The author describes eight diagnostic categories which serve as an heuristic approach to diagnosing the client's needs and ability to respond to specific approaches in therapy/counseling. He reviews classic theories and recent counseling approaches and their variations. The paper focuses on the need to determine individual needs and follow a tailor-made approach according to the obvious personality factors and situation in the initial interview. Diagnosis is a complex problem but thinking aloud (the protocol method) while trying to solve a problem may give insight into the best approach to working with a client or referring the person to someone with a specialized background/facility for dealing with the problem. (SBP)
Heuristics for the Initial Diagnostic Interview

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Nilsson (1973, p. 44) says that "heuristic means serving to discover," certainly the simplest definition. Slagle (1971, p. 3) gives a more cynical and more precise definition, saying that, "A heuristic is a rule of thumb, strategy, method or trick used to improve the efficiency of a system which tries to discover the solutions of complex problems." It is the assumption in this paper that diagnosis, particularly diagnosis which explicitly decides the management of a case, is a complex problem. Another assumption is that the complex problem of psychological diagnosis can be analyzed in the same terms as would be used to analyze a heuristic search program designed for the computer.

In order to do a heuristic search we need a "representation of the problem," a "reorganization into a more appropriate and efficient space of states" (Uhr, 1973, p. 195). The search must proceed through a finite number of possible diagnoses, at best only a few diagnoses, before reaching a solution, a correct diagnosis. A list of eight diagnostic categories, each tied to a treatment, is available (Blocher and Shaffer, 1971). Each of the categories can be justified by the research literature. (See Table 1)

First, the Rogerian treatment, as summarized by Rogers (1941) has maintained a constancy over the years that has allowed a number of tests of treatment efficacy. The "for better or worse" studies using Truax and Carkhuff scales are summarized in Truax and Carkhuff (1967) and Truax and Mitchell (1971) and indicate the validity of the treatment.

Second on the list, although Eysenck (1952, 1966) attacked the verbal interpretive therapies as no more effective than no therapy at all, Bergin's (1971) recalculation of the Eysenck' data supports the use of a verbal interpretive therapy. The recent comparison of analytic and behavior therapies (Sloane et al, 1975) also documents the success of an interpretive treatment by skilled and experienced practitioners.
Third, although there is some contrary evidence concerning the lasting effect of the treatment (Lazarus, 1971, p. 96), the desensitization technique (Wolpe and Lazarus, 1966) seems to be justified as a specific treatment for focal anxieties such as the phobias.

Fourth, the Skinnerian operant treatment is well established for human subjects and the number of charts which show successfully increased or decreased behavior is overwhelming. Like desensitization, the operant treatment has shown some tendency to fade over time (Bruch, 1974) and may need to be reconceptualized as a treatment with more cognitive properties.

Fifth, the extraordinary study by David Campbell (1965) justifies the treatment called educational-vocational counseling. No other treatment modality has documented treatment effects over a twenty-five year period.

Sixth, the work of Bednar and Lawlis (1971) showing a Rogerian "for better or worse" effect for group leaders, and the Lieberman, Yalom and Miles (1973) research on the effects of differential group leadership, offer a justification for working on individual problems in a group context. The group research is not so far advanced in justifying group work as an integral and successful treatment as are the previously listed therapies but the Lieberman, Yalom and Miles study is a great step forward.

The last two categories, organizational interventions and referrals, are heavily documented but that documentation is usually not part of the public research literature. Organizational interventions are often the in-house property of the organization which has commissioned the research. One must go to the Journal of Applied Psychology or classic studies like the Hawthorne Study (Roethlisberger and Dickson, 1939) for whatever public documentation exists for the success of the treatment. This public literature is but the tip of an iceberg. The same lack of public documentation occurs for referral.
agencies and this is not too surprising. The agencies usually serve only a local population and any documentation is for the local audience or for the granting of monies to support the agency. Many of the referrals are made to individual practitioners who do not keep outcome records but maintain good local reputations.

This completes the list of the eight basic diagnostic and treatment categories or states. A suspicious member of the audience might suggest that the list of eight is a product of the same mental process which generates Miller's (1956) "Magic number seven plus or minus two." There is certainly a literature on special techniques which would increase the number of categories for special populations: for suicide prevention centers, marriage counseling, women in therapy, or alcoholics to name but a few. But I would suggest that each of those special therapies can be analyzed as a combination of therapies drawn from the basic list of eight. Marriage counseling, for instance, draws heavily from the techniques used in organizational interventions to discover the covert rules of the system and from the therapy techniques of the group work literature. Suicide prevention draws heavily and often explicitly from the Rogerian literature. I suspect that these combination techniques are more difficult to justify by outcome studies just because they are combination techniques. That is, they demand an explication of their component techniques before they will show successful outcomes using criteria from each of the components.

If you can accept that list of eight technical categories—Rogerian, Interpretive, Desensitization, Operant Treatments, Educational-Vocational Counseling, Group Work, Organizational Interventions, and Referral—as a basic list from which the therapist-diagnostician chooses in deciding on the management of a case, then what are the decision rules the therapist can use to order his or her interventions?
The decision rules themselves should be ordered sequentially, should be mutually exclusive and should entail as short a list as possible. The decision rules should be tied directly to the eight diagnostic categories. Since the decisions will be made in the interview itself, the decision rules should be based on cues from the client which are readily observable and which do not necessitate an interrogation of the client but can be picked up (and stored in the therapist's memory) by reflections and relatively matter-of-fact questions.

The question then becomes, "What are the client cues which therapists can take as indicators that a particular treatment is the treatment of choice?" To put the question in computer terminology again, what are the patterns in the client's behavior or situation that the therapist must recognize? Uhr (1973, p. 46) calls the particular cues "piece templates" and sets of cues he calls "whole templates." Templates are the operators, the criteria by which decisions are made.

Where does one look for a literature on the templates or cues or operators used by therapists? I make what I call the "good-hearted assumption," the assumption that the therapists who developed the treatments were not crazy and continued to develop their treatments because they had found a patient population they could recognize which responded well to their treatment. I look to the earlier writings of the therapist-theorists because I find that their later writings are the product of a therapeutic "school" rather than of observation. The claims for the therapy expand in later writings to encompass all or virtually all clients.

In Rogers' 1942 book, for instance, his clients are described as voluntary, of normal IQ, having low self-esteem, a high level of generalized anxiety, no tics or other indicators of neurological involvement or lack of control, having a generally low activity level and, perhaps most important, not acting out.
their disorders. A set of cues for the use of the Rogerian technique would thus be, low self-esteem, no acting out and a high generalized anxiety.

For desensitization, the "ideal client" would be generally intact, able to visualize the images on a hierarchy, and have a relatively specific set of focal anxieties. Wolpe and Lazarus (1966) look for a gradient of anxiety, low levels of anxiety leading through a sequence of situations in which anxiety constantly increases. The decision rules for desensitization would thus be a focal anxiety and a gradient of anxiety in an intact client.

The early literature on the operant treatment with humans contains little descriptive material about the subjects. The pinpointed behavior is described in great detail but the client as a whole person is left ill-defined. It is not until such books as Lazarus (1971) and Rimm and Masters (1974) that differential diagnosis is considered enough of a problem that general clinical reports of the client are the rule rather than the exception. In these later clinical texts, the client is most often described as voluntary and wishing to increase or decrease specific behaviors. A "rule of three" is used by the therapist. The therapist does not try to work on more than three behaviors at the same time. Lindsley's "fair pair" rule is invoked when interpersonal behaviors are changed: any decreased behavior which will leave the client with a behavioral deficit at the end of treatment is paired with a positive behavior which is increased. The client most suited to an operant treatment is thus seen as wishing to increase or decrease a very limited set of behaviors, probably fewer than three behaviors.

The candidate for educational-vocational counseling has, in the terms Roger Myers (1971) used to summarize the research literature, a role discrepancy problem. Two kinds of ignorance, both of self and of a particular environment, cause the role discrepancy. The initial goal of the treatment is usually an
informed decision in which knowledge about self is matched to knowledge about an educational or work environment. The client thus needs information about self and information about the environment to make a particular decision.

The therapist's decision rules for making an organizational intervention involve not only cues from the client but information about the system in which the client's problem arises. An organizational intervention is called for when the client cannot introduce change into the system without help, the organization rather than the client's own behavior is causing the problem, and when the therapist believes that an entrance to the organization can be gained. If the therapist gets a "yes" to these three decision rules the client can probably best be helped with an organizational intervention.

There are both positive and negative client cues for a group treatment. The client should be intact but complain of rigidity. There should be more than three things the client wants to work on. The client may benefit from a group if he or she has tried to work on changing range of behaviors before but failed. The multiple feedback and group pressure to change increase the chances of client change on "difficult" behaviors. Clients should probably not be referred to the usual kind of "case-centered" (Hewer, 1959) group if they show psychotic or extremely neurotic behavior. Special groups or special preparation for a group referral is necessary for these populations.

If the client shows a lack of sophistication or errs in conceptualizing relationships to others, an interpretive therapy is probably the treatment of choice. It is necessary, however, to match the theoretical framework from which the interpretations are made as closely as possible to the client misconceptions. The interpretive therapy should not be used in an automatic way for every misconceptualization. The misconceptualizations should form a pattern which fits a remedial teaching framework. Interpretive or insight
therapies usually involve indirect teaching to reduce client resistance rather than direct teaching which increases client resistance; the therapy is often long and should not be initiated lightly.

The final decision rules are those for referral. Just as with the other decision rules the therapist uses a template, a series of recognition cues to decide upon a referral. But for referral the cues will vary from therapist to therapist. Whenever a therapist refers a client, a decision has been made that someone else can handle the client better than the therapist can. The client's problem is recognized and the therapist decides that the problem is outside his/her expertise, outside his/her province of treatment or perhaps just not a case the therapist can treat at this time. The need for medication or money which the therapist cannot dispense, an approaching vacation which would interfere with treatment, special information or expertise which is needed may all be part of the template which the clinician "reads" in deciding to refer a client.

If this is a full set of decision rules, what does the diagnostic interview look like as a heuristic system in which the therapist looks for the "right" template? Table 2 is a flowchart of that heuristic search. The therapist starts in the Rogerian mode for two reasons. First, as beginning counselors know, it is easier to exit from the Rogerian mode than to reenter it. Second, Rogerian reflections and an occasional additive empathy response can elicit an enormous amount of client information that would not otherwise have come to light. The heuristic assumes that the therapist's technique is Rogerian until another template, a set of decision rules which moves the therapist out of the Rogerian therapeutic mode, is recognized by the therapist. The therapist starts looking for a Rogerian template first because that template is a match for the therapeutic mode that the therapist is using. The templates for desensitization
and for operant shaping are examined next because they demand relatively fewer bits of information than do the later templates. The educational-vocational counseling template follows the two behavior therapies because it lends itself to information garnered by the Rogerian process. At this point the therapist may have enough information about the client's situation to be able to see that the situation demands an organizational intervention. Late in applying the series of templates the therapist should have enough information to evaluate the rigidity of the client's interpersonal behavior which would call for a group treatment and the cognitive misconceptions and lack of sophistication which would call for the interpretive treatment. The last template is the one for referral, primarily because some referral decisions, those for psychiatric or neurological examination or even for hospitalization, have immediate and important consequences for the client and should be made with a maximum of information. The flowchart indicates that this search for a diagnosis is not a single cycle process. The therapist may examine the templates repeatedly in the initial interview and nothing precludes the use of the templates later in therapy. Nothing precludes the therapist-diagnostician from eliminating some templates from consideration in the later cycles. The decision space can be reduced from eight categories to four or three or two in later uses of the flowchart. The trouble with most clients is that they don't rush off to see their therapist as soon as they recognize the need for a special therapeutic technique. For most clients the templates the therapist uses are to order a sequence of interventions, to make decisions about case management rather than to choose the one correct treatment of choice.

The same decision-making process as was used in the flowchart can also be seen as an elementary decision-tree structure (Table 3) in which piece templates are sequentially applied. If the templates match they lead to a diagnosis and
treatment, a solution. If the template does not match, the user is returned to the main branch of the tree to continue applying the templates.

Uhr (1973, p. 196) says that heuristics "work in some cases, but are not guaranteed to work in all cases." He suggests writing programs "to try them out and see." He suggests becoming "pattern recognition programs, which contain collections of what I have called characterizers, or features, or operators. And, indeed, a characterizer is just a heuristic. We can have an exhaustive set of characterizers (e.g., all the whole templates) that will guarantee correct responses. For pattern sets that are regular enough and about which enough is known, small sets of characterizers can be devised to give perfect recognition."

Uhr follows with a demurrer, pointing out that we have difficulty knowing whether the case is a general problem-solving case in which there can always be new solutions or whether we have identified the complete set of solutions. With diagnosis, we won't know that unless we try.

Slagle (1971, p. 4) suggests that a first step in the attempt is the "protocol method" in which subjects are observed "thinking aloud while trying to solve complex problems." This paper is one of those first steps as I thought aloud about the way in which I diagnose clients.
REFERENCES


Miller, George A. The magical number seven plus or minus two: Some limits on our capacity for processing information. Psychological Review, 1956, 63, 81-96.


### TABLE 1

**Eight Categories for Diagnosis and Treatment**

<table>
<thead>
<tr>
<th>TEMPLATE</th>
<th>TREATMENT</th>
<th>TREATMENT JUSTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low self-esteem, high generalized anxiety, no acting out</td>
<td>Rogerian Relationship Therapy</td>
<td>&quot;For better or worse studies&quot;*&lt;br&gt;Truax &amp; Carkhuff (1967), Truax &amp; Mitchell (1971)</td>
</tr>
<tr>
<td>Lack of Cognitive Sophistication; Errors in conceptualizing</td>
<td>Interpretive Therapies</td>
<td></td>
</tr>
<tr>
<td>Focal anxiety, intact client, gradient of anxiety</td>
<td>Desensitization</td>
<td>Lazarus (1971), Paul (1966)</td>
</tr>
<tr>
<td>Client needs to increase or decrease 3 or fewer specific behaviors</td>
<td>Operant Treatment</td>
<td>Behavior Research and Therapy&lt;br&gt;Journal of Applied Behavior Analysis</td>
</tr>
<tr>
<td>Role discrepancy</td>
<td>Educational-Vocational Counseling</td>
<td></td>
</tr>
<tr>
<td>Ignorance of self in relation to educ. or voc. environments</td>
<td>&quot;Group Work&quot;</td>
<td>Bednar &amp; Lawlis (1971)&lt;br&gt;Lieberman, Yalom &amp; Miles (1973)</td>
</tr>
<tr>
<td>&quot;Rigidity&quot;</td>
<td>Organizational Intervention</td>
<td>Journal of Applied Psychology&lt;br&gt;Roethlisberger &amp; Dickson, 1939</td>
</tr>
<tr>
<td>More than 3 behaviors to change</td>
<td>Referral</td>
<td></td>
</tr>
<tr>
<td>Client cannot introduce change System is causing the problem Can get entry into the system</td>
<td></td>
<td>Local follow-up studies</td>
</tr>
<tr>
<td>Therapist belief that someone else can handle the case better</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2

A Flowchart for the Initial Diagnostic Interview

START

Rogerian Yes

Low Self-esteem
High generalized Anxiety
No acting out

END

Rogerian

NO

Desensitization

Focal Anxiety
Gradient of Anxiety
Intact Client

END

Desensitization

NO

Operant Treatment

Increase or decrease behavior
3 or fewer behaviors

END

Operant Treatment

NO

Educational Vocational Counseling

Ignorance of relations of self to environment
Decision-making necessary

END

Educational Vocational Counseling

NO

Organizational Intervention

Client cannot introduce change
System is causing the problem
Therapist can enter the system

END

Organizational Intervention

NO

Group Work

"Rigidity" of behavior
More than 3 behaviors to change
Intact Client

END

Group Work

NO

Interpretive Therapy

High cognitive involvement
"Lack of cognitive sophistication"
Appropriate framework available

END

Interpretive Therapy

NO

Referral

Therapist recognizes that someone else can treat client more effectively

END

Referral
TABLE 3
DECISION STRUCTURE FOR A DIAGNOSTIC INTERVIEW

Is low self-esteem a problem?
  Y  N

Is there a generalized anxiety?
  Y  N

Are there specific behaviors Client needs to Increase or Decrease?
  Y  N

Is client expressing ignorance about educational or vocational role?
  Y  N

Is decision-making necessary?
  Y  N

Rigidity of behavior?
  Y  N

Is system causing the problem?
  Y  N

Therapist can enter the system?
  Y  N

Intact Client with 3 or fewer focal anxieties?
  Y  N

Operant Treatment

Educational Vocational Counseling

Organizational Intervention
TABLE 3
(CONTINUED)

More than 3 behaviors to change?
  Y

Intact Client?
  Y
  Group Work

Problem has a high Cognitive involvement?
  Y

Someone else can treat client more effectively?
  Y
  Referral

N

Lack of cognitive sophistication?
  Y

Appropriate theoretical framework available?
  Y

Interpretive Therapy