

If I remember correctly, I've sort of gone over the first six tests. And so that brings us up to the ones that I guess I spend a lot of time trying to avoid talking about, because I don't know how to explain it. And that's the picture arrangement, picture completion and object assembly combination. It's really unfortunate, too, that I have so much trouble explaining this because in many ways I think an understanding of this particular variable is probably the most important one in terms of getting some kind of dynamic interpretation of the meaning of the whole pattern. So, if you'll bear with me, I'll stumble through some of this again. And start out again talking something about what little I know about the qualitative analysis of the picture arrangement test.

The other tests in one form or another have a little bit of what for want of a better word I'll say face validity in terms of some of the reasons that they conform, that is the digit span has some kind of meaning in terms of the way a person listens and responds and internalizes knows numbers and arithmetic. And all the others have the same face validity.

But it's pretty difficult to see how the kind of exercise that the picture arrangement test calls for really ~~does~~ the sort of thing that it does. The major test items on picture arrangement, the ones that really have the most to do with the dynamic interpretation of what's called role uniform and role adaptable ~~is~~ really almost exclusively the last three items. Although there are some variety of things that occur in the early items that need to be talked about.

The best way that I know to explain what happens on the picture arrangement subtest is that an individual is given a task on the basis of

which he is given instructions in putting the group of pictures together. He then puts them together in what is essentially the way that, in one form or another, the artist originally drew them,

The interesting thing, and something that the ordinary test procedure doesn't take into account is that ~~a person doing that particular task~~, there is one kind of an individual who can in a sense put those pictures together in what is the popular, or what is the order or the method in which they're drawn with very little effort, very little energy. But what is the surprising part of it without the slightest understanding of the meaning of the series. I mean, in other words, ~~the~~ series, I think, was selected in one form or ~~another~~ because they represented some kind of, let's say, moderately humorous or humorous sort of twist kind of thing in terms of this. The thing is that you would assume that a person then attacks the item on the basis of which the person is carrying the hat dummy, that the person has to get some kind of knowledge about what is happening by the look on the man's face or the various things that happen in terms of this to get an idea of the fact that the person has an awareness of the meaning of that item. The last item which is the one in relationship to the diver getting the fish on the hook for the little king, is again one in which to a certain extent there needs to be some kind of let's say sense of humor, if you want to, you would assume it would be a sense of humor in terms of this. But nevertheless in relationship to those ~~particular~~ particular items there is an element which is more picture completion, that is, in the sense of the

kind of task that a person is required to do in the picture completion test, there is a picture completion element that is on the basis of which a person can rapidly assimilate certain kinds of cues which he doesn't understand and automatically go about the process of putting those pictures together in the right way in spite of the fact whether they have any sense of humor or anything else at all in terms of it. So undoubtedly one of the things that is happening or probably one of the things that is happening in the picture arrangement exercise is something akin to what I tried to talk about earlier about what happens on the block design. That is, there are some people who approach that task in an imitative, procedural way which they put them together ~~very~~ quickly, without trying to figure out what they mean and then there is some problem later on because they haven't really learned understanding because they're so imitative. There is this same kind of imitative quality that begins to take place in the picture arrangement test. That is, there is one kind of an individual who approaches the task on the basis of getting the cues and doing what it is that he thinks you want him to do rather than trying to put into it any kind of evaluative exercise on the basis of trying to figure out why you're asking him to do it. Consequently, the person who comes out as a high picture arrangement usually is a person who in a sense puts the pictures together and then tries to get meaning out of them. And the low picture arrangement individual is the one who tries to get some kind of meaning out of the exercise before he puts them together. Now again, you have a time element that comes into this. The low picture arrangement individual is likely to

be ~~xxxx~~ slower in putting them together because the motivation or the effort or the kind of a way which he approaches that exercise slows him down because he's attempting to get some kind of meaning out of the test. Also, and this is one of the things that begins to cause some great problems later on in terms of interpreting the meaning of the picture arrangement subtest, there are some people who approach the picture arrangement subtest on the basis of which they will put something together because they make a story out of it and in many instances the story that they can make out of it is likely to be a relatively creative or an imaginative ~~xxxx~~ story. That is they put it together in a different way than was originally meant to do, but they put it together with a purpose. They put it together because they may not see the regular way that it's put together. But they're putting it together because they think they see something and in many instances they will do this on the basis of ignoring some of the cues; I mean for example, there are a fair number of people who can get a little bit of the, get rather quickly in one form or another some kind of an idea of the meaning of the little king fishing and the diver coming up in terms of this. And then put it together without any particular reference to the number of fish that are in the basket, if you remember how that particular test is set up in terms of that. So in this case, they are likely to get what is in a sense, they're reflecting a knowledge of the intent of the item but are losing points because they're not doing it in exactly the way that is required. Now all of this is a labored way of trying to say

that apparently where as ~~xxx~~ ritualization of procedures, of certain kinds of procedures, that the block design represents, is related to sort of an intellectual orientation or a thinking approach or a perceptual approach, the picture arrangement is related much more to the way in which a person begins to interpret, respond and relate to what are in effect the social requirements that people are levying upon them. Therefore a primary characteristic of the high picture arrangement person is a tendency to rapidly be able to see what it is that he's supposed to do by the cues that he gets, the social cues that he gets. But the fact that he recognizes what he is supposed to do, does not in any way, shape or form indicate that he has a full knowledge of the meaning of what he is doing. Therefore a general characteristic of a high picture arrangement person, that is the one who imitatively does the picture arrangement type of subtest, a general characteristic of that kind of an individual is essentially that he is highly suggestible to social cues and possibly may not be very understanding of the meaning of what the behavior is that he is able to do. Now this is why the term role adaptable is the final term that is given to this particular variable. Role adaptable meaning in a sense that a person, a high picture arrangement individual, is essentially the kind of an individual who learns roles very rapidly but is not necessarily aware of the significance of the meaning of his role. The low picture arrangement individual, on the other hand, is the one who is not nearly as suggestible, or the one who is not nearly as responsive, the one who is likely to not really catch

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the social cues that are being transmitted to him until he gets some ~~meanin~~ kind of understanding or some kind of meaning of what the relationship of behavior^{is} is likely to be, of what it's likely to mean.

Consequently, one of the primary early initial response state characteristics of the low picture arrangement individual appears to be again a negatively loaded word in terms of this, but it's not necessarily a negative characteristic, is that the U individual tends to be negativistic. That is, he in his early development is not nearly as likely to respond as quickly to external direction, and not only not quickly respond to external direction but in many cases resist reacting to external suggestion because there's something else he would prefer to do. Now, let me try to put this together and again repeat something that I've said over and over again. Maybe this is another place to try to put it in, that the E, the primitive response state E individual, is going to be very responsive and very aware of external events. You add U on in terms of that, you're making him very aware and very responsive to external events and also very resistant in a beginning state in terms of responding too quickly and too effectively to the requirements that those external events are likely to call upon him to do. You add in terms of this I and U, π the I and U combination in terms of this, the individual is also negativistic, but remember the I individual, that is, an internalized, non-responsive kind of a direction that he overtly is reacting and what the U puts in terms of this is that he stubbornly and this is another adjective that can be used as an initial response state characteristic

of the U individual, he stubbornly refuses to let's say change what are the characteristics of his primitive initial response state. Put it in this way, you have an individual who is I and U, he is initially going to resist making any E changes. Because as a U individual, he's not particularly responsive and that responsiveness is not only unobvious because of the fact that he refuses to respond causing an individual to become very early aware of the fact that the individual is operating in an I direction. The EU individual is also going to be stubbornly involved, if you will, again a characteristic of the U orientation. He is going to be somewhat stubbornly resistant and not be E in his orientation. Therefore, an EU combination is a person who is E and stubbornly continues to be E when the society is engaged in, or the people around him are getting him to try to make some kind of an adaptation. The IU individual is stubbornly engaged in remaining somewhat non-responsive, non-resistant to the external direction that is being given him.

Now to me, the important characteristic in terms of this is that this U characteristic that is picked up by the performance on the picture arrangement subtest insures to a certain extent that an individual is going to be placed under strong pressure to modify. He's going to be put under strong pressure to modify because when he's being I, he's being too I, when he's being E, he's being too E. Both of these characteristics which in their extreme are unsatisfactory ones in relationship to this, therefore in a way the environment is much more punishing toward him. It's much more punishing toward him because they are going to put more and more pressure. One of the things that

to me is a characteristic in terms of these particular orientations is that since the IU individual is so stubbornly non-responsive, the individual in the environment or the individuals in the environment who have some kind of responsibility to modify, change or train or do anything in relationship to these individuals are likely to move in a direction which is in the beginning likely to be fairly soft, fairly easy, fairly subtle, but at some particular period of time, because of the resistances that exist, the people in the environment are going to get impatient at the failure of the individual to modify and that impatience is going to result in what is in effect hostility toward the individual. Consequently, a U individual by definition, whether he's I or he's E is going to have relatively early life experience with hostility because the people around him are impatient at the fact they do not make any particular modification or any particular change.

Now put it the other way around. The A characteristic, in terms of this, on the basis that the individual is able to respond to the cues that are being given to him, to respond in a manner or a method which it seems he is behaving appropriately, he is seeing what he is supposed to do and he is doing this relatively effectively.

The IA combination, this is a person who has the possibility of learning in kind of a split way, if you will, to be socially responsive to requirements that are around but still remaining pretty much in an I direction because he can mask many of his I tendencies by his social responsiveness. That is, he does things that he's required to do but he's put under no pressure to try to learn why he is ^{supposed} ~~supposed~~ to do

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them. The EA individual is also likely to be able to remain a relatively responsive E individual but to be able to do it in such a way that it does not engender impatience, does not engender hostility and he is likely to learn a whole series of behaviors which on the basis of he learns how to do them appropriately but he is not really put under any particular pressure to the extent of attempting to understand them.

Now the thing that can happen in terms of this, if a U individual whether he's either I or E, if a U individual is put under extreme pressure there are essentially two ways that he can go. One way is complete withdrawal. That is, he can refuse to respond entirely, the extent of negativism. Or the other things in terms of this, the pressure which is placed upon him, the pressure is that he will have to move much more in the direction of having to understand what it is that he's supposed to do. Therefore a U individual although he has early experience with hostility also is put under much more pressure to learn whatever is an adaptable social role.

Now, one of the things that occur in terms of this if you have to learn and understand the meaning of what your social responsiveness or social behavior is, this means in effect that you are likely to be moving into a direction in which you are going to be quite dependent upon someone else to teach you the way you are supposed to be. And once you become dependent upon depending upon someone else in teaching you what it is that you're supposed to be, you then begin to move into the direction on which whenever you have learned to do something in what is in effect the right way, you're going to hold on the fact that you've learned how to do it the right way. Thus resulting in what is in

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effect uniformity. That is, the individual is not adaptable in the sense that he is responding to all of the social cues that ~~ix~~ are being given to him. He is role uniform in the sense that he has learned how to ~~mx~~ do something and what is in a sense a role in which he avoids hostility, in which he seems to be effective and so forth. Consequently an IU individual, let me start out with him, initially a socially non-responsive type of an individual can remain totally non-responsive making him move in a schizophrenic direction, or he can move into a direction in which he begins to learn a certain amount of role related externally oriented types of behavior. But whatever he learns in terms of the role related external social behavior begins to carry with it an element of being stereotyped. If you are dependent upon someone else to try to teach you a role to play and you develop in a direction on the basis of which you become responsive to this particular direction, there is the possibility in terms of this that if you're paying attention and oriented in the direction of trying to learn, you are going to learn as much as the person in the environment is able to teach you. Therefore a characteristic of the I and the U combination is likely to be in terms of this and that's one of the statements that appears in some of the PAS literature over and over again, is that an I and a U combination, this kind of a person is likely to be as good as his teachers. Now, therefore, the general statement about a person's early environment, the early influences that are placed upon him, the effect of the company that he associates with, all of these things begin to be quite important in the IU combination in terms of this. Because if he ~~zx~~ happens to grow up in

environment and beginning to move into the one on the basis of which he can learn a role on which he will get accepted a little more. The IU combination in terms of this is going to be much more bound in and much more stereotyped in relationship to the environment that he grows up in.

Now again to use the examples that I've used a number of times: an EU combination in an environment, let's say in an environment which is, the two that I give because they're the most important, the militaristic family. You put an EU combination in a military family and you look at him at the age of twenty, you are almost always going to find that in some form or another he probably has reacted against the military family and probably has moved in what is in a sense an intellectual orientation. This is one of the things in terms of this, the same thing in relationship to this, an ~~EU~~ IU in a military family at the age of twenty is probably at West Point getting ready to continue in the military family tradition and being very involved with it.

Obviously, an EU doesn't have to turn in an intellectual way. It happens in many instances, the EU is likely to turn in an intellectual way than in any of the other particular ways. Now the reason for that as I see it is that the EU characteristic, that is, the individual who is in trouble ~~who~~ because when he is being E he is likely to be E in a resistant ~~xxx~~ hostile producing kind of a way, that is, in other words he's punished, either he punishes himself because of his awareness of

an environment on the basis of which he is constantly taught how to behave he is likely to be able to learn very effectively how to behave in that environment that he has grown up in. Now the EU individual on the other hand in terms of this, one of the things that is likely to occur in ~~xxxx~~ terms of this particular adjustment because there is much more relationship, much more adaptation, much more involvement in the external events. There is much more of a tendency of an E and a U combination in relationship to this, for the person to be very resistant to the early teachers that he has, ~~xxxx~~ because the early teachers are hostile toward him, he is aware of the hostility, he reacts to the hostility, there is bitterness in a sense in terms of this because he continues to resist any particular change to behave in the manner in which he is supposed to behave. But as he begins to grow older, and the various things that begin to happen to him, it begins to get to the point where he begins to seek the environment on the basis of which he gets the most acceptance. Now therefore it's not always true, but a general thing in terms of this anytime you've got an E and a U combination in the PAS formulation, one of the things that you can say about this particular individual that in some form ~~or~~ or another, he probably has reacted against whatever was the role identification of his earlier environment. He is beginning to move out of that particular

it or is punished because his overactivity is not permissible and the primary direction which a person is likely who is overactive is going to be pressed is in a direction of being inactive. But now inactivity and anything that is likely to be involved in inactivity, the EU individual cannot become autistic the way the IU individual does.

Therefore the EU has to find props if you will on the basis of making him autistic-like or move into a direction in which he does something which keepshim from being too E. Well, now one of the things is that an early EU can become passive and refuse to respond by engaging in daydreaming. So therefore an early characteristic of ~~xxxx~~ an E

and a U is likely to be daydreaming. That is, a person who thinks/a of great many things that he would like to be doing, but doesn't do them. Obviously, one of the early ways and one of the most socially appro-

priate, I mean daydreaming, an EU child is likely to get into trouble for daydreaming but in most Western cultural settings an EU does not get into trouble if he begins to move into the direction on the basis of which he reads or which he adapts in a sense in terms of doing well in school. Consequently, a high normal level or a bright EU is often-

times going to be pushed in a direction of finding some kind of way of being mentally preoccupied in order to avoid being too overactive and that mental preoccupation is likely to be in the form of reading or any of the particular kinds of tasks which are intellectual kinds of orientations. That's one of the things that begins to occur. A

second thing in terms of this which has to do in a sense with a certain

amount of what represents acceptance anywhere along the line. E and U, a combination of E and U in most any instance anywhere along the line, there's going to be a considerable amount of problem of peer-acceptance. An E and a U combination may be the early child experience of the E and the U is that in school situations he's going to get in a great deal of trouble because he is so much involved in what is going on and usually is so much demanding that everything that goes on should go on on his terms and in his way that he tends to be a disrupting and a distressing and a disturbing influence among his peers. Because he not only wants other people to play with him but he demands that they play with him and he demands that they play with him on his particular terms causing rejection. Now, you move in an area of one of the ways in terms of this you get rejection from your peers, one of the next things that can happen, you can begin to move in terms of an early school experience that if the teacher is really pleased because you're reading so much and seem to understand and be involved in what you're reading. The EU combination individual can actually gain a certain amount of acceptance from the teacher because of the fact that they're doing so well intellectually. Now this then moves the EU combination very much in a fairly early period of life in the relationship of which an intellectual kind of an orientation is relatively common. There are more capital E, capital U individuals whether they're F or R who make an intellectual orientation as adults, perhaps, than any other one group ~~x~~ provided they did not grow up in an intellectual environment. If they grow up in too intellectual of an

environment, in many instances they are likely to react against whatever the intellectual environment they grow up in, moving out to try to find it in some other kind of a way. An example, an overdrawn example in terms of this, an E and a U combination ~~in~~ growing up whose father is a mathematician and a very effective mathematician which would be possible in terms of that, it would be relatively rare for that EU child to develop much interest in mathematics. He's likely to move away from that because to a certain extent the interaction that is likely to come between him and his father during the early period of time is going to be stressful. Now his intellectual orientation is likely to be interested in sociology or history or some other if he makes an intellectual orientation it is likely to be in that direction. The same thing is in the sense that a historian father or a minister father, the EU is likely to move much more on the basis of which the EU from the son of a minister is likely to be a scientist reacting against in terms of this, and of the historian to move in something more like mathematics or in another direction, a displacement. Because there is a tendency for this kind of an individual to react against, to not really respond, to the early kind of training. Consequently, whereas the IU individual, as I said a while ago is the kind of an individual who is as good as his teachers, the EU is likely to go through much more of a process on the basis of which ~~he~~ he reacts against his initial teachers and begins to move in a direction on the basis of which he can find some other

kind of thing. Now again, one of the examples that I think is ⁰⁰²²⁶
appropo in terms of this, remember I'm not talking about A, when
we get in this, it begins to add a whole lot of other complexities,
and we'll save this to talk about a little bit later, next time.

Let's take the lower East side New York and let's make it
a Jewish community. The IU combination in that lower East side
Jewish community is likely to, who grows up in a mom and pop's
store, let's say in terms of this, or something in this are,
moves up in terms of this, because he is definitely taught all
of the values, all of the systems, all of the roles of the East
side lower Jewish community. You come back and see him at fifty
years of age and he is in a sense a carbon copy of his father or
his mother or whatever else in terms of that. The EU growing up
in that same kind of environment is going to have what the socio-
logists used to call upward mobility. The thing in terms of
this, they are going to react against much of the early bent in
terms of this and are much more likely to move in the direction
on the basis of which they will go to Harvard Law School or
Harvard Medical School and live, and at fifty years of age they
are not going to be a carbon copy in any sense of the cultural
milieu that they grew up in. The same thing in terms of this
and it's something that I'll ~~xx~~ swear to because I've seen it. You
see in Oklahoma an EU intellectualizing person coming to school
or starting at school, let's say ~~xx~~ at the University of Okla-
homa, is likely to react against whatever he thinks is there and
begins to move and if he's bright enough or anything in terms

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of this, he goes to school in Princeton. Whereas, an EU, the role that he learns is as unlike the role that he learned in Oklahoma as anything can be. He comes back to Oklahoma as a Princeton graduate with the role uniform characteristics of a person who ^{has} learned to play the role of a Princeton University graduate.

The Iu's remain in Oklahoma, and the role that they get is essentially the role that the EU escaped. I'm having a hard time explaining this. So to a certain extent, anywhere along the line you're going to find much more of a capacity for change, for resistance, for modification in the EU characteristic than you ever are in the IU, and that the IU tends to be pretty much a creature of his early experiences. That is, they set the pace for him. The EU is also a creature of his early experiences, but they are much more likely to move in a direction of some kind of modification. Again, I've used this many times before in relationship, and I don't know enough (?) about the Kennedy family but let's use the Kennedy family as the example of this, and say for the purposes of this explanation, this is largely a milieu in which only IU's are going to succeed but essentially IU's, mainly because it is in a sense on the basis of which a role is being set for you and you learn ~~that~~ that role and you take that role very seriously, you understand the meaning of it, and that you move responsibly to be whatever it is you have been trained to be. Well, now you put an EU child in that IU environment in the way that I'm calling it, you're going to find what happens in many families, you don't see it too much in the

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Kennedy family because they genetically or for whatever reason 00238
they did a fantastic job of getting all the same kind of people,
that the EU is likely to be ~~kind of~~ the black sheep in any
of the particular kind of To a certain extent then, the EU
lower East side Jewish boy becomes a highly successful uptown
lawyer and the EU Kennedy, if you put it in terms of this, be-
comes something of a misfit and a bum because he has had to react
and move away from what is essentially the role expectations.

Olga: John, can I ask you about this upwardly mobile business?
There's another alternative that occurred to me while you were
talking. There's the East side boy that grows up, is upwardly
m/mobile, gets an education, becomes very successful but he always
retains this identification with his origin and the same with the
Oklahoma who gets up and leaves home, ~~has~~ his father's a redneck
farmer or something, he becomes a big lawyer and he does the "I'm
an Oklahoma country boy" bit for the rest of his life.

John: This is A. They keep their origin and are much more
likely to move in a direction of keeping elements of there, because
this is where the adaptability begins to come into it. Now, in
every case a person may not be deliberately aware of what he's
doing. But he still is responsive enough or what is oftentimes
more involved in this, he's not nearly as antagonistic. To a
certain extent the EU individual in order to make any particular
kind of a move, almost has to make that move as a result of some
kind of intense rejection by his early... therefore, he is much
more hostile, ~~yes~~ if you will. The EU successful lawyer would

be much more inclined to be ashamed of his background because 00039
he's hostile toward it. The A individual is likely not to have
the same kind of hostility and to make a certain kind of adapta-
tion and be a little bit more uncomfortable with it. Now again
this is where we get to begin to talk about the modification.
And the modification of the picture completion aspect, the Uc+
adjustment in terms of this, this is the individual who works
very hard at learning a role and there's always a very good chance
that that role is unlike whatever his early background is. You're
going to find that person extremely resistant in any particular
attempt to pry about his early beginnings, beginning to talk
about the characteristics of his background, to give away any-
thing in terms of the way that he's been. Now again, I've got
a Uc son, a very effective Uc son, and an EUc son, and he's
learning very effectively and has learned very effectively the
role of doctor. He is much more comfortable working with people
that he's meeting and he reacts to them as a doctor than in any
point to move back into his past environment on the basis where
there are people who knew him when he was something different.
Therefore, he's uncomfortable, not hostile necessarily, but un-
comfortable in that if we sit around in front of his wife and
begin to talk about things he did as a kid, this is acutely
embarrassing for him because he's very hostile to have this kind
of thing brought up much moreso than would be an A.

Sam Ervin is an A for example, and that he could'nt be
what he is without being an A in my opinion. Now, this is very

hard for some people to understand that an A individual oftentimes (00249)
can both be aggressive or stereotyped, but stereotyped, if he were
an IU stereotype the way he is, he would be exactly what he appears
to be, an old country bumpkin lawyer. And he probably was very
effective in, it wasn't Harvard Law School he went to, was it?
(Yeah, it was) And he probably fit in quite effectively, socially
there, because he didn't have to make many adaptations. He's an
EA, he might even be an IA, I'm not sure but I'll say EA, to contrast
him with Lyndon Johnson who was a clear EU in a certain kind of way.
And again, the primary characteristic in terms of this was the fact
that he himself began to be, he was upwardly mobile in the area,
but he still, the role that he learned to play was the role of the
Texas rancher. Now, his father was not a Texas rancher, there
was something else in the beginning, and there are other things in
terms of this. But I would say that if Ervin is an EA, Ervin could
do a lot better job of getting along with Texas ranchers and North
Carolina rednecks and Harvard law students because he would be able
to relate and make certain kinds of adaptations to each of these
particular groups. Johnson would have great difficulty fitting in
any environment in which his uniform role was not appropriate, the
same way that I talk all the time about because this is one of the
places where the social role is important. The EU doctor role can
be an extremely effective one; they can be warm, relating, responsive,
sensitive. But always remember that the only way they can be this is
if they can document themselves as a doctor, never having to be
anything else. They have very little role adaptability.

Cleo: But how can they adapt to various people then?

John: They don't really. When you say adapt to various people, what they adapt to is that range of adaptation, let's say being a doctor, this structures relationships.

Walter: It's an all-purpose role. You can be a doctor in any setting, anywhere which isn't true of other single roles.

Cleo: I can't see that. You're a doctor, you've learned to be a doctor, you've learned to look after patients. But as a doctor. But very often whenever the patient asks something more than just take my blood pressure, then I suppose it must be an EU that simply can't do that, or I don't quite understand.

Olga: No, he can do it as a doctor.

John: The GP, he does it, but entirely on the terms of that; again, one of the characteristics that you often get and you've seen it is the EU and again there are others and we can talk about these later. The EU doctor can be extremely loved by his patients and the people that he works for, and hated by his wife and children, because in a sense he has to play a different role with them and is unable to play that particular kind of a role. Now again, the doctor role is always one of the best ones to explain this because in spite of all that is required in it, it is a very highly structured kind of a thing. I'm not going to say it's easy to learn, but it is very learnable. For example, an ERU, because it is an externally related responsive thing is likely to be an extremely effective doctor because once he begins to learn the role of doctor he begins to learn all of the things that he's supposed to know in relationship, and I mean he's conscientious in learning what it is. But it always has

to be circumscribed in that particular area. Now, I use the other extreme of the IRU. The IRU is a highly complex thing. One of the things that they are likely to be extremely effective at is the business of handling a highly complex airplane. I mean, IRU's make up, and I would say a good majority of highly successful airline pilots, and Air Force pilots known as pilots particularly because again in relationship to this we could say they're as good as their teacher. Handling the complexity of an aircraft is not in understanding everything that you're doing, but learning to do all the things that are being taught to you, and therefore, they particularly in a field like aviation, they have systematically kept track of everything in terms of this and again one of the examples that I give quite frequently in terms of this is the IRU requirement. It doesn't make any difference how long a man has flown an airplane. The first thing that he does when he sits down in that airplane is to step by step do what they call the check list. And that check list is in a sense to make sure that he performs everything that he's supposed to perform. Well, a good E would have the feeling, and oftentimes they're bad pilots, because they have a feeling that "this is a waste of time, I will remember everything to do." The IRU is not disturbed because he knows he doesn't remember, and he's very happy to have this procedure oriented thing on the basis of doing it. Now again, one of the things in terms of reacting to emergency. Now this can apply either to doctors or to pilots. Reacting to emergencies, isn't anything on the basis of which you can give an awful lot of training for. You can teach somebody, and for example one of the primary things in aviation is that every time there is an accident

that is caused by some other kind of thing, you program it, and put it in on the basis that you teach somebody not to make the mistake that somebody else made. Medicine, the same thing in terms of emergency. You learn what it is that you do, and if it is something that you know what ~~is~~ to do with, you're comfortable doing it. Alright, now, where is the danger in either of these? The danger is in a sense when anything unexpected or unknown occurs, in spite of all of this particular kind of training, there are many of these people who are incapable of making any kind of judgmental immediate decision because of the change.

Cleo: These are U's ?

John: Yes, IRU's and ERU's.