

NORMAL AND ABNORMAL CHARACTERISTICS OF
PERFORMANCE PATTERNS, with special
reference to the duration of spontaneous
states

by
Joseph Sargent, Beacon Hill
and
Anita M. Uhl, Graduate Student
Stanford University

in collaboration with
J. L. Moreno, M.D.

PRESENTATION OF THE PROBLEM

The duration of a spontaneous performance, the warming up to a role, the individual acts of moving and speaking on the stage, the intervals between such acts, sudden interpolations of resistance against continuing a performance, the ability to respond during the performance to the acts and pauses of partners, the relative flexibility and inflexibility of the individual actor from step to step, the premature breaking up of a performance, the inability to end it or the protracting and delaying of an ending--all these phenomena experienced in the course of psychodramatic work have often given us clues to an understanding of the personality difficulties of the actor. They have enabled us to develop techniques for training a greater flexibility and an adjustment to situations and roles as they spring up on the spur of the moment.

The levels of the psychodrama in the therapeutic theatre are not easily adaptable to quantitative studies of performance. We had therefore to remove our experiment from the therapeutic theatre, where it was first intended to carry it out, to a situation and a role which would be as closely related to life as possible, and as simple as possible. We chose one of the most primitive performances, eating; the situation, the dining room; the role, that of the eater. In such a primitive performance, the acts would develop with relative spontaneity and would not be artificially prepared. We did this in the expectation that the results obtained would throw further light upon the processes of spontaneity training in the psychodrama.

The patients studied belong to a class which could not be reached in the therapeutic theatre without great difficulty. We adjusted ourselves to them and located their psychodrama on a

level where it could function. The auxiliary egos of the theatre became auxiliary egos¹ in the dining room, sitting near them and working with the patients by adjusting themselves to the characteristics of the patients' performances, in order that they might be able to "act" with them in the course of a meal.

The problem of eating, which is a barrier in the course of treatment of many patients, has been neglected by scientific workers. It has been left to nurses and attendants as being of secondary importance or as not amenable to scientific approach. In this paper an analysis of the performance of eating has been made from a quantitative as well as from a qualitative angle, with specific reference to selected mental patients, in the hope that it may aid the approach to other cases with adequate therapeutic tools.

Observations of normal individuals at the time of eating show that the duration of the performance and their behavior during the performance varies from situation to situation depending upon whether they are alone, with intimate associates, or with total strangers. Apparently the normal individual has sufficient flexibility to adjust himself in some degree to the standard of the people with whom he eats. However, it is probable that he is inclined to revert to an original pattern of performance as soon as the stress and strain of any cultural standard imposed upon him is removed. For this very reason, it is difficult to detect the underlying performance pattern of normal individuals.

The authors, however, found a convenient approach to the problem by making a study of mental patients in schizophrenic and catatonic conditions in whom certain performance patterns, like eating, had reached a high degree of inflexibility. These patients are withdrawn from inter-personal relations to such an extent that they display to a more or less degree the same performance pattern when they eat, regardless of whether they eat alone or in association with others. The performance pattern, which is hidden to a large degree in normal individuals, is for them on the surface.

Besides a high degree of inflexibility of patterns among mental patients, there is also a marked difference of duration of performance, which makes the need for its study more apparent. It is quite usual to find in any mental hospital not only the near-catatonic individual whose ability to perform spontaneously has almost ceased, but also the patient in a state of manic excitation who achieves such a degree of

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1. In the spontaneity process, a person who identifies himself with another person as far as organic limitations permit. (See Survey of Sociometric Techniques in this issue.)

intensity of performance that he almost reaches exhaustion. With the former, what is automatic in a normal person has become a difficult task, while the sole concern of the patient of the latter type is to do the task as quickly as possible, at the same time experiencing no difficulty in performance. At the one extreme we see a slowness which almost amounts to complete cessation of action, and at the other extreme, a velocity limited only by the degree of dexterity.

In view of these fundamental and well-defined differences, the authors assumed that if they could gauge the patients' performance patterns in (a) the trend of the performance duration and (b) its detailed characteristics, they might be able to diagnose the present status of the patient's mental condition, predict changes in his conduct without verbal communication, and perhaps devise techniques applicable to a special performance which might influence the patient's general condition.

TECHNIQUE OF MEASUREMENT AND FRAME OF REFERENCE

The study was made in a mental hospital where the situation and circumstances were particularly suitable for measuring simple performances. The staff and the patients have their meals in the same dining room and are seated in such a way as to eliminate the formation of cliques among the patients or staff members. The same arrangement prevails at the table from day to day.

In order to make this study, we were equipped with stop watches and, acting as participant observers, made two sets of observations, one checked against the other. The study was made in such a way that the staff and the patients were totally unaware that any notice was being taken of the duration of the eating performances.

Available was a group of twelve patients of both sexes and various types of mental illnesses, and an almost equal number of non-patients. For the purposes of this study, four patients were selected for observation, ranging over the whole scale from extremely fast to extremely slow eaters and embracing different types of mental illnesses. We also timed the eating processes of eight others, a mixed group of patients and staff, in order to get an average for the whole sixteen for a considerable number of meals.

Before the measurement of the eating process was begun, it was ascertained that the midday meal was the most constant in quantity and composition. We limited the measurement to the main course which usually consisted of bread and butter, meat, potatoes, and one other vegetable, plus a glass of water. We

limited ourselves to the main course since soup was not always served and the serving of the dessert and the coffee presented too much variation. The timing began when the above meal, together with knife, fork and butter-knife, were set before the patient, and stopped at the point when the patient had eaten all that was set before him or her--or had ceased eating entirely. No second helpings were taken into account.

We computed from the eating times of sixteen people over a period of several weeks the general average duration for a meal of a specific quantity. In this time, the sixteen people consumed 362 meals and it was from these that the average is drawn--12.2 minutes per meal. The typical meal consisted of 4 ounces of meat, 3½ ounces of potato, 2¾ ounces of another vegetable, and 2 ounces of bread and butter. Since all the persons studied ate the same quantity, a common reference base was secured from which to measure deviations above or below the average. In order to study further deviations in characteristic details during the performance, Moreno's analysis of the warming up process¹ during a spontaneity state was followed as a guide. The performance of eating was broken up into a starting interval, the act of eating a portion of food (composed of selecting, lifting, and chewing), and pauses between the acts of eating.

ILLUSTRATIONS OF CASES

We now present a short description and chart of each of four patients who were studied intensively. In addition, we present a composite graph of these four patients and a graph which shows an analysis of the components in the process of eating one main course.

Case No. 1

Barbara is a woman aged 49 whose diagnosis is involuntional paranoia. When not occupied she sits wringing her hands. In any performance she is absorbed in the effort to get through with it. Her warming up to an act is so short as to be

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1. The effort made by an individual through the use of physical or mental starters to reach a spontaneous state. In a broader usage it is a process which may continue throughout the whole configuration of starters, acts, pauses, and interpolation of resistances through which a subject may go, once he has started to shape a performance on the spur of the moment.

practically nil. When the luncheon gong rings, she starts immediately for the dining room and goes to her accustomed place. She is usually the first one at the table. When the food is served, she almost pounces upon it. There is no appreciable interval between mouthfuls. She pays no attention to anything going on at the table but is absorbed only in getting through. If there is a pause in the meal or the service is slow, she may leave the table and return when served.

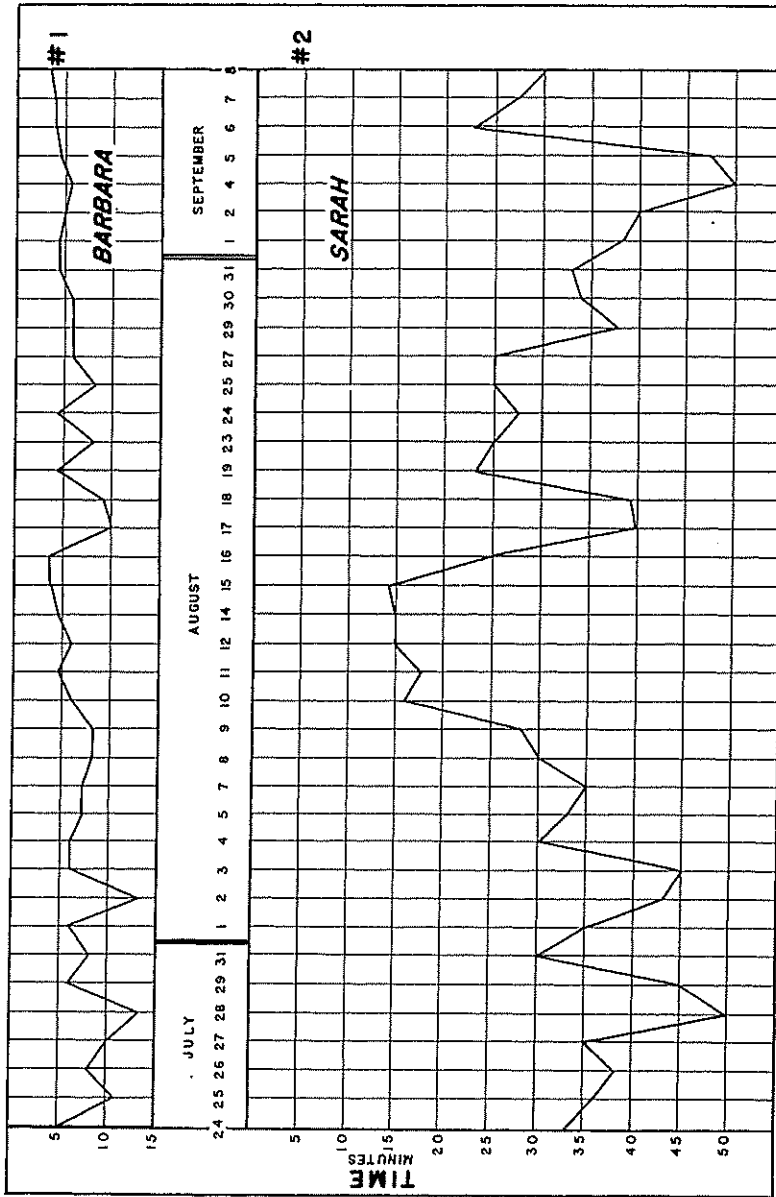
From July 24th through August 2nd, Barbara's graph shows great irregularity within the narrow range of from five to fifteen minutes' duration for her eating process. During this period there was no stability and the variations did not correspond with those of the majority of the patients, except in rare instances. All this time--as indeed throughout the period of this study from July 24th through September 8th--she was the fastest eater. This was perfectly consistent with her behavior. Her average was 6.5 minutes, or about half the average duration of 12.2 minutes. From August 3rd through 16th we see a period of comparative stability at a fast level, in fact, her extremes during this period are $3\frac{1}{2}$ and 8 minutes. All this time her nervous and muscular tension was very marked and her moaning more constant than usual. She was always very restless and her behavior became ruder and more abrupt.

On the 17th she started another period of comparative slowness and unevenness which lasted for ten days. We noticed in her general conduct a gradual decrease in tension, and on the 17th and 18th, at the peak of slowness since August 3rd, she began to be more friendly and communicative. She began to help in setting the table, in cleaning and dusting the rooms, and to perform little favors for the nurses and the other patients. She entered into the general conversation at times and was even seen to smile once or twice. This was unusual.

On August 27th she again settled down to a period of stability at rapid tempo in her eating process, which extended through September 8th, varying from $3\frac{1}{2}$ minutes to 6 minutes. With this her tension has returned and the moaning with it. This implies a bad prognosis for the next period. (See Chart 1.)

Case No. 2

Sarah is a woman aged 44, diagnosis is manic depressive psychosis. She is extremely resistant to almost any performance, and her warming up to an act is disproportionately slow. She spends her time sitting on the edge of a chair, repeating words over and over again, or walking back and forth very slowly in front of her chair, slowly wringing her hands and stroking her



*The authors wish to give credit to Mr. Sanford Schrank and Mr. Ira Markwood for the drawing of the charts in this paper.

forehead. When the gong rings for meals she seems unaware of it. Although coaxed repeatedly, in the end she nearly always has to be propelled to her seat at table. Even then she can only be made to move very slowly. She approaches her chair and stops by it until she is urged to sit down. This she does slowly and per position in the chair is, as always, on the edge of it, with her whole body turned half to the left. Only after repeated coaxing does she take her first mouthful, and then with great resistance and distaste. There is a long pause after each mouthful, and it seems as though she must warm up to each mouthful separately, just as if it were a new meal in itself. She seems to resist sweets at the table less than vegetables, and to meats her resistance is extremely marked.

Looking at Sarah's chart, we see that her eating time remained irregularly slow from July 24th until August 3rd, when, from a duration of 45 minutes, it accelerated with comparative regularity until her eating time was only 16 minutes on August 10th. She maintained this fast level for five days and then began to slow up again--at first sharply, to 40 and 41 minutes on the 17th and 18th of August, and then more slowly from 23 minutes on the 19th to 47 minutes on the 4th and 5th of September. On the 6th there was a sharp upswing to 22½ minutes, followed by what seems to be the beginning of a gradual decline.

Sarah's average eating time for the period July 24th through September 8th was 31.8 minutes; during the period July 24th through August 8th, she was below her mean, with an average of 37 minutes; during her five best days--August 10th through 15th--her average was 15.4 minutes; her average during the good period from August 9th to 27th, inclusive, shows 24 minutes, but if we omit two bad days--the 17th and 18th--it shows 21.3 minutes.

On the basis of our study, we noticed a marked slowing up in Sarah's eating process. We warned the attendants that soon she would become greatly disturbed and more difficult than usual to handle in other types of conduct. This, in fact, occurred, beginning on the 27th. Her conduct was good up to that date. We suggested that, should she resist more and more to eating, they should not give up and resort to force, but have patience--that they should simply allow her more time, because she would be slowing up. The nurses accordingly adjusted themselves to the retarded rhythm of Sarah's warming up process and followed her patiently through her bad period, not at any time using physical coercion. During this period we noticed in her a decided loss of spontaneity--in fact, it reached a standstill at times. It became impossible to get her out of her bedroom except by force and it was also impossible to accelerate her eating time, except by threats. By August 8th we felt sure that

Sarah had begun a real period of acceleration. Here again we were able to tell the nurses that she would show greater spontaneity all around, and again this proved to be the case. For instance, during this period, which lasted eight days, she came downstairs from her room as soon as the gong rang for meals without the assistance of a nurse, and needed almost no coaxing before starting to eat. At the same time, she showed less tendency to isolate herself during the day, and instead of secluding herself in her room, went of her own accord and sat on the porch. All during this time she chose a chair among the other patients on the sunny side of the porch, instead of away from them and alone on the shady side where she habitually remained when her spontaneity was low and her eating process slow.

By August 17th, the chart indicated that this period was at an end and the next few days justified our prediction. Sarah had regressed considerably. But she did not fall back entirely to the slowness in eating and the generally difficult behavior which characterized the period from July 24th to August 8th. Her average from August 16th through September 8th shows 32.4 minutes, indicating a return to only slightly below her ten-week average.

Altogether, this graph of Sarah's eating process shows the late period of a long acute process which has become stationary. Here we have a "frozen pattern" such as is found in many catatonic and near-catatonic conditions. The long and extended duration of her meals is apparently the best she can do under tremendous stress. Within certain limits which we have studied, her performance curve has become characteristic for the present stage of her disease. Since she has been able to reach a livable and steady rate in her eating performance she has put on weight, gradually increasing from 96 pounds to 121, where she was on September 8th.

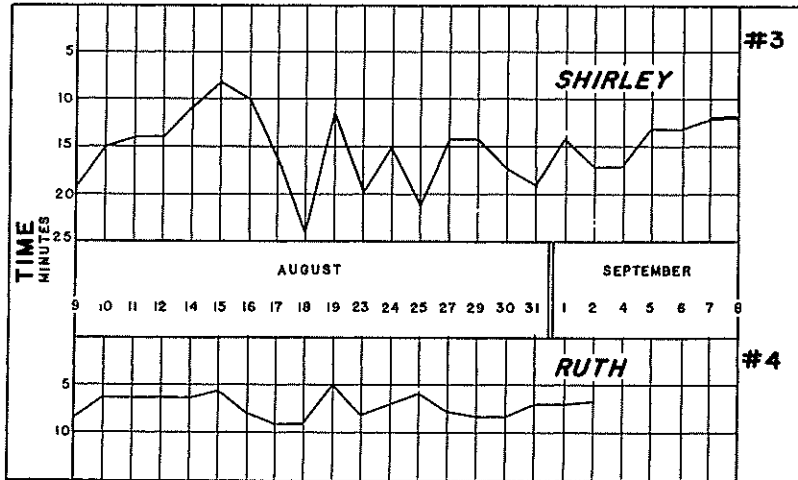
It is because of the very slowness or long duration of every performance on Sarah's part that we are able to note and observe the warming up processes with some accuracy. Later in this study we shall analyze minutely Sarah's motions, pauses and the different phases in a single course at the dining room table. If we compare Sarah with Barbara, we see that the latter, in her acute phase of anxiety, takes a positive turn and rushes into a maximum of activity, whereas Sarah takes a negative turn and stops eating entirely. When Sarah turned positive and began to put on weight, she was only able to reach a very low level in the warming up to the act of eating. She remained infinitely close to the brink of zero performance.

Case No. 3

Shirley, a woman of 59, diagnosis: involuntional paranoia. She is constantly worrying about the well-being of her family, and of her son, in particular. She is quieter when he is with her and can assure her that he is well and not in trouble. From time to time she gets an hysterical paralysis of the legs. She gives no indication that she hears all that goes on around her, but does so, nevertheless. At the gong, she makes an exclamation of boredom and disgust, but submits readily enough to being started toward the dining room. She walks uncertainly, and seats herself deliberately. She eats fairly spontaneously, but needs a little urging at the beginning and end of each meal, although she seems to enjoy her food well enough.

We observed Shirley for twenty-four meals, from August 9th through September 8th. Her average for this period was 15.7 minutes. We see that she is extremely variable in the duration of her eating process; in fact, on only four occasions during this period does she take the same length of time for any two consecutive courses. Indeed, she seems to be continually varying from her average, ranging as fast as 8 minutes, on one occasion, and as slow as 21 minutes on two. (Observation leads us to the conclusion that her variations are due principally to a real or pretended fastidiousness about her food. Although at first glance she seems to eat with a good appetite, she loses interest quickly, and in order to avoid eating all that is on her plate, begins to find fault with and set aside bits of food. All the bits of food are perfectly edible, but by reducing what remains on her plate to a thin, even layer of apparent rejections, she imagines that she will be excused from eating any more, and makes repeated attempts to set aside her plate as being finished. Although this device seldom succeeds, she keeps on trying, and mumbles and complains under her breath when it fails. On rare occasions, all the food on her plate meets with her approval and she eats it fairly fast, but still with seeming resentment.)

Although Shirley's eating time was 3.5 minutes below the average (12.2), the greater flexibility of her performance as expressed by the variations on the chart compares favorably with normal performance curves. The reading of the chart agrees with Shirley's general adjustment to the institution. (See Charts III and IV.)



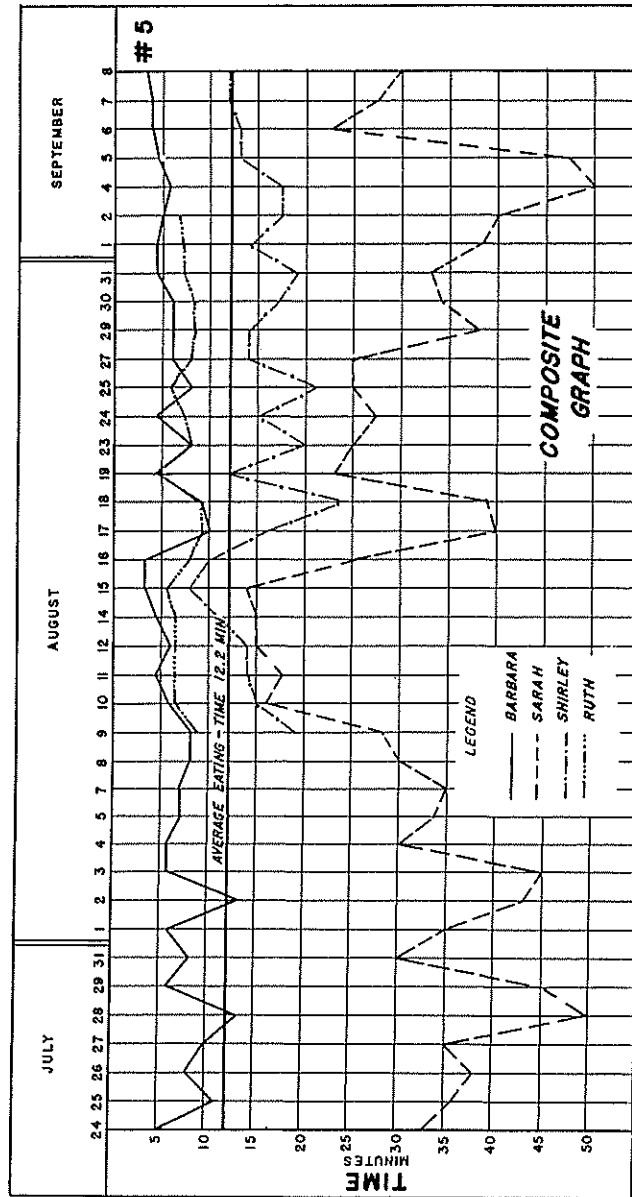
Case No. 4

Ruth was a woman of 40 whose diagnosis was paranoia. She was selected as one of the patients for this study because her behavior was nearly normal, and it was expected that she would show no excentricities in her eating performance. This expectation was borne out by experience. As may be seen in her chart, her eating time shows only minor variations from her average for the period from August 9th through September 2nd, which was 7.3 minutes, with extremes of 5 and 9 minutes. This is somewhat faster than the general average. She does not devote herself exclusively to the food, but engages actively in the talk around the table. Thus we may safely say that her eating performance is normal, if a little fast. (See Chart IV.)

A comparison of the performance curves of the four patients (Chart V) mentioned above indicates that Sarah and Barbara deviate most significantly from average eating performance in two respects; (a) in duration, maximum slowness and fastness, respectively; (b) in unevenness. The durations reached by Sarah range between 12 minutes and 50 minutes and the variation in between are most frequent. Similarly, the durations reached by Barbara range between 3 minutes and 14 minutes and also the changes in between are very frequent. In comparison with these two, Ruth shows a markedly even performance throughout the period studied although she eats fast. Shirley shows a greater range of variations than Ruth, although she is slower in eating than the average. Since the social situation in the dining room has been virtually the same during this period--no change in patients or staff was made--no social influence entered the situation from time to time which might account for such extreme variations. Among normal individuals, variations may be detected when they move from one situation to another which may suggest to them an adjustment of their eating habits and eating time to a particular standard. Variations which we may read in their performance curves would have to receive a different explanation than the one which is given to Sarah and Barbara's curves. Their great unevenness is a true result of their inner, spontaneous restlessness, a psychotic pattern.

The fact that we are able to find for certain groups of mental patients, who have established and organized themselves upon a certain level, a characteristic and spontaneous performance curve, gives us a basis to study drastic changes in the curve whenever some stimulus is consciously introduced. Such an observation has been made with Sarah.

From time to time a close relative of hers visited her and sat near her at the table. Such a visit took place on August 15th, when we note a duration of 14 minutes. She advanced,

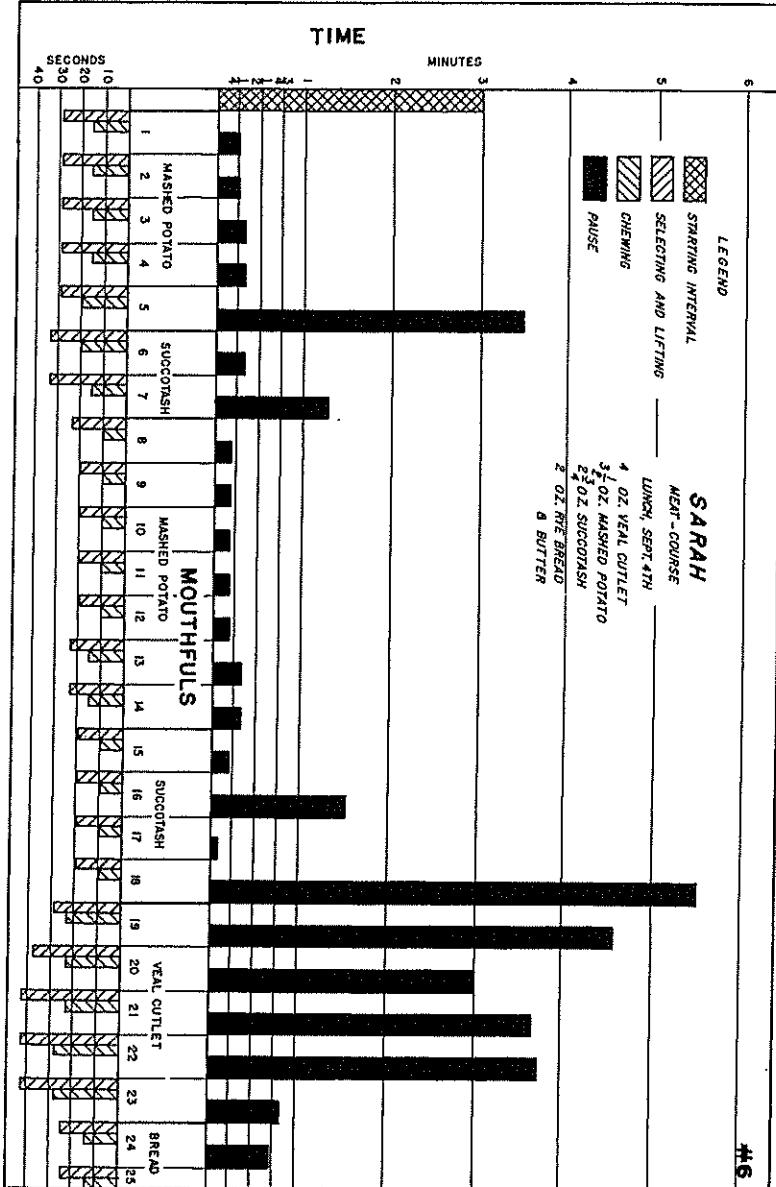


on the two successive days, to a duration of 40 minutes. She had another visit on August 27th, when she had a duration of 25 minutes. A day later she had a duration of 38 minutes. These changes suggest that this particular relative increases her resistance against the meal and functions as a negative personality stimulus (negative tele effect). Similarly, we are able to study the therapeutic effect which one or the other of the nurses may exert when seated near the patient. Assignment may function as a positive personality stimulus (positive tele effect) and develop a particular auxiliary technique as applied to a certain patient.

INTERPRETATION OF AN INDIVIDUAL PERFORMANCE

Having observed the comparative durations for the entire course, our next logical step was to analyze the divisions or acts into which the consumption of a course may be broken up, and the durations of these different acts. We found that the consumption of a course or a whole meal was most easily divided up into mouthfuls, as units, and that each mouthful consisted of a cycle of (1) selecting the food to be swallowed, (2) the conveying of the loaded fork to the mouth and (3), the actual chewing of the mouthful. We decided to lump the timing of (1) and (2) together, as it was very difficult to observe the exact moment when (1) ceased and (2) began, whereas the beginning of (1) and the end of (2) were easily noted, the former at the instant when the fork was put into motion, and the latter when the fork had deposited its load in the mouth. At this point, too, (3) began, and ceased when the subject swallowed what was in the mouth. Within these limits--the limits of these three subdivisions of a mouthful--comes all voluntary action, or cessation of it, and the complete cycle of a mouthful may be said to consist of them. (See Chart VI.)

The analysis of a single performance of Sarah's is divided into twenty-five mouthfuls, the number she needed to eat the main course at luncheon on September 4th. This course consisted of 4 ounces of veal cutlet, $3\frac{1}{2}$ ounces of mashed potato, $2\frac{3}{4}$ ounces of succotash and 2 ounces of bread-and-butter. We have indicated, on Chart VI in the order of actual performance, the foods which made up the various mouthfuls. The combined processes of selecting and conveying to the mouth are shown on the lower part of the chart by columns with shading running down from left to right, and the chewing by columns with shading running up from left to right. These two columns are shown on a scale of from 0 to 50 seconds. In the upper part of the chart is shown the starting interval in a cross-hatched column,



and the pauses after each mouthful in solid columns, on a scale of from 9 to 6 minutes.

The starting interval is shown where it occurred: at the beginning of the meal, hence on the left of the chart. This process lasted from the instant her plate was put before her until she first took up her fork. In this case the warming up took 3 minutes, which is normal for Sarah at the midday meal. At breakfast it is much longer, varying according to her general spontaneity on that day. She has been known to sit at the breakfast table without touching her food for as much as thirty minutes, but this is exceptionally long. At dinner her warming up takes only two minutes or less, as a rule. Thus, we can say that her warming up improves during the course of a day, and regresses overnight.

With most people, the pauses between mouthfuls are either habitual, and fairly constant, or are caused by attention to or active participation in conversation at the table, or some other outside factor. With Sarah, however, the situation is different: she neither seems to hear nor take part in anything that goes on at table, but is entirely wrapped up in herself. She either constantly repeats certain words to herself or remains silent. Her pauses are the result of an inner condition.

To begin with the first mouthful, we see that she chose mashed potato to start with. It is characteristic of Sarah that she first eats the food which she likes most, or which is most easy to eat--in this case, mashed potato. As nearly as we could observe, Sarah does not, strictly, chew her food at all times. She reduces it, whenever possible, to a consistency suitable for swallowing by rubbing it against the roof of her mouth with her tongue. Her preference for soft food like mashed potato is apparently due to its ease of digestion and its being less harmful to her system. The postponement of solid foods to the last possible moment, like meat, is due to her obsession that they are bound to do more harm to her health besides being more difficult to digest.

We see that, for the first five mouthfuls of mashed potato, she takes a uniform time to select and convey to her mouth a forkful: thirty seconds. The times for chewing the first four mouthfuls are also uniform at fifteen seconds, and for the fifth, twenty seconds. The pauses after the first four mouthfuls have also been nearly uniform at fifteen, fifteen, twenty and twenty seconds. During these first four pauses she does not put down her fork. Then, after the fifth mouthful, she puts down her fork, and a pause of three and a half minutes ensues. At this point she apparently gets tired, or perhaps feels that she has eaten enough. From experience she must know that the latter is not so, but it might seem that she is hoping

against hope that she need not eat any more. During this pause she continually moves her lips, talking to herself. Towards the end of the pause she ceases this, and turns her attention to the food. With almost painful deliberation she again takes up her fork and begins to eat the succotash. With this, perhaps because it is slightly more difficult to handle, her selection and lifting times are longer: thirty-five seconds. She takes only two mouthfuls of succotash, which take ten and fifteen seconds to chew, and then pauses again, this time for one minute and fifteen seconds, although the pause between the two mouthfuls was only twenty seconds. During this relatively long pause she does not put down her fork, but is apparently trying to come to a decision. This she does, in favor of the mashed potato, to which she accordingly returns.

From the eighth mouthful through the fourteenth she is occupied with the mashed potato, and finishes it. After the first mouthful of it, she maintains an even rate for both selection and lifting, and the chewing, but she begins to slow up at the twelfth mouthful, and at the fourteenth and last mouthful of mashed potato, she is back where she was at the eighth: thirty-five seconds for the selecting and lifting, and ten for the chewing. During these seven mouthfuls her pauses have been uniform at ten seconds, with the exception of the thirteenth and fourteenth, when they were twenty seconds.

It requires the next four mouthfuls to finish the succotash, the fifteenth through the eighteenth, and we see that, mechanically, she is constant at twenty seconds for the lifting and selecting and ten seconds for the chewing. The pauses after the fifteenth and seventeenth mouthfuls are short: ten and five seconds, but right in the middle of eating the succotash, at the sixteenth mouthful, we see that she paused for one and one-half minutes. This reflects her dislike of succotash, and her growing apprehension of the meat, which she has not yet touched. At this point she lays down her fork, and the nurse beside her, for the first time, has to encourage her to continue.

With the succotash finished at the eighteenth mouthful, Sarah again puts down her fork and there ensues the longest pause of the meal. It can be seen that there is nothing left for her to eat except the meat and the bread-and-butter. The latter she always leaves for the last, in the apparent hope that it will be overlooked, but it is the meat which gives rise to the greatest resistance in her. It has been cut up for her by the nurse, in order to remove at least this obstacle, but Sarah makes no move. She simply sits still, with her face half turned away, her lips moving silently. At length the nurse persuades her to take the first mouthful of meat, the nineteenth of the course. By this time twenty-seven minutes have elapsed

since she first took up her fork, and, as we shall see, twenty-three more remain before she finishes.

Sarah's preference for eating certain foods first and postponing certain others, such as meat, to the last, has, as we have seen, a quantitative expression in the variation of the interval durations. The more intense the protest against a certain food, the longer will be the interval before she undertakes a mouthful of it or between any two mouthfuls of it. These intervals are provoked and prolonged by the compulsory emergence of certain visual and olfactory images which result in feelings of distaste and disgust; in fears and anxieties as to what the food may do to her body, and the misery it may engender for her. Sarah's negative attitude toward food and the performance of eating is, as we have seen, a perverted theory about its--to her--horrible results.

After her nineteenth mouthful--the first of meat--Sarah pauses for four minutes and thirty-five seconds. She lays down her fork, and her attitude is final. During the latter half of this pause the nurse is trying to persuade her to begin again of her own volition. Sometimes this succeeds, but more often the filled fork has to be placed in her hand and her hand conveyed part way, at least, to her mouth. During the next four mouthfuls, until the meat has been finished, this process is repeated. The last mouthful is fed to her by the nurse. It is while she is preparing for these mouthfuls of meat that we see the effect as a brand new warming up process for each mouthful, just as if each were a complete meal in itself. Her pauses between these mouthfuls run from three minutes to three minutes and forty-five seconds. Altogether she has taken fifty minutes, divided as follows:

Starting interval	3:00	} minutes
Selecting and lifting	9:55	
Chewing	5:35	
Pauses	<u>31:30</u>	
Total	50:00 minutes	

What prolongs the duration of a meal in Sarah's case is not so much the active elements of each mouthful, but the exaggerated intervals between mouthfuls. These pauses are more and more protracted as the meal approaches its end. Thus she makes it extremely hard for herself to bring a meal to an end. All the others will have left the dining room and she will be sitting alone and still eating. It is like a "performance neurosis" transplanted to eating.

A similar analysis of a sample course for Barbara

showed that she is so intense and hurried in her method of eating that no intervals were apparent. She at once crammed her mouth full, and began chewing very rapidly and swallowing bit by bit. As her mouth became empty, bit by bit she began to refill it. This swallowing and refilling continued regularly until she was finished, and her mouth seemed to be quite full the entire time. She did not stop chewing from beginning to end of the course. Thus her consumption of the course is like one long mouthful, constantly being emptied, in part, and refilled, simultaneously. We could show no divisions between mouthfuls, no cessation of chewing. The mouth was simply refilled at short, regular intervals with very small quantities of food.

In comparing the pause-intervals relations in the records of Sarah and Barbara, we notice that Barbara has, at times, an interval of but 1 to 2 seconds between mouthfuls, at other times no interval at all, and then again, she sometimes starts a second and a third mouthful before the first has been wholly swallowed. Thus, where an interval might be expected, Barbara shows less than no interval. This we have called a "negative" interval. The acts, themselves, overlap, and the fact that she has no pauses also reduces the duration of her acts to a minimum. No one single act is completed before the start of the next; the food is not properly chewed, but is swallowed prematurely. Both the lack of pauses and the presence of negative intervals are responsible for incomplete acts.¹ It is similar to the overheated warming up in spontaneous performances in

1. The time or duration of such meals can be expressed by the following formula: T (total time) equals S (starting interval) plus N (number) times A (time of average act) plus N_1 (a different number) times P (time of average pause). In the case of Sarah's meal mentioned above, her average act lasted 37.2 seconds, her pauses averaged 78.75 seconds, her starting interval 180 seconds (3 minutes). We know that she took 25 mouthfuls and needed 24 pauses. Therefore her formula would read: $T = 180 + 25 \times 37.2 + 24 \times 78.75$, or $T = 3000$ (seconds) which make 50 minutes.

At the same meal, Barbara needed 50 mouthfuls. 5 very short pauses were observed, and no starting interval was needed. She took $5\frac{1}{2}$ minutes for the meal, or 330 seconds. The time of the average act was thus 6.6 seconds, and her pauses averaged 3 seconds. We could not time the negative intervals, but their total may be computed when we use the above formula, with slight modification. Thus: $T = 0$ (starting interval) + $50 \times 6.6 + 5 \times 3 - T_2$ (total of negative intervals). We know she took 330 seconds, so the equation simplifies into this: $330 = 330 + 15 - T_2$, hence $T_2 = 15$ seconds.

speaking and in role presentations as observed in the course of psychodramatic work.

The performance patterns observed have many characteristics similar to the patterns observed in the psychodrama. Many techniques of the psychodrama can be projected into the dining room, and studied in a fundamental life situation. The analyst of the theatre becomes a participant observer in the dining room and watches the mute psychodrama of a meal.

The role of the eater is one of the most fundamental roles for the infant. The baby's performance during the feeding process is a continuum of acts hardly broken by an interval. It takes a breathing spell only after a chain of acts bring about an abrupt pause. In the evolution of a performance state the act must be considered as primary, and the pause considered largely as a secondary and later development. It appears from observation that the function of pauses develops more rapidly as soon as the infant learns to use tools for eating and when it begins to eat with others. The pause is the result of normative social process.

Evidently, acting and pausing develop in the evolution of a specific performance an interrelated dynamic quality. In Sarah's case this dynamic function of pausing is perverted. It is indeed, as a more detailed analysis shows, only apparently a pause. The pause is masking a new underlying act or a series of acts which attach her mind to one or another of her fears of ideas. By these interpolated foreign warming up processes, her return to the performance of eating is extremely handicapped. Indeed her pauses are often so perverted that they consist of a true pause plus a chain of foreign acts plus a starting interval towards a new mouthful. In Barbara's case the situation is different. It is the act which is perverted, and not the pause.

CONCLUSIONS

This study demonstrates that the warming up process consists of specific acts and intervals. While an individual eats, such acts and intervals vary in duration. The rate of frequency with which one act follows another is characteristic of each individual. It can be so speedy that the intervals between the acts are around zero, or so drawn out that they become the essence of an individual's warming up process. In this case the acts appear like occasional breaks in a continuum of pause.

Each individual therefore shows a characteristic performance pattern which offers significant clues to his general condition. In the case of the patients studied, the performance pattern from day to day enables the physicians and nurses

to diagnose the present condition of the patient and to foresee and predict certain specific changes in his conduct. This fact is of particular importance in the case of patients with whom verbal communication or contact is extremely difficult or unsatisfactory. It is a reliable detector of the actual inner condition of the patient. It photographs the reflection of the inner condition of the patient in a basic spontaneous performance.

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Joseph Sargent; Anita M. Uhl; J. L. Moreno

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