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PAS LECTURE #12

ARITHMETIC & INFORMATION ✓

(I. ADJUSTMENTS)

We had been talking about the emotional content that at least arithmetic played for a long period of time in a person's educational experience which undoubtedly had more influences on people's performance in arithmetic in the previous generation than it may have in the current generation with the new math. This is all yet to be kind of sorted out. But generally speaking, for most of the people that were involved the arithmetic subtest as an exercise, for arithmetic in general is an intellectual activity, is something that essentially by definition or by theory is primarily an internalizer's type of activity. It is an internalizer's type of activity in the sense that if he pays attention, it is relatively easy for him to do moderately well or do consistently well on the kind of arithmetic activity that the Wechsler or the WAIS calls for individuals to do. In a sense it is primarily a kind of an intellectual task, or an internalizer's task, or an abstract task depending on how you want to define it. The problem for the externalizer is that the externalizer is going to have to work harder at being able to accomplish on that particular type of a test. It takes a different kind of motivation, a different type of orientation, a different kind of pressure upon the person who began to learn to achieve in that particular kind of a test. The general statement that can be made on that is that carelessness is a tendency to not do particularly well on the arithmetic subtest. It's not nearly as significant in the person with a low digit span as it is in the person with a high digit span, mainly because the lowering of the arithmetic type of activity in the high digit span individual is an indication that the person is not paying attention to

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this particular kind of intellectual discipline, this particular kind of intellectual activity.] And a tendency to do well in the arithmetic on the other hand, is certainly a suggestion that the externalizer at least, that is the person who has not done well on the digit span type of activity, has moved in a direction of trying to develop some kind discipline, or some kind of effort or some kind of energy involved in terms of trying to organize his ideational activities in a relatively productive way in one instance, or in another instance using some kind of repression or some kind of defense against being too much of an E or an externalized individual.

[You've got to be careful in interpreting the digit span - arithmetic relationship in the sense that it may indicate two things in every instance. It may indicate for example in the internalized individual that he has moved in an autistic or a non-disciplined internalized direction. Or it may indicate in the E individual a repression, a tendency to move into the direction of defending against being E at all and not necessarily exploring his internalized or intellectual discipline. Now I'll come to this later on because the importance of the information subtest is that the performance that the individual does on the information subtest begins to give clues to some extent of what direction the individual is going whether he is I or E, but I'll come back to that in a minute. Because I want to talk a minute about reactions or performance on the arithmetic subtest. One of the things that I think practically ^{any} one who gives the test over a period of time, can get a feeling for if they orient themselves in a sense in terms of doing that is seeing the extent to which an E individual if he does well on arithmetic actually competes with you as an examiner, actually competes in the sense of being quite proud of being able to demonstrate to you rapidly, effectively and how accurately he can perform on the arithmetic subtest. Now, one of the primary things.

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that begins to indicate the difference between the very kind of arithmetic test, and high a arithmetic test remember is in relationship to his normal level, is that the E individual begins to pick up points when you get to the last two hard questions and they are hard questions on the basis of which there is time credit given to them. In other words the competitive spirit that is involved in the E individual, causes him to move very fast in to the direction of being able to give you his response rapidly and effectively on that particular type of a test.

The high normal level internalizer is likely to do it very rapidly (I mean the last two items). He is likely to do them very rapidly but not with the same sense of accomplishment, the same sense of competition. In a non-test situation, and as one of the clues that I have flirted around with in terms of trying to determine something about whether the person is an E or an I or an Ec or an Ic is related somewhat to the sort of behavior that a person manifests in a business transaction. One of the best ways that I know often times is in terms of restaurant bills. The Ec individual, if he is alone in a restaurant, is likely to be the individual who, and I use this word advisedly, will ostentatiously make certain that he is getting what change he expects. There is a specific effort and also a little bit of the same kind of competition that I was talking about in the test situation, on the basis of which in some kind of social behavior transmits to the cashier, something on the basis of that "I'm going to make sure that your arithmetic computations are as good as my arithmetic computations." and also the implication involved in that is that "I'm not going to be cheated." The Eu is likely to be much more inclined, to allow the machine to do it, and to a certain extent is not likely to move into a direction on the basis of which he will check, will be as

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ostentatious, in terms of trying to make sure that the arithmetic computations have not been done effectively. The I individual is going to be much more bland, in this particular kind of a relationship because it's not particularly threatening, it's something he can check relatively easily and that in a sense, a healthy Ic of a fairly high normal level is able to get change and to look at it in a very abstract and very quick way to know that he's getting exactly, he's not doing it by feel, he's doing it in an abstract way on the basis of which he knows right away that he's getting more or less what he deserves or what he's entitled to. When I talk about arithmetic as being a threatening test, the test, the arithmetic is likely to be much more threatening in one kind of a way to the E individual and that the threat is likely to be manifested much more in the E individual on the basis of being embarrassed, insecure, unhappy because of the fact that he is being asked to do the arithmetic type of a test, if he can't do it well. Therefore, the Eu individual will manifest a great deal of behavior in the sense of when he's taking the test, the arithmetic test, of being nervous, being anxious, being upset with the arithmetic test. The I individual on the other hand who is u, if he is a healthy Iu, and there are plenty of healthy Iu's, the healthy Iu is likely to be one on the basis who really says "I'm no good in arithmetic" and there's a blandness, in the way in which this kind of an individual says that he's no good and to a certain extent he really does rather effectively do the simple arithmetic problems, and just plain and simply doesn't try to do the harder and more complicated problems that come toward the end of the test.

Summing it up, arithmetic as a subtest and arithmetic alone as a subtest in the PAS is reflected by the Wechsler, gives something of an indication of a person's self-generated, self-contained, self-involved

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discipline in the relationship of which he in some form in which I cannot remotely explain why or what happens in relationship to this, the way in which the individual defends against being E if that's the thing that he needs to do primarily or defend against being I if this is what he needs to do in terms of this resulting in the general statement that is often made in relationship to the digit span - arithmetic relationship that the E_{c+} is an individual who is moving strongly in the I direction, and the I_{c-} is an individual who is moving strongly in the E direction and that they're moving in this direction in a sense which depends to a very large extent upon their capacity for self-generated, self-started, self-involved discipline. And as I've said in the past in the extreme this can represent repression and repression in this sense means that he represses I in order to be E or that he represses E in order to be I or he suppresses a great deal of his tendency to be E in order to be somewhat more effectively intellectual, or he suppresses I in order to be a little bit more effect perceptually. The I_{c-} individual is likely to have disciplined himself on the basis of which he makes sure that he is alert, aware and responsive and knows what is going on around him. The E_{c+} is much more inclined to be able to be defensive, to be resistant, to be reactive against the distractions which come from E type of activity. With this background let me go on a talk a minute about the information subtest. Because the information subtest by the nature of what it represents, the information subtest represents in the main a whole series of items which are relatively standard, characteristic bits and pieces of information that an individual if he's paying attention is expected to learn over the period of their educational, or life or cultural development. Therefore, in effect primarily the information subtest is a test which everything else being equal, again is one which

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is relatively non-threatening to the I individual. Non threatening in the sense that the I individual if he pays attention can remember with relatively little effort the kinds of things that are required by the items on the information test. The E individual on the other hand, because it does represent or require a certain amount of verbal memory as opposed to visual memory, and I talked the other day about the difference between visual and verbal memory, and that verbal memory is a characteristic that is "natural" for the I and "unnatural" for the E, and visual memory the opposite. It rather then necessary for the E individual to work, to be able to remember a good many of the items on the test. And what you will get in terms of qualitative test performance of the individual the difference between the E and the I in connection with performance on the information subtest is that the E individual, if he's Eu is particular, the E individual is almost always going to indicate an awareness or a knowledge of the item when you give it to him but is likely to move in the direction of indicating "I'm not sure I know the answer." They recognize every item, in terms of this, therefore they are much more likely to give careless answers or answers which to a certain extent they will correct later on. The most common one in terms of this is "How many pints are there in a quart?" And this is almost always an E answer, in which you get in terms of this the first time that you go through the E individual is much more likely to say "four" and then when the test is practically over say "It's not four, it's two." You see this is an attempt on the part of the individual to recall certain kinds of information. The same thing is in the old days on Washington's Birthday, the E would be much more likely to say "Washington's Birthday is on February the 12th." Now you see here there is a knowledge. They know that the 12th and the 22nd are and they're likely to say "No! it's not the 12th

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that's Lincoln's birthday. The 22nd is Washington's." I'm emphasizing this to give some kind of a clue to the tendency on the part of the E individual to struggle in the area of recall. The I individual is much less likely, now I didn't say he doesn't make these particular kinds of mistakes, but there is much more of a tendency on the part, in either to know the answer or to not know the answer on the information subtest. Consequently, one of the things that begins to show up in relationship to what the performance on the information subtest is that the Iu individual, that is the person with the high digit span - low arithmetic type of performance if he does not do well on the information subtest, this is primarily an indication that this particular individual has not utilized his verbal memory in any particularly effective way. And that to certain extent, it is an indication that for a fairly long period in this persons life he probably was not paying attention during a period of time when these particular type of items were coming up. Therefore, if you get the combination Iuu (now what Iuu means: I means the high digit span, u means the low arithmetic, u means the low information, the combination in terms of this) the first constellation or the first type of interpretation that you're going to make is that the person is schizoid, schizoid in the sense that he has not developed any particular relevant way of organizing his internalized or ideational activity in any way. The Iuu would be a suggestion that the person is autistic. He is an I individual because he is a high digit span. He has not organized it in any socially relevant or any other particular kind of a way in relationship to this, meaning that there is a considerable amount of capacity in that individual to remain in something of a withdrawal state.

An I+u+u+, which is a matter of fact you would hardly be able to get if he really were completely autistic, you will not get an I+u+u+

score because the individual would not have contact enough to be able to perform actually in the test situation. As you move down line to where an I+u+ begins to move in the direction of Iuu, you're getting more of a schizoid trend that you are in terms of getting a schizophrenic trend. Here's an example because we do get fairly commonly Iuu records. Now there are other things that begin to indicate what is happening in terms of this. But in most instances the Iuu records that we are likely to get around here with the kind of people that we test and who when we're testing them are essentially fairly effective in their adjustment, their vocational adjustment. The Iuu's that we get around here are, no insult intended, is likely for example, a secretary. The presence of an Iuu in a secretary is not too unusual but a characteristic of the Iuu secretary is in a sense and this is usually reflected in the second variable, the individual is going to be R, and he's probably going to be an Rc, and usually often an R c+, the end c+ being a very high comprehension type thing. What that Iuu in combination with that \bar{x} Rcc+ in the second variable indicates is that person is very dependent upon the procedures of the office, the activities, the rote learning activities that is necessary for them to do and that as a secretary in relationship to this and one of the best examples that I know in terms of this is the Iuu R_c+ secretary, is that this is the kind of an individual who is likely to have extraordinarily high typing speed in many instances, in many other instances they may have very high shorthand speed, but the thing that is likely to be in terms of this, their high typing speed is due to the fact that they have learned the capacity to be able to sit there and mechanically perform the task of typing exactly what they've

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gotten in terms of this without having any real (in many people's opinions) awareness of what they are doing. In other words there is an ambulatory ritualization that is usually present in the Iuu R high comprehension individual. They also can be in any particular kind of a highly procedurized, regularized type of task, and if you have them working for you over a long period of time, one of the things that you will find out about them in time is that if anything particularly out of the ordinary, or anything particularly unusual or particular change of routine or any particular type of modification of what they learned to do comes into it it is likely to be very threatening, very disturbing and very dissatisfying for her or him. ~~xxxx~~ Incidentally one of the places that I saw the ~~xx~~ heaviest voting of effective Iuu-ish individuals was one time I had an opportunity to test a group of women, who were working for Western Electric. Western Electric is the assembly telephone instrument assembly group. This represents a very definite Iuu type of activity on the basis of which there is a procedure on which they will move, they will have one particular thing that they will do on an assembly line and that as long as that assembly line is moving in exactly the way that it is supposed to move, that kind of an individual is likely to move into that direction on the basis of being effective, efficient and useful in relationship to this. Now one of the interesting things in terms of this, the same Western Electric place was one of the ones that was experimenting a little bit in terms of background music. Now what is the importance of background music in relation to this particular type of activity.

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The danger of the Iuu individual is that if he begins to get too much routinized in something and he moves into an autistic direction, if he keeps at this long enough he loses contact entirely. You put background music in relationship to this on the basis of which you have got some kind of external but at the same time autistic sort of music going on in the background, this keeps the Iuu from going out of contact. Many Ec+ individuals for example in terms of this, he might have learned in relationship to being able to do the routinized type of task, but the E individual is going to be much more aware of, much more disturbed by the distractions that are going on around him, and consequently you add the music, you might actually, and did in this particular instance where you had Ec kinds of or Eu individuals in this same kind of a situation, they were so (did not?) distracted by this that their efficiency/improved. So you've got the strange thing in terms of the music improved performance in some ~~xxx~~ people -- in some people, it did the opposite.

Any relatively healthy I should be expected to do very well, by very well I mean the very healthy I, everything else being equal the healthy I should perform on the information subtest very closely to his normal level. This is the general mode or pattern. It is a relatively ~~xxxx~~ easy thing for them to do, and therefore a healthy Iu, and remember now I didn't say that the Iuu is always unhealthy, but I did say that there is a characteristic of the Iuu, there are things that you know about the Iuu that are pleasant but that Iuc, the present of Iuc begins to be the indication that the I individual did not really discipline himself very much in terms of disciplining

his internalized, autistic thing very much. He's not moved very (0150) much in an ~~intellectualized~~ intellectualized kind of a direction but has at least paid attention enough to be able to know the varying kinds of things that he or she is supposed to learn over a period of time. Consequently, the Iuc combination, you begin to get a little bit of a more important manifestation of the security aspects, the security aspects of the Iu adjustment as opposed to the Ic adjustment. The Iu adjustment, because the individual has not developed a kind of internalized self-discipline anywhere along the line, may learn certain kinds of procedures. The Iuu learns rituals which keep him secure in the world in which he lives. The Iuc may learn rituals but he's also learned a certain amount of intellectual attention, or that the person is paying a certain amount of attention but he begins to be very dependent upon the external environment, or things or people in the external environment to support him and to keep him in contact. I use the example of the Iuu individual who keeps in contact by music in the distance. An Iuc individual is likely to be much more likely to stay in contact when he is engaged in some particular type of activity on the basis of which other people are doing something which will make him be effective. Now let me use the typist for example. The Iuu typist oftentimes can use the ritual of the typewriter and the type of dance that they are doing in relationship to this to keep them effective. When you add the Iuc when you make him or her Iuc, you begin to move in the direction on which it is very important in that kind of an individual that there be something going on around them, on the basis of which keeps them paying attention. Therefore the Iuc

individual is going to be much more alert to, aware of, responsive to the need to relate, to react in a sort of a socially appropriate way to the things that are going on around them. They like to be talked to, for example. Many an Iuc individual is characterized by many people who know them over a period of time as being good listeners, and as a matter of real fact they probably are very good listeners because to a certain extent the process of listening and to have someone else in a sense keeping the conversation going anywhere along the line, is a very important aspect. Therefore a general characteristic of an Iuc individual and the word that I like to use in terms of this because this is an important word to differentiate as far as I'm concerned, the Iuc individual tends to be gregarious. One of the most difficult concepts that I think many people have about trying to pick up some of the meaning of the PAS is that the semantic one, on the basis of which I have been likely to use, because it is a word that I like to use and that fits my particular need in terms of this, is that the I individual is a non-involving person and an E person is an involving person. Now, you've got to come back and talk a little bit and get some kind of definition of ~~what~~ what I am talking about as being involving. I think that at a very early period in terms of this particular group I was trying to talk a little bit in terms of the one-to-one relationship, that is, part of the involvement that the E individual has. The E individual in the involvement that they have and intents in terms of this, if they make a relation or an involvement with a person, they expect that person to make a reciprocal involvement with them. And that reciprocal one-to-one is what I'm talking about in terms of involvement. Now if you stop and think about

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it for a period of time, a problem that comes in terms of this is that the E individual is not likely to be very good at being gregarious because gregarious means in a sense the capacity to respond and relate to everybody in the room in a relatively effective way. The E involvement is likely to cause an individual and to a certain extent, in the dynamics that I try to bet on over and over in terms of this, is that the I individual has to learn to a certain extent, if he pays attention at all, he has to learn to be able to pay attention to specific things in the environment or specific ~~pe~~ people in the environment, because he will have a certain capacity to be able to respond to everyone. The E individual has to learn not to get so involved in one person that he is not beginning to meet the needs of all of the other people that he has in the environment. That this would come in terms of this is many of the people in the past that I would say, the Chinese culture was an I culture and they would see that the Chinese were non-involving and I got all kinds of hostility. Did I ever see a group of Chinese in a restaurant? They are the most involving, but now you see this is not involving this is gregarious. America as an E culture and certainly Americans in World War II, this is an E culture, it tends to be a fighting culture. Now a fighting culture is in the sense that the American ideal is the best plan, your party. It's very rare that you ever find a Chinese who has a party in the American E sense. They will have acquaintances at a group on the basis of which they will be very much involved with but it is always the group, it's not a party culture/ Do you see the difference that I'm trying to make between I and E hasn't anything to do with whether or not the person is emo-

tionally outgoing. It has to do with the quality. The intensity, the kinds of needs that an individual gets in terms of this. Therefore an Euc individual, one of the things that Euc means that he has an awareness that he should not get too involved in one person, but he has the tendency to get too involved in one person. And he is likely to move into a direction in which he becomes something of a loner. He has the tendency to get involved and an Euc has awareness of the tendency to be involved, ~~xx~~ and he is likely to move into the direction on the basis of which he does not get involved at all because he is afraid to get too involved in any one particular individual. An Iuc on the other hand, is a person who has a bit of a tendency, a feeling that they get involved with everyone too much, and are likely to move into the direction in which they make intense involvements with individuals to protect their tendency to get involved anywhere else along the line. Therefore you get the phenomena in relationship to this, of the Iuc individual who works very hard in trying to make one-to-one relationships, and not making them very satisfactorily, and the Euc who is likely to work very hard to keep from making a none-to-one relationship, and in the background or in the sense of what is the vulnerability in relationship to this. An Iuc individual is likely to feel safe when he's got an involvement. An Euc is likely to feel safe when he doesn't have an involvement but if he ever lets down in relationship to this, he is likely to move, the vulnerability to the Euc individual, if you break through and get him involved with someone, that involvement with that individual

is very intense. And it's not true that one of the things in terms of this, if you will look at a marital history, this is one of the interesting things in terms of Iuc's and Euc's. Now I'm not talking anything about Ec's yet, I'm trying to make the difference between Euc's and Iuc's. An Euc may be the kind of individual who waits a long time to get married but when they do get married, they are likely to make an intense one-to-one involvement on the basis of which they will put up with a great deal of difficulty from the person that they made that involvement with because of their need to maintain over a period of time that loyalty. The Iuc in relationship to this, on the other hand, is likely not only to have been married early, but in many instances to have been married often. Because one of the things in terms of this, is that they are likely to move into a direction on the basis of which they will make quick involvements but their involvement ceases to fulfill their particular kinds of need, they will make another involvement with very little guilt or very little anxiety. Now this leads up to the statement that I've made a good many times in terms of this of the security, the succor dependence of the Iuc individual compared with the Iuc+ individual. There is a tendency on the part of this particular individual to move in the direction of maintaining a close relationship with those things which make for the greatest amount of personal satisfaction. Now they can call it selfish, and it can be selfishness when it comes up in certain aspects in the area, it also can be socially productive and socially relative. For example, an Iuc individual is likely if he makes a succor dependent relationship to an organization and that organization provides him the needs that he requires, or that need to be met, he will maintain long

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intense loyalty to that particular organization, oftentimes being more loyal to the organization than he might be to his wife. His wife may have to lead a different kind of an independent life because if she sticks, if she has various demands or problems with the children, his loyalty is in the direction of the organization that he's working for, and he would expect her not to interfere. This is a more negative way of saying this than I'd like to put it but essentially the direction of his movements is in the sense of being loyal to his organization. The Euc on the other hand is much more of an emotionally dependent one, and can range all the way from if he works for a boss that he really likes, he will be emotionally involved and if that boss moves somewhere else he will want to go with that boss. Or if he has trouble home in his relationship with his wife that are destructive or disturbing he's going to be pulled much into the direction of the one-to-one relationship in terms of the problems that he has there. An Euc is not necessarily ineffective, but the thing that happens in terms of this are depression, discouragement or problems at home are likely to have more effect in an Euc's performance in his job. An Iuc often-times can use his job to escape the depression, again, the not so subtle but still very complicated difference in direction in relationship of what the Euc and the Iuc individual have and so forth.