"Challenge" Film - Discussion - Gregory Bateson - 19th July 1967

Gregory Bateson

One of the things, I think, that's rather important is that - it would be a correction in a sense to what I said the other day, the day before yesterday, about curves that go like that... of population and so on. If you think about traffic on the roads, and consider how fast the traffic can comfortably move, and plot that against the distance between successive automobiles - the average mean free space between automobiles -, the curve - they will go at a fairly steady speed, of 60 or whatever it is, up to a certain point of reducing the mean free space, and the curve looks like this.... At the moment when saturation is approached, the possibilities fall off very steeply. So that, we think of increasing population for example, as going like that..... but the tolerance goes like that..... and it hits smack up against a barrier. And this is true for a great many of these phenomena.

This is one of the reasons why people do not in fact foresee the trouble they're going into. They say "We increased this year above last year, we can therefore increase next year above this year". And they do not realise that the discomfort that they're running into is going to hit a sharp turning point.

What else would one add? I would like to add, I think, that there's a certain optimism in the film which I would disagree with. It wasn't a very optimistic film in general, but there was a sort of idea that people had made mistakes - in using detergents, insecticides, and various other things - and that we ought to be able to avoid mistakes, in a rather specific sort of way, identifying mistakes. I don't believe it's that simple. I'm inclined to think that we deal - as I was trying to say the other day - with systemic phenomena, and that always we are changing balance-structures. There was a nice headline in The Times about a year ago, which somebody sent me to Hawaii, they clipped it for me, which said "Man Wins Against Birds". This referred to Peru, a

Bateson country which has recently mechanised, or whatever it is, itsx sardine-catching techniques, its fisheries. They can now find the sardine shoals by/sonar or echo-locating devices. What was happening was that the sardines which were formally more or less everywhere in the Humbolt current are now in particular places in the Humbolt current, because they've been taken away from other places where they used to be and eaten by man. The birds depended on the sardines, and man with his echo-locating devices can now find the shoals of sardines quicker than the birds can, so we have won the battle against the birds. Meanwhile, the agriculture of Peru depends upon the guano which is made by the birds, and we may rather rapidly look forward to a severe economic disturbance inside the economic structure of Peru, because we have won the battle against the birds.

I wish the film said a little more about the sort of circular structure of these things. The bacteria, you see, are self-corrective and if you face them with anti-biotics they correct against the anti-biotic and go on being bacteria. And if you begin to think about all the stuff in that film and each particular horror in it, I think you'll find a lot of them are due to the fact of distastrous self-correctiveness which was not perceived by the people who were planning the progress.

I don't want to talk at any length any further, but maybe we could usefully discuss this.

Q. Is there a text that one could read.....?

Bateson There is quite a good book: Science & Survival by Barry Commoner, published in this country by Gollancz. There's quite a good book coming out by Phillip Wiley, which I read in manuscript in Hawaii about a month ago - I can't remember the title and it'll probably change anyway before it comes out - the Phillip Wiley who did the Generation of Vipers. Oh, and Rachel Carson's, yes. Oh there's a nice little episode connected with Rachel Carsons that's worth mentioning perhaps. Science, the American analogue of Nature in this country, the sort of central

Bateson professional science journal - reviewed The Silent World, and it was reviewed by a gentleman from the chemical industry who pointed out that Rachel Carsons was hysterical, and not only hysterical but that she had overlooked the fact - she had stated that nothing was being done about all this, whereas really there was a committee in Washington that was going into this matter with some care, and she was talking out of turn, and really the professionals knew better than she did, and all that stuff. A year later the committee in Washington reported on its findings, and Science in due course reviewed the report of the committee. In that report they referred back to The Silent World and said that while it was evident from the report of the committee that this was a hysterical woman who'd gone around screaming "The city is on fire! The city is on fire!" - when only two-fifths of it were burning. Unquote.

Q. (inaudible, asking Roy Battersby to describe the reactions to his film, Challenge, when it was shown on BBC TV)

Battersby The reactions were split between people who saw it as members of the television viewing community, and the reaction among viewers was very very good indeed. I had more letters from people who wanted scripts and a repeat and so on than from any other programme that I've ever been concerned with. And of course BBC policy about this is that we're not allowed to send scripts out, so I was in the situation of having to write letters to people saying "Thank you very much for writing", trying to answer any questions that had been raised, and saying I couldn't send them a script and enclosing a script in the envelope, and saying, you know "If you use any of this material, you tape recorded it from the programme off the air." So I was getting lots of letters back from people saying "I'm sorry you can't send me a script and of course I won't bother you any more for a script."

Reaction inside the BBC - well it took 6 months until anybody finally said what was clear, and it was about a month ago when - I'd been trying to set up two more films to do in the autumn, which has been - the BBC fights a very strange battle, I mean, being a liberal

Battersby organisation, it never appears to be in any conflict with you. And the most difficult thing is to make anybody say what it is that they're going to prevent you from doing.- although clearly they're going to prevent you in some way. And eventually, in the middle of the battle about this new series that I wanted to do, it was finally said to me as I was sat down with the head of my department and an Establishment Officer - who is the man who is there to protect my interests apparently - it was finally said to me that "Challenge" was an embarrassment to the BBC. Because apparently there's a thing called the Science Consultative Committee, which consists of very distinguished, establishment I suppose, scientists, who had been very upset by it. Because the magazine that Dr. Bateson mentioned, Nature, carried a very scathing editorial about the film, beginning: "The BBC has an enviable reputation for science broadcasting, which was almost entirely destroyed last night by a film called "Challenge"". And it accused the film of being anti-science, anti-progress - you know, the usual list of things. So in fact the reaction was split between people who saw it, and a kind of embarrassment, I suppose, inside the BBC. But it was shown - and I think partly it was shown because of the head of the department that I'd been working for, and also because it wasn't completed until very close to transmission, and it's very difficult for them if - I mean literally it wasn't completed until two days before transmission, and then it had to go to the laboratories in order to get a show print back in time, and short of having a hole in the schedule, it's very difficult - you know, I mean they could put something else in, but then it's already in the Radio Times and then they have to say it's not ready or something of this kind. That was an accident, I didn't do that deliberately - although maybe next time..... Well, that's all I think.

Q. (inaudible)

Battersby Yes, I sent a print of this to Professor Commoner, because anybody who reads Professor Commoner's book Science and Survival will see that it's

Battersby very dependent on Professor Commoner's work and views. And I sent a print of this to him, and the Committee for Nuclear Information in St. Louis, and they held a big showing, and it was from Prof. Commoner I heard that there were at least two television companies that wanted to show it in the States - one of these being NET in New York. But there's a department in the BBC called Television Enterprises which is responsible for selling BBC programmes abroad, and I can only say that I know that every inch of film that I didn't shoot in that - that I bought from libraries and so on - is readily clearable, I mean there is no copyright problem about anything in that film at all. But I've been told regularly and consistently for six months that Enterprises couldn't clear the copyright on the film in order to sell it abroad. So I mean, I don't think it's a conspiracy, and they are very inefficient, but there was a clear demand for it, but it hasn't been sold. Whereas other films that I have done where there really was copyright problems on material have been sold, and were shown. So I don't know.

Q. (inaudible)

Battersby It's simply that this print is a print which has disappeared from - it was made without the usual BBC forms and so on being filled in. I mean it was made on the budget of the film in a way that doesn't show on the budget, and it's a print that I just keep and lend to anybody who wants it. Because the BBC will not set up a lending library of films. It won't sell films that it doesn't wish to sell, neither will it lend films on a formal basis or on a regular basis, to, you know, for example academic bodies or anybody who wants films. It always has to be done on the sort of personal favour basis. In other words somebody has a print which they lend, or they request one from the library and lend it to you. But if you approach the BBC formally it's very very difficult to get that particular film. So there's no, in fact, availability of that film to be shown anywhere other than privately. A similar thing happened to Peter Watkins with <u>The War Game</u> - I mean, you know, The <u>War Game</u>, without going through all the routine of why it was stopped

Battersby and so on, eventually won prizes all round the world, and the rumour is - I don't know whether this is a true figure or not - the rumour is it's making towards a million pounds for the BBC, royalties and gate money and so on. But Peter Watkins wasn't allowed to buy a print of that film, and the only way he has a print is obviously because he borrowed the negative from his editor, who he knows, and had one pirated. But he couldn't - when he went formally to the BBC and said "I would like to buy a print of the film that I made on your money and with your facilities" - you see, all the copyright rests with the BBC finally, - they wouldn't even sell him a print. So it's not available except informally.

Q. If you were going to make this film again would you make any changes? And if so what would they be?

Battersby I don't think I want to make that film again. What I've been trying to do was to set up a series of nine fifty-minute programmes for the autumn, that would go out once a month on BBC 1 in the documentary spot on Thursday evenings at 9.30, which is a large audience period. And I was invited to propose a series of nine programmes, which I did, And what I wanted to do was to try and do something less formal than that. What I want to try and do now, which is in a sense about this film, was to set up a series of programmes that were both live-studio and film, and to try and - what I tried to do in that was to get very eminently respectable, authoratitive figures to take part in it so that nobody afterwards could say "Well you got all the wild cats, you got all the dissenters", and so on. I mean they're all very eminent lords and F.R.S.s and so on, so nobody could doubt their authority. What I would like to do in this new series of programmes - which I think I shall only be able to do two of - is to try and involve people like Barry Commoner, but also very much non-scientists. I mean, I would like to try and involve more poets and musicians and so on, and to try and create much more of a - I don't know, a different kind of structure. In other words, to try and get people who are not scientists - but what I'm after really is to find maybe people who are beginning to learn to respond

Battersby to the fact that they can't respond. I mean, when one says: "If America had exploded one Hiroshima-sized nuclear weapon every day for the last 1966 years, she still wouldn't have exhausted all the explosive force of her stockpile" - obviously what we do is nothing in the face of that, I mean, you know, we just kind of look blank. And what I was hoping to do was to try and set up a situation where maybe - oh you know, just a name - maybe W.H. Auden could sit there and be faced with something like that, or be faced with some fact about chemical and biological warfare, or something of this kind. And have him live in a studio which isn't pretending to be anything more than a studio. And see if he can do anything in the face of that, or say anything, or not say anything if necessary. But I don't know..... There is a very strong pressure to make a finished, formal, polished programme, and that's I feel a very strong pressure on me to do that, because, you know, programmes start at a certain time and end at a certain time. And whether I can contain that risk in myself, because it would be quite, you know, open I think if we could do it at all.

Bateson When I was saying it was too optimistic - I recall now getting that feeling from Barry Commoner's book too. The concept that we ought to be able to try out things like insecticides etc. and be able to react more easily to the experience of finding they lead to trouble. The trouble is that by the time you've tried a thing like that out on a scale that is relevant, you have already established an industry that is interested in making the damn stuff, selling it, you've established retailers who sell it, you've got a lot of farmers who are addicted to the use of it, and you're a little too late. And I think a social invention which we very badly need is some way of controlling try-outs of things of this kind - which is very poor certainly in the medical industry, and is obviously poor in the anti-biotic business, and has not worked out very well in the insecticides, detergents etc.

Q. What is the position on de-pollution and restoration of eco-systems, ecological systems?

Bateson There is beginning to be murmurs, and conservationists are trying to fight pollution and so on. On restoration, the picture is not at all optimistic I think. I do not know, certainly, of any river that had lost its trout through pollution - over-fishing, yes, you can seed the river with trout and provide ~~xtkk~~ for the next lot of over-fishing - but ecological systems are, you know, they're old, they grow, like Topsy. And they're not made just be taking away the weed, or taking away the insecticides or something. It's a long, long process.

Q. What would you say about the biological control of pests?

Bateson This at any rate is a rifle-shot rather than a blunderbus method of dealing with them. These are various devices in which the reproductive cycle of a specific species is interrupted by - oh, spreading the countryside with the smell of females. This confuses the males terribly and they can't find where the real females are. Various sorts of.... do you know more about the detail - I'm not an entomologist. (inaudible from Hall) Yes, well that doesn't always work. Where you have very specifically tailored to the particular species of insect that you want to get rid of, as by confusing its particular sexual clues, or something of this kind, you may be able to get rid of that particular insect. Now this may or may not be a good thing.....

(gap in transmission, about one minute)

..... are becoming a major pest. They eat the small birds, they eat fowls, they steal eggs and so on. In places where there is rabies, as in Puerto Rico, the mongooses are still more of a pest because of course they get rabies and pass it to each other and bite people. This is good for the population, but it's a very unpleasant way of dying, fall-out is to be preferred.

Q. This is a comment about the movie's position on the space race. My High School history teacher told me this when I objected to the U.S.'s amount of involvement in the space-race. He said:~~in~~ "In 1492 there were thousands of hungry people in Spain, there was overpopulation, there

Q. was disease, there was shortage of doctors, there was shortage of teachers and honest politicians. If the Queen had told Columbus to wait until these problems were cleared up he would never have sailed. The only answer I've heard to that is "He shouldn't have", and I feel that's inadequate. I would like comments to this.

Bateson There's a very general sort of problem here. Once upon a time, some men who lived in caves started domesticating fire. They knew at that time that they'd lived for half a million years in caves without fire, and that human society was stable and in good relations with the other animals around, without fire. However they domesticated fire, and there was no comparable sample of time by which they could tell that the domestication of fire was in fact safe for the total balance of the people. And the same happened with the invention of the wheel, and the same happened with the fitting of power into machines, and the same thing happened with the invention of the Fleming Tube, and the same thing happened with those little things they put in computers - what are they called? - transistors, that's right. We do not know at any stage of invention that our society can exist in a stable state with that invention. The evidence is always against, in the sense that we have a better sample of living without it than we have of living with it. We know pretty well we could live without it. We're now in such a total flood of invention that we can't even think about the problems one by one or piece by piece in any sensible way. I don't know the answer to that problem. It applies really to Columbus too, but I don't know whether it answers your question quite. Any other comments on Columbus from elsewhere?

(inaudible from Hall)

Battersby The only thing I would say is that, alright maybe there are reasons for investigating the moon and the planets and our solar system and maybe beyond. I can't remember what the numbers are, but the figures - the money that is spent, or that needs to be spent to do something even as

Battersby ambitious as to send that Mariner probe to Mars, or to soft-land the Surveyor on the moon, is minute compared with the money that is being spent to put the Lunar Excursion module with three men in it onto the moon and to bring them back. You know, the scale of investment is infinitely greater in the manned space-race. And there is a question, "Maybe some time it would be nice to put a man on the moon, but why 1970?" And it costs more to put him there in 1970 than it would to put him there in 1990. And for me anyway, I see no reason to put him there in 1970. You know, maybe fly those cameras round the moon and look and so on - I'm not even sure that I'm that urgently interested, you know, like for this year or next year - maybe in 10 years it would be nice. It doesn't seem to me to be very high in, for me anyway, in the scale of things that are very interesting. But that's different.

(inaudible from Hall)

Battersby There's one other thing as well, and that is that - all the talk that goes on about whether there's anybody else out there, and if so how far away they are - which might be an interesting question, more interesting than how cold precisely the moon is, or how hot precisely somewhere else is. But that's precisely the area in which it's almost impossible to get any money. And it would be a very modest programme to set up, you know, sending out signals to places that are possibilities, or monitoring in-coming noise, if it makes just noise, or just monitoring sources. And that would be very modest and wouldn't take much money or much resources or anything else. But that's the one thing that it's very difficult to get money for. It just seems, you know, I don't think that's unexpected in some ways, but maybe that would be nice rather than go to the moon.

(inaudible from Hall)

Bateson The comment was that the jobs created by the space race are themselves exceedingly boring, and the people mostly have that appearance and are a little weak in spirit, they tend to sit at desks.....

Q. (inaudible)

Bateson There is some, and there is some material on crowding that the film did not cover. The question was, the comment: "The film had not made any comment on noise hazards." I don't know anything about the noise material. The crowding material is quite definite for rats and for deer: that as populations get more dense there is a saturation point at which the social organisation of the animals breaks down totally, they begin to show endocrine disturbances, hormonal disturbances, and a rather serious mess starts. I suspect, again, that this is a rather sharp cut-off point - and I think the data supports that - and I would suspect that the endocrine disturbances are in the end due to something like interruption. That the creature starts out on a given line of behaviour, is distracted from that, starts out on another, is distracted from that, starts out on another - and that successive interruption has a sort of negative learning-effect, which then has physiological repercussions. But this, as far as I know, has not been worked on.

Q. I'd like to make a boring comment on this scientific structure system that, as far as I can see, the film is about. That each of these scientific structures and systems - be it atomic scientists, or be it agricultural science - they have their own logic, their own imperatives which take them away from the everday common life as experienced by all of us. But our everyday common life is impossible without these structures, so our problem is how to coordinate them. And coordinate these "boring", in quotes, structures with our everyday life and needs. And - well this is the problem as far as I can see. Now another problem comes in here. That is, an attitude of negativity against these structures, starting out from the everyday life, think that these are all boring, these are all basically irrelevant - I don't think this is the right standpoint, because it doesn't stand up to these structures. So, say that the atomic bomb, or the atomic computer engineer or scientist is rather boring and I don't want anything from him because

Q. I want to live, - that doesn't help me even to live. Because this is part of us, part of our life. So the problem is really to somehow - this is Utopia - to coordinate all these structures to our everyday life so that we should understand them and so our attitude towards them and their effect will be, I think, both analytical and negative, and that of the planner. But this doesn't take it, in itself, very far, because it's abstract and boring. But perhaps I can have some comments on it.

Bateson Does any body want to comment on that? No? O.K.

I think one of the conspicuous things - and I think this is part at any rate of what you were talking about - is the fact that science has developed as a bag of tricks. This goes back certainly to the mid-19th century, when one of the outcomes of Darwinian evolutionary theory was the notion of the single organism as a bag of tricks. How much Darwin should be blamed for that I don't know. But if you talk to zoologists in 1967, you are very likely to find that they look at an organism, they see that it has xxxxx a thumb which is not as long as the other fingers or is longer than the other fingers, and they say "Ah, what is the evolutionary advantage of this peculiarity?" or some other peculiarity. And they analyse that subject, and that organism now contains that trick for dealing with environment after it's been investigated. And this accumulates and accumulates and accumulates, and you end up with a lot of organisms, each of which is essentially a bag of tricks very much like our own philosophy of our own civilisation, in which we've built up a science which is a bag of tricks - each trick having its own logic and its own necessity, and a total disregard for the fact that all the tricks are really supposed to coexist in one bag, in one organism, and this thing is supposed to be a total functioning system. This we don't worry about. (inaudible from Hall) Yes, that's right, this is the natural philosophy that on the whole we lack. There are some spots, by the way, in which pragmatic purpose is pushing people towards some ideas about this sort of natural philosophy. If for example you want to design a fighter plane, you face a problem not at

Bateson — all unlike that of evolution - real evolution, really designing an organism. The demands upon your machine, - that it have communicational devices, that it have sense organs, that it have weapons, that it accomodate a human being, etc. etc. etc., under various sorts of stress - these interact to force the engineers to think not in terms of separate tricks but in terms of integrated systems of tricks. And they may be nearer to wisdom than most of the rest of us. It's a funny thing about these mechanical predators, you know, that they are running evolutionarily ahead of the other machines, just as the predators of biology on the whole have better brains and more intelligence than the herbivores.

Q. — Could we play with that example just for a moment, because I find it an interesting one, the fighter planes. How large are your systems before they're pushed into - because the fighter plane itself.... (inaudible).... How largedoes your systemic point of view have to be before it is not mad, in the sense of destroying all kinds of other systems? Where are the parameters of your system?

Bateson — Well, obviously the creation of fighter planes is mad. But it's mad in so far as the edge of the system is the plane. (The question is: How far does the system have to extend before it ceases to be crazy?) I mean, if all these subsystems - the fighter plane, the race to the moon - the very specific sorts of purpose that man can run after like a mongoose following its nose - their vice, as I see it, is their specialisation to a particular purpose, and therefore the degree to which they are divorced from wider life. How far does something have to extend its roots to be sane? is the question from my left. Any comments?

Battersby — I don't know if this is relevant or not, but it's going back to what Jules Henry was talking about this morning. That at some point, however leading a fighter plane may be, at some point it's being done for institutions. And then there's this whole kind of extra madness of one institution fighting another. Seymour Melman told me of an American aeroplane, a fighter plane, that was designed first of all for -

Battersby — it was decided it should be a joint Services aeroplane. And what the Navy wanted was an aeroplane that was fat enough to contain some radar apparatus so that it could stay more or less above an aircraft carrier, but a long way up. What the Airforce wanted was an aeroplane that could fly very fast and very low, like a needle. And Seymour Melman said that what they ended up with was a fat needle.

Q. — May I stay with that just a minute. I appreciate both your responses but I was really going back to something that Ronald Laing said on Saturday, if I understood him. And that is, what if the whole system is out of control. You look at subsystems, and medium-range systems, and work your way on up, in a way that I think we've heard on a number of occasions. Here is the capitalist system operating. But what if the master planners - the whole system itself, this world-wide network is out of control? If I don't misunderstand what Mr. Laing was saying on Saturday.... what about the controllers being, you know, out of control?

Bateson — I was talking to a professional City and National Planner not very long ago, and we talked about the Negro systems of Chicago and the riots of Watts, and how you diagnose when a riot is going to occur in order to put the fuzz in the right place at the right time. He said: "You know, the difficulty of planning is predicting crises. If you could predict the crises it would be alright, it would be easy." It's worth considering that as a form of insanity. It means, you see, that you're always going to kid-glove the system, to pad the system, so that the sorts of change that crisis might produce will never occur. I'm not a revolutionary myself, but I do believe that sometimes it's good for systems and parts of systems to blow their tops. I have difficulty in blowing my own top, but I always find it does a good thing when I do do so. If you are going to systematically set out to de-tensify the system whenever it approaches high-tension, you in the end accumulate changes that ought to have occurred and didn't. And when you've

Bateson accumulated enough of them, sooner or later you get to a point at which you cannot do that particular thing any longer. And unless you deal with your crises while you're in the ways with them - as Christ recommended - you get into trouble. This is part of the question isn't it?

Q. Perhaps it would be possible to design a machine so that at a specific point.....possible to have a sort of ..... feedback built into the machine so that it will produce a crisis at a given time.....

Bateson Of course they have built in obsolescence already. I don't think I have any more to say about it....

Q. Speaking about dealing with crises reminds me of the conversation I had with Gregory Bateson at lunch-time, and I just bring this point out - about this great power failure in the North East of the U.S. Because while I'm not immediately familiar with the exact data, I am familiar with the general data. And that was that a system had been designed in which each particular small part of that system, each particular line and each set of switches, had protection devices that if they were overloaded then they would be thrown out; so that they would be protected. And every one was protected throughout the whole of the North East of the U.S. But you know what happened: when one was thrown out, then the others had to take on a load, so another was thrown out, then the remainders had to take a bigger load, then the next one came out, and so that a bigger load was thrown off, And this is one of the things that happens if you do design, and do protect yourself step by step against crises, and if you do take too small a system. I don't know whether that helps at all, I just put it in.

Bateson I suspect that this has social analogues as well as mechanical ones. This is the breakdown that was referred to in the film - that, what, only 7 men in the U.S. were capable of understanding it, and they didn't know what the answer was. (inaudible from Hall) You don't believe that statement?

Q. It was made by Ritchie Calder..... on that broadcast..... It was actually made by a member of the Federal Power Commission.....

Ginsberg One thing I ~~xxxxxxxxxx~~ have found in my own experience is that as there are more people, and as there are more messages between people, and as I interact with more and more people, I'm able to pay attention to fewer and fewer, and each interaction .....more and moresuperficial.

Bateson This the personnel and organisation engineers would support of course very clearly. That if you want to have somebody deal with a group of people - a floor boss with workers under him - you'd better not put more than 8 or 10 people under him. Because the relations between the floorboss and the workers under him are not in fact purely pragmatic relations, it is necessary that he has to know that Joe's wife's having a baby this week, that Bill... etc. And if you put too many people under him, or if you increase his paper work - this is one of the things that happens in such things. You have a group of people working along satisfactorily and then you increase the floor-boss's paper work; he now does not have enough time to deal with the number of people under him and then they start to complain that there's no toilet paper in the lavatories and so on.

Q It seems to me that part of the ecological problem seems to be that man's original refusal to recognise his own biological nature. Might it not be that the solution ultimately lies in the return to that, and to give up this ~~xxx~~ insane continuation of system upon system, which has to build in controls for itself in order to correct the mistakes that are made which could easily be avoided, by a return to this? I don't know how it's going to work out, it seems perhaps we've gone too far now in order to return to this.

Bateson It is not at all clear that the world can be stably inhabited by the number of people now in it, still less that they can coexist in it with the machinery that they've got around them.

Q. (Ginsberg?) Has anybody come up with any suggestions as to what is the optimum population of the earth, that would still be sustainable without strain?

Bateson I've never seen any such statement. Nobody's quite willing to say..... (inaudible from Hall) .... There are probably speculations in that direction but I don't know what base they could be on quite.

(inaudible from Hall)

Bateson It's not that simple I don't think, I mean it isn't just a question of square yards. It's a question of stability of large populations, of stability of relationship between large populations. I mean, you can run a human community up to about 1,000 individuals without having identified chieftainship - this we know. At about the 1,000 individual point you have to specialise certain sorts of decision in certain sorts of person, and so on. Now the consideration would have to go along these lines more or less, not so much in terms of square yards but in terms of integration of these vast masses of people. I mean, we are here, what,250 in our participant membership. It is exceedingly difficult at the level of 250 to have really very much knowledge about whose wife's having a baby today, you know. If we were 10 people we could build up our personal ties within half a day, sitting around a room. At 250 people we might build up our personal ties to a pretty rich level - not of course all the ties, but enough of them to leaven the lump - over maybe a month. And so on.

Q. Do you see no hope yourself.....?

Bateson I've felt happier the last two days, actually - oh well at any rate today and the day before yesterday, I wasn't happy yesterday.

Ginsberg What shall we do about it, now that we're here?

Bateson At 11.15?

Ginsberg Did you have any phantasy as to what this Congress might - what action might be possible from this?

Bateson Let me go back to the question over there. We were talking about the fighter plane, and I mentioned that the engineers who designed fighter planes are getting a training in which they have to consider the adaptive devices of the fighter plane, not as separate adaptive devices but as a system of devices interlocked for this particular piece of hardware - the total hardware of the plane. And maybe its relationship to other sorts of plane with which it shares duties, and so on. I think, if I were trying to get a cadre of people together to plan what we should do, I would take a look at those engineers, I would discard about three-quarters of them because their noses are too close to fighter planes and really not able to think about anything else, and I would try for the other quarter of them to give them an idea that the problems of society are not unlike that in some ways, and that the sort of wisdom which they've used on this test-tube might be useful on a larger scale, and see what I could make them come up with. Does that make any sense atall?

Q. Perhaps one should question the social possibilities..... engineers who go into designing..... examine the kind of motivation of these people..

Bateson That I think would account for the three quarters that I'd discard. But there are, you know, very responsible people who get into these positions - we heard one of them this afternoon...

Q. The other quarter might well be acting like technocrats would they not? I don't mean this polemically, I'm asking a comment.

Bateson Well we face, I think, as a basic division in this room, one that perhaps ought to be brought out, the question of whether this is a matter for thought, in an analytical, disciplined, scientific sort of way - which is the sort of thing I'm trained in - or is there a point at which thought has to let go. Obviously we're all heading - when I say that the rest of the circuit structure in the system is the sort of thing we have to

Bateson be habitually aware of, and that this sort of awareness when it becomes habitual and deep seated is something which might be called wisdom - this edges over very closely towards saying that the people who think about the new can-opener, or the people who think about the policy of U.S. steel, ought to do their thinking with their hearts as well as with their rather narrow purposes. I think it's reasonable, with the mess we're in, to say we ought to think a little bit about what steps would set free the heart. But there may be a point at which we have to let loose on thinking and let the heart do its thinking with its system of reasons, which the reason knows not of. I don't know, but ~~this~~ I think ~~is~~ one of the things that we are heaving and pushing around, and one of the differences of opinion in this room, is at what level thought should surrender to the processes of the heart.

(inaudible from Hall)

Bateson I wish it were so, I think it would be very much better. But I don't really think the basis for action around the board-table of General Motors, ~~these~~ interlocking directorates and things. As I said this morning, I think the people who go in there have their goals so prescribed for them that it can hardly be said that the basis for their action is down here.

Q. I wasn't clear on the point just then. Do you mean the actual system of organisation prescribes their purposes, or do you mean other people are telling them, in some way, what their purposes are?

Bateson Their purposes are as much prescribed as the purposes of, say, a bridge player or a chess player, within the frame of the game of chess or bridge, whatever it is. Within that game, which for U.S. Steel is a very definite and very very sharply defined - they run down the game, they know the strategy, they know the tactics, and within the terms of the game they play it no doubt very well. But I mean you're playing chess, the rules of the game were not your invention, you submit to those rules, you learn those rules, incorporate them almost in your guts, and away you go playing chess. But

Bateson — while you're playing chess you're only a very small fraction of a human being, when all's said and done. I enjoy it myself, but it's a fractionating activity and a very hostile one. (inaudible from Hall) No, you don't have to. But when you're in, it's not so easy to say "Let's stop now." And they're in. (inaudible exchange in Hall) Oh it's a great relief of all sorts of anxiety. Life makes such good sense on the chess board..... Why do people do this?

Q. ... But if you go outside the bounds you're labelled insane...

Bateson — This is true. (inaudible from Q.) Yes, and one of the ways of making the people inside feel insane is to question their understanding of the rules. You then get very odd responses. (inaudible from Q.) Oh, you know like - the game has several - it's an onion skin sort of business. And outside the game, most of what is immediately outside supports the game. And what's outside that pushes you in again. If you see a member of a family that contains schizophrenia, trying to become sane, and you see everybody around him whack him back into his symptoms as quickly as possible, you see how very difficult it is. What was the Biblical statement?: "It is harder for a rich man to enter the kingdom of heaven..." etc. It's this point.

Q. The problem is how to support yourself if you don't want to.....

Bateson — Not merely a matter of bread, but how to support yourself - to have people around you who understand at least a third of what you say. It's a lonely business. I mean, that's why we're here, you know, because we thought it was a lonely business in the outside, and misery loves company and so on and so on.... Criticism loves company, and all the rest of it

(inaudible from Hall)

Bateson — Maybe so, but I think the importance of the interacting group for reduplicating ideas, for sharing ideas, for sometimes scratching two ideas together - I mean, one of mine and one of yours, and making a third one

Bateson — that neither of us had before - this is the sort of thing we always hope for. The division of problems to get several brains onto them is a fairly difficult business. I mean we think we would have a seminar there - seminar A on the effect of technology, seminar B on size of groups that are viable, seminar C on.. etc. etc. And the seminars would report back, was one of the things suggested. It's awfully difficult to report back the richness of what happened interactively over there. Maybe there are two or three people in this room who are capable of doing this and getting it across, I don't know. But to have the combination of brains, to have the - I mean even a conversation between two people is difficult enough @od knows.

Laing — I think one of the ways that this happens, this type of - this reporting back..... when we leave this..... at the end of the week... (not sufficiently consistently audible) He was talking about the possibility that "reporting back" would take the form of carrying in 'our' bodies the kinesic messages received from e.g. Carmichael, Cerassi, etc. and that these would act like ripples, spreading out)
I think that's one of the fundamental modes of transmission.....

Q — I actually think that also in this Congress we have to talk about the methods that all these different people use, a different movement. I think after having seen that film we should not have talked for so long time about the problems: who's inside and who's outside the system. Because we are rather sure about this. But we should talk about organisations that make possible efficient opposition. And I think this could give us the idea of setting up centres - that idea actually has been raised in Berlin - centres about the misuse of science, which could be put up in houses, sort of documents which would prove also what special points of teaching inside a university have to be opposed. And at the same time, maybe, next to these centres there could be set up centres of realities that are not taught in universities and that have to be cared about and have to be taught in a new type of university.

Bateson — One of the things the film didn't really mention, apropos of what has just been said, is the St. Louis Atomic Energy Information Centre – what's it called – Committee for Nuclear Information – Radiation Information. This was very largely sparked by Barry Commoner and led to the collection of teeth, and led to a very high degree of information in that one city in the U.S. And then the thing spreads out, but I don't think the information has really spread out comparably to the way the collection of teeth has spread out. It can be done. Now the last speaker spoke of doing it at the university level – this was done at the popular level. And I think it is conceivable it could be done a great deal more than it is at the university level. I think this is a matter that we should hold onto for the next five minutes at least in our talk. Any comments on that subject?

Huxley — (largely inaudible)....."Isn't it lovely to know things?" And in fact Bertie has always loved knowing things. (story about a latter-day Noah and his Ark, and the Devil suggested he should take with him all the information of science, the Arts etc.) And this is the point – are we to take with us on our new journey of exploration – because these bits of information, in the way that they are presented, are the very poisons that we're all trying to get rid of. And we're in a terrible dilemma. Either we leave..... without knowledge, or we carry..... and poison the atmosphere ..... the new planet.....and what Gregory Bateson was talking about in his first lecture..... that we know things in such a way that all our knowledge is a poison to us. But is there another way of knowing things which is not poisonous? Now this I take it is the plan for setting up new centresaround the world, in which we should use our imagination in rather different ways – not in the linear fashion that has been going on so much, in science certainly, but in a way which..... involves.... pre-body..... You can always tell how two/planetary bodies are interacting if you measure their mass and density and their gravitational .... there's nothing much to it – very accurately..... but there's no way, as far as I know,..... you can take <u>three</u> bodies and work out.... .....Now this very thing seems to have something to do with the 3-body

Huxley

problem..... and all our preoccupation goes only to seeing things in opposition one to the other. So what do we do about this problem, it's a very difficult one. And maybe these consciousness-expanding techniques that we have may give us a clue somewhere. But otherwise..... I heard one very interesting suggestion - by ..... and he suggested that you could get children to think in three dimensions, graphically. That is you get them to draw - you get them to be ambidextrous. Now it's a very odd thing about the body because people who are immensely right-handed are very bad with their left hand, and they think all lop-sidedly. You can see them leaning over... their right hand because that's the only way they can do it. If people..... quite physically to get to know the other side of their bodies..... you become ambidextrous, not only physically, but.... psychologically. And this may be one of the ways we should do it. Because I think a lot of the discussion today is looking for an enemy - which is yourself of course all the time - and trying to destroy something, instead of seeing where, in the human being himself,..... Christian civilisation has always been very afraid of the body, afraid of sexuality, afraid of having more to do with each other than is good for you, and there is this immense bias against taking physical things seriously - which one notices all over the place. I mean, it's not just a Christian difficulty, it is in fact a human thing.....difficulty. We start thinking in terms of oppositions, we like categorising the world.... something here, something over there ..... And so all civilisation all over the world had the right hand as being the lucky and good one, and the left hand as the sinister and the dirty one. I don't think there's a single exception - in the culture..... individual people are supposed to use the left hand because they are sacred. That is to say, they're going over on to the other side of this peculiar psychological-physical division, and they're expected to use their left hand because they deal with things that are normally thought of as being dirty. Now we're talking a tremendous amount of dirt here..... all these complaints are in fact of dirt, and trying to get rid of it all the time, and getting very angry because nobody's paying attention to all our dirt..... But how can we, when in fact, most of our dirt is because we have divided ourselves in two, and one side is clean and the other side is dirty.

Huxley We have to use our dirty side in the way that our dirty side has to be used..... things that are intangible and non-rational, but yet have a shape and a meaning. And this shape and meaning have something to do with our physical bodies, with the physical imagination in man. I always think of it as what psychologists call "the body image". And when you consider what happens.... it is a very curious thing.... the perceptual method by which we understand our way of being in the world, you see that most of our psychological difficulties stem from a perfectly obvious physical disposition of our attitudes. If we start relearning physical
our/attitudes in conjunction with our social ones and in conjunction with our psychological ones, then I think there's a chance that we can get the type of systemic imagination going that we're talking about this evening.....

Q. This discussion is so extremely confusing that - I feel quite alive with what's in me, but I know that what I'm going to say is going to be rather incoherent. But, just take a little bit out of what Huxley has just said. It's the extreme imbalance that we have to cope with. Bateson has already talked about this fighter plane and the marvellous interlinking of its systems, and the way that one part, in the evolution of designing a fighter plane or many other things - one part may not only transmit a fluid from one place to another, it may also transmit an electric current from one place to another - a thing which is primarily designed for structure will also be designed to do some sensing as well - it's fantastically complicated. And the same thing goes with so many other structures. Now we have enormous numbers of people involved in this sort of thing - a really fantastic number - and somehow what we've got to do is to transmit that kind of thought, which our human race can release from tilling the soil etc. onto these other things - onto the things for instance that Huxley was talking about - onto the things that I find - I'm involved very much with innovation, in taking the new things that come out of science and trying to get them used - and one realises all sorts of things. The time lag that people take to absorb a new thing, and the steps that

Q. people have to take - this sort of thing's probably quite familiar to psychologists but we don't really know an awful lot about it. Now it's because we are so hopelessly imbalanced that we can't go to this field which - when we look at it to start with it's a very small field - oh, you could put a hundred men on it, whereas we've got ten thousand or a million people on the systems of the fighter planes, and the nuclear power stations and so on. I said this was going to be a ramble and it was going to be a bit incoherent, I must apologise, I must just bring in one other thing though, because I think we want to make this distinction, which does come a little bit out in the film. You've got the mad science, which in trying to do things, in trying to feed us and so on, spoils the environment. You've then got a sort of second stage of madness which is man's curiosity, which we talked about when we were talking about space earlier on - and the thing which I would link with it is high-energy physics. High-energy physics - which I use as an illustration - is a very simple idea indeed: if you throw one thing at another harder and harder and harder and harder, different things happen. And what's been happening over the last 50 years is that every time one particle has been thrown against another, someone has said "What will happen if we throw it at the other one harder?" And man's curiosity will always want to throw it harder, and harder. And as you know, the cost has gone from £10,000 to eight million pounds to 80 million pounds to £800 million, and this is what is happening in high-energy physics. And it has gone from one or two scientists to one or two hundred scientists to one or two thousand scientists - And this is really still happening. This is part of this mad thing that we've got to get control over. Now I got up to speak these things in my mind - I know I'm being incoherent, I knew they haven't been put together - I want to put them together somehow, sometime.

Q. I just want to addaa note of pessimism to the programme which you sort of lay out, namely that of taking these bags of tricks and putting them together into an integrated sort of approach to general problems. Now I speak from a little experience, I'm a mathematician and the type of problems

Q I've mostly been working with are exactly the type of thing you talk about with, say, as a plane. I've not been building planes, but I have problems where you have many different types of pieces, many different types of things you want to do simultaneously, and you want to fit them all together in some integrated fashion. Now my experience, and the experience of people I know who have done the same type of thing, has always been that your chance of fouling up are much greater than you would ever expect it to be. And of course as the problem increases in complexity the chances of fouling up become greater and greater. And most of the time you don't know that you've fouled things up because somehow your mind is not large or efficient enough to grasp all of the pieces you're trying to put together simultaneously. So the programme that perhaps some of you have in mind of putting all the pieces together seems to me is relatively hopeless. On the other hand, there must be hope!

Bateson I'm still not convinced that it's totally hopeless. Things don't have to be as bad as they are. The pigs are not going to run around ready roasted even when we've put the pieces together....

Q. (same speaker) I'll make another comment. Although I agree that we have to try it somehow, we have to find a way out, my heart really says that in some sense Paul Goodman is right - well he hasn't said anything on this question but what he might say on this question is that somehow we must you know sort of break things up rather than build things up in larger and more complicated fashion, and yet that in the end, no matter how hard we try to build bigger and better societies, somehow breaking them up might be easier to handle....

Huxley Look at how scientists work. Most of the time they're sitting down, and now how much can you actually think with all of yourself when you're just cramped like this, in one position. This, after all, is the prison that we put ourselves in in order to concentrate. We screw ourselves up like this, in order to be able to focus a beam of so-called thought upon one little object there. But we can't see things in a large expanse,

Huxley because this is how we are inside all the time, we go about looking like this, a small little thing, hoping that we can see the whole expanse. Now if you see, for instance how - I have two very nice examples of how poets work. Now one is Wordsworth - however you like Wordsworth, it doesn't matter - but he couldn't actually compose poetry while sitting down. What he did was to walk up and down a gravel path, and as he walked up and down sedately, out came the Prelude and the Excursion, and you can see how it worked because the rhythm of his poetry actually follows the way in which his feet went up and down that gravel path. His friend Coleridge however always composed while walking over mountains, and you can see this in his rhythms because they're not classical rhythms at all, they're jerky, they're counterpointed, they're little obstacles, they're rocks he has to get over, streams he has to jump. You can feel it in most people. Shelley for instance, you can see it in his voice - he had a very shrill voice, and if you actually look at the poetry he wrote, all his images are shrill ones. He was filled with an ideal enthusiasm, and when he recited he flung his arms about all over the place and his voice mounted like a desperate angel into the sky, and there was something about his whole physical tension which came out in his poetry. I admit that Keats used to sit down when he wrote his poetry, but he tied his shoelaces very tightly, so that he should feel his feet as though they were doing something. Now all these examples are fascinating for us because they show how much the body is involved in actually thinking. And if scientists are all the time going to cramp themselves on the kind of lavatory of thought (applause).....

Q. (same as last Q) Although I don't consider myself a scientist in some sense, I think that deserves a reply. That's not the way scientists work any more than that's the way poets work. For example I myself have a very - have a reputation of always marching up and down halls, and some people claim that I march along halls on several floors simultaneously. However I should add a note of optimism. Some friends of mine who consider the brain as an electrical sort of network - not that they consider the brain

Q. is that but looking at it as an electrical network - say that the efficiency of the brain is only something like - in an average person, he uses his brain to an efficiency of approximately ± 6%. So - that's too much? ...

Bateson The engineers' estimate on the brain: you have 10^{10} - 10 billion - thinking neurones up there. If you make a rough estimate of the capacity of the human brain, in terms of what is known to be recallable, memory, and recallable under hypnosis - the engineers estimate that approximately the square of the number of transistors would be necessary. Whether we use it efficiently or inefficiently, the answer is there isn't any decent mathematics on the subject, and no decent estimates. The Von Neuheim estimates were the square of 10 billion, 10 to the 20th, on what an engineer would require to make one of thos e things.

(inaudible from Hall)

Q. Yes, I know that this won't convince the scientists, but I think the problem is really very simple. We are concerned with violence and hostility, violence and hostility to other people and violence and hostility to ourselves. If we can understand what a violence is, then I think probably this understanding that we have attained will be apparent to other people, and we will be able to recognise immediately, intuitively, when a violence or a hostility is committed. And - we don't need to know all the data about the problem and the violence, we don't need to know all the different kinds of violence that are being committed to the ecology, we just need to know what a violence looks like. And with that knowledge I think - it's to be - a system, a cybernetic system which recognised a kind of thing doesn't have to contain all the information, it just has to know what something that's wrong looks like. So I don't think the problem we're working with is terribly complicated, if we can just smell a violence, and somehow communicate to other people that we're right about our sense of smell, then I think this Congress will have accomplished something. And I don't think it's all that complicated. I think if we can smell a violence and a hostility

C. to ourselves then we can smell it to other people, and other people doing it to third parties, and so on.

Bateson Thank you. The sense of smell was a metaphor, the left hand - where's Francis gone? - the left hand was a metaphor. Would you like to put those two metaphors together Francis? I think they were metaphors about the same thing weren't they?

Huxley

Huxley Yes I think they are. Indeed Freud said that one of the first acts - one of the first ways of repressing knowledge that man had available to him was to lift his nose from the ground so that he could no longer smell what was most intimate to him. And it's also very interesting as a matter of fact that his first - in his interpretation of dreams, the very first dream that he analyses, one of his own called "The Dream of Irma's injection", has to do with the nose. He was sniffing cocaine at the time, and he had a lot of sort of itchings of the nose, and he had a tremendous dream when he was identifying with one of his patients and one of his friends - one of his colleagues, this was a doctor. One finds that the nose, just like the left hand, in Haiti is talking about exactly the same thing. Most people when they start getting upset start having curious things happening to the nose, and when they get manic about it, or enraged, one finds curious religious - religious figures, figures in mythology or in religion, often called trickster figures. These are they hyena, in West Africa, the jackal in N. America, and a lot of similar creatures all over the world - and they always have something wrong with their nose. They smell too much, and they speak with nasal voices all the time. They're continually doing things with their left hand that their right hand knows nothing about, and it is one of the first things which is repressed. Indeed amongst two cannibal societies that I know of, either the children or the initiates into the cannibal society - for instance amongst the Kwakiutl Qua otl - they have their nose pressed into their faces so that they shan't be so long, because it is the prerogative of spirits only to have enormous noses by which you may intuit what the world is all about.

Huxley

Now this must mean that we are constantly picking up other people's smells and thinking that it's merely an intuition. That is, there is something about a smell which tells one exactly what a person is up to, in his physical self. People smell angry, they smell jealous, they smell sexy, they smell dirty - they smell in fact all the psychological states one can think of. And in West Africa - a programme on television some months ago - there was a witch doctor or whatever you like to call him there, who used to smell his patient's armpits to know whether they suffered from various kinds of disease. I've seen this myself in various other parts of the world, and I have a friend who's very good at smelling people and what this all means. But somehow this becomes impolite to us, just as in Islamic countries it is very impolite to use your left hand socially - because your left hand is the one that you use to clean up your own dirt, to wipe your bottom when you go to the lavatory, to touch women, and to do all the nasty unclean things. So you put it away from yourself, and you repress the thought that it actually belongs to you. And so you find, for instance, in the Dogon society in West Africa that a man always has to sleep on his right side when he's with his wife so that only his left hand is available to touch his wife. Now if you take this seriously, this kind of image, you have in your left hand and in your nose, you have certain social functions which you are aware of, and you do with your left hand what should be done with your left hand and you know what those things are - and the same thing with your right hand. But we seem to have completely forgotten this kind of knowledge, and all our - all the things of which our psychology is made up, that is all the physical states that come up in us, all our physical faculties which are immediately translated into psychological ones and then physical ones, are completely ignored, and if we try to make use of them - as poets do - we're thought to be very odd indeed. Sorry - I've gone off a bit too far. But it's remarkable how these things of the left hand and the nose go so closely together that you can in fact do a little job of translation. And you can do this with so many other things that it's obviously one area in psychology and anthropology, just coming up, which

Huxley is going to be, not only amazing but great fun. And this is the one xxxxx thing that I've lost any sense of in this Congress, is any sense of fun, or hope, or happiness, or - what are we doing, sort of sitting around pretending not to be bodies, and not using, in fact, all the resources that we have, and just talk talk talk talk talk talk....

Laing I'd just like to add a footnote to what Francis was saying in terms of some of the - what Harry Weiner, who's a child psychiatrist in New York and has put together a lot of references from biological experiments and human psychology and the behaviour thing - in terms of what some biologists have recently called ecto-hormones, and others have called external chemical messengers. He quotes an experiment in which 30 female rats, all in an ordinary sort of space, have all got ordinary endocrine balance. Put these 30 female rats together in an enclosed space and their endocrine stuff all goes haywire. Introduce one male rat into the same space as the 30 female rats, and all the 30 female rats regain their endocrine balance. Take the male rat out and they all go haywire again. Put the male rat back, the balance is re-established. Take the male rat out, but leave his urine, and the balance continues to be maintained among the 30 female rats. It seems to indicate that some sort of substance which is picked up by the female rats which is an external chemical messenger which is to do with the regulation of social behaviour, and the internal regulation of each individual organismic element in the social complex. And Weiner goes on to a number of speculative things like this, and suggests that we have got - analogous to the spectrum of sound that we can hear, we know that out of our range are other things in the same continuum, we're only picking up a very little - there's the infra-red and ultra-violet beyond the small range that we actually see - that smell might be just a small component of a comparable continuum. And that it's certainly true that smell is one of the first things that are repressed in the ontogenesis of civilised human development. And it might be there are some people who - and also. Also, that these - going on rather

Viner

Viner

Laing speculatively - this might not be all a crude system of communication, it might have a certain syntax. There's some evidence apparently in the social life of ants that there is an ecto-hormonal syntax that has something to do with the complex social organisation of their amazing colonies. And that we, human beings, in crowding for one thing may be radically disturbing this - but also that the fundamental issues of trust and mistrust have to do with that system, of which we are almost completely unaware. And there are some people, Viner goes on, who may be (un-)able to negate in their conduct the messages that they receive on that level - whether or not they're aware of it - and act accordingly, and they are likely to be regarded as crazy. And he in fact goes on to elaborate in those terms a sort of integration of social and behavioural - a systemic social theory that moves towards the idea of a sort of bio-social chemistry that might be - whether or not that's right I think it's the sort of way we should think - or smell.

E Q. Talk about smells - I've always been very astonished that there are hardly any words to describe smells. They are always alluded to by comparison or description - something smells like violets or cow-dung - always like something, but there's actually no vocabulary So that I got together the other day with a friend to try to think of a way that a dictionary of smells could be compiled. Because I think it's a very important biological - it has a very important function.

Bateson This whole business of impenetrability of semi-permeable barriers or what not between one modality of communication and another is I think rather important. It's obviously not an accident that human beings in general cannot put into words anything about facial expression, except in the crudest sort of way, anything about smell, as has just been mentioned, anything about the general expression of the bodily stance, gait - all the enormously rich material that we use all the time outside words and have virtually no words into which we can translate that material. I've always suspected that there are probably rather good reasons for this barrier. After all, words are under very high

Bateson voluntary control, they're ideal for lying and deceit, and it perhaps is rather a good thing that we are not quite so able to control our posture, gesture, facial expression and blushings, smelling and the rest of it. After all our main guides to whether people we meet are being honest or not, what they're at, comes from the kinesic and facial expression - that stuff. The people who have voluntary control over these things - and there are some - are the confidence tricksters, you know, and they're not very happy people, quite apart from the disadvantages we face when we deal with them. I've been speaking roughly off and on in favour of increase of bridging all these various modes and bridging between the conscious and the unconscious and so on, but certainly we should not forget the possibility that some of the semi-permeable barriers between modalities may be functional.

Ginsberg ... a very general thought. Something that Burroughs kept saying a couple of years ago, which was that it seemed to him that evolutionary development was always toward variety and individuation rather than toward centralisation. So a breaking down of barriers between modalities and a total centralisation of planning might make this giant mammoth dinosaur which might go out all at once then, if we did have a power failure at the centre. I don't know, but if we ever did get efficient enough at planning a Utopia it might be the end of us, the real end.

(inaudible from Hall)

Bateson One of Samuel Butler's phantasies that he never worked out - it was just left somewhere in the notebooks with a set of titles for books he never wrote - was to be a science fiction book on a civilisation which got one piece of true information which it was unable to handle, and thereby went out. That's a phantasy from, what?, 1870.

G. Ginsberg I had a couple of footnote comments. I read an article in the New York Times a couple of months ago talking about the noise level in New York, saying that there were some studies on its effects on the vaso-motor cells

Ginsberg whatever that is, and that it was more destructive to the organism than smoking cigarettes. That the noise level - rather, not smoking cigarettes, but smog. That the noise level was a greater physiological disturbance, as well as psychic disturbance, than the smog problem in New York - that's obvious, that the smog problems are disturbing. But the noise is disturbing without anybody knowing it, except for one area of sensibility - I remember getting high on LSD in New York and then comparing it with getting high on LSD in Big Sur, and in a state of increased sensitivity I found that New York was unbearable because of the machinery all around and the metallic noise, which provided a environment so non-human, without any positive affect; whereas the smell and vibration and sound of trees and ocean at Big Sur was reassuring and was a habitable environment - an emotionally habitable environment. So if that was linked up with the studies that - apparently little babies can't survive without a touch of neat flesh feeling, it may be then that we're all being damaged continuously by contact with large-scale metal or inanimate, non-living environment which may preemlude then any large systemic development externalised on the surface of the planet. So Leary's comment on all that for years has been: "Put all the metal back underground", quite literally, as a way of restoring the ecology or letting the old ecology take over again. And, you know, if there's going to be large centres of civilisation, put them down where they won't do any harm, underneath.

Bateson We don't need the metal anyway, we've got plastic.

Q. Just onem comment I'd like to make about Francis Huxley's myth about Noah. Would he agree that knowledge cannot be separated from the social matrix in which it's found? And therefore if Noah was going to take all the knowledge along with him in the Ark, he was going to take all the problems of the original civilisation, which caused the flood in the first place. And therefore it's far better that he went along without that knowledge. And the only thing that would seem to save us from this run-away technology we're faced with would seem to be, if we look at

Q history at all, the power of religion. It seems to be the most powerful social force that's ever been let loose upon the world, mainly for harm it seems, but it does seem the only thing that would stand up against technology.

Huxley I think if Noah has taken all that knowledge just as knowledge it would have been, as I implied, a poison. But knowledge is very useful, and the more I know about the physiology of the body, and society, and psychology, if I have an idea of how to use it, the better it is for me. Because without it I get hungry, I get sad, I don't know how to act in this world. But it seems to me one has to make it practical for oneself. Now every time that one meets - in society, in this enormous machine - a person who has put himself in the place of a mechanical cog, as it were - if you meet a bureaucrat who, instead of treating you like yet another bit of information coming out, having to be processed, who is a person, who doesn't complain, who understands what you're after - then it does something for you. He's replaced that bit of cog by himself: that is, he's used the knowledge he has about that machine in order to provide himself, as it were, with a way of dealing with other people. And the relief that I feel myself is absolutely enormous. It's the same with bus-conductors or any of these other things. If you have sufficient knowledge to go, as it were, on automatic to keep your place in the society, in the machine, and yet you're not an automat, you're still a person there; then, as it were, you put the machine in its place. You occupy the place that otherwise would be a merely destructive affair. I mean we can't do without knowledge, that's obvious. But if you put the knowledge in the experience that we have all the time of ourselves and our relation to people, then it becomes harmless. You know, it's just like all poisons: used in the right way they become tonics.

Ginsberg McLuhan seems to be saying that the physical machinery round us and the techniques that we're using are conditioning our consciousness so completely that it would be impossible to be separate from the environment

Ginsberg as far as the functioning of the consciousness - to the point that - what I was talking with Laing the other night following the same point - McLuhan suggested that there maybe ~~exists~~ a quantifiable diminution of the action of the other senses because of the overextension of attention to visual, to the visual universe. In other words, I think he's got this Fordham grant of $100,000 and he's trying to quantify the atrophying of sense of smell and touch and taste, and show relationships between that atrophying and the overuse of - the overdependence for a reality sense on the visual universe. So in other words, no matter how one might wish to maintain a choice for this awareness and independent action of the machinery around us, it may be that since childhood up we're conditioned to street-walking and television viewing now, the brain may respond and adapt to those circumstances, it can't get out of it. It'll no longer be adapted to forest conditions, or intercourse between living beings, because so much attention is devoted to relationships with inanimate objects.

Q Someone's just pointed out that talking, words, is an extremely efficient way of deceiving each other; and Francis Huxley's just pointed out that sitting down is the worst possible position for doing anything, thinking anything or feeling anything. And what have we been spending the whole evening doing - sitting and talking.

Bateson Time to stop.