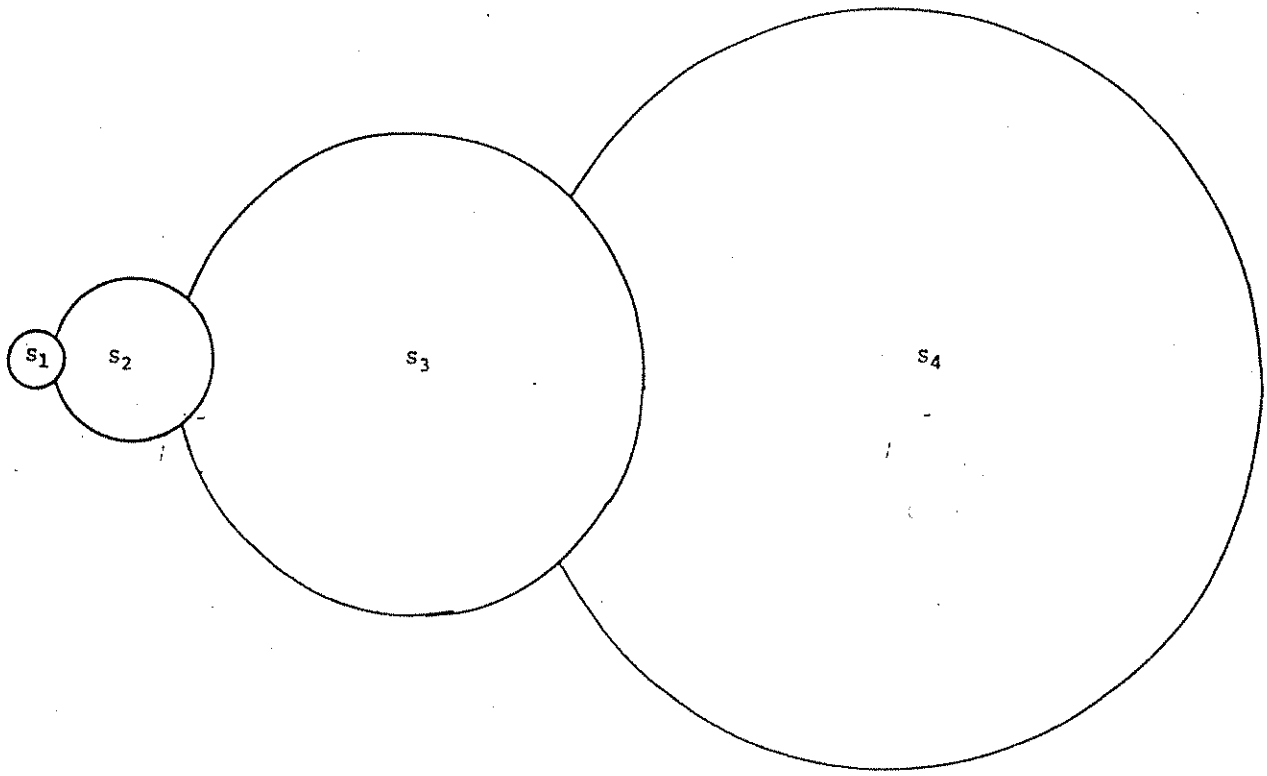


FIG. 6. "The Fallen Snowman": Four Sequences Embedded Within One Another

sequences embedded in the S2 sequences that define the daily routine of a family; longer S3 sequences that include the ebb and flow of symptoms and relationships; and finally transgenerational S4 sequences.

In order to complete the sequence model, we sought a way to connect the four classes of sequences such that the whole would both represent the entire pattern and also enable us to extract any relevant sequence from it. The visual metaphors of a circle and a sine wave again provide complementary images allowing us to make this connection between sequences and pattern. Again, these visual metaphors are only maps that enable us to express and operationalize the relationship between any sequence and the entire pattern.

Returning to Figure 5, we see that two sequences of different duration are connected, in the sense that the shorter sequence is embedded in the longer. Any number of sequences or different durations may be connected this way. If, for example, we select one sequence from each of our four classes, their embeddedness would be depicted in Figure 6, which we have dubbed the "fallen snow man."

To provide a clinical illustration of this "fallen snow man" model, let us once more return to the Gold family and set forth again how their S1, S2, S3, and S4 sequences are interconnected. The S1 of mother chastising and father forgetting and placating-is a-tension-escalating, and therefore system-threatening, sequence that is calibrated or "cooled out" by an S2 involving Jim provoking mother, mother and father arguing about Jim, father talking to Jim, Jim behaving better. In turn, this S1, S2 combination is embedded, and calibrated by, the S3 of mother's depressive episodes that occur when the S1's and S2's have escalated to the point where the system is threatened. In turn, these sequences are embedded within the transgenerational pattern and world view of parental mother and placating father that is maintained by and maintains the shorter sequences.

The visual metaphor of the fallen snowman enables us to see the relationship among the sequences and to select a specific sequence for intervention, while still preserving an appreciation for that relationship. Further, depending upon the punctuation of the observer, any given behavior could be ascribed to any one of the sequences.

Now, if we turn to the sine wave metaphor, we can see how sequences interact to regulate key variables in family life. Two sequences of different duration may be depicted as in Figure 7a. Each of these sequences contributes to the regulation of some variable, C. We can combine the sequences by introducing and applying a mathematical theorem known as the Fourier Theorem (32) that states:

> Any periodic motion (sequence) can be obtained by the superposition of a number of simple harmonic motions which may differ in amplitude and period. [p. 89]

For example, a chord played on a piano, while heard as one sound, is actually the simultaneous sounding of several notes. Using the Fourier Theorem, the chord could be understood and analyzed as the summation of the sound waves generated by the vibrations of the relevant strings set in motion when the chord is played (7).

By applying the Fourier Theorem to Figure 7a we can derive one continuous curve as depicted in Figure 7b that represents the summation of the variable C regulated by the two sequences over time. The shorter sequence is now a partial arc of the longer sequence (15, 23). Returning to the Gold example, the S1 sequence of mother chastising and father forgetting and placating is a partial arc that regulates tension between the couple. It occurs at one point in the longer S2 sequence that also involves Jim provoking mother, mother and father arguing about Jim, father talking to Jim, and Jim behaving better and also regulates tension between the couple.

If we select one sequence from each of the four classes and display each as a sine wave, we arrive at Figure 8 which shows the temporal relationship among the four sequences and how each regulates the variable C. Using the Fourier Theorem, again we can combine the four sequences, with each now represented as a partial arc of the whole as shown in Figure 9. The ebb and flow of the regulated variable, C (tension, intimacy, competence, etc.) is now a function of how the four sequences relate to one another in the combined pattern. Sometimes the sequences combine to increase the magnitude of the variable, and at other times one sequence may reduce (calibrate) an escalation of the variable as regulated

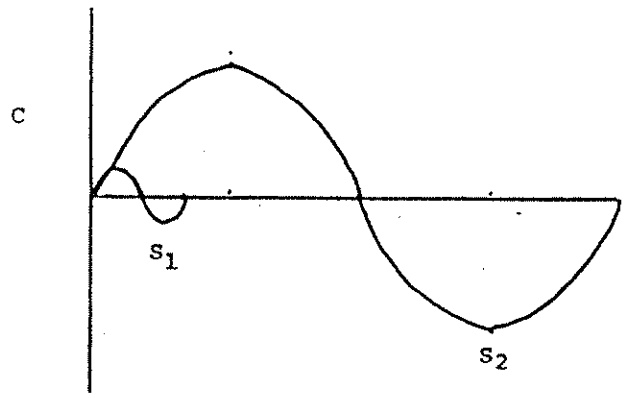


FIG. 7a. Two Sequences Depicted as Sine Waves

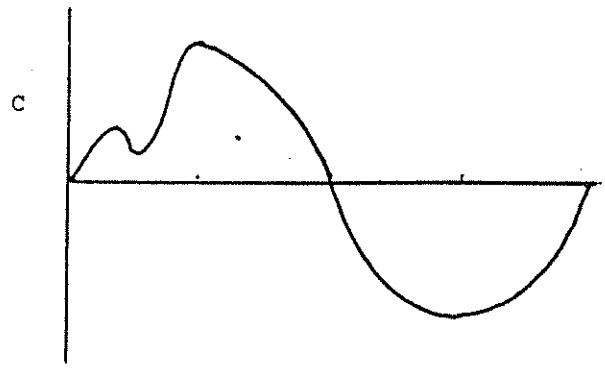


FIG. 7b. Two Sequences Combined

FIG. 7. Combining Sequences Using the Fourier Theorem.

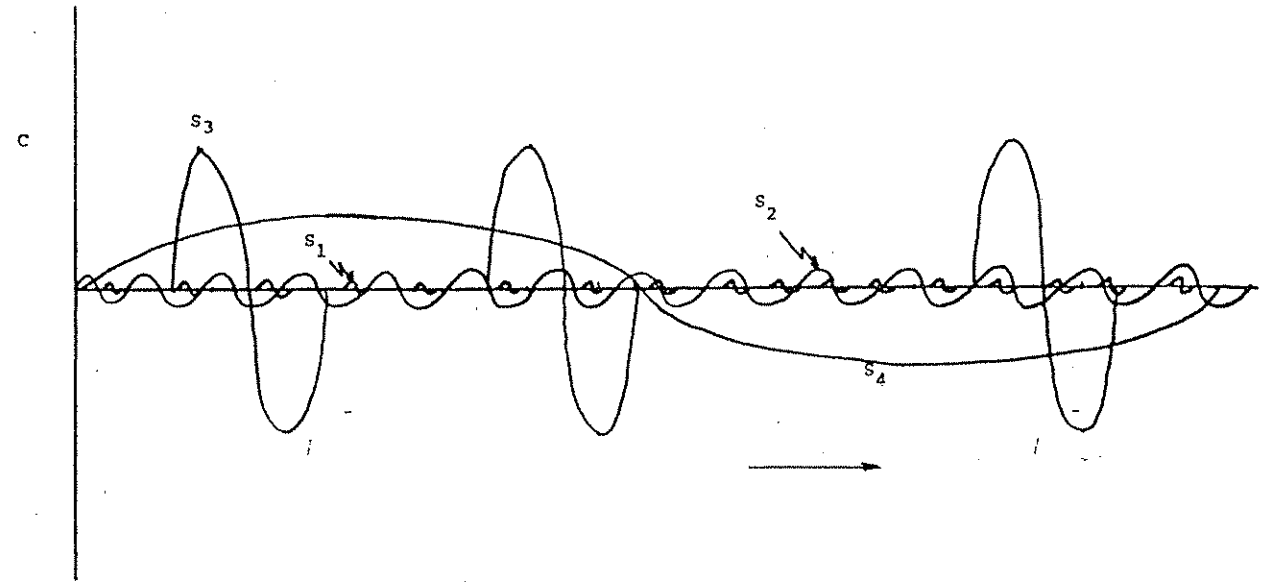


FIG. 8. The Temporal Relationship Among Four Recursive Sequences
Note: Time is not drawn to scale, and the depicted amplitudes for all sequences are arbitrary.

by a second sequence. Hypothesizing how sequences combine to regulate a variable and how they calibrate one another further enables the therapist to select appropriate sequences.

A much greater degree of complexity is added when we recognize that there are many sequences in each class and that these sequences regulate many variables. The entire pattern of a family, then, would be represented by the combination of all sequences from each of the four classes of recursive sequences and all nonrecursive sequences. Needless to say, although such a total pattern can be hypothesized, its complexity is such that it can never be known. What the sequences model allows for, however, is an appreciation both for how the total pattern is constructed and how we as therapists enter that pattern and draw distinctions that help us identify specific sequences that we then target for intervention. We are always reminded that any sequence is a partial arc of longer

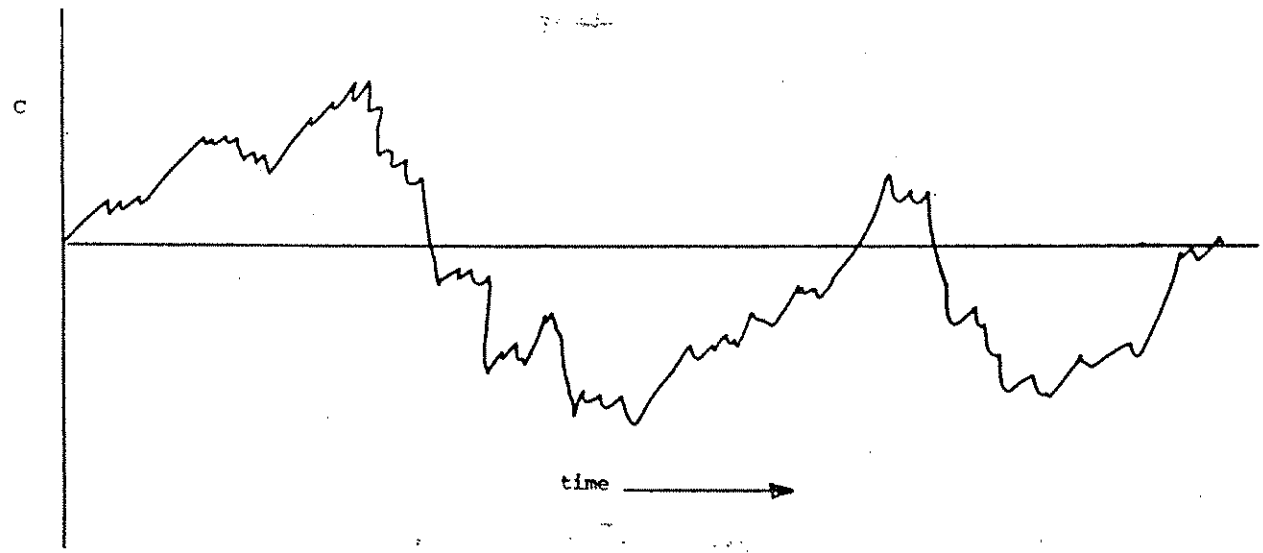


FIG. 9. A Partial Pattern Obtained by Applying the Fourier Theorem to Figure 8

sequences and of the total pattern. Sometimes only one sequence need be extracted. At other times more than one is needed, and sometimes one or more sequences from each of the four classes are needed. Moreover, if the selection of a specific sequence fails to achieve results, that sequence can be examined within the context of the partial map and, if necessary, the entire pattern, leading to a modification of the intervention or the selection of alternative sequences. We believe this model does enable sequences to function as a common denominator of effective family therapy.

*Intractability of Problems*

This sequence model has many implications for assessment and appropriate treatment of problems. We assume that all problems are embedded within one or more recursive interactional sequences that are partial arcs of the entire pattern. We do not believe, however, that for every problem there are sequences involved from each of the four classes. In other words, there are most certainly many problems that involve only S1 or S2 sequences, while others may involve not only S1's and S2's but also S3's and S4's. In some cases, although an S3 may be involved, an intervention targeted at an S1 or S2 may be sufficient to interrupt the S3 because the degree of embeddedness is not severe. When it is severe, interventions targeted at the S1 and S2 sequences may not be sufficient to interrupt the S3 sequences, and interventions must target it directly.

Is the degree of embeddedness, that is, the number of classes of sequence involved in a problem, related to the intractability of the problem? Although we have no empirical evidence for this hypothesis, we believe that such a relationship does exist to some extent. In general, when S3 or S4 sequences are either generating or being calibrated by S1 and S2 sequences, and vice versa, we believe that the associated problems will be more intractable to direct, straightforward methods of intervention.

For example, if the chastising/placating S1 in the Gold marriage were not embedded in longer sequences, then a therapist could for instance convince Mr. Gold of the value of dealing with his wife directly until their conflicts were resolved and the problem would be solved. In actuality, in the Gold case, such a move would more likely activate S2's and S3's resulting in more provoking from Jim or a depressive episode in the mother. Thus, in working with highly embedded families like the Golds, the therapist needs a broader view of the family ecology and a model for using interventions that reflects that view.

Another clinical example may help illustrate the concept of embeddedness. The Como family was referred because Jane, an attractive 14-year-old, had been bulimic for six months. In addition, the only other child, Joe, 16, was failing in school and had a history of episodic fights with Mr. Como.

*S1 and S2 Sequences.* A recurring pattern in the Como family involves the following partial arcs: Mr. Como and Jane argue over Jane's bingeing; Mrs. Como defends Jane and shifts the focus of contention to Mr. Como's harshness, potential violence, and lack of empathy for the kids; at some point Joe chimes in to offer examples of his father's mistreatment of him, which allows Mrs. Como to withdraw icily from the fracas. Through all of this, Mr. Como vacillates between righteously defending himself and apologetically requesting a second chance. One round of this sequence might be completed with one of these apologies or when everyone went to bed. A sequence like this might take place in a matter of minutes in front of the therapist or over the course of a day as various family members come and go from school or work.

*S3 Sequences.* The above sequence of conflict and protection calibrated a longer sequence related to neglect and indirect-

ness between Mr. and Mrs. Como. Throughout their marriage Mr. Como had been involved in community or religious activities that took time from the family. Mrs. Como felt neglected emotionally and overburdened with all the housework plus a job but never asked Mr. Como for support in a direct way. Thus, the stage was set for the S1 and S2 metaphoric battles described above. An example of a sequence that played out over months is the following: As the S1's or S2's go on, Mrs. Como feels increasingly neglected and resentful; Mr. Como gets upset with one of the children for some transgression; that child defiantly defends himself or herself; Mrs. Como overtly or subtly encourages the child's defiance; Mr. Como feeling ganged up on, explodes in a menacing way; everyone withdraws in anger; Mrs. Como acts cold and distant toward Mr. Como and threatens to separate from him out of fear for her kids; Mr. Como apologizes to Mrs. Como and becomes attentive and solicitous; Mrs. Como slowly thaws out and shows her husband affection; Mr. Como, again, begins to neglect Mrs. Como; the pattern repeats.

Thus these periodic episodes of heated outbursts involving the children would "cool out" the rising resentment around neglect. Until Jane had revealed her bulimia, these sequences had revolved around Joe's laziness, bad grades, or defiance. While Joe was the focus, the sequences had escalated in intensity to the dangerous point where physical fights had occurred between Joe and his father. Jane's bulimia reduced the frequency of the Joe-focused sequences. The same sequence could be played out but with less intensity when Jane's eating was the battleground because, unlike Joe, Jane was not rigidly allied with her mother.

*S4 Sequences.* These sequences were part of a long tradition in the families of origin of both parents. For example, in Mr. Como's family, for at least the previous three generations of which he was aware, there was severe antagonism between the father and eldest son that, in each case, eventually led to the expulsion of the father from the family. In his own family, Mr. Como hated his father and dutifully protected his mother from him throughout their lives. At age 16, after Mr. Como was threatened by his father with a loaded gun during a fight, his mother threw his father out, and the father drank himself to death a few years later. Thus, Mrs. Como's threat to separate from her husband and Joe's protection of her produced a desperate reaction from Mr. Como, which, in turn, perpetuated the sequence. In addition, Mr. Como disclosed that his father was bulimic, and the smell of Jane's vomit evoked a painful set of memories.

On Mrs. Como's side there is a history of women being abused by men; this generated a powerful sanction against asking directly for anything from a man and a strong fear of violence when tension levels rise. Thus, instead of dealing with Mr. Como directly, she enlisted her children in the task. As she later stated candidly, "I thought that maybe the message would sink in if he heard it from others." Thus Jane complained to Mr. Como that he was not giving his wife the help or attention she needed, and Joe attacked him for being selfish, unreasonable, and perfectionistic. From the sidelines Mrs. Como would echo these criticisms of her husband's behavior toward the children, but never toward herself.

Since both Joe's and Jane's problems seem to be embedded in interrelated sequences of each class, interventions based on an assessment of only one class are likely to be only temporariiy effective. That is, blocking the S1 and S2 sequences of conflict and protectiveness may not affect the more chronic S3 issues of neglect and indirectness or the S4 oversensitivities to potential violence or expulsion. On the other hand, focusing on S4 issues while ignoring S1 and S2 or S3 sequences

becomes difficult because the family will continue to undergo periodic crises that will distract them from the S4 exploration that may be perceived as threatening.

Several conclusions can be drawn from this discussion of problems and sequences. First, in spite of having a similar symptom profile, two problems from different cases may be embedded within different classes of sequences. Consequently, diagnoses based only on such a symptom profile will be misleading. In addition, an intervention that produces a quick and easy improvement in one family may have little impact on a similar problem in a second family because in that family other relevant sequences are involved that the intervention does not target or interrupt.

Second, this discussion does not imply that those problems involved in many levels of sequences, including S4, necessarily require lengthy, arduous, or ingenious forms of treatment. Indeed, we believe there are types of brief interventions that powerfully affect the family's pattern-maintaining S4's and some long-term treatment that does not.

Third, this situation had led many theorists and therapists to make the error of assuming that the model of treatment they have found effective for some problems attacks the essence of human problems and therefore should be used in all cases. It seems that we have not come as far as we would like to believe in the 400 years since Montaigne (28) declared that

> it has often seemed to me that even good authors are wrong to insist on fashioning a consistent and solid fabric out of us. They choose one general characteristic, and go and arrange and interpret all of man's actions to fit their picture; and if they cannot twist them enough, they go set them down to dissimulation. [p. 149]

These errors are further compounded and perpetuated by a lack of follow-up studies, so that therapists and theorists may, for example, never be in contact with a family long enough to notice the operation of an S3 sequence. Thus, we are left with a situation in which canaries are being killed by cannons and elephants are being hunted with sling shots. In other words, because of a lack of awareness or assessment of the degree of embeddedness of a problem in various levels of sequences, treatment approaches have often been poorly matched to problems.

Connecting the difficulty of a problem to the number and level of sequences in which it is embedded presents a dilemma in assessing problems in therapy. It is possible to construct elaborate assessment procedures that tap information pertinent to all four classes of sequences, but such procedures are time consuming, set a pace for therapy that is passive, and are often unneccessary since the problem may be only involved at the S1 level. Once again we face the issue of acknowledging the complexity of the entire pattern while avoiding paralysis.

Fortunately, we have often found that information regarding relevant longer sequences (if they exist) will emerge during the process of therapy as shorter sequences are interrupted or intensified. For example, a father was encouraged to discuss with his adolescent son the son's refusal to cooperate around the house. The father made many demands of the son (S1 sequence), but the son reported that the father never followed through on the consequences (S2 sequence). When the therapist intensified the enactment by telling the father his son couldn't be a son unless the father was prepared to be a father, the father confessed that he didn't believe he should have to set consequences because, having left home himself at the age of his son (S4 sequence), he had learned self-sufficiency and secretly expected the same level of maturity from his son.

The task for the therapist is to recognize

this relevant information when it emerges but to be aware that at times even important information will be volunteered by family members to distract the therapist. For this reason, the therapist must be able to recognize the importance of such information but also to evaluate the context in which it emerges in order to decide either to pursue the new theme or to save it for another time and stay focused instead on the current direction of the session. In addition, S3's can often by hypothesized from a brief review of a family's history, listening for recurring events such as hospitalization, separations, therapy, illness, symptoms, etc. Similarly, S4's are manifested in the family's language and world view, which can provide clues to the therapist.

*Treatment*

The full implications of this sequences model for the practice of family therapy will be discussed in forthcoming papers. Here we will provide a brief overview of our clinical application of the model.

The sequences model organizes interactional data for the therapist. With these data, however, one is not strictly limited to interactional models of family therapy. For example, Minuchin and Fishman (22) note that "the family is a natural group which over time has evolved patterns of interacting. These patterns make up the family structure" (p. 11). Hence, from the sequences model one can assess any structural dimension and use structural family therapy. Likewise, as Jackson noted (14), family rules are inferences drawn from observed interaction. The sequences model, then, operates as a source of interactional data from which the therapist can gather information and formulate a hypothesis consistent with a particular approach.

We believe that many of the differences among schools of family therapy can be accounted for by the different class of sequence that each school emphasizes. In other words, each school attempts to alter some aspect of a family's total patterning, and the schools differ mainly in the class of sequence each selects as the target of its interventions. Thus, some schools have developed effective techniques for blocking or reorganizing S1's or S2's whereas others have aimed more at S3's or S4's and the world view that maintains them. This position is essentially the same as that taken by Cooklin (6).

The therapist who is guided by the sequences model: (a) assesses the level of embeddedness (the number of classes of sequences) of a problem; (b) selects the class of sequence that seems a fruitful point of entry to the total patterning; (c) selects an intervention that is designed to alter or intensify that class of sequence; (d) reads the feedback resulting from the attempted implementation of the technique with an eye for information regarding other classes of sequence; and (e) shifts, when necessary, to other classes of sequences and, concomitantly, other techniques appropriate for those classes.

From this perspective, the dichotomy between "paradoxical" and direct types of interventions is not a useful one. For example, unbalancing on the direct side and a symptom prescription on the indirect side are merely alternative techniques for altering an S1.

Thus, the therapist is free to select among any number of techniques but maintains a conceptual grounding so that the selection and implementation process is organized rather than random. In this way, we have employed techniques from the structural, strategic, Milan, and Bowen schools of family therapy and even, at times, in the same case. We find that although aspects of the conceptual models underlying the different schools are contradictory and difficult to mix, the techniques can complement each other nicely if based in this sequence conceptual model.

The sequence model presented in this paper is only a metaphor for the complex phenomena of a family. It acts as a bridge between this complexity and the pragmatics of therapy, embodied by the prominent therapies that populate the field of family therapy. Whereas the use of sequences in therapy has tended to divide rather than unite the community of family therapists, our sequence model is intended to restore sequences as a common denominator of family therapy and to facilitate the emerging dialogue taking place among family therapists whose training may be grounded in any one of the approaches.

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