

THE KITCHEN: An Image and Sound Laboratory:

A Rap with Woody and Steina Vasulka, Shridhar Bapat and Dmitri Devyatkin

The Kitchen was founded in 1971 as a video and performance space at a cultural complex on the outskirts of the Soho area of New York City called the Mercer Arts Center. At 240 Mercer Street, the Kitchen, so-named for a past use for the space in an annex building to the Broadway Central Hotel, shared quarters at the Center with Off-Off Broadway theatre spaces, acting schools and bistros. The Kitchen initiated some of the first annual video festivals, several versions of the first annual computer arts festival, and programmed the work of video artists from around the country, as well as music events and performance events, many of which incorporated the electronic media.

The sudden collapse of the structure of the Broadway Central Hotel in 1973 closed the Mercer Arts Center for good, but the Kitchen re-emerged further in Soho at 59 Wooster Street near Broome Street. The Kitchen continues today as a well-endowed performance center with ongoing video exhibition facilities and archival functions closeby at 484 Broome Street, and has served as a model for other media arts spaces through the United States and Canada.

On April 1, 1973, Jud Yalkut hosted a monthly edition of the panel show ARTISTS AND CRITICS for WBAI-FM in New York with the founders of the Kitchen, Woody and Steina Vasulka, and their co-workers, Shridhar Bapat and Dmitri Devyatkin. The discussion entailed a complex overview of the state of video art at that time.

JUD: Let's start with the genesis of the Kitchen, what it was meant to be, and how it relates to the current video scene.

WOODY VASULKA: When we came into the scene, into video actually, we felt there was some kind of vacuum in the presentation of video. But, of course, it was very subjective, because there were existing places like Global Village, Raundance for a while, and People's Video Theater. There were loft concerts; Bill Creston actually advertised shows. We went to that show once with Alfons Schilling. We were just four people who got together and rapped about the concept of a theater, and then there a few other places, but they all had a problem with the audience. Of course, they were badly advertised, and it was purely individualistically oriented, like whatever particular groups or individuals did, they showed.

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JUD: It was a random generated scene.

WOODY: Exactly. So we were somehow toying with an idea of filling up that vacuum. We were trying to put together a more egoless concept of things, to bring more participation of other people, so it would create its impact. Of course, the concept was much bigger than what we ended with, always a chain of compromises. Actually, there were 3 or 4 people talking about the theater; the first was Andy Mannik, who physically found the space of the Kitchen, and there was Michael Tschudin, and there was Steina and myself. Later Dmitri Devyatkin came, and Shridhar Bapat, and that's how it is right now.

STEINA VASULKA: Michael is a musician, and he was going to combine live music with video, and he doesn't dance himself but is very involved with and knows what's going on in the dance scene. He was going to do dance programs there. And we were going to try and combine and make really mixed media.

WOODY: So, we soon realized that to present video only, as other groups had done, was not really enough to put together a scene.

JUD: To sustain an environment.

WOODY: So we had these two concepts: one was to be a live audience testing laboratory, which was supposed to attract industries also, to donate equipment- of course, these were the dreams, like asking Sony to give you a camera, or RCA- these are very naive concepts. But then we said, let's take electronic media as art material, let's put them together and do something like the future is the end of, using the whole environmental range of media. And that somehow was closer to what people felt about and brought in, so then we called it Electronic Media Theater, and that's how it stands. Our new tendencies, since Steina and I are slowly withdrawing to other duties, the new generation like Shridhar and Dmitri are proceeding in electronic image programming.

It happened in a time when there wasn't really much around, and it was a good time to start and to unite the video scene. Of course, we had a few people who would not participate in the Kitchen, but we are not bitter about it because they had their own way of presenting video, but I think mostly we got that part which we like which is the abstract or non-figurative or electronically generated video. So we put that scene together, I would say.

JUD: Image processed work in the medium rather than as a purely recording medium. Although the Kitchen had presented examples of both.

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SHRIDHAR BAPAT: One of the major points that comes up with our emphasis on processed imagery, image-oriented video, is the fact that that is the one form of video which can work in a performing situation. We actually perform, in many cases, instead of just presenting tapes.

JUD: Rather than being a newsreel theater.

SHRIDHAR: We're actually a performance space, and video becomes an instrument, in the same way that a musician performs. But our orientation has not been totally image-oriented really because we have by and large been over the east two years the only regularly functioning video presentation space of any kind in New York, if not the East, in general. And some of most successful programs have been the open screenings.

JUD: On Wednesday nights.

SHRIDHAR: A fully unstructured kind of thing. People bring in the worst stuff, and sometimes incredible discoveries are made.

STEINA: But the people who have found a home in the Kitchen are the image-oriented, like the electronic image people. They've become associates, or even like Nam June Paik who's not an associate, but there's not a week that he doesn't show up, and Walter Wright, and Bill Etra. Those people have found the Kitchen a very ideal space, whereas those people who deal with video as social or political impact have not made that much use of it, and it's nobody's fault. That's just how it developed; the Kitchen was just as open to them as everybody else. And there's another group of video artists who have almost not used the Kitchen at all, and those are the so-called Conceptualists-

JUD: They're mainly gallery oriented.

STEINA: I think because they are not dramatically oriented, they are more oriented towards continuous showing and the Kitchen really is a theater. So it has the concept of the audience coming in, and then the evening starts and ends, and so we have very few of them.

JUD: Many of those artists have dealers who sell videotapes in limited editions at high prices, which still uses the gallery concept for the distribution of video information.

DMITRI DEVYATKIN: I think you can look at the Kitchen in a much different way, as a real turning over place, where lots and lots of information changes hands, and I really feel my own role there, and a large part of the role that the four of us play, is that we serve a network function- that someone comes with something that they specifically need to know and we can easily direct them to where they should go. Therefore,

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we represent a great deal more information than we might have ourselves personally, and this is a function that anybody could serve, but as you keep serving it, you become better and better at it. What the Kitchen has really done has been just opening and getting these new informations to cross and intermix, and especially the idea of music, dance, video and other kinds of performing interacting with each other. It's just amazing, to fine artists working right down the hall from each other, and they've never seen what the other is doing. just having a space where they can meet each other and see what others are doing gnerates a very healthy climate.

JUD: It generates an interest and is also a stimulation for new work in one direction or another. That's the way it was with the Filmmakers' Cinematheque and the underground film scene in New York until things became a bit more rigidified.

WOODY: I also feel that this is the dilemma of the Kitchen. If this should be a place to meet, or a place to produce, or a place to show. When we started, there wasn't a great interest in the Kitchen and we could barely make a week of programming; now, it's different. But it cuts our private time, infortunately; I think we are too much in showing and very little in production.

STEINA: We are too much into success.

JUD: Also the atmosphere of the Mercer Arts Center with five theaters, and a weekend hangout for Off-Off Broadway types. Quite a few wander into the Kitchen from this other milieu.

WOODY: Dmitri described one function, which is the meeting place for the exchange of ideas, or the directions of visual thinking, but we have the capacity of actually making an impact by producing, but we haven't used that; it's an energy drain and we let it go. I think that's a bit of a cop-out on our part. We should be pursuing and doing more in that direction, and also on the structure of visuals rather than on the presntation of the visuals. But, since there were many presentations before, perhaps that's enough. (Laughter)

JUD: Of course, there's been much discussion over the use of the space and how it would difficult for it to double for both functions, and it would really require the use of another space somewhere, and of course more funding from somewhere.

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SHRIDHAR: More equipment resources, more time, more personnel.

DMITRI: I think it's really important that the people who ran the Kitchen were artists on their own, and it made a very different feeling and atmosphere than if it had been people who were strictly in it for the administrative or managerial role.

JUD: Or even the purely hardware end of it.

DMITRI: Right. Like the Open House things, where you always get a chance to show your own tapes, and it's not an egotistical thing, only perhaps in some ways, but it's also a thing with a loose, spontaneous feeling, and if the person running the show has some reason of being involved themselves, it's really an exponential addition, as opposed to saying, well, here's another artist. Because the artist is doing something that's channeling other art adds another qualitative level.

JUD: It's a very healthy ego involvement for the artist to be presenting his work to an audience for the first time. The genesis of the Open screenings is a very interesting story.

STEINA: Yes, it's interesting. You were at the party when we opened; everybody was. But the thing is, there was no floor; we were dancing on a strange floor.

WOODY: Cement.

STEINA: Yes, and the walls weren't ready, or anything, but we made the party to see what we had and to use it, and the first one to come up with an idea was Shirley Clarke at that party. She had been talking to a fellow artist about the exact same thing, that there was this vacuum, that there was no place where you could take your tape and play it. And she had this actually fantastic concept that would be totally open and unprogrammed, that people would just come and show each other their tapes.

WOODY: That was taken from the movies because that's what Millenium was doing.

JUD: Millenium still has open screenings. The Cinematheque used to have open screenings on Wednesday nights.

STEINA: Well, it's typical that it comes from a filmmaker, the idea of having open screenings, but we hadn't thought of that. And, sure enough, she opened it the first time, came one or two times after that, and then didn't show up any more, but that was alright since she had initiated it.

WOODY: She put a seed there.

JUD: She's a kind of prime mover in many respects.

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WOODY: Extremely brilliant in concept. It was much more personal when it was very small, with very few outsiders. It was actually only fellow tapemakers who came with an audience of ten to twenty people and it was much more intimate. Now Dmitri is facing a different problem; not only is he running the Wednesday nights-

STEINA: But now it's a full house.

WOODY: So now he gets an audience. He gets a crowd.

STEINA: All our things are facing that: the dilemma of success, because now we seem to be averaging something like eighty people a night, and that was unthinkable a few months ago. So it's not playing around anymore; it's serious.

JUD: What do you think about handling that serious business?

DMITRI: Sometimes you get the feeling that the spontaneity is gone, and there's just this tension on every single moment. Days are booked up months in advance. There's a harsh competition among artists and, therefore you're forced to start choosing between them- those are just the negative things. The positive things is that it is really starting to spread information; people are rapidly becoming aware about video. That's an important thing. It will undoubtedly affect the communications of the future. I really see ten or twenty years from now people using video as opposed to letters. I see an influence in people's lives in a very intense way, especially with cable and computers working together to allow people to have whatever program they want in their home. And the Kitchen will help affect that.

WOODY: It has that impact indirectly. We have found, by traveling around to Canada and the West, that people are actually informed about the Kitchen. It gives them a certain security that it's true, that electronic media are alive and are performed. We get letters from Europeans, so the idea of the Kitchen may be more important than its production. And we send calendars just to be seen around that there is something like electronic media.

STEINA: I think some of these thoughts are already coming, because we are hearing about video theaters opening up all over the United States, in the Midwest and out on the coast. Because they can't really be run commercially, not yet, even Groove Tube two years ago couldn't really make it. People are now considering the idea that as long as the rent is paid, if you get some funding, just to help pay the rent and for basic equipment, you can run a video theater, which really wasn't thinkable two years ago.

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SHRIDHAR: In many ways, just running a video theater is much cheaper than running your own little portapak, if you're doing your own little productions. It's such a comparatively simple thing to do.

WOODY: It's time-consuming. It becomes monstrous.

JUD: Particularly at the Kitchen where many shows require completely different setups, just in terms of video monitors and switchers.

WOODY: Right. It couldn't be produced commercially really because it would become such an overhead, and such a hassle. We are actually lucky to be running it half-sloppily because it gives you the leeway of rearranging things. Perhaps I'm still regretting that it didn't develop its own dramatic form. The media is still very sketchy, performed more as an accident. Configurations of the monitors is still many times accidental. But that's still a dream; the electronic medium may not be yet together enough to be composed.

JUD: There are a few people who have been thinking of that, in terms of matricing monitors, like Frank Gillette and Ira Schneider.

SHRIDHAR: Some of Global Village's multi-channel mixes.

JUD: Even some of the Video Free America things which use in a dramatic context.

WOODY: Right. Those are more or less environmental. Environment is something people respect more, because environment has been around for a while longer, sound environments, light environments.

JUD: It started with Scriabin.

WOODY: Right. I haven't seen much of, maybe it's a bad word, dramatic use of video or performance as such, when I'm talking of sounds really coming from different directions, and really making sense in those configurations, really making walls of sound, that have up and down, and right and left. Perhaps it's too literal, but to master the electronic media the way that music is mastered, that the composer really makes a little movement and it makes a difference in a tuba or a cello. So, in that sense, I guess we all are waiting for those computers, but maybe it's time to start without it. I see very little of that, and for me, that's my bag, to perfect that direction.

DMITRI: Another aspect that the Kitchen serves, I feel, is as a political place, not in the sense of Democrat and Republican politics, but political in that it affects culture and the way people relate to their society in their own minds. For example, the showing we had of THE IRISH TAPES by John Reilly and Stefan Moore, tapes made in Northern Ireland

with the Catholic community, and to have that running simultaneously with scenes of the soldiers, or scenes of the B-specials of the Protestant politicians, and so on. But we all depend on this basic level of technology. And Woody's point was that we haven't gone far enough in the direction of really developing that. We've created a space. I don't think we've filled it with enough goodies yet, technologically. These aren't available yet. It's not just a question of money, video synthesizers are barely-

JUD: In their infancy.

SHRIDHAR: And low-light cameras are absolutely essential.

WOODY: Yes. And you go to an exhibit of IEEE and you see that everything is possible, but when you come to base of the daily production, and you're still dealing sometimes with old systems like CV, which is five years old, and you have beat-up cameras, and a switcher which is no good. Let's face it: what we have on our hands is a basic level of technology, and that's how we live.

JUD: One factor is that ½" technology is all basically in the realm of consumer technology, and that is the last level to which all of the research filters down into.

WOODY: Well, thank god, on one level, because the prices are reasonable. If you really step up into the professional range of equipment; like we are now facing the whole problem of developing our own custom-made equipment. We were lucky enough to find good, and yet still unexpensive enough engineers, but it's incomparable with industry. It would be beyond the reach of any individual. It's a blessing that the consumer was the initiator of the whole video movement. It has these two ends.

JUD: Just as the cassette audio recorder has changed the face of non-fiction and journalism, with the ability of being able to record information anywhere, and transcribe it at one's leisure.

WOODY: Again, if you analyze the way people perform, there is already the beginnings of that video cliché, which can be expressed two ways, positive or negative, which means that there's a form to the presentation of video, so some people with no imagination have just the cliché, but someone with imagination builds on the cliché, making something which is controllable.

JUD: A good deal of video art has been based on the transformation of clichés, like the early work of Paik, and much early work grew out of channel switching, building a collage out of broadcast garbage, and taking new forms, which was a beginning of the video switching aspect.

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WOODY: My comment is this; This is the first time we are facing video synthesis. Video, especially early Nam June Paik, represented an analytical form, a form of destruction, which is heavily switched, changed, turned, and beam-deflected, so it's a kind of anarchy. It's very inspiring. But now, the new generation, very new, like Stephen Beck, has a very disciplined and oriented form of energy.

JUD: Almost virtuoso.

WOODY: Right. It's very contrary to video used to do, taking inputs off the air and processing it. Now, it has become a very rigid, disciplined whole effort, a whole direction of controlling video, which is going in a direction of finely controlled changes.

DMITRI: You really notice this in the computer pieces. We're going to have a Computer Arts Festival, for the first two weeks of April (NOTE: 1973) and the works which have been coming in fall into two basic categories: people using this immense technology of computers either to have this precise control over many, many variables, such as Walter Wright, with his programs on very highly advanced hardware, where he's able to call up any shape and any form and any distortion of the pattern at will, and he knows exactly what he's going to get when he punches it up.

"My tapes are made on the Scanimate 'computer' system built built by Computer Image Corp. Scanimate is a first generation video synthesizer. Images are input in a number of ways- thru (2) 1000 line b&w vidicon cameras (these cameras may look at still artwork, a TV monitor, etc.), from an Ampex 2" VTR, or from a studio cameras. Two of these input channels pass through a video mixer to the Scanimate CPU (main control unit) where position and size of the image are controlled... Also on the CPU are (3) oscillators... The CPU also controls the axis (the lines about which an image folds) and allows the image to be broken into as many as (5) separate sections.. I play Scanimate as an instrument and all my tapes are made in real time without preprogramming. I also try to avoid editing. I am designing and hope to build a live performance video synthesizer... Most of my tapes have a score as in music
WALTER WRIGHT- from 1972 notes for a KITCHEN performance.

DMITRI: Then a whole bunch of people are using this technology for its random qualities, for example there's a Dutchman named Peter Struycken

who sent a film which, as you watch it you can't possibly see anything change, but there are repeating, random, little patterns, and you just see day pass into night, and you can't possibly see it repeat.

"In order to gain acquaintance with the premise applying to the reciprocity between element and structure, the changing degree of variation being the criterion, I make models which relate to this problem... One of these models is my image programme 1-1972." - PETER STRYCKEN from the notes to the FIRST COMPUTER ARTS FESTIVAL at the KITCHEN, 1973.

JUD: Most of the work coming in is digital?

DMITRI: Yes, but a lot of video synthesizer work is analog. David Dow, from Southern Methodist University, is coming for the Festival with live dancers with myo-electric crystals attached to their muscles, so a particular motion will generate a particular current on these electrodes, and it goes into a digital computer that's programmed to respond to these changes in motion and can cause audio and video signals to change. It's very easy to control; you know if you lift your arm, you're going to get green, whereas the feedback pieces that used to be based on electrodes to the brain are not that easy to control.

JUD: This reminds of the E.A.T. Nine evenings piece by David Tudor, using the Bandeoneon, to make videographic abstractions and sounds simultaneously- one to one live generated imagery and sound.

WOODY: Right. There is a whole direction with audio-visual composing which is as yet basically untouched. The artists in the past seemed to try to gain access to technology and just then demonstrate what it could do. But now, artists more generally are gaining access to technology, to the tools. But, now there is another problem, how to really use these tools in a particular frame of mind, or philosophy, or direction, which we're going to have to face sooner or later. You cannot get away with just flashing images anymore. And it was so beautiful- the Kitchen was so free. People could bring things that were beautiful because they were new. But, suddenly after three years, they've become garbage to us. It's not beautiful anymore; we've seen in a hundred times.

It's that first feedback that you do. And we started to discriminate within ourselves. Video wasn't new anymore. You are studying how many layers of images are there, that you couldn't see before because your mind wasn't able to recognize the structure of the image.

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SHRIDHAR: You're looking at it from the point of view of somebody who's been working intimately from inside the medium as long as it's existed. What about the person who's never been exposed to video, or has limited exposure to video or experimental television. He walks into the room and sees the first feedback that somebody did, all those mandals going all over the place; his reaction is much more valid, in a sense, it's more childlike. It's not geared to trying to analyze what level of technological mastery there was behind that particular image. And one reason why this still continues is that, unlike film, we do not yet have a body of criticism on video that exists.

WOODY: But, let's face it, a symphony orchestra, when they really go in sync and they draw the bows, it's beautiful. That aspect is still in the traditional mode, but if you put a tape on and you just see those two reels turning, it's something else, of course. It becomes a performance within your head, but it has very little to do with the space, because sometimes people dim lights totally. So that is a dilemma of the electronic media.

JUD: Dimming the lights is like making the theater more private.

WOODY: Making it smaller, or making it all in your head again.

DMITRI: It enhances the suspension of disbelief.

STEINA: There's no suspension of belief required when listening to a piece of music.

WOODY: But we like the Kitchen as a space; that's why we rented it. It was the physical space; every media, especially dealing with video and audio, there has to be a place, a space, the room is your stage. I'm talking about trying to perform directions, levels, movements of the image. There are so many configurations of the screen that can be done: horizontal on the floor, suspended from the ceiling, like the heavens.

JUD: Some of the dreams of Frank Gillette, thinking about the first news of flexible flat TV screens, was being able to construct a tunnel that you could crawl through and have your image all around you.

WOODY: Yes, Frank has fantastic concepts. He has done a few of them; they are on the model scale. We all work on model scales; except you can amplify sound infinitely, but you cannot yet amplify image. It's still the basic monitor. So you have to multiply the number, or whatever you can do, but once you get the amplification of the images, then that's it, you can terrorize anything.

SHRIDHAR: Even when we started using video projectors, a point which

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Rudi Stern brought up a long time ago, and obviously McLuhan made the point too, is that video is light coming out at you. Video is a light bulb, not a mirror; anything that's reflected is bound to lose some of its power.

WOODY: These may be the legends of video. There has been an incredible amount of speculation about the size, of why video is so particular, because it has this small size. It's in a box. When you project it, though, you suddenly realize that it's not really true; of course, there's the scanning, a whole field behind the scanning; you stare and you're hypnotized.

JUD: It's a low-definition cool medium, right now.

WOODY: Once you blow it up in a proper brightness, half of these legends about video just go away, because actually you deal with a frame, and you have the same law of composition as other large pictures, like film.

SHRIDHAR: Oddly enough, someone decided on a 4:3 aspect ratio a long time ago, and we've been working within that. We've been working within 60 cycles too.

JUD: Which is an interesting harmonic scale.

SHRIDHAR: Pythagorean, as well.

"There is another way to tune in to 60 cycles. Keep the power away from you by transmitting through the air. Use your ears as transducers. Convert from analog to digital. Join the most constant universal life event on our continent. Hum at 60 cycles, way down on the end of the Fletcher-Munson curve. Slip in between the molecules in the body and learn about being a clock, I tell the limp-skinned ones."

- TONY CONRAD, program notes for DR. DRONE IN CONCERT, 1972, at the KITCHEN.

WOODY: But it goes back to, once the tools are developed, there's going to be more work with it, but we could do it on the model scale, as Gillette has done. We could perform any configuration, and actually it's your mind that fills the space. You can really extend your perception, in the sense that you can eliminate the rest of the room. Once it works, it's dramatically effective. Of course, life size is the next philosophical dimension, and bigger-than-life is the next.

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STEINA: A painter friend of mine started to philosophize about it, and he thought that the video screen was actually a continuation of church windows, because it's a back light; it's not a painting; so he found a continuation there that I have never thought of-

JUD: Electronic stained glass, in motion. There's a relationship to Thomas Wilfred's Lumia, which was backlit, especially when we get into performance. The space-window concept.

SHRIDHAR: Wilfred actually had a greater advantage working where he was than we do, because he was able to manipulate his images over any time-span that he chose, and many things of his took about 35 minutes to see perceivable changes, and we're still stuck within that basic timeframe.

BMITRI: When I went to Princeton and saw the computer there that Aaron Marcus works with, where you have a special joystick with which you can control movement within a special cybernetic world that he's created, and you can up and down, around, into the air; you can travel at any speed you like, and meet other people who happen to be in the same computer, traveling around that same imaginary space, and it's just a little screen. You can also put a little disc in front of your eyes that spins fast enough to make a delay from one eye to another so that it looks 3-D, and you really feel as though you're in the space, even though it's this one little screen. No, glasses, just a disc spinning in front of your eyes.

"Computer art promises to challenge more profoundly than ever before what is real and what is not."

- AARON MARCUS, notes to film THE BEGINNING at the KITCHEN.

WOODY: But, again, these are what people call the gimmicks. For us, it's the universe. It seems to me that the audience wants to be convinced, so they want to enter the room and it's really there, a 3-dimensional life-size display. And, that's the difference between the establishing of the media and the research of the media. We are still really in that research; we play R&D. Our friend, Alfons Schilling, works with binocular vision; he has done beautiful exploratory works. They are important because even if you apply them to life-size, the principles are the same, the calculation of distances. But again, it's the scale.

Now, what will make the impact on a society, somehow we are stuck, because the Renaissance could really build those beautiful churches; they put them on paper, they calculated them, but they built them, and

they were so big, so fantastic. If this time is a rationalization, as I believe, of art, it has to be built, it has to exist physically, and I guess we just have to catch it within our generation.

JUD: Since the Kitchen really has been a repository and filtering place for many of the tendencies in video, how do you see those tendencies crystallizing at this point?

STEINA: It is crystallizing a lot. We are actually waiting for other such theaters to open, to crystallize it more, but eventually I think that there will be separate places, and they are going to be further and further apart.

SHRIDHAR: It's already crystallized sharply into three different things: three different areas which are defined less by their content than by the way that they're shown: cable public access, in New York particularly, has been oriented to social action uses of video, community projects, school boards, and also useful information tapes-

JUD: Yes. The New York Public Library has teenage video workshops.

SHRIDHAR: Yes, this is an example of how we're crammed full of all the other tendencies. Once a month we show young people's videotapes done by the New York Public Library people, as well as many high schools around the area. The main tendency of art-oriented video has been split up between the processed image- the image people- and we're really the major showplace for them, at least in New York; and the other sharply defined group in the conceptual artist, to whom video is a kind of incidental tool.

JUD: From another side, the teledynamic environment can extend into the conceptual category, as well as the psychological aspect.

SHRIDHAR: But the conceptual category has been almost exclusively limited, with the exception of some of the Avant Garde Festival, to certain galleries and certain museums, where the resources exist for permanently installing a setup for at least a week or two.

DMITRI: I think there's a very great hope; I see a hope of two main currents of video, the reportage or documentary style combining with the artistic or electronic thing. I could see, for example, using the electronic media with a real humanitarian sense, dealing with social issues, and what you would create would not fit into any categories at all. It would be possible to use a lot of the electronic effects, chromakeying, feedback, superimpositions, but it could also deal with real content and issues that matter to people. Video has this capability more than

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any other form, first because it's so immediate. You can show something live or that afternoon; it's very light, very cheap, can be put into people's hands, and it's incredible the way you can manipulate the signal once you have it down on tape or live to create effects. I think if you could integrate the real part of video with the electronic part, you would get something where the whole would be more than the sum of its parts.

WOODY: Let me comment on that. Only if you master the compositional form of video, can you use it as you describe it. It's like the 19th century novel; the vocabulary was all there; there was not a missing word. So you could really go and do multi-layer analyses of society, plus fantasy, whatever you wanted, like Doestoevsky-

JUD: And eventually James Joyce-

WOODY: Right. Joyce. He describes fossil layers, because they are actually described in the Encyclopedia Britannica; they all exist. There is as yet no vocabulary of electronic image. We don't really know how to name it. How can you say that someone enters a room, and suddenly through his forehead flashes an ocean, and there's a reflection of sunset, in red, and the forehead suddenly turns pale. These are the terms you would have to be able to script, to perform your image. Now, we are not there yet whatsoever. We are just trying to divide video further, and make sub-categories. There are some people who just deal with a loop and delay. There is still a struggle for analytic form.

We, the Vasulkas, went into almost an imitation of painters, like Magritte (NOTE: particularly the GOLDEN VOYAGE of 1973.) because we couldn't stop that; there's so much potential in the painters of the past, the philosophical insertion. The boxes are not open, and if you really touch Dali and you see those exploded moments, it's just unbelievable how this predicts the whole dynamic electronic image. And if you go into Escher and his developments, those incredible computer-like, feedback-like loops, day to night, or his incredible spiral development; All these things that preceded video, or electronic image manipulation are philosophically much further than video, because video people still deal with the accidental. No one has yet selected his future in video by his choice, I think. We all came to it through film, through a job, or through some other strand. There is a generation that may be born to be video, and electronic image oriented; but now it's all sketchy; it's all accidental.

SHRIDHAR: At the same time, Woody, the novelist who's sitting in the 19th century had his words. He did not necessarily depend on the existence of paper and ink to be able to use and actualize those words. But we depend on a piece of technology that does certain things, a certain basic limited number of variables that you manipulate when you manipulate a set of video images.

WOODY: Some writers today wouldn't write without a typewriter; they have to have at least a \$100 typewriter. (Laughter) They refust to write by hand.

SHRIDHAR: The typewriter still doesn't tell them what to write. They could alternately write it with their hand, or with a finger in some sand. The point I'm making is that this is like a linguistic analogy, in structural linguistics, that is, the deep structure is there; the dee structure is the equipment we're using. We're only slowly starting to actualize it, and I don't think we can afford to sit around and mathematically work out every single kind of possible image manipulation. You'd spend 60 years just doing that, and have three years of your life left to apply what you've learned.

JUD: That will be a new science, video general semantics.

DMITRI: Much of th art that you're talking about, like Escher and Dali, is something that appeals to artists, but, in my experience, showing tapes that are purely abstract to people who have strong content needs leaves them completely dry, and I feel that video can serve tham also. Referring to something that's real in the world, the message that you're trying to give becomes that much more important because it's talking to someone about a question that they already have. It relates to something after they leave the room. Whereas, if what you're doing is totally abstract, there is a totally subjective reaction to that work. Like with rock and roll bands, some bands are very egotistical and somehow people who listen to their music have an individual response that's subjective; and there are other band, like the Grateful Dead, maybe I'm prejudiced, who call up the communal feelings, who use an objective language that gets the people, when they feel warmth to each other, and calls up human emotions that have a positive effect. I think that video can do that also. That video, maybe using real images, or maybe the language that you're talking about, Woody, like a man coming into a room with an ocean in his head; that seems to be a subjective thing. I'm referring to an objective situation where you can show, with very few images, a whole

situation, very quickly.

STEINA: You're talking about artist's audience relationships, but that is something that the artist can't create. He just has to be true to himself, and hopefully therefore to the audience. Because an artist who pleases the audience is often not an artist, but this will vary from one artist to another, and has always in history. You can't really say that it should be one way or the other.

DMITRI: No, I'm not saying that. I just see a need for using it another way from what we call art.

WOODY: There is a great tendency in what you describe; it's like the integration of the human into electronic space; it sounds glamorous. But if you watched the last piece of Ed Emshwiller, SCAPEMATES, there is an attempt. It's a very important piece in that respect. He's talking of that communication between electronic space and man, but he still doesn't know what he is doing there, but that's up to you to decide if he fits there or not. But, mostly, all art communicates through these human symbols.

JUD: I find that Emshwiller tape very interesting because he uses monolithic computer generated forms and complex abstraction with the organic perambulating quality of human dancers in opposition. This relates to me to the very beginnings of film abstraction where a pioneer like Hans Richter was always concerned with the conflicts between strong compositional control and the chance element which causes discoveries, with the direct confrontation of formal rigid elements with organic flowing form.

WOODY: Exactly. There are attempts of humanizing the abstract image. It's a matter of reading the image and translating it into human terms, but sometimes I even doubt if that is important because the movement of the electron can be ten times more dramatic to me than the movements of a Cecil B. DeMill with a field of soldiers and a full frame of moving horses. See, the drama itself has very little to do with humanity.

JUD: It's like the drama we see when we look through a telescope or microscope.

WOODY: Right. If you look through the telescope, you can see happenings which are somewhere where you have no way of ordering them. They exist besides you. There is another dimension of human life; it's the existence of different activities somewhere else.

JUD: Also in time travel.

WOODY: Right. It's not a distance. It could be one millimeter from your eye, or it could be a hundred miles, but you just don't see it because

you refuse to see these thing because you want to see a human tragedy, someone killed, or someone married, all those nuisances of film. Film has come so far in the human development story, there's actually no way back. They bring the drama within the emotions as the most important element, but actually it may have nothing to do with human stories or human shapes. Drama itslef relates within the third dimension.

DMITRI: Something that comes to my mind immediately is the way the war in Vietnam was covered by television. Every single person in America could turn on their TVs at night and find out the score: the Knicks played somebody in basketball, and the Vietcong lost 5, and we lost 3. That television culture used real imagery, conveying a whole propagands, a whole way of looking at something.

JUD: Actually, the assassination of JFK and the first moon landing were incredible communal events, and the term global village is very valid in that we are creating microcosms that may become as broad as broadcast television becomes only at such rarefied moments.

DMITRI: And it's interesting to see the way that it's manipulated, like the way Nixon invaded Cambodia the same day he had a moon landing, so the live Tv cameras were all on the moon. Imagine if they'd blacked out the moon cameras and put the live cameras on the helicopters.

WOODY: I understand your American dilemma. You were brought up with it, and you do believe in television, but really for Steina and I that is not the problem at all. What we work with has something to do with the electronic screen, and then there's something called television, which I understand. It's a big-

WOODY : Business. (Laughter) It's a threat to your private securities, of course. That's why there are these confrontations between television and video. I don't find them very actual to what I live in, but of course it comes from the same box. That why I say the box has no meaning to me. It could be projected; it could actually all be in the third dimension. It could exist in your room; it could be a ceiling; it could be a sky. On the right side should be a beach, and the left should be a hill

STEINA: A forest.

WOODY: A forest, and you'd be walking in the sand. That's where electronic image or television progresses for me.

JUD; The quality of the can doesn't determine the quality of the product

WOODY: What disturbs me about the communal use of video is the power struggle that goes on which is so similar to other power struggles I've seen. Like in Czechoslovakia, the first act of the revolution was to erect poles with loudspeakers on them, and once the village had loudspeakers and a central room with a microphone, collectivization was a matter of two days. Then you can tell people what to do. You can organize them very well. You can say, you're to be there at 5 o'clock in this place, and they'll be there. So I know the power of the media, which is incredibly strong when politically used. And the fight over the media even when it's for the public channels is the same mechanism; it's the struggle for political power. Intuitively, I object to that use, but this society has got to be flexible enough to operate with political power; that's the basis of this society.

DMITRI: Speaking of TV, we should also probably mention that approximately 80% of all 1/2" video systems are used for surveillance. You hear about the different state police buying huge volumes of cameras, and I've heard that narcs make these beautiful, beautiful 1/2" tapes because they're just around with this equipment all the time; they don't know what to do with it. But that's the primary use of it.

STEINA: But that has more to do with the pencil and the paper.

WOODY: Exactly. It's the only medium that gives you such a causality of recording real life. You hesitate twice: should I push the button?

JUD: You really have to think.

WOODY: Video has the possibility of recording the casual life of the 20th century as it has never been before, and sometimes we see those tapes and they are very beautiful because they are conceived with such a causality. People disregard television cameras very soon; they don't pay attention to it. It doesn't make any noise.

JUD: The best way to use video is to live with it.

WOODY: Right. Sometimes you regret that Homer didn't write about a little square where beggars would come and rap; he always had to pick up some strange heroic stories of the past. Or if the big writers of the past would have paid attention to some trivial moments. It would be so beautiful to read about a rainy day in Athens, but video for the first time will be able to bring you a rainy day in New York because it will be recorded.

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SHRIDHAR: Even that requires a certain amount of discipline, because we've seen a lot of tapes like that. The person casually recording his life; if you're skilled at something, that casualness require a lot of ability and training, the ability to be there at the right time-

WOODY: The ability to turn the right knobs-

SHRIDHAR: With the right piece of equipment.

JUD: It's a new definition of the concept of the decisive moment.

WOODY: It's just closer to that moment; it's not there yet. I feel the same way about the perception part of video; it discloses and helps to close the gap between the image and the brain, but it's just close. It's not really there yet, and may never be-

JUD: Until we tap into the synapses themselves.

WOODY: Even then, we'd be the distance of a few microns. There would still be a distance between the plane of realization, the brain and the image.

JUD: That distance has to do with the concept of consciousness, realizing that the real "I" in ourselves is the master of all the other "I's". And it's really at a distance, almost an alientation within one's self, that becomes more of an observer; it has to evolve into a more divine aspect which can creep over into our use of the media as an extension of our neurological system.

WOODY: Right. So, it's all there. We believe in video.

WOODY AND STEINA VASULKA: The Vocabulary of Electronic Image

"We will present you sounds and images which we call Electronic Image and Sound Compositions. They can resemble something you remember from dreams or pieces of organic nature, but they never were real objects, they have all been made artificially from various frequencies, from sounds, from inaudible pitches and their beats. Accordingly, most of the sounds you will hear are products of images, processed through sound synthesizer. Furthermore, there is time, time to sit down and just surrender. There is no reason to entertain minds anymore, because that has been done and did not help, it just does not help and there is no help anyway, there is just surrender the way you surrender to the Atlantic Ocean, the way you listen to the wind, or the way you watch the sunset and that is the time you don't regret that you had nothing else to do." - THE VASULKAS.

MEDIA BEGINNINGS

JUD: How did your emergences into video come about?

STEINA: My story is different. I was down in Virginia playing my violin, and when I came back Woody was just deep into the shit, doing video, and he introduced me to it. First we just did feedback and stuff like that, and I was just mildly interested in it. Then some photographer took Woody to the Fillmore East and they brought back Jethro Tull on tape, and that's when I really caught on, and we started going out sometimes three or four times a week with a portapak, a lot at WBAI, and taped. But Woody's story is different because he started at least a half a year before me.

WOODY: My story's completely confused basically because I started as a poet. That's how I got into film school, because they liked my poetry. And I was a failure in feature films, so I did documentaries with some success, and then I started to do experiments with film.

JUD: The example you've shown me resembles a panaromic view, either fisheye or anamorphic spread over quite a number of frames, and there's a grid-like line running through them.

WOODY: Yes, that's the error of a slit. If the slit edges are not thin

enough, then the diffraction of light between them causes these secondary stripes, but as you see images have been produced by pulling film continuously past a slit, without any pull-down mechanism, which was removed from the camera. And the pulldown speed was locked synchronously into a rotating mirror, rotating in front of the camera-

JUD: Such as they have in high speed motion picture cameras-

WOODY: Right. But as the slit travels also, it all depends on how it is constructed, which means each revolution actually repeats after 17 frames because the frames are just a continuous pulldown, and that was my first attempt to break the environment, like 360 degrees. This was an attack on escaping a frame of film. It was a Pathe camera which I modified, and I made it battery operated, so the first shot you see is Union Square, and three rowd down that's Washington Square, just in the middle of the fountain. And again I call these documentaries, but they are actual documentary recordings of a space, a 360 degree space. But then off course I went into building a projector, and that got very complicated because of the amount of light that had to be pushed through that slit, rather than through discrete frames. It's pulling down the film continuously and projecting it through a narrow slit, or a rotating mirror-

JUD: Like an optical slit-

WOODY: Then you theoretically, or practically- I saw it once only-very dimly- project the image the way it was recorded, the reverse process. But since you could only push a small amount of light through that slit, you had to be familiar with the image in order to see it. And then the vibration, and the whole mechanism, and the whole heaviness of this construction just turned me off. I couldn't deal with those machines, and luckily at that time, I got introduced to video-

STEINA: But the other thing was the spotlight thing, to have the frame following the action, so that if someone was walking from here to there, the movie frame whould just go on the wall from here to there, so that the frame, instead of being a stationary thing in which you could appear and disappear, the frame could go anywhere-

WOODY: But that we did with Alfons Schilling. We put a camera on a turntable which we remotely controlled. We had three positions: zero, forward and backward, with a rheostat. And then we put a projector on a turntable and imitated the movement of the object, like the person walking, we were trying to follow the walk, so the background was actually

static, constantly followed, but only the person changed the angle-
STEINA: If she started walking this way, the projector would follow, and the projection of it back would follow her the moment she turned around.

WOODY: Then I designed a piece with two cameras that constantly rotated, at 180 degrees too, and I also wrote a script from two men who would walk in it, being followed, and shake their hands. But since these experiments involved a lot of hardware, metalwork and a lot of mechanical arrangements, I just dropped the idea, especially when I touched electronics because that was very much more instantaneous, easy to process, alter and work with. I found video immediately tailored to my taste, so I had no way back. I sometimes dream of doing systematically what I started in film, as I call them, "remote control" ideas. But I think Michael Show has done a much better job.

JUD: With "La Region Centrale." And the back-and-forth film.

WOODY: So I don't think there is a vacuum. You probably saw this hand-held strobe projector, with a powerful strobe light, and a little motor, and it had a loop inside- I just broke the loop before- and a transport mechanism-

JUD: Where did the transport mechanism come from?

WOODY: A motor runs this roller, and the loop was a closed loop, and any time it passed these teeth, it would trigger the strobe, and the registration of the strobe was intact. The whole idea was that you could use it as a gun; you got a very sharp image and you could shoot in a row of images. You could actually distribute movement frame by frame, or you could scan a space, or make a circle of drawings of images. But again, these strobes would burn out in ten seconds. So I had these ten second pieces and I had to pay \$7 a piece from one of these strobes, so again it was just insane. I did about three projections and that was it.

JUD: So even in the film days, you were into the hardware end of it, as well as into the conceptual end.

WOODY: Yes, it's interesting. I could never really use film as much as I could the verbal, written language for poetry. I could never really use visual language for a story. It was impossible for me to put a story into film, so that's why I found a good place for awhile in documentaries where you really didn't have to have a message; so I was messageless. I didn't have a story to tell, and in those days I thought it was a disadvantage; I felt very handicapped that I couldn't go to Holly-

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wood. I thought there was something wrong with me.

JUD: What kind of poetry had you been into before?

WOODY: I come from a culture which is actually heavily influenced by French modern poetry, from Appollinaire through-

JUD: Mallarme.

WOODY: I went back to Rimbaud and up to Breton, probably.

JUD: Valery, Claudel.

WOODY: Right, the whole generation of French poets. And of course everyone from that area of Czechoslovakia is very much attached to Kafka. So much of the prosaic work I did was somehow always related to Kafka. But that has nothing to do with images; as a matter of fact, I was better in verbal or written structures. I could really understand what a sonnet, or other form of poetry, was, and I could fit into that easily. In visual things, it was very different. But I could use it well because I was glad that I could leave movies, that I didn't have to deal with established tradition.

STEINA: And then came a little film, the American Can Company.

WOODY: This is an interesting moment, because the American Can Company Matrix, as the project was called, was the first time that I got in touch with people like Frank Gillette, Paul Ryan, Ira Schneider and John Reilley.

JUD; What year was that?

WOODY: 1969. And this is gossip; American Can Company was developing an industrial exhibit with Harvey Lloyd, who was my employer, and was a photographer who dealt mostly with multi-media and did a lot of films, slides and multi-screen presentations. There were two young designers working with Harvey Lloyd and me. I was doing at the time films there and also some multi-screen and slides, so at the time there was first a debate about how to do the project with a few viewing modules with film. But again, how to solve the problem because there were to be 50 viewing modules, which again was gadgetry. I knew that was a dead-end, so, totally innocently, I suggested television, as a system. Parallel to this, which of course is denied by now, there was an exhibit at Howard Wise, the TELEVISION AS A CREATIVE MEDIUM show.

STEINA: Did you suggest the idea before the exhibit happened?

WOODY: Sure. It's very interesting how it developed because, parallelly, these two designers went to that show and got very turned on, and subsequently we went to the show. I saw the delays in Frank and Ira's

WIPE CYCLE delay piece, but that was something that technologically I could understand, but Eric Siegel's work was something I could not figure out. It was something beyond the mechanical era.

STEINA: It was fantastic- that big monitor at the end of the hall. It blew my mind.

WOODY: It was like looking into that dream- the vision.

STEINA: And also, we had just met Nam June Paik at a party somewhere, and I also knew him from reputation because he is famous in music, and I was a musician. And we found at the gallery, lying on the floor trying to get the TV BRA together; somehow it wouldn't work, you know, and he was creeping around on the floor, trying to pull it all together. And he looked up and we said: "Don't we know you from somewhere" and he said: "Yeah, yeah." So that was the first time actually we met him because we had barely talked at the party. So it was all so new and fantastic in those days.

WOODY: Right. And the interesting part comes when the designers said that there were these fantastic resources that should be used, so Harvey Lloyd invited them- I think-

STEINA: All four of them: Frank, Ira, Paul Ryan and John Reilly.

WOODY: But immediately they formed a company called INFORMATION STRUCTURES.

JUD: Right, I remember that.

WOODY: You do? I thought that was a public secret. Yes, that's interesting.

"NOTE: "The Modular Video Matrix designed by Frank Gillette and Ira Schneider with Paul Ryan in 1969 offered flexibility in the configuration of video environments. 56 monitors encased in plexiglass with stainless steel supports allowed for stacking to produce a wall of monitors, or for arrangement into circles, semi-circles, etc... This matrix was designed for the American Can Corporation and contrary to the desire of the designers the software was assembled by Harvey Lloyd Productions..." from RADICAL SOFTWARE, VOL. II, No. 5.

AUDIO/VIDEO MANIPULATIONS

STEINA: Who were the three people who influenced you?

WOODY: Let me think, if I recall correctly in time sequence, there were

three people in video, or four: the first was probably Eric Siegel, second was Nam June, and the third was Tambellini, and then what really started our trip, the first beginnings, which we did immediately, was actually inspired by Scott Bartlett, the very interesting electronic images in his film, one of his first ones. I couldn't believe my eyes. It was like going back again to the movies; you make a soundtrack which has no cultural attachment to the image- the film I saw had a classical soundtrack, some kind of guitar music- and it's totally detached. As much as the images really influenced me and turned me on, the relationship between the sound and the image was a total disaster to me. From that point on, we both actually went into that true interface, which was a relationship between the sound and the images, always reproducing sound of the image, or with the image, or very close to the image. We did two pieces this year, one with combined true sounds-

STEINA: And post-recorded sounds which are just dubbed on, but you see which sound goes with which image.

WOODY: This year is the first where we are free enough to abolish that particular law, but we have been systematic throughout.

STEINA: THE WEST was actually the first one, but we didn't show WEST very much; it's a three channel piece.

JUD: In color?

STEINA: No, colorized. It's so strange; we started with a portapak, like we were really portapak freaks, some of those, starting in 1970, near the beginning of it, and we borrowed them from the American Can project which Woody was working on at the time, and we would take them around town, and tape performances, or theater or singing or whatever. We taped THE PELOPONNESEAN WAR, a dance performance going on at that time at WBAI. WOODY: We wanted to expose the casualty of it; we didn't have a particular direction for it at that time. We always got invited, but we didn't keep it systematic then.

STEINA: No, it was a fantastic school because I had no previous training with a camera, and by just going all the time and doing something quasi-seriously, I just picked it up so fast. And in those days nobody knew what video was. Many people asked when I said: "Can I videotape you?," "What for?" and they would want to sign all kinds of strange contracts but they didn't know what the hell it was about. Now everybody knows what videotape is.

And I was reading an ad in the paper and said to Woody: "Woody, by the way, are you interested in audio synthesizers?" I had never talked to him about it. I was interested myself, but I didn't know he was, and he had been thinking about this audio/video hookup and how to do it and that he should get an audio synthesizer, and he said: "Yes, I would be interested." So I picked up the phone and called the number in the ad and this was the Buchla that NYU had and still has; somebody was renting it out- it wasn't really legal- but somebody was making money by teaching it to outsiders, and just a little later we did our first project-

WOODY: Actually, it was Rhys Chatham with whom we did the first hookup.

STEINA: Then we found Rhys, somebody who was using that same synthesizer because there weren't many in town in those days. Now, everyone has a synthesizer; and with did the first tape with video/audio hookup, all sort of interconnected. Woody had the structure because he comes from film; he wanted the dance and things like that, and we had the equipment at home, and I started fooling around, while he was working. I wanted to impress him and ask: "How do you think I did this, and what kind of hookup?" And that's where the roles changed; I, the musician, was starting to do video, and he would come home and say: "I like it" and he would do sounds to it. And it has pretty much stayed that way. Woody is very much sound oriented-

WOODY: I always have a sound concept, and she seldom does. She has very much a visual concept. So, as a matter of fact, I'm a secret musician. I have my tapes and my compositions which I hope one day to be discovered. (Laughter)

STEINA: But it's much harder to be discovered in audio than in video.

JUD: What kind of video visual was accompanying these sounds?

STEINA: We were doing feedback all the time, but we didn't record much of that; it was just an ongoing thing. You go home and you turn on your feedback. And then I started doing distortions, screwing up the monitor and taping it with another camera off the monitor-

JUD: Playing with the deflection yokes?

STEINA: No, I played around, not with the yokes, but with the horizontal and vertical rolling, and stuff like that. It was totally easier for me to do because I was naive. He knew that you don't really shoot off the monitor because he had the technology. I did it out of total naivety because it was the only way I could conceive of doing it. Woody, I'm not

sure you would have used that, because it's very impure-

WOODY: I was totally hung up because I was insisting upon total generation of the image. I wouldn't touch an optical, like a lens.

JUD: Only electronically.

WOODY: Right. I was only interested in working within a signal. I wouldn't even touch the raster, you know; I wouldn't distort the raster; they were all electro-mechanical things, like the magnetic field was for me too mechanical, too 19th century. The thing I appreciated about Nam June Paik was not really his raster manipulations, for example the piece where he took the three different color guns that had blown my mind because I really always liked the things within a signal; like all the video synthesizers which use raster manipulation, I could not find a relationship to.

STEINA: It's very hard when you use the word electronic to describe the aesthetic. It's a very slippery term. But you can say, this image behaves electronically, it's an electronic image and it means something; there is something organic and floating. And raster manipulated images have that too, but sometimes it gets too gimmicky and it loses that electronic sense.

WOODY: It loses the mystery. In that sense, I must give credit to Siegel, who would never, for example, conceive of the idea of manipulating the raster. It would be such a criminal act because the raster has to be evenly distributed. In that sense, I know that he is a pedant, from that type of symmetrically-minded school, how shall I say it-precise.

JUD: The geometrical abstraction school.

WOODY: I accepted that taboo-

STEINA: Like a puritan.

WOODY: I accepted that taboo not to touch anything which is an external force, and rather try to disclose the secrets of the signal, and I was obsessed by that very much. I just believed that everything, from textures, even in 3-dimensions, was in the coding of information. It had to come not from mechanical distribution, since I had been frustrated by that filmwork, but it to be coordinated right within that signal. I wanted to crack the genetic code of that signal.

STEINA: Right. But Eirc was really the first one to make images without a camera.

WOODY: You cannot say first.

STEINA: Well, one of the first. And that's what we also dreamed about, to abolish the camera, and we used audio signals directly into it. That was Woody's bag-

JUD: You were feeding audio signals into what aspect of the video?

WOODY: At time I didn't have the technical knowledge of how the signal is produced, so since we had bought a sound synthesizer, this was a tool that we explored parallely- it is a Putney. And it goes back to the basic philosophy which somehow I always have. I couldn't spell it out- but, that all electronic art, the whole frequency range of the magnetic spectrum is the art material, and that immediately I couldn't divide sound and image; it was just inboen into that. I understood that from the beginning. And what I did was just to put the output audio signal into the input of the monitor. Now, if you beat a frequency close to sweep, frequencies which are the 15,757, you could interfere with that sweep and generate shapes which could be very rich. Of course, late when we saw generated images by Siegel and by Beck, they succeeded from a different angle. But the richness, the 3-dimensionality of the interference pattern between the sweep and the input frequency was much more interesting to me, but, of course, I had to shoot it off the monitor again, but I couldn't I work within the signal again as Siegel could.

JUD: You just fed the signal into the monitor via a coax.

WOODY: The only interface.

STEINA: One end had a phono-plug and the other just a coax. But this is just, of course, a signal that has no sync on it, no blanking, no nothing, just a frequency, so in order to code it on a tape we had to shoot ot off a monitor.

WOODY: Sometimes it would record, but it wouldn't track because there was no sync pulse. But also by using a pair of oscillators, we found there was a horizontal and vertical frequency which would lock. So that was easy to find out by putting two oscillators into it.

JUD: In a way, it's like feeding Lissajoux patterns into it.

WOODY: Right. Lissajoux patterns were something we did one period- those tapes were stolen from us by accident- but we did about two months of those Lissajoux patterns, especially Steina got into them.

STEINA: We didn't do teo months; no, it was one night. Eric left his scope here while he was working here.

WOODY: Oh, yes, we did about three hours of that.

STEINA: Something like that. It's a shame because there's a lot of potential.

WOODY: But we never stayed with that particular direction. Ernie Gussella perfected that very much; he's very much into Lissajoux patterns. But we mostly got seduced by the shapes, we used to call them; we could make hats; insects, legs. We got into the organic nature of it. It was one period of that.

THE HORIZONTAL DRIFT DISCOVERY

WOODY: And then, by accident, we found out what a traveling frame of horizontal frequency, a different amount of horizontal frequency, meant to the image. A piece called LATER EVOLUTION was our major aesthetic breakthrough. We found out, if you have two cameras, one locked into the ordinary sync, horizontal and vertical signal, and another which would be either superimposed or keyed, if you fed a different horizontal frequency into the camera keying over the other, the image would horizontally flow either left or right. You could feed in a frequency and alter that through the CMA (the Sony portable camera adapter).

STEINA: And we still use that a lot.

WOODY: It was one of the expressions we had. It helped us again to escape the frame. It just started to roll, and it wasn't the frame anyway, because we knew behind it were other frames. The whole space behind is all electronic. So that was one of the clues we got. Since then we have gotten into texture, into simulated three-dimensions.

STEINA: But it took us a long time. We really didn't understand what made the image roll. Sometimes it was faster, sometimes slower, sometimes right to left, and sometimes left to right. And it took us a long time to crack it. Because we would try plugging in from one AC outlet to another, and it would change, you know; if you have less or more power, it could go slower or faster.

JUD: Did you ever try it in conjunction with a variac, for example, to change the power quite consciously?

STEINA: It probably would work. Because 60 cycles is actually the vertical. But we didn't know what was doing it. We wanted to make this piece where it would be going slowly one way, and we tried it every night for 3 or 4 nights until it was the right speed, and we did the piece. And now, it's so ridiculous, because it's just a little screw

control in the CMA, just a little oscillator in there. And you can control it exactly. It really has nothing to do with power; what it was is that it would drift because all electronic equipment drifts from day to day, so we waited for a day when it was drifting slowly, and now we know-
WOODY: All you have to do is take an oscillator, an oscillator that goes up to 15,000 cycles, and then we control that very easily.

STEINA: Through the CMA or an oscillator.

WOODY: You can now just feed externally horizontal drive for any of the cameras that you want to do it. And when we went to California, we perfected it so much that-

STEINA: Now we have full control. We can travel it any speed, back and forth.

WOODY: Not only one. We can throe two, three, or any amount of oscillator that we have to shuffle the image.

JUD: You were presenting works with this effect on horizontal monitor matrices, I remember, in the early shows you did at Max's Kansas City.

WOODY: Yes, those were the very first public shows.

JUD: That was several weeks.

STEINA: It's very interesting. It started that we knew Mickey at Max's had some monitors left over from some video event he had staged before, with Les Levine, so I went to him and bargained and got three of them for just a little over \$300, so that was a fantastic thing. We bought three monitos at the same time. We painted them black, stuck them in a row, so the first time we saw the horizontal travel, we saw it travel over three of them. So we saw the potential of how it works in a matrix. That idea of buying three monitors influenced a lot of our thinking. You get inspired by every piece of hardware, whatever it is.

So we went to Mickey; actually we went to everybody. We asked Raindance, People's Video Thter and Global Village, but at that time no one was interested in showing other people's tapes. That was during the early funding days. And there was no concept at that time of a showplace except for what you personally were doing- Global Village was only showing Global Village tapes then, and so forth. So we asked Mickey, and he said "I'll give you the place upstairs and if you show for free, I'll give you the place free; and if you show for money, split it with me 50/50." And he had two more monitors left, which we hadn't bought- which we should have bought. (Laughter)

THE VASULKAS

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So it took us two months to get our shit together, because it's not easy when somebody says you can have a show tomorrow, you know. But somehow we got the show together. What was interesting was that we thought that stuff should be entertaining, and we had a lot of entertaining bits there, like a little sex piece, and LET IT BE (NOTE: The closeup lips piece.) but we also put in one or two of those so-called abstracts, and people really liked them. That was the first time we realized that it was not just something we were doing for ourselves but could show to other people. So we called up WBAI and asked them for a show, which happened a month and a half later, and in those six weeks we did abstracts like crazy, every night here-

JUD: Based on the horizontal theme.

WOODY: We were into the textures then too.

STEINA: And feedbacks, and everything, and when we got to WBAI we had eight monitors, black and white, and we showed only abstracts, three hours in a row. People could walk in and out, and they did. They went out for a coffee and they came back. It was just a fantastic evening. And it was a statement. We wouldn't entertain anybody. We wouldn't show anything that was nice.

WOODY: Actually the first audience we ever got was a cable between where we were showing next door and us, and we put the cable over a roof.

STEINA: That was Alfons Schilling. He lives next door.

WOODY: We put the cable over the roof about 80 to 100 feet of it, with audio and video and we broadcast from here. Alfons had many friends, mostly Swiss-German, come visit him and he would casually turn on a channel and we would put something on, and people could not understand how this could suddenly happen between the other channels.

STEINA: It was a monitor, not RF.

WOODY: Yes, it was a monitor with an air switch. So, this was actually our first audience and we got a lot of responses. People would comment on it. Since then we don't really care for cable, because we sort of had it for awhile. (Laughter)

STEINA: We thought we could connect up some other places, but to drop it over a street is a whole different problem, so we dropped the idea for spreading the cable around.

THE KITCHEN

STEINA: By the time of doing those shows, we were also meeting everybody. We had the connection with Eric, but he was rapidly becoming a documentarist and turning away from his abstracts (NOTE: Eric Siegel produced STOCKHOLM VISITED and NEW YORK, NEW YORK in 1971.) We met other people, but it wasn't until we established the Kitchen that we met the people from the West Coast-

JUD: Stephen Beck and Don Hallock-

STEINA: Yes. And Willard Rosenquist, and Richard Feliciano with a very interesting piece ZAGONE which is fantastic, and it was one of the early pieces done at the San Francisco Center for Experiments in Television in San Francisco. Don Hallock hadn't done anything yet; this was the beginning of 1971. Bill Etra had hardly started. It was just so fast. First we felt we were quite alone; we didn't know there was so much.

WOODY: Actually, at that time we only knew about WGBH in Boston doing experiments which we didn't care so much about, but when we saw the West Coast, that was instant. We still have that hangup about the West Coast. It became very important to us, as a school, since Europe develops in the sense of schools, and also the respect for the school is there. So we had no hangups about recognizing the West Coast school as very important, and also we immediately wanted to visit them, which came about naturally later when we were invited there, and they saw tapes. Immediately after, it was a after a show in Berkeley, there was a response that was some competition on the globe. And we immediately started to exchange ideas and cooperations, and we wroked together 3 or 4 times.

STEINA: Chronologically, it was like this: We had the Max's Kansas City show in February, at the end of March we did WBAI, and in the middle of June we opened the Kitchen, so I think we found the Kitchen space in April, or very shortly after the WBAI show, because by that time we saw that was no sense in fitting up Max's and WBAI each time. There would have to be a permanent theater somewhere, and you had to make it. So we painted and scrubbed-

JUD: We had approached April 1971-

STEINA: In the middle of June we opened the Kitchen. April is an important month; it's when we abandoned the Kitchen, finally, mentally, this year (NOTE: 1973.)

JUD: April is the cruelist month, breeding Kitchens out of the video world.

THE VASULKAS

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WOODY: Right. Maybe it's a disastrous horoscope. But I can't say any more about the Kitchen. It's up to the people running it now to say that.

JUD: We could mention how the Kitchen affected your own work.

WOODY: Actually, by seeing so many tapes, we found out that we weren't much inspired. On the contrary, I think it depressed the shit out of us, because it wasn't really the great challenge we thought it was.

STEINA: But on the other hand, we met very interesting people there. And during those two years, almost everybody came through, and lots of Europeans, Canadians and South Americans.

WOODY: But it was the place of the demystification of video for us, because the Kitchen was a place where mostly tapes went through, which we thought would be more systematic, more developed, but actually we found out that video was not fully developed at all. Actually, that was more my trip. I got into a missionary position almost trying to explain what video was. I got into those teaching raps, or demonstrations, maybe the first lecture on video, and the first workshops. It came from the concept which I felt was the lack of the basic work in video which would somehow be self-exploratory. But I don't judge it. I had just expected that video was much further along, because I thought what I had seen from Siegel and other people was just the beginning.

STEINA: That was a fraction of all the things that were going on, but that was all.

WOODY: That was it somehow.

JUD: Like the essence.

WOODY: Yes, the essence; there was much more development in other areas, like conceptual video was another discovery, but I never got too intrigued by that part of it. It was the least mysterious, in a sense; I could understand it; I could explain it very easily. I am really intrigued most with what I cannot explain so simply. But I would say that what we learned for ourselves in the Kitchen was that video can be performed live, generated on the spot, could be accompanied with sounds, or made by sounds or through sounds on the spot. It does not really need any studio. It doesn't have to be prepared weeks in advance. It can all be set up, be mobile, be totally flexible. So that routine came to us after a while in the Kitchen, and also when we went West last year. We made a whole portable, battery-operated three-camera setup, so we could key, superimpose, and do basic works-

JUD: Using portapak cameras.

WOODY: It was three portapak cameras, plus portapak deck, plus battery-operated keyer, two keyers, a monitor, and matrix switching- a little system.

JUD: All battery-operated?

STEINA: It was all operated off a 12-volt car battery, except that we had a special battery for the monitor. We could have driven the monitor off the car battery, but we had gotten that battery before. It was separate from the battery in the car we drove, that was sitting in back as part of the video-

WOODY: Because we got frustrated by regular batteries, which don't work reliably and have let us down so many times- in terms of life, recharging, and just keeping track.

STEINA: You see a car battery is too heavy; you can't carry it around with you. But if you have a car-

WOODY: We bought a little truck. We just made ourselves mobile so we could just go into the hills, or into valleys, with no problem.

STEINA: But then car batteries are fantastic, because it's so easy.

WOODY: What was a personal disappointment about video, what hadn't really happened yet, is what I believed the form of video was closest to what I would call communication, or information. It's like a whole generation of cybernetics that brought up video was very much concerned with communication or information. And that part, maybe in the sense of being old-fashioned, I'm not very interested in. I was interested in the dramatic presentation of the image itself, how the image is made, how it's composed; so that was the main concern, and then how it is presented. But the other ideas are how it communicates or should be information flow, the importance of that escaped me totally.

STEINA: Actually, in the sense of environment, we didn't do in the Kitchen what we originally set out to do. But that's another story. We wanted environments and happenings, and we ended up having people sitting in rows and paying an entrance and all the same shit.

WOODY: Actually, we should comment on other people we found in the same boat. Like Skip Sweeney, a man who we respect very much; his work can be characterized as quite simple, it doesn't go into too much information. Usually, it's easy to trace and its development is simple, but all he does is very much related to the electronic display of sound, and that was what we wanted very much to do.

JUD: The sound-modulated video image.

WOODY: This is his natural talent. His environment, Video Free America, in San Francisco, of course, deals with direct images and the documentary type of work as well. He lets the other side of his talent go with the flow. He was quite important to us in the narrow interest of audio/video display.

STEINA: And in many respects, he's also quite isolated, and has no contact with the people at the Center. He's a loner.

WOODY: So, I would say, from that experience, our mission became to actually engage ourselves more in the explanation of video, what it is. We started to categorize a little bit of what we had been doing before, and now we can see quite clearly what development we went through.

A BRIEF HISTORY

WOODY: What we really did first, the basic feedback work, with audio hookup as well; so we activated oscillators through video feedback development. Then, at that time Steina was quite independent- we really didn't start as a team in the beginning- she was doing what we call decays.

STEINA: Decays, and distortion, and raster, some basic raster manipulation.

WOODY: What we meant by decay, for example, was the case with a taped image, an image that would be in a freeze-frame position, but could be manually advanced so that certain areas of the image would electronically decay. She would manipulate that and shoot it off the monitor again, and that way she would record. We had two or three pieces like that. (NOTE: The Decay pieces include: 1. DECAYING FACE, 2. TISSUES, 3. ELECTRONIC LANDSCAPE, and 4. DALI LANDSCAPE AND OTHER SMALL PIECES, 10 minutes.) Secondly, she would manipulate the raster and turn the camera 90 degrees so she would get some horizontal development. She would use things like mylar, mirrors and some optical devices, and at that time I was extremely uptight about things like that.

STEINA: That would drive Woody crazy.

WOODY: But I had to respect them, because they were quite powerful.

STEINA: It doesn't matter really how you do it, if the result is there.

WOODY: Now, I agree; in those days, I couldn't.

JUD: You were an electronic purist at the time.

WOODY: Right, I was. Perhaps I'm compromising now. In those days, for example, she would work with tape like collages, using a CV, and she would be able to overlay many other images over an original track by insetion so she wouldn't destroy the control track.

STEINA: But bacially it wasn't possible because you couldn't get a clean cut. But if you didn't want a clean cut, and wanted all this morie, what I did was to cut so close that all I got was the mories and the dirty cuts, and that became the consistent, that became the tape, the image.

WOODY: Her concepts are very much visuallly conceived, and I was very much the opposite way. I started to use oscillators to make an image. It was interesting that we had met a young man named Al Philips, who used to work for C.T. Lui.

STEINA: He showed with us at Max's Kansas City.

WOODY: He did some audio collages, and some video work which eas extremely interesting at the time, buy wasn't much appreciated by the art community, except for Siegel. Eric detected the same traces of talent as he had, because Al would do things like feed each head of a recorder with different information, after putting on a control track, and he would collage multi-layers of images, all in CV, befire we could ever edit. He would do slow motion.

STEINA: He was 18 or 19 years old. He took audio collages off the air, picked up a little of this melody and that melody and put it together.

WOODY: But so unconventionally. It was original work.

STEINA: And he did the same thing with video. He seldom used a camera, though he had a nice one, very-high resolution with which he did a lot of feedback. It had the controls outside like beam, focusing, but most imahes he just took off the air, unconventionally. He would take David Susskind and turn him inseide-out or upside-down, and you couldn't even see that it was him anymore, and it was just an image.

WOODY: Actually, he inspired us very much technologically, especially in a tape sense. He was a man who understood tape and tape procedures. Steina was then doing a lot of textures, actually a texture-freak in those days, all sorts of fine textures and structures that would either move or not. Then I did one piece for her calledDESCENTS where I took on her structures and then I descended it-

STEINA: You didn't do it for me. I had only finished the first track,

and turned around and saw that it was 5 o'clock and I had to go to a rehearsal, because I was still a musician in those days, and you came in just before I was packing my violin to run away, and I said "finish this for me." I had it all set up, but Woody went further, because I was just going to roll in once, having the image decay that way with the frame going down, but he did it six times. That was a funny experiment. WOODY: Each generation I went closer and closer, from full frame to actually 1% of the screen, so it was all within the image. It sounds conceptual but it was actually pure image work. From that point on we went into that discovery of the horizontal traveling effect which became established as an environment.

STEINA: It's called a VASULKETRIC by Bill Etra and some others.

WOODY: And we started to do serial environments and some of them are called ELECTRONIC STORIES, like our classic is BLACK SUNRISE; that was the second. (NOTE: Two other ENVIRONMENTS tapes were called SPACE and HORIZONTAL SUNRISE.) EVOLUTION was the first attempt at composition; up to that point we hadn't tried to compose a piece; it was all fragmented. So we started to do what we called stories, or environments, and after we did three or four, we decided that wasn't really where it was at. So, we descended again in the work called THE ELEMENTS.

STEINA: We started with the keyer we had gotten- a Shintron keyer- and the keyer became a new philosophy for us. I don't think we have done a tape without it since. It was such a revelation. Like, we just touched it, and we saw in the beginning what was happening, and I remember Woody exclaiming: "This is a composition, not a tool." And that's exactly what it was, because after the keyer, we couldn't do anything without it. You have to admit that it was one of the real miracles.

WOODY: So our work developed from one state into another, and then the environments which had no time limits. It was like the endless loop. And suddenly the keyer gives you the option of composing in depth, in time which is simultaneous.

JUD: Composing in levels.

WOODY: Right, and with the levels or time and image, suddenly, the whole film tradition wasn't bugging me anymore. Because editing for me was just one time sequence after the other in film, never trying to put in layers of images. I discovered in video the ability to that with such ease, and once it existed we went into a whole trip of using that.

But we also discovered that if you combine the horizontal travel with the key, you get a very drastic separation of two or three planes, and that was one extension. Then we went into working with keyed feedbacks, which is another whole dimension, more organically developed. We did ELEMENTS with that, which was a whole trip. Then we went west with the landscapes, with two keyers and the whole battery-operated rig. That was the first time we did abstract landscapes except that we had some pre-taped material from Steina's native Iceland which we sometimes keyed and colorized. We already had a colorizer at that time but we couldn't use it.

STEINA: That's interesting. We lacked the concept of colors, and the colors we had weren't worth it, so it was a real learning tool because we were playing around with it all the time. So we had our tapes in B&W and we would always run the B&W signal through a colorizer live, because it wasn't worth taping the signal.

JUD: Always live during the shows?

STEINA: Yes, even if it was a pre-taped show, there was always some live element in it. We also used live musicians. But it was such luck for us that we didn't try to record it because at least we have some concept for color now. It's such a fantastic universe; I didn't know what to do with it at all. You see it also with other beginners using colorizers, that they stick very much to red and blue, and some green, but mostly red and blue because you know those colors and it's like being on home base. Or you go psychedelic, just totally out.

WOODY: At that time we trying to perform also. We got a pin board which was the fast patching system, MATRIX, and that allowed us to repatch and reprogram within a few seconds, so with this we could also do a few performances. We bought just the board, and the rest we built. It's a very simple routing system.

STEINA: On one side now we have camera 1, 2 and 3. We could go to 4, 5 and 6. The keyer goes in here and goes out there; camera 1 can go to either main or key or 3, and then it gets returned to the keyer and key 2 goes out here. So we can at any time exchange camera 2 into key 1 or 2 into key 2 or 1 into key 2, and we can route the signal this way, making many different combinations as we go.

WOODY: This immediately upgrades your hookups; you see people struggling with patching, even in professional studios, that whole uneasiness of changing the order of inputs and outputs. This is such an ideal thing-

that by going through errors, you could actually establish you final images. So that was very important to us, and it's a simple thing.

STEINA: And with color, we have always worked with limitations, but now it's getting better because Panasonic brought a deck that's useable, which wasn't possible before, and now we've started recording in color.

JUD: You never even attempted to use the old Sony 5000 color deck.

STEINA: It never had that quality, or that crispness. It wasn't really worth it. It was much better to colorize live. Now, we have the limitation of having to edit everything; what we really want to do is to go from one episode to another, either keying or laying it over into the next episode. We always have to cut and here comes the next episode.

JUD: You need an SEG in the system.

STEINA: If you work in real time. But what we are doing now is working in real time and then taking out segments, like in GOLDEN VOYAGE. But cutting it is totally unelectronic and unaesthetic. But you work with the limitations, what you have. The color is the same kind of limitation. If you go up to a professional studio, you can demand all these things, but you have to lose so many other things for it, like the time to explore.

JUD: That matrix board was surplus from the computer market?

WOODY: We found one on Canal Street, but you can go much faster through the manufacturer- it's called Selector, in Mamaroneck, New York, upstate. The smallest matrix, 10 by 10, costs around \$25-35.

JUD: It's probably the most portable unit that I've seen yet.

WOODY: And we could make it more portable, if we put in BNC connectors, and just do it in two rows of six and six, and make it a smaller unit. Two switches are reversing the last two outputs, a & b, and b & a. At the same time we got turned on to hardware development that we could control ourselves, I got involved into really studying the signal. Now I can build basic, or at least keep together, equipment- if something drifts, I can go in and adjust it, or replace a transistor, but I'm not designing things. But we have found good designers. By by understanding, now you can physically patch the signal together. You can take sync from somewhere, add it to a picture, and then you take burst from somewhere else, and you virtually patch it together. And thus keep the whole signal in proper proportions. It's the same way you would patch anything else, almost like the physical existence in film, you

can trace the "sprocket holes" in it. I never understood that before; now it comes so easy to me. Also how color is recorded and how it's originated, and you respect more and more people who work in television and try to understand it. That attitude of understanding the media interests me much more than not understanding the media and using the medium for another purpose, like for communication only. I like to be close to an understanding of it. It's still a mystery, a total mystery, and it will always be. The closer you get, the further it is-

STEINA: The most beautiful thing in media is the microcosm you get into. It's like going into your own body, into the cells, timewise, because it goes by 60 cycles, 60 times a second, and that's the basic, and then the horizontal, the 15,750, and then the color burst, which is a higher frequency, and you have this incredible clockwork, and it all has to match, and to fit. And if you lose sync, you're talking about losing 1/60th of a second. It is a whole universe which has opened up for me, with a whole time existing on its own, a totally different time. It's much faster but in the outcome it's not really much faster.

WOODY: It manifests as something static because it looks like a frame. It is a frame, but within that frame, in errors in color, it's a matter of nanoseconds that can cause such a major change in color. Two missing pulses can just distort the frame so much that there is nothing you can recognize anymore. It's like burning two frames on your film.

STEINA: And I also like to listen to George Brown when he starts going on his trip, which we don't understand at all now, the whole digital thing. For him, it's his home, and also John Godfrey, from the TV Lab. They can think in this realm like we think in minutes, hours, and seconds.

JUD: It's like an N-dimensional continuum.

STEINA: It's like a microcosmos. Fantastic.

WOODY: So, after the hardware development, we arrived at some kind of system, which is very much open-ended. It's not the generation of the image that's the most important factor; it's the processing, and now lately the layering of images through the multi-layer keyer. So we have arrived up to real time collaging up to five images at the same time, and we use two channels of colorizing. We can really independently control two channels. It would be nice to control all of it, but that's something else. And in this process we went back to what we call ELECTRONIC STORIES and did these two pieces, HOME and GOLDEN VOYAGE, in

which we suggest that there is some kind of narrative, or story behind it, but it's all visual; we don't deal with a real story there. So now we're in to the next dilemma of whether to proceed in the direction in which we're already succeeding or- In the electronic story, there is always that dilemma, should you perfect or should you go into the unknown, something again which you can call the least conceptual, and the most free, like playing with an image which we seem to somehow prefer-

STEINA: Since it is more fun.

WOODY: Not only that, it's the constantly getting closer to the mystery. Once you know how it's done and you can use it, it's like a job. In the GOLDEN VOYAGE, the inspiration comes directly from the Magritte painting THE GOLDEN LEGEND, which is the opening scene, but then we said let's do this and that, and somehow scripted ourselves, and we had to labor on each scene very heavily. It was a setup preconceived-

STEINA: But we were still improvising. When you said, let's do a scene like bread in the universe, and we took a few props and started improvising and it was ugly, and stupid, and then suddenly it was beautiful. I find that you're playing with all these things and it can be so worthless, just playing around, and then suddenly there's a moment and it's beautiful.

WOODY: And, on the other hand there are these sketches which you've done called THE VOCABULARY, which are interesting conceptually, but are preconceived, so they become statement, like a message. So I guess we always have these two ways to go, which may be totally negative because it doesn't imprison you into what exactly should be.

STEINA: We should be really serious and do some work, quote, unquote, and really tackle the thing.

WOODY: We have never been interested in work, like a masterpiece. The most challenging, for us from a non-visual, non-imagemaking point was the perception part of video. We seldom talk about it because it has to be seen. It starts as primitively as flashing two different images in certain rates of exchange, for which George Brown designed us a machine; or the color exchange, or the traveling images, from left to right, and right to left; or when you use the Pulfrich effect of slowing down one eye with a neutral density filter, and the image travels and induces a stereoscopic effect. We were working with it two years ago.

STEINA: It was discovered in 1921. That part of the work always interests us most.

"THE PULFRICH PENDULUM EFFECT. A pendulum swinging in a straight arc across the line of sight is viewed with a dark glass over one eye, both eyes being open. It appears to swing in an ellipse. This is due to the signals from the eye which is partly dark adapted by the glass being delayed. The increasing effective separation from the two eyes towards the middle of the swing is interpreted as a difference in distance, generating an ellipse."

- R. L. Gregory, EYE AND BRAIN, McGraw-Hill, 1966.

STEINA: One day we are going to re-edit all of our tapes, if we ever get our shit together, because we believe very strongly that with a time-base corrector and those state-of-the-art things that you are going to be able to work effects into the tape without cutting. We are dying for that moment to arrive.

WOODY: Every tape that we do, we usually recolorize or do something to it, change the length, but from the perceptual point, it goes so far that we want to develop right now, from the beginning, two-channel video systems where we wouldn't deal with one output only, because we strongly believe there's a need for a second image, for stereoscopic purposes, or just for different information for the left and right eyes, in a textural sense. We want to build two parallel channels of video. That's probably another major direction we want to deal with now.

STEINA: It's sort of bad news, because it means 2 lenses, 2 cameras, 2 players, or whatever-

WOODY: A symmetrical processing, symmetrical colorizing; it means two-channel manipulation in the sense that you have two control voltages there to be symmetrical, two switching; but it's like a brain, it has two sides.

JUD: The logical and the intuitive.

STEINA: But in that case we move away again from the consumer, the viewer because it then becomes a one-to-one experience-

WOODY: Since it doesn't exist yet in a large display. You would have to build small viewing systems. Actually that's what Alfons Schilling is doing with visually static images, so he also has to build his instruments to be viewed.

JUD: What do think would be the effect of completely different channels going to each eye? What would be the change in orientation of perception

WOODY: First of all, it depends upon what you would feed it. I think, in the textural sense, you can soon fuse it. In the sense of shapes, the learning process would have to be involved in time, because we have learned by looking at certain effects.

STEINA: But the brain superimposes. If you had a circle in one eye and a square in the other, you would get a circle in a square. There's no way for the brain to deal with that differently.

WOODY: And also the exchange, between A & B, but that's the whole magic, the code that we're interested in tracking. There's so much adventure in that particular direction. We would give up any possible achievements just to do that, but it's very fragile. You have to fight for your time. In the past, we could be isolated, and quite independent, since we had a situation where we didn't depend on making a direct living, and that time was totally necessary. It's not so easy anymore, because you collect duties and deal with so many aspects, the discipline of getting together on particular aspect, at least for me, is getting more difficult. It's concentration or just the onesidedness of things that succeeds.

STEINA: It's interesting because we are some of the very few people, probably in the whole world, who have decided to have a home studio at this point, because Stephen Beck, say, has a studio home in the sense that it's not home, but he has his own room and he built it there and he's the only man who uses it, and it's all in one piece. Experimental labs like the TV Lab, in some senses, are like having a piano in the corner which you can only play at most one day a month. What kind of pianist can you actually be then?

JUD: With studios, you almost have to deal with it as hit-and-run, doing as much pre-production work as possible to be able to cram in as much as possible in a limited space of time. There's never quite enough time. And if you set up in real time, something can happen quite easily, and then you're going to have to edit. Sometimes it's like being a video beggar, happy with little tidbits that open up to you, and then you have to make the most of them.

STEINA: I think we all have the same dilemmas: Etra, you, me. It's hard to deal with.

WOODY: Let's put it this way. We would always prefer to establish our own conditions, control our own time, our access to the tools. We live with it and work with it systematically. It still doesn't mean that we pro-

duce systematically, but the unity between the tool and us is a learning process that is totally inseparable. You cannot go and use the tool. You have to develop the tool and be with the tool, whatever it is. We wanted to prove that the individual has access to every technological advantage, doesn't have to really do it within an industry. He can do it independently. Of course, we admit the time of research and the money invested on these boxes may be too much for an individual who is not socially connected to the whole scene, or attached to New York City. or such an organism as this society which you can develop to you and for you, and perhaps still distribute money to you to be able to use the resources. And maybe it's impossible at this point to do it in places other than major technologically oriented centers. That's why we'd like to try it in Europe, and see if the potential, the society is open to support the development of these tools.

STEINA: On the West coast, they are more lucky in their setup, because they are outside the unions, they have 24 hour access, and everybody has a key. They sign up when they want to work, what units they need to work with, like there's this big audio synthesizer there, and there are keyers and colorizers, and a big studio. There's one man who works with lights and it's quite a setup. They hook up more time, but they still have to fight for time, signing up like crazy, and making deals: "I'll give you Monday if you give me Tuesday." But they have got time to explore, and they're not required to tape anything, like studios where you always end up with a tape.

JUD: Quite often, there are uncompleted tapes-

WOODY: And sketches.

STEINA: But they have other problems there; they are really actually too slow. It's totally over at the other end, since they don't have any pressure, they don't have to make tapes, they can go on for hours doing all kinds of hookups and never tape anything.

THE HOME STUDIO

JUD: What are the basic units of your home studio, especially those within the major console?

WOODY: First of all, we found out that if you produce color, with a signal that's not going to be colorized later, but is done in real time in color, or by colorizing one or two channels at the same time, it has

be definitely better quality in the signal than B&W to start out with, and so drastically better that the whole attempt at producing a color signal- without a really good sync source- we initially ran into incredible problems in post-production. The first lucky move actually was to buy a signal generator that provides us with a basic sync source and subcarrier.

STEINA: It's the clock of the system.

WOODY: So we got a high-quality clock. We got it second hand.

JUD: It's an NTSC generator.

WOODY: Yes. It doesn't have to be; you can get an ordinary sync generator, but it has color bars, and other features, and it's a great integrational and educational tool. We never regretted it. Always, if someone wants to begin with a system, that's the start, the signal generator- and then concluded with the processor. That's what we're lacking now because that will conclude everything that we do, a signal processor, that can cope with the errors as long as the output is precisely timed, and the burst and the sync are inserted in proper proportions. But we started with that signal generator, and then we can drive actually up to six cameras. We have three portapak inputs and four other cameras in black and white with Sony six pin connectors, and we can synchronize them externally- like the portapak cameras have external synchronization inputs, and then we get up to six B&W outputs. Now we can put these camera outputs first of all into either colorizer, two channels of that, and then into the keyer, or we can go straight into the keyer. The keyer has eleven inputs which generate six active levels-

STEINA: You can have six layers of images-

WOODY: Five layers against a sixth-

STEINA: One is the background. That's always unkeyed, and onto that you can key five different pictures, so you can have five cameras. If all the cameras have a full frame of a rich image, then it gets totally lost, but what we can do, one camera can be on a hand, say, and behind the hand would be black, so that nothing else is coming through from that camera except the hand. And then we have another camera pointing at a microphone, say, and everything else is black. So we can build up an image and move every element separately.

JUD: So like in film or multimedia, it's a self-matting process.

STEINA: A soft key.

WOODY: But the result when you use the color is very much the same effect as chromakey, but it's not really chromakeying- it's an inexpensive

process compared to chromakeying where you have to have sophisticated color equipment. In ceratin effects the soft keying is as effective as chromakeying, or sometimes better. We have an optional instant selection of priorities, which means that patching doesn't even have to go through the patching system. The buttons on the top, in the sets of matrix: one selects the key, which one is the key, and the other sets the priorities in which the keys are going to go. We can take the third input, for example, and exchange for the fifth.

STEINA: So you arrange them in levels.

WOODY: That's a push-button operation. It's such a pleasure to be able to select your priorities and decide the selection instantly.

JUD: That's two matrices of 6 by 6 buttons.

WOODY: Right. And a flow diagram shows you how the signal is distributed because that presents a little problem. We found out that once you get into more sophistciated control of the signal, it has to be arranged in incredible simplicity. This still is very complicated; you make errors with it.

STEINA: We're still learning how to play the piano.

JUD: Needing time to practice, after getting the piano.

WOODY: And I always imagine if someone asks "Can I use it?"- a priori we know it's going to be agony for him, with errors. But sometimes that's enough for people who don't seek perfection because it's impossible to achieve so the accident may be more interesting; but once you master it more, you want to have that perfection, but then I would say that the whole system has to be redseigned and made simpler.

STEINA: Most of what George builds is very solid because he used ICs exclusively, so his clocks go on a constant. Eric's colorizer is a gorgeous piece of equipment, makes the most fantastic color, but it drifts a lot, to any temperature change, whatever effects it. We are constantly tuning it up.

JUD: It's a different kind of instrument, and an earlier model.

STEINA: Right, but it's like Eric too; it's totally temperamental and unpredictable. But the thing is, that's where we need the processing took and at least we can drive it from the signal generator, but if we have the processing amplifier at the end, we could somehow grab it back, put the clock back to it. It's madness when you tune the colorizer for a whole hour.

WOODY: We wouldn't be able to do it anymore without the scope actually.

I used to laugh at the scope freaks, but today I would be scared to produce a piece of color tape if I didn't know where the burst was. That limitation can become so superior to your problem that you limit your production, in order to satisfy the technological laws. That's the dilemma of industry: unless it's perfect, industry cannot produce. Here, it may never be as perfect as the industrial, but it will never hold us back; we always compromise. Production of tape becomes more important than having it all together. Of course, we would rather produce with a narrower margin of error; with a major error, we would let it go.

STEINA: In the console, there's also the switcher, and the outliner on top.

WOODY: That's an outliner that was built for us by Stephen Beck, but that's newly installed. What it does is simply outlining whatever has an edge, picking up two different levels.

JUD: In general, like the outliner in a Grass Valley studio switcher.

WOODY: There are two modes: you can eliminate shadow for the right, or shadow from the left, so it's a little different.

STEINA: Like, if you have a hand, and it's black inside and black outside, and you can get a white outline. You can cancel this outline and have only the other one, and everything that's on this side of the hand, or get only the other side by cancelling this one. It's intriguing.

WOODY: It's a powerful graphic tool we're just starting to explore. Then we have the Sequencer. It's a switching clock, which was designed to switch two to seven cameras, in different sequences, and it's very highly programmable, with very precise control.

STEINA: That's built by George Brown.

WOODY: We did a few pieces with it. And then there's the colorizer and the scope, and that's the system.

STEINA: To summarize it: The first one is the NTSC signal generator by Tektronix; then comes the keyer/mixer by George Brown; and on the top is Stephen Beck's outliner; and on the side are the camera inputs with the CMA adapters, which we now drive-

WOODY: There's also a genlock.

STEINA: Right, the genlock was built by Paul Mendoza, so there are four engineers actually in this rack besides Tektronix. And we drive all the cameras together from the signal generator.

WOODY: And we have become successful in genlocking tape to a system. We

can increase the intensity of the development and its complexity. And we can also simplify. We can somehow filter certain details out of the process. Feedback does not always have to develop into organic flow, like clay or electronic matter which increases in strange blobs of light. It can also be used simply as a mirror effect, if you zoom in and out you can see the frame; you can use the feedback as a mirror effect which again has its directions and laws. If you turn the camera, you get a curving effect, you can go up and down, and you can actually control that.

Now, if you use multi-monitors, or split screen effects, you can of course influence with different images the final composition. What's interesting about feedback is that any part of the image changes the composition of the whole frame. If a person walks in feedback, every minor movement or position within that frame organically changes the whole structure, even if it's not detectable. So that means the integration between the object and electronic feedback is total, there's no division. It's not a passive process, superimposition, or parts of collaging or matting. It's an organic influence to the image. Now, we usually don't work with a single feedback. We usually use feedback as part of the frame, or, as in the last composition we did, the feedback as a set, controlled in a monitor becoming part of the set. We built that environment for that particular purpose.

STEINA: That feedback can also be the spice of the image, the flavoring that you don't really have to see, and it just shapes around whatever object you have; it makes an aura or makes the object more shapelike. And it can also become a mirror effect of whatever object that it repeats into the frame; it's the dimension, it's the space builder. And as you said before, every object that moves affects the feedback, and the feedback affects every object that moves, a mutual manipulation, of the real image that's being used, or it can be a synthesized image that's used, and the feedback merging together.

WOODY: What I would stress the most about feedback is that it itself could lead inot all aspects of video, discovering and working with it, it demonstrated all phases of video, yet it may not posses aesthetic quality by itself. What it did to us was to give us the clues to the behavior of an electronic image because the sets of clues in the behavior of feedback are so obvious and so explicit that if you have the imag-

ination to extend that clue into the expression, then you have material which you can learn to control. Of course, the control of feedback is a painful process; it may become frustrating because it is somehow always the same, and somehow always has a similar development, but if you don't really depend on it, if you know how to control it you can really go very far away from the basic. You can use just the flavor of it, just the brilliance of it, just take the cream and leave the garbage on the street. Just bring home the pearl.

What's beautiful about feedback again is that it's also the junk which can generate the beauty; it's the abundance, it's the clay again. Clay is so unattractive unless you bring it home and make something of it. The whole myth of feedback, the put-down or the glorification, is totally meaningless. It provides the vehicle. It's like a drug. It just gives you the ability of seeing what you can expand into.

THE ELEMENTS OF VIDEO

STEINA: Let's summarize one thing again. What are the elements of video? Like keying, colorization and feedback. What are the building materials you have for creating an image?

WOODY: If you start from the beginning, it's the image that you perceive from the camera. Let's talk about inputs.

STEINA: Yes, what are inputs?

WOODY: It's the camera, it's the vidicon which scans the image which is formed by a lens. Secondly, direct inputs which don't need a camera. Let's talk of feedback which uses a camera. In this case the camera just serves as a liason between the monitor display and receives whatever the result was there and it's actually just the tool. It doesn't really engage itself in the creating of an image; it helps to keep the energy flowing, that's the function of feedback to the camera.

Now there are images built without a camera, let's say, by feeding frequencies into the video signal directly. So, if there are high frequencies, they make various textures; low frequencies give you very distinct shapes; and very high frequencies make very fine textures; and ultra-high frequencies make color changes, when you get around three megacycles.

And then is Time to Position conversion, as Beck calls it, which is a precisely timed pulse which comes within the raster timing. That means that each line has to receive a set of pulses in the proper tim-

can take a ½" tape and genlock- we don't have the colorlock yet so we can't really use color tape on it, but with hope with a processor that we can be able to genlock on a color tape so we can post-produce with additional color too.

STEINA: And then there's the fast sequencer built by George Brown, next to the CMAs, and a dual colorizer, which means two inputs and two outputs with two cameras, built by Eric Siegel. But all the casing for everything except the Tektronix was built by Woody. He only gets the boards, and he does the casing, but George always wires in his own stuff, which is a real craft which he has. And then there's the patch board which sits down at the bottom.

WOODY'S FAMOUS FEEDBACK RAP

WOODY: We look at video feedback as electronic art material. It's a building material for an image. It's totally abundant in its electronic nature. It's the clay, it's the air, it's the energy, it's the stone, it's the raw material, that you simply use, and then build an image with it. And video feedback is very much what audio feedback is about. You use the relationship between a camera and a monitor the same way you use the relationship between a speaker and a microphone. An ambient noise is amplified through this cycle, and gets amplified further and further, until it results in almost unbearable sound. In video, of course, it happens on a much smaller volume scale. The image basically builds, it increases its volume, but at a certain point it does not increase anymore. It discharges its cycle, and then builds the image again and again.

Now you can of course influence the process: the speed of development, or the direction of the feedback within a field; you can influence the left to right or the right to left development in the sense of a spiral. These are all things through discovery of working with feedback, and through sets of errors, you can define what controls of the camera/monitor relationship to use to shape the feedback. Now we usually work with brightness, with f/stop on the lens, and the zoom: these are the major things, and then with the position of the monitor to the camera, or the position of the camera to the monitor.

We can put into this process additional obstacles, like say processing: you can put a keyer in between a camera and a monitor and we

ing, so then it constructs the image, which is less accidental than feeding a frequency which repeats itself and is distributed as a counterpoint to that original sync frequency.

STEINA: So the first one was basically a description of Eric Siegel's approach; the second, with the position conversion, is Stephen Beck's. Now, the third type of synthesizer, which Nam June Paik's and the Dolphin Scanimate is raster manipulation, which is then picked up by a camera. We have already spoken a great deal about feedback-

WOODY: But we haven't mentioned system feedback.

STEINA: Or reverberation. It's a nice word.

WOODY: Within a system you can achieve a reverberation effect-

STEINA: Like the Grass Valley switcher does it-

WOODY: You can get a very fast echo, and get outlines with these tails and if you go through the borderline generator, the drop shadow really distributes a tail behind. These are system feedbacks or system echoes. Looking in and out without going through a camera or a monitor.

STEINA: Then there are tape manipulations. That's Al Philip's approach. Nam June has also done tape manipulations. Then there are various kinds of keying, because outlining is also a keying process, and so is actually the outliner at the TV Lab; and multiple keying, like the Quantizer, the National Center in San Francisco has one; that is just a multiple keyer.

WOODY: It's a quantizer/colorizer.

STEINA: A big piece of furniture that sits there and cannot be moved. They put it all into a big unit, not handy for traveling, or even out of the room. And then the last process is colorizing. That's a lot.

WOODY: Not everything but a lot of it. (Laughter) And then there's an element called idea or conception, that might also be useful, but not necessarily.

We want to do solid work in image analysis, which means we take a frame, we're probably going to print it out, and analyze each property of it, from textures to outlines, and we'll make a little sequence which will show the development. We want to do this more systematically. We hope to get Stephen or a few other people who have generated images to help us with some visual material, but that would be a little at first, because we'd like to piece together a book for the first time in our life called THE VOCABULARY OF ELECTRONIC IMAGE. We've tried many times, and we may not succeed.

STEINA: We may not.

WOODY: We may not again.

NOTE: This rap in 1973 was just prior to the leaving of the Vasulkas from New York, the moving of their studio and their work to the Media/Study Center in Buffalo, New York and trips to Europe, which included participation in THE VIDEO SHOW at the Serpentine Gallery in London, England. While in Buffalo, a major showing of their work was held at the Albright-Knox Art Gallery, which published an extensive catalog for the exhibition (VASULKA, Albright-Knox Gallery, Buffalo, New York, 1978). The Vasulkas began extensive work with the digital processing and generation and analysis of the video image, producing a number of works individually through the present, where since 1978 they are now living and working in Santa Fe, New Mexico.

SHRIDHAR BAPAT: Set Karma Level Before Pushing Edit Button

SHRIDHAR: Video, in certain senses, is getting closer to the kind of sound that music has to deal with, and there's a close relationship in terms of time, but this also complicates the temporal problem by imposing so many different variables which you can control, so many existent variable which the technology brings about.

JUD: It becomes a problem of navigation.

SHRIDHAR: Navigation is the problem of making instantaneous, virtually subconscious decisions, and you will never, for example, be able to set a colorizer exactly the same way twice. Because the medium is so volatile within such tightly controlled parameters, infact several sets of tightly controlled parameters.

JUD:Just like in synthesized music.

SHRISHAR: Like any kind of music, in effect, because music is so much more pure structure.

JUD: There are different tendencies in music: one kind is strict and lucid, like Xenakis, generally very tightly programmed at one extreme, and then the most alleatory aspects. That kind of polarization is possible within the video medium.

SHRIDHAR: The problem is that in the video medium, nobody has yet had the sufficient time to master the techniques. I wouldn't make any claim to any kind of controlled-

JUD: Virtuosity.

SHRIDHAR: Virtuosity, to the continual point where most of the really great video we see starts off with certain basic ideas-

JUD: Conceptually based within the medium itself.

SHRIDHAR: That's one prerequisite for a tape working; in some way or another, it has to arise out of the technology, be true to it, and the complexity of the technology can vary from a portapak to a Channel 13 studio. And a portapak can produce a tape of equal power to the most complex manipulations of a video synthesizer.

JUD: In film, too, that was the case, with powerful works being done in the 8mm formats. The moment of truth is not limited to any format size.

SHRIDHAR: Video is the most powerful, most economical, and most easily available system that we've had to date. And the thing is, the moment videotape becomes part of your life, its existence and its use begin to

change your modes of perception. I don't think anymore that being a video artist or a video freak is inherently any more of a successful mode of spiritual consciousness than any other.

JUD: Well, all modes are capable of being ways of spiritual transmission

SHRIDHAR: I think definitely that is what a mode is, something that facilitates spiritual transmission. It will be interesting to see what happens to video artists, after a long exposure to their medium? Do they leave it?

JUD: If they leave it? Then what do they do?

SHRIDHAR: I guess we haven't been around long enough to even to begin to look at that.

JUD: Some of the early books written just after the turn of the century about cinematography talked already about the naive wonders achieved by time in film, ultra-slow motion photography. And they were really wondering about all those things that we now accept as part of our total environment. I don't think it will take that long for the new electronic media to evolve in consciousness.

SHRIDHAR: In any system of self-perception, unless the self-perceiver or practitioner of the medium is deliberately trained to avoid it, there is a process which occurs which is a natural self-limitation after he reaches a cut-off point where that mode of self-perception becomes ineffective. To some extent, I look at that as a temporary phase, and I think that video is at that temporary phase right now. In over 250 shows over the past year, I have seen perhaps a hundred different sensibilities express themselves through just five basic forms of image organization, loosely speaking: the Dolphin Scanimate computer approach, the Steina Vasulka after-technological approach which is to take the simplest means and make the most effective statement (like her LET IT BE tape); and then there's the work which has been characterized by high-tech facilities like Channel 13's TV Lab, and different synthesizer systems; and somewhere I feel right now that many of the artists are still operating at the level where they're still taken aback by the novelty of this technology that's facing them. Dmitri Devyatkin, for example, will produce a complex little tape using the Dolphin computer, and someone will walk in and look at a tape by another artist, and there there will probably be very little significant difference between those tapes. We're barely reaching a point where individual artist's sensibilities

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come across, because it's filtered through this technology. This will only change in a real sense when the artist has prolonged access to the equipment, like a musician who can practice every day, and right now the technology is so exclusive. There are very few of us, in fact, who have access to certain kinds of technology. Even so, we have better access than a person working in a production house who most often never gets to use the equipment in ways that he conceives; it's simply not done; there's so much setup and time is expensive.

JUD: That's why it's taken so long to get technicians used to loosening up to work with artists at some facilities.

SHRIDHAR: Yes. They realize the immense power of that chromakeyer in front of them, which they basically use for doing titles, and look what else it can do. I still feel that access is so incredibly limited. One of my pet arguments is that there is a limited number of artists, who have been relatively complacent in really getting to grips with their medium.

JUD: This has been a problem with any elite, including the art elite. They think they can do anything without being noticed.

SHRIDHAR: Or not be noticed, just not be found out. That's a harsher way of putting it. I feel we're going to keep pushing the Kitchen in the direction of trying to get more and more artists shown, as much as we can, always maintaining a certain level of work which always comes from the people working in the medium the most and thinking about it the most. There's a feeling of profound ennui that I sometimes get, thinking about the fact that there are eight different people with video synthesizers in the making, or already out in the market. So what. Perhaps it's a bit of jealousy because it's producing other people's work and I haven't done much myself. I just can't see right now things that I would want to do with video synthesizers as they've been conceived thusfar.

JUD: What kind of things would you want to do at this time?

SHRIDHAR: I'm working on getting eventual access to perhaps using a synthesizer in conjunction with some sort of computer-controlled image bank, which could be a disc recorder. There's supposed to be a cheap kind of disc recorder coming out, about \$600 for RCA home payback units apparently. (NOTE: This rap was in 1973. Home disc videoplayers are a fact now, but they do not record.) That could be like a sequential access

storage system, and if you computerize it, you can access an infinite variety of precisely stored images. I like the precision side of this idea. Perhaps because I've seen so much of other people's work, I'm more and more inclined to think carefully about anything that I might want to do, and the only way to actually carefully control it is to have line-by-line digital control over your image, for one thing. And to have digital storage capability of individual images, and then be able to manipulate them to your will, whether your own or whether you want to set up feedback systems, which are memory references, by triggering certain areas of the brain as opposed to others, and there an incredible number of possibilities. Right now, video is for me a medium just to keep doing, keeping my hand in, to keep my skills alive, until such time as the proper technology is available. Which I feel will happen. It definitely has to come from the industry itself. Acrylic painters were not developed by painters as a nice way to avoid some of the things that oils do. Magnetic tape, in the long run, was a spin-off from purely industrial needs.

JUD: What about the custom built equipment?

SHRIDHAR: The custom built is interesting and absolutely essential in trying to stretch the capabilities of the present level of technology to a maximum, and to working within that constraint, and I think the Vasulkas have been the most skilled at that. They always have been because their studio is a privately financed trip, and everything they've done, all the modifications, with minimal support from the State Council, has made them really unlike all the other fairly advanced video artists. That's a way to do it, but even Steina herself notes the point that we will never get around to distributing ½" video art until there is wider range access to time base correctors and better ½" color decks. And until cassettes are cheap to distribute. (NOTE: Something more practical in the late 1980s with VHS and BETA cassettes.) In a copy of BACKSTAGE which I happened to pick up because the morning Post hadn't hit the newstand yet, and I needed something to read at breakfast, there was an article about the Akai ¼" portable system, and other piece about ½" editing systems becoming broadcast-capable through timebase correctors. So it's totally there, some of it. And I was reading about digital image storage which will eventually be the most sought-after method of trans-

mitting and storing information. The artist will get to use it. But the impetus will have to come from commercial applications. The people and doers already exist, and if you can put enough of them together, you can do it right now with the present level of technology, but it would be incredibly expensive, if not impossible. It's so expensive now because it's commercially unfeasible. It's that pressure that will give us the next advance. I'm not so sure that video will end up in every household as an art form, that pie-in-the-sky fantasy. There isn't a strong tendency for video to become that personal yet; it may simply become a mode for very limited self-perception. People may not be making tapes to show in a theater, or to an audience, or to communicate anything sublimely artistic. The idea of not having to make tapes somewhere may be incredibly liberating.

At this point, the video artist still has to make a living, and if he's making his living as a video artist at this point, then he is at some level an extension of the commercial-

JUD: Or institutional-

SHRIDHAR: And getting grants is not too dissimilar to showing a program to a sponsor.

JUD: Let's go back to the beginning of how you got into video.

SHRIDHAR: My getting into video was done purely for unconscious reasons. I don't know why I got into video. I had broken up with my girlfriend; I was bored during the summer, and I walked into Global Village and just stayed there, for reasons I have yet to analyze, shrink-wise or in any fashion. I got involved in the first Global Village video course, in which there were only two students who stuck through the whole thing, and John Reilly and Rudi Stern didn't exactly stick to it either, and then we all started hanging around and became a corporate system with Susan Milano for the course at the New School.

So I got my basic training, grounding, doing all the schlepp work for John Reilly, and doing documentary tapes, and it was an incredibly valuable experience. One day, I was sitting around with other friends who were involved in video, and we sat down and made a tape, 10-12 minutes long- an absolutely incredible experience. It made me very high. And this is my one and only masterpiece which ended up being shown in the early Whitney Museum video last December. That was done with Charles Phillips, and it was at a place called North Light Productions, in Cambridge, Massachusetts. The tape employed absolutely the simplest way of

synthesizing an image, i.e., video feedback. And it involved the cheapest, most simple mixing system you could devise, a little \$125 keyer-JUD: The Shintron.

SHRIDHAR: Yes. And a studio camera, one of the little Sonys, the 3100 or 3200, and a monitor, and the whole mess just looped into itself. Instead of just pointing the camera at the monitor in simple feedback, we looped the feedback through the keyer; we were feeding the signal back and looping it into itself at the same time.

JUD: Was there an SEG (Special Effects Generator)?

SHRIDHAR: The SEG did not function as an SEG; it simply provided a decent sync signal. There was just a single camera. And we had spent 24 hours straight working on another tape, which we were planning to submit for the Whitney show, and we gave up in frustration on that tape-

JUD: That one was never finished?

SHRIDHAR: No. And we had about 20 minutes of rental time left on the equipment, and we were tired and stoned, and really pissed off. We put on a record, a Soft Machine album, and neither of us had really listened to that music before, and we went ahead and did a tape to that music.

For some reason, we anticipated all the changes and everything. In fact, the image is so complex, in terms of the spacing of different textures, of different levels of gray, that we've never been able to colorize it properly, and the one reaction I always get is: "Hey, gee, man, colorize it." And ever since then, in fact, I've done very few tapes in the two years that I've been heavily involved in video. I've done four tapes that I'm willing to show anybody. That's my approach to working. I can't do anything until I feel absolutely good about it.

"ALEPH-NULL, by Shridhar Bapat and Charles Phillips (12 min.) 1971. 'This tape is an example of pure video feedback. Abstraction is achieved and controlled by electronically "recycling" a video signal through a loop that includes cameras, a monitor and mixers. The "roughness" of the tape results from the fact that it was a spontaneous unrehearsed take.' - SHRIDHAR BAPAT, in the notes for VIDEO PROGRAM II, the Whitney Museum, 1971.

JUD: Which of the four tapes have you shown?

SHRIDHAR: We worked on that original tape shown at the Whitnet, the "dots" tape, and what had happened was that for some reason we had plugged in this equipment. We actually had two camera going out, but one of them

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didn't work, and because of all that we got a pattern of dots on the screen, and we could manipulate the speed and spacing of the dots-
JUD: Like the dots you get from a TV convergence generator.

SHRIDHAR: Similar. They were displaced, and they were all in continuing motion. We figured it was some kind of interference. We've never been able to repeat it. (Laughter) Part of manipulating the image depended on just jiggling a loose cable. But we spent 24 hours before just working to perfect a piece to another piece of music. Rhys Chatham and I had done a sort of semi-live video concert where Rhys produced music that was essentially based on a 60 cycle hum, which, at least in North America, is the absolutely basic frequency for all electronic art-

(NOTE: Rhys Chatham did several performances of his "Composition in the key of 60 cycles" at the Kitchen, a "quiet version" in May of 1972.)

And I just took some images of the Staten Island Ferry-

JUD: And the boat's wake-

SHRIDHAR: And then oscillated, keying it into itself, continuing to overload into a very high contrast level, so that was oscillating with multiples, 60 X 360 X whatever. That was the second tape. And the keying was done always during the playback of each tape, during the performance. And each time, it was different and eventually we hoped to make that a little more complex and involved in audience feedback, using the basic frequency. One of the things we'd like to look into is really 60 cycles; somehow it's some sort of fundamental, affecting frequency as far as the human body is concerned.

"There is truly such a thing as perfect pitch, both alive and in the legendary dead ears of such as Mozart. We careful machines, who look at the time a little less often, wonder what all this was about. The least precocious child alive today can hardly miss 60 cycles...the largest, most careful melody ever played. 60 cycles is pumping and surging all about the heart of the civilization." - TONY CONRAD in the notes for Rhys Chatham's DR. DRONE IN CONCERT, 1972.

JUD: What about 50 cycles?

SHRIDHAR: Exactly. It would be interesting to see whether 50 or 60 cycles affected the body in the same way, and what the differences might be, and how do you get them to reflect other things. It's also interesting that the oldest calendars in the world tend to be based on modules

of twelve, the Babylonian, and the early, early Indus Valley, as opposed to modules of five. The old explanation of having five fingers doesn't wash. In many cultures, for example, the thumb isn't even considered a finger and when counting, you go 1-2-3-4. You might have eight, and there are base 8 systems.

And the other thing that I've been formally engaged in is working with live musicians, especially the group called Starlife, with a man named Bob Mason, who has his first album out, but he built his own synthesizer and his particular idiom is a kind of jazz oriented free-form use of the synthesizer as a performance instrument. Because I was interested in video as a performing art in real time, I was working with musicians because their form is the closest you can come to that kind of behavior except for improvisational dance.

JUD: To what do you attribute your interest in the real time performance aspect of video?

SHRIDHAR: To be quite honest, it's because that equipment and capability is most accessible to me. I don't necessarily find it that much more infinitely attractive than doing very tightly controlled and edited post-produced work-

JUD: So you're interested in both.

SHRIDHAR: I'm interested in both deeply, because often what I learn doing the live process would only be useful if I were able to replicate it under controlled conditions. For example, I would know in the middle of something that a keyer in this particular position with a tivicon and heavy lighting would do certain things, and that purely technical datum would be useless to me unless I can use it sometimes. I get bored with certain mystical trips in video work. For example, the event which Nam June Paik did with Michael Cooper one night at the Kitchen, with a spoon it was one of those things that I know I could not have enjoyed without being absolutely stoned-

JUD: That piece is part of Paik's long standing aspect in performance, of a very, very slow thing, carefully controlled but extremely slow, intentionally stretching the boredom threshold.

SHRIDHAR: I agree with that but I've seen enough of his work to realize that Nam June too can cheat a bit-

JUD: Oh, sure, of course.

SHRIDHAR: I thought that piece was an example of Nam June cheating, because I'm not sure that Michael Cooper would get into what Nam June was doing, and Michael was somewhere off in left field relating to a

screen. Doesn't that reflect what happened in other avant garde art in the 60s?- I'm referring to Americans discovering existentialism and the infinite imminence of pure boredom and banality, and art reflecting that to an extent-

JUD: To the extent of completely minimal, conceptual work. It's still affecting the use of the video medium among those artists who come from that aesthetic.

SHRIDHAR: One thing is that it's the case where that has become the whole mindset at this point of the academy, the academy of our time, and there will always be certain artists who will adapt and try to mediate between the academy and the new mode which has turned up, like eventually we got academic impressionist painting. And at the same time, you got academicians gradually incorporating a much more Delacroix-like interest in light, and the representation of how light is actually perceived, coming into the academic.

JUD: The conceptual is a more analytic form of art. Most often, the catalytic forms are more process oriented. Catalysis and synthesis must be very close corollaries.

SHRIDHAR: I find myself, both as audience and occasionally as artist, in the catalytic end. I want to be able to think out my work, but at the same time I don't want to think it out to the level where it has become a very dry, abstruse game, and because of that, I have to let that element of randomness and unknowness on my own part come in.

JUD: I think of the biological process of studying dead tissue in an attempt to learn about living tissue.

SHRIDHAR: Do you think there's an academy forming now as far as video?

JUD: It would seem that way, in the 70s, with all the arts-

SHRIDGAR: Because it took other artists 300 years to develop that system.

JUD: Video is still too young to completely fall into that, but there are already film and painting academicians who will interpret video.

SHRIDHAR: We will perhaps be saved by time. We always despair when we see they're on us in our own time. You remember Apollinaire as a poet who discovered and pushed the Cubists, but you don't remember all the minor critics who eventually assimilated it- it took them twenty years to get it all together, because it was that kind of a process. But they aren't remembered now; they aren't significant to most people's understanding of Cubism, whereas to most people Apollinaire is at least relatively significant. Or Baudelaire and the Symbolist painters of his time.

JUD: Or Wyndham Lewis and the Europe of his time. Or Marinetti.

SHRIDHAR: So, in some ways, we don't have to worry too much about that. Video is unlike any other medium in that it's going up at a time where the weight of information self-multiplication is immense. I pity the poor graduate student, the poor art history student, ten years from now. He's going to have to sift through everyone from Barbara Rose to some PHD pieces at NYU Fine Arts, and it's going to be very difficult for him to work what the hell was actually going on in the critical consciousness. (Laughter) I'm anti-critical.

JUD: We've talked in the past about the lack of video criticism.

SHRIDHAR: I would like video reporting. I find it a lot easier to find information in a newspaper, among many pieces.

JUD: A good portion of our society does like inventories and lists.

SHRIDHAR: Because they tend to think in inductive, sequential fashion.

JUD: They've found in early cultures, Chaldean and Babylonian, many inscriptions, most of which were business accounts or inventories, and yet nothing remains of the Alexandrian Library. What are you working on right now?

SHRIDHAR: Physically, right now, I'm polishing my room-mate's Buddhas. Set karma level before pushing edit button. What I'm doing now is working on getting the new place for the Kitchen, which recently escaped the ashes of the Mercer Art Center and rises phoenix-like out of the detritus of Off-Broadway theater, getting a new space, larger, better and more modular in terms of how we can distribute time and space units, and space manipulation. I'm working on some of my own projects, perhaps getting together a video cafe idea, for general distribution, working on some gigs- tapes for other people, straight tapes, like educational tapes, reporting the potential use of natural gas-

JUD: Are you still interested in reportage tapes as an occasional interest?

SHRIDHAR: I still interested in reportage tapes as a vocation in terms of ½" video and alternate media. I've always felt that they require a certain intense kind of concentration over a long period of time, and that in turn requires a heavy amount of financing-

JUD: And commitment.

SHRIDHAR: Commitment, and a willingness to get the financing. That was my experience at Global Village, and that's still one of the things I

admire of John Reilly's ability to put together some of the most perfect propaganda tapes I've seen, the ability to master certain bits of information about a reality that perhaps very few other people know about. For example, we worked then on a now widely-seen on Transexuals, or THE IRISH TAPES which John did with Stefan Moore, all intensive studies of some aspect that you can precisely delimit and say "We're going to spend three months doing this." I think, in the immediate future, as far as that type of reportage tape, color will become feasible within a year, and that'll be a just incredible new set of changes.

I said earlier that I'm really waiting for the digital information, but the next thing that's going to affect me is definitely the potential for being able to do color in the street, because then I can do my abstracted video art, and at the same time have the kind of flexibility and quality that the filmmakers have. I think that's going to be the major structural change in the medium.

JUD: When you speak of abstracted, do you mean that in the sense of abstracting from nature, from life, or totally and completely electronically generated. Do you make that distinction?

SHRIDHAR: I do make that distinction. The use of image generation for its own sake produces one kind of art, and that is really what I meant by abstraction. I didn't use the word "abstract" because the generation process is necessarily purely abstract; it can be referential. You can use source images and create various complexes of electronic processes. That's abstracted when that is done for itself, when you take a dancer and process the image with a particular simple visual end in mind. I'm more interested in having the flexibility to just tape the real person in normal approximately real color and then, at the same time, be able to use this machine and debeam it or put it through proto-color processing, and do all my keying, and in the generation. That's one direction in which video is more and more heading. I notice that your own work has always combined some generally real image, some origin image, with process, and somehow always coming back to refer to that starting image.

I came to that position myself with far less experience in visual media. In fact, I was kicked out of art classes; I was kicked out of music classes. By training in high school, I guess I would have been a mathematician or an engineer, and by a somewhat abbreviated college

training, I should have been a sociologist. I've arrived at the decision, with the relatively limited exposure that I've had, to video in terms of creating it myself, that the first step would be to explore both the ability to simply express an emotion through video as opposed to getting more and more aesthetically complex and intense.

JUD: What about actually engendering change in the viewers themselves? Towards its enlightening nature. The therapeutic aspects of video?

SHRIDHAR: I think, at this point anyway, it is more necessary to bludgeon the viewer into feeling something in relationship to the medium, as opposed to being acceptively restrictive-

JUD: Are you yalking about a kind of overload into sensory displacement to the point where they have to re-orient themselves and get a new balance?

SHRIDHAR: Yes. The most intense example of overload I can think of, but there are others, maybe three, and the most intense of them have actually dealt with political information, and that was John Reilly's final mix in the early days of Global Village, when they were regularly presenting shows, and he simultaneously put on four different channels with four different audio tracks, distributed over ten monitors. He had going an incredibly intense barrage of images, images that condensed all of the 60s and people's reactions to them, in one intense one minute experience. People were simultaneously repulsed by it but they couldn't get away from it; nobody got up and left during that one minute. It's interesting. I don't think anybody has been able to work out the ambivalence between the different approaches to length, the kind of program that has to be sat through and watched from beginning to end, and given a span of time, or is it just something that should be there? It's data objectified in the same sense that solid pieces of matter are objectified in a painting or sculpture.

JUD: Raindance used to say: "Don't bother that the video is on." It was like the continual influx of data on broadcast news and television, possibly information you tuned into on a different frequency, but it was also an acceptance of the role that television has played in our formative lives, and extending that to the new content and use of it. It became totally environment and ambience.

SHRIDHAR: I'm still undecided about that terminal level of video, but working with it as a medium where it conveys certain information over

a given span implies assimilation possibilities on the part of the audience. It's another thing to be able to do color documentary work and video synthesizer work easily and every day if one could possibly learn to use it as an instrument.

JUD: Another form of using the documentary, in color also, is the form of personal autobiographical tapes, and some speculative tapes of that nature.

SHRIDHAR: Whenever I see, and this like a basic thing, myself on both sides of a camera, whenever I've seen myself in a normal situation, even if I'm just testing out a new piece of equipment and I happen to walk in front of the camera, just that exposure to myself; I remember when it first happened to me, it radically changed my self-concept in a much more significant way than looking at myself in a mirror would have-

JUD: The monitor is the mirror, but not reversed. It's the ambidextrous universe.

SHRIDHAR: The latest trip is that the brain, the two halves of the brain itself, serve radically different purposes, and one can be sitting there emitting alpha while it's not being used while the other one is going full blast.

JUD: It could be like a capacitive discharge system of psychic energy. When you were talking about the ALEPH-NULL which just went perfectly, I was flashing on the whole nature of the alchemical process, on all levels, the transmutation that sets certain fluxes into flow.

SHRIDHAR: My whole goal has always been to try to maximize the possibility of that occurring. It's a question of intuitively locking in, I'm almost using video terminology; intuitively locking is improbable, but it can be made less improbable by at least creating the base conditions and that's why it took me six tapings with Michael Tschudin's Midnight Opera Company and different people working with me. Another thing is that everything I've done in video has been collaborative. There's something in the medium itself that pushes one towards that. I feel that it's always possible to maximize the opportunities for doing something that's going to be intuitive. That's not saying that I can induce that intuitive flash that creates such a good taping situation.

JUD: But you're concerned with exploring the conditions which can induce those possibilities.

SHRIDHAR: In that sense, it's alchemical in method.

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JUD: Alchemy does bring into play all the points of the rational and the irrational, while science excludes one of those aspects. That's like the artistic conundrum of chance and control.

SHRIDHAR: My process orientation, and that of most video artists I've seen, and I may have seen all of them, is that there is in fact two discernable schools: most of the process orientation I've seen has been towards a semi-rational probing of what certain pieces of equipment can do without really attempting to theorize or analytically work it out. It is possible that a programmer could type out a program which would create a relatively abstract piece of video feedback, that that kind of analysis could take place. What little I know of Frank Gillette's work suggests that he's a prime example of somebody who's analyzed where he's going. Most artists I've seen have not attempted that, at least not admittedly, in a scientific way, which Frank has done.

JUD: In his work with Andy Mann, he was one of the first to produce finely and articulately edited pieces of tape. Eric Siegel's STOCKHOLM tape, the later work of Raindance, all seem to stem from around that time.

SHRIDHAR: Recently I've noticed, particularly at video access centers—speaking about tape as object-oriented as opposed to video as information to be transmitted—most of the documentary tapes we've seen lately have fallen in the halfway position—they're supposed to be community access and you do not get access to somebody's mind unless to some extent you compromise with their mind and convey your information easily in assimilated bits. On the other hand, most of the video art being seen on public channels right now is at the generally self-indulgent level of plugging in an SEG, doing some wipes and keys, and "Gee, it looks beautiful" the first time. I'm very jealous of the facilities that Ron Hays has at WGBH in Boston because his idea of the image concert is so tied in that some of the work with Michael Tilson-Thomas is absolutely incredibly beautiful—There's this integration of video electronic at its deepest level and the musician's at his. Ron Hays has a musician's mentality.

I would like to ask you something, because I have not really been able to evaluate what function the Kitchen will have served in the long run, for video arts and an educated public. As an external sign, we seem to have achieved at least some permanence in people's heads as a center for reference on video art. In many ways, I'm devoted to the Kitchen,

and many of us are devoted to the Kitchen in many unreasoned ways. Forme, it's an absolutely intuitive thing, as I think it is for Bob Stearns and Woody and Steina. At that level, it's impossible to analyze.

JUD: That level which makes it impossible to analyze is precisely that level which makes it valuable. When you have a center, at the center of every center is another center, which is going into the tunnel of experience and you never know when you're going to emerge at the other end. The center is a point where things accumulate and from which things radiate; that's the role a center plays. Over the last two years, I feel the Kitchen has played that role, providing the only constantly going show place, a meeting place, around which a community was formed or crystallized, people who saw each other's work, as the Millennium or the Filmmakers' Cinematheque did for film, so that by 1966 all of the working filmmakers in New York knew each other. That's an important tangible purpose.

In intangible ways, and through the fact that it will continue in new facilities, it will be transmuted to a new level of role-playing, which are now hard to define, except that it will still have as least as much importance in that second plateau as it did in the first. Does that make any sense to you?

SHRIDHAR: It makes very good sense to me. Because, in a way, I'm in the center of that system now, and not able to perceive that system from the outside as an ongoing thing.

JUD: Also, it's one of the most flexible places for artists to show because there is the possibility for different viewing structures and formats everyday, unlike the other video lofts where formats were found for a while, kept and then discarded. At the Kitchen it's different almost every day.

SHRIDHAR: I think that's why I was attracted to it because, intellectually and emotionally, I've been heading in the direction of finding a maximally flexible structure for whatever you do, for your life or your art. I think that's what Woody and Steina have taught me. I really respect their work for two things: one is getting the maximum out of what you have available, in terms of your equipment and your own energy; the second is the commitment to being absolutely flexible in their approach to art. Their approach to the medium has always been incredibly rigorous. They go into anything they touch very deeply, understanding all of its mechanisms intuitively; while they're rigorous, they're flexible.

JUD: In the early days of invention, the first Mechanical age, it seems things were found so much more intuitively.

SHRIDHAR: I'm very happy about the prospects for the Kitchen. My longer term goals would be to somehow export the germ of that idea to some other cities, and to learn from some of the other experiments like the Orson Welles Theatre which just closed in Boston, and Video Free America; to zing off in another direction, I've always felt an antipathy to the art establishment in New York, and so it somehow bothers me to use the term "video art" which somehow implies the very esoteric, elitist. As always, I hope the Kitchen, whoever runs it at whatever stage of its evolution, will always be aggressively anti-art world, also anti-art world, which is another elitist head trip. But we do have to maintain a legitimacy in that world too; that's a practical matter of getting funded.

JUD: The larger mind always has to be sure that the survival functions are operative.

SHRIDHAR: Right. One of my projects, ironically, is to start a video journal which comes out every month, is cheaply printed so its easily accessible, and looseleaf in character, containing a constantly ongoing list of people, who's doing what, ideas, statements, reviews of recent works and of works in progress, without defining any particular attitude towards video. Between Radical Software, which is great as far as it goes, and the art magazine glossies, they've ignored a vast middle range of video art.

JUD: Which seems to include the image process and abstracted tendencies-

SHRIDHAR: I'm in favor of paying more attention to them as a corrective to what's happening, and the apparent neglect in the art magazines which have concentrated more on the conceptual approaches to video, like Oppenheimer, Serra, Nauman, and Joan Jonas. Doug Davis is one of the few writers I've run across who's perceived that same problem that I do. It shows up in his work too.

What I'm interested in doing with the journal is to try to minimize the lag between somebody getting information to me from wherever it is in the country, and by minimizing it perhaps equalize it, and keep it up to date. At the Kitchen, in terms of one place, we're probably in contact with more video artists all over the place in a given period of time than any other institution, so it's a logical organizational place to depart from. Our goal for the Kitchen is not only to expand it

to other cities but to make it somehow endowed in such a way that as an institution it can survive and keep growing, surviving financially.

My dream is to put together a Videocube, in some place like the Museum of Modern Art, which would involve all six sides of a cube, or all twelve sides of a dodecahedron. The participant, rather than the audience or art consumer, the human participant in the process would modulate the images, in other words, the images and other sensory stimuli would react to his own psychological and physiological functions-
JUD: A sensorium.

SHRIDHAR: Except that I believe for the first time it's technically feasible, and the most realistic way to approach something like this would be to program it as a game, using certain known psychological functions. And looking at it practically, as one technological way of achieving something like a sensorium; in its essence the idea is already being put into practice by various people like Seawright's "Reactive Sound and Light Environment."

The implications in my work would be the use of digitized information storage, research and reproduction capability. For a specific person, I would be able to program my system to produce very specific images, even referential factual ones, that related directly to him or to his emotional space.

DMITRI DEVYATKIN: Video And Information Theory

"It is of great value to have some concept of the workings of the electrochemical meat by which we perceive and experience all events. For a worker in the world of video, it is significant that the television images succeed each other at a rate of 30 times a second, whereas the human brain can perceive nowhere near that amount of input. No human being has ever exceeded 100 bits of information per second. If you consider that the American standard has 525 horizontal rows, each of which is capable of effervescing at 8 discrete levels of brightness from black to white, at 30 frames per second, television is emitting 8 billion bits of information per second, for display on the screen."

- DMITRI DEVYATKIN, "NEURAL NOTES For The VIDEO WORKER" in RADICAL SOFTWARE.

JUD: What first attracted you to the video medium?

DMITRI: Different from most people, I had never done any films; I always wanted to but never did. Actually RADICAL SOFTWARE NUMBER ONE was part of the inspiration. I was living in Sanat Barbara, California, and read the first issue and had to get my hands on some equipment. It was a steady development from then on. I spent another six months using equipment at the University of California; I wasn't registered but was going to some classes, and then came to New York. I had actually met Nam June Paik in Santa Barbara when he came to have a show while he was teaching at Cal Arts, and I asked him for the address of somebody in New York who might be able to help me find a job working in video, and he gave me the name of Jackie Cassen.

I came to New York in June of 1971, after having lived in Santa Barbara for a year, and called Jackie Cassen and she said: "Oh, there's this place called the Kitchen" and they had an open house. "In fact," she said, "They're having one tonight and why don't you bring a tape down." It was the first Open House. And my tape was the first one shown, and Shirley Clarke was the unofficial host, and the Vasulkas were there, and it was a memorable night. I showed a tape that I had made with my friend John Rogers, who's also now working in video and with whom I lived in Santa Barbara.

The first tape that we made that was really successful is called VIDEO TUNNEL, and it has the two of us sitting there with a monitor behind us, with us inside that monitor, and a monitor behind that with us inside that monitor, and there's a staggered effect of the motions; they were just a little bit out of sync so that, at first, they look like they're in sync but they're not. It took us a little while to figure out that process, but it's very easy, using two cameras and changing the tapes back and forth.

JUD: You were using two VTRs-

DMITRI: One as playback, the other on record, and then putting the tapes through again and again, and part of our thing, which was very strong about the tape, was the little motions we made with intent expressions, very rigorously.

JUD: That was on early Sony AV equipment-

DMITRI: That was the first AV tape; it's actually in pretty good shape, despite some bad problems with the Sony 3600. The Santa Barbara scene was difficult to adjust to; I really had to come to New York to work because the equipment was constantly be reserved by professors who had priority over you, especially as a non-student.

"VIDEO TUNNEL by Dmitri Devyatkin (7 min.) 1971. Being able to actually see yourself on a TV monitor the moment it is televising you is one of the main and essential differences between video and film. Dmitri Devyatkin uses this principle combined with pre-recorded tapes to create an interesting study in perception and psychological feedback."

- DAVID BIENSTOCK, notes for VIDEO PROGRAM II at the Whitney Museum of American Art.

JUD: You precious background had been in music-

DMITRI: Music, drawing, teaching, studying cybernetics on my own. I had gone to Bronx Science High School in New York, and had studied biology, especially urinanaylsis and the hematology of blood, biochemistry and a lot of mathematics-

JUD: And these are still interests of yours which tie into the communication media.

DMITRI: Yes. It's funny because I feel in general about these ideas, what cybernetics is, and information theory, are usable in more than mathematical ways. These scientists, I feel, more than most of us, live in the future.

There's a Soviet scientist who's associating cybernetics with the physiology of the brain, showing that you can very scientifically apply these systems to physiology; he was a winner of the Lenin prize. My favorite approach has been not to necessarily be an expert on any one field, but to be able to apply something from one field in another field.

JUD: A cross fertilization, hybridizing forms of inter-relating things.

DMITRI: I've always been that way. With music and drawing applying to other interests. I also have a very strong feeling about an individual's role in society in regard to political situations; I think individuals have to become aware of their own role in the mass society, whether they're of a particular class, or how certain effects of their lives are things commonly felt by all people in that society, or is it an individual experience. In terms of communication, one attraction of video for me is that it's easy to communicate things, especially these kinds of political things.

JUD: What features of the medium do that for you: the sense of presentness, of being there, of actually experiencing something? Because even the most realistic film has a sense of history about it, a sense of retrospective viewing non inherent in video.

DMITRI: The thing of being able to show it right back to people, and to look at what you have right away. For the political thing, the advantages are: that it's cheap, and with an increasing technology it will be cheaper than film by far, you can put things on cable, which I guess you could do with film too, but the idea of working directly with the medium of television, which is everybody's home. Conceptually, there's a cross-fertilization between technology and communications, in terms of political communications, because you're saying, not necessarily in words, that this media exists and that it should be put to use of the people, and not against them. The only existing television is definitely used by the ruling class, against people, and people think of that as the only kind of television. But independent television is a whole different thing.

JUD: Each political structure has its own way of using television at the present time.

DMITRI: As far as an individual like myself making tape, the thing is being able to see what you have, having it cheap enough to work by your-

self so you can really afford it, whereas film needs backing by somebody and to be able to do sound sync so easily.

JUD: How would you relate your video experience to information theory?

DMITRI: For example, I really don't think that speech is that good on tape; you can really only give a small section of it. In one way, if you think what information is on the tape, it's a molecular arrangement, but in another way it's a code which is a message on people's brains. It's a direct brain message that you're working with, and therefore you treat it as information. In discussions I've had with formal cybernetics people, they don't like the idea of thinking of art or expression as information, and usually these are the more conservative cybernetics types.

JUD: How would they treat kinesthetics?

DMITRI: It's just a whole different thing. One of them said to me: "I used to write and I used to review poetry, but I've stopped doing that and now I'm doing this" and he felt that he had a taste in art but did not relate it to this at all. A way to compare it is the British and American theories of information: the American theory of information is that a certain message consists of a certain number of bits, that a word consists of each different letter and how many possible positions each letter could be in; the British system is about how much of the information in the message answers what questions you previously had; the more questions it satisfies, totally regardless of the volume of the quantity of the information. It's a real qualitative/quantitative thing.

Maybe it's further on the other side of the British system to ask how do you feel about information if you're making videotape. If you definitely have to feel that you've got something to say, you have a message, that there's some reason why you should go about making it and spending the money and time, and getting people to sit there and look at it. It very quickly wears out, the thrill of the machine. I noticed when I was in Germany this summer, people had never seen anything like it and it just blew their minds to be able to see themselves back right away, and that's fun. But you get really tired of showing people the machine for the first time.

JUD: It's the first level of the video experience.

DEVYATKIN

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DMITRI: But you have to have a reason to want to go through all this trouble. Part of the message which you feel yourself embodied with, what you're spreading, can be a relationship to existing communication needs. It may not immediately satisfy those needs, but it can really change the levels that they operate on, and also I think the message you intend to give is really something that's almost unconscious. There's something about video that communicates so much more than you intend. It shows so much more.

JUD: There's a strong relationship between concepts of nonverbal communication and body language and media, like the Nixon press conferences where the total presence and expression in real time actually conveyed so much more information about where his head was than the words coming out.

DMITRI: I have a videotape of that; it's weird. That was April 30th.

JUD: Interestingly, on NET, right after it they showed POINT OF ORDER on the Army-McCarthy hearings, and the correspondences between things that were said on both were utterly devastating.

DMITRI: For that Nixon tape, I knew that he was going to be on the air; it was long rumored, and I carefully waited and recorded his speech of April 30, 1973 and he read out this line, after listening to it a number of times it was a very nonsense piece of gloop. I didn't change the soundtrack but left it completely what it was, because it was just so perfect, and I did these slight changes to his face where the computer would make him wave a bit, and then close spirals, and a counterpoint to the more the lie the more the wobble, using very bright colors. It's long because the speech was about 20 minutes or so -

JUD: You used the entire speech?

DMITRI: Yes, I didn't cut it at all. We showed it at the Kitchen right after I made it, and a large crowd of people were really impressed and laughing. I showed it a lot in Germany but there's a problem with people who don't speak English.

JUD: Obviously they wouldn't get the nuances-

DMITRI: And what nuances. My intention was to bring together a political and an artistic statement, and in a way there's a very strong presence of the person making the tape, and at the same time it's also a hidden disguised presence, not an outright statement that you could clarify with words. It's more a thing of attitude, saying what feeling you must have towards Nixon if you're willing to do this to his face, an attitude of a certain humor and disgust.

But it's an attitude that's still interested in watching what he's doing. A lot of people say: "It's horrifying" and they don't want to think about it, but I realize he's the President of the United States, and I'm really disappointed when I hear people, even spiritual people, say: "Don't talk to me about Nixon; don't bring me down." I think it's really important to talk about it because that's the state of mind of our nation, the state of mind of everyone around us. It's a mirror of that state of consciousness unfortunately or otherwise.

The computer used for that Nixon tape was the Dolphin Scanimate and we had an interesting way of using it. It was done as an experiment at Dolphin using two computers, one adding special spiral patterns in the backgrounds and foregrounds with a keyer, and the other computer controlling the image of Nixon's face. I was sitting at the keyer and the colorizer, assigning what the final output would be, and Mark was setting things up and in the back room changing patterns with the back room computer, and I would see it on the preview monitor and decide how much to mix with it. (NOTE: THE SORDID AFFAIR, Starring Richard Nixon.)

JUD: You were feeding in the ½" video directly?

DMITRI: It was scan converted, so we could roll the face over and squeeze it; we used the high resolution camera.

JUD: When did you start working with the Dolphin computer?

DMITRI: I owe it all to Walter Wright because he was working there, and on Saturday afternoons, he would go up and just experiment with people, and it was never done commercially. Walter is a very lone type of worker; he's really a genius and people take advantage of him; he's not really business oriented, he can't hustle himself, and it's probably an oversensitivity from the country that's hard to deal with in the big city.

JUD: So you came in with the original black and white ½" portapak tape.

DMITRI: Another one I brought in was a cybernetic tape; one of the best cybernetic tapes I ever made. (NOTE: STEEP TURNS (Cybernetic Rap with Brahm's Violin Sonata) 1972, 30 min. Color) The original process was a B&W tape that I did in a room by myself with a book, and I would do stills from the book, and look around the room and shoot various objects like these triangular styrofoam shapes we hung on the walls, two of them hanging on threads, and I was kicking them with the cameras so they wound around each other, and I was reading from the book and making my own interpretations of things concerning the relationship of nervous

activity, the nerve structure and communications in general, with spiral the way trees grow. STEEP TURNS is in a sort of A-B-A form, and is just about spirals, which is where the title came from. So I went into Dolphin with one piece of B&W tape and David Oistrakh playing Brahms and we played the B&W tape straight through with the Brahms, and Walter was in the back doing patterns on that computer, and I was in the front manipulating the colorizer and keyer. In the second section, we played with the original audio of my talking, using the same visuals with different audio; and the third time, we played the rest of the record, the 2nd and 3rd movements, and the tape started being slowed down, sped up, and sections of it being really warped on the front computer, or synthesizer. computer is really a misnomer for the Dolphin machine- and the 3rd section is really long and drawn out with the music.

JUD: I recall that it built rather dynamically with the music. You were obviously familiar with the music as you were composing the tape in real time.

DMITRI: Yes, I had gotten myself very familiar with the music, and there was already a certain rhythm in the tape that was very manipulable. My relationship with Walter was very interesting; was I the inspiration? I had the idea, I had something together, and a way to use the machine, but he was really invaluable; it wouldn't have happened without him, would have had none of that sparkle, that really high-tech stuff, and that's so much a part of what that tape is about. It's really saying that this high-technology is related to these thoughts of the ways that molecular actions, spiral actions, tree growth, and nervous activity are all related.

"The human brain is unique in the quality that it can draw an abstraction from a mass of data. Even our nearest Simmian progenitors are incapable of the simple association between stimuli received through different mode channels of the same object... Therefore, neurophysiologists believe that it is in the human brain alone that there are 'Cross-Modal Connections.'" - DMITRI DEVYATKIN in NEURAL NOTES For The Video Worker in RADICAL SOFTWARE.

JUD: Your rapping on the spiral came before the idea of actual generation of images.

DMITRI: It was really long before.

JUD: But you had preconceived notions of generating spirals for it?

DMITRI: Yes. And always with this crazy way of working at Dolphin where you put one tape on and you don't turn it off, and that's your tape, and there's no chance to go back and change anything. If it had been totally my scene, I would have definitely wanted to go back and change sections, and learn how to use the thing more. It would be so fantastic to work in a place like that with real use of the machines, and not just a crack for a minute.

JUD: What other tapes did you make using those facilities?

DMITRI: Walter and I did one with a concert of Indian music (NOTE: SACHDEV (Indian flute payer) 1972, 25 min. Color). Sachdev was playing at a special performance in California, and another one I did with Walter was with Motown music. The process was that I had lots of drawings and B&W tapes of album covers, and the soundtrack was composed using the Miracles, the Temptations and Marvin Gaye; that's called MOTOWN EDIT (NOTE: 25 min. 1972. Color) I feel that Motown has a lot to do with veins which I feel inside of me, the New York City thing, and with poor people. It's very commercial and yet it has a certain slickness; I think it represents a certain quality even though it has been so fascistly organized; in one way, the idea is repulsive, and not all the music is good, but this music in the tape is really good. The colors in MOTOWN EDIT are really bubblegum, and really blaring: bright pinks and orange and green. People get overdosed with color a lot, so it's really nice to play with lots of color monitors and loud music.

JUD: How would relate that to the Indian tapes which are quite different in feeling?

DMITRI: A lot of people have done Indian tapes. I feel that this one, and another Indian tape (NOTE: VASANTRAI (Indian Sarod Player) 1973, 30 min. Color) which I did on the same date as the Nixon tape, more recently, and this one has a real Indian tabla player so it's a different music- on SACHDEV, I didn't know I was going to be doing this process when I shot the first tape, and the way the computer was used there was to warp the image, with less doing patterns in the background. The front image, the shape of him playing, was being warped, and in the VASANTRAI tape, the other process of mixing back patterns with the original footage of the player was used. In both cases, what's really different from the other Indian music tapes I've seen so far, is the thing of having

the people playing as the main action, as opposed to the mandalic patterns. I feel now about these tapes, if I had had the chance to do them over, I would have tried reversing the techniques and doing patterns more over the SACHDEV one, and warping the image more on VASANTRAI.

JUD: The tapes themselves are like live improvisations based on original live improvisational music, which is an important permutation. Doing the tapes over might be like visually practicing a certain raga form and trying to master it. You must have been conscious of that analogy when making the tapes.

DMITRI: Yes, but I also realized the once and only aspect of the working, so it was more of having a certain confidence, and saying: "Do it and it will all work" and it did work. A lot of people have said: "Oh, you should have found what the correct chakras are, and the relationship of various tones to different color." There are supposedly official chakral relationships in yoga, but I didn't see what that had to do with what I was doing at all, especially with the colorizer. The colorizer is more a heat machine than a computer in any way, and perhaps if the technology were more advanced, you could control every frame but it seemed such a much more relative machine that you change with your taste. This use of technology in human ways is really important. The Computer Arts Festival at the Kitchen was extremely good in that a lot of people who think that computers and synthesizers, but computers mostly, are threatening kings of technology, a widespread fear, that technology will replace them in their jobs, some of these people saw other uses. The fear is well-founded because we live in a really wretched society that uses technology to improve the profits of the owners, as opposed to making the work easier. The boss can fire half his workers because he's got these fantastic new machines; so people are right in feeling threatened by the technology; but it's not the technology, it's the capitalists. At the Computer Festival, people saw that computers and other technology could be used for really humanistic purposes, and it was also clear that each work was very different.

Just because they were all done by computers, you couldn't lock them all together because each individual artist expressed himself very strongly. As opposed to saying, you create the output, the output is a function of the settings and your change is the element; you decide what knob does what and what to pick out of the vast array of possibilities. Computers and other technological art, like electronic music, as opposed to making a particular choice of a few notes, have in common a vast

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array of things which are inherent in the medium. You're making a selection. It's really a different kind of expression to say that out of so many possibilities, I'm saying this. As opposed to the main use of video, like the Police and Narcs. I heard the Maine State Police bought a 150 portapak; that's who most uses video. With the new technology, the police are going to be involved more than ever, on every street corner and on every street- with the Smart-Bombs, as they call it. They used these bombs in Viet-Nam which has Sony portapak cameras on their noses which would radio-signal back messages to pilots who had controls using lasers.

JUD: That's a strong example of inhumanly inverse use of technology.

DMITRI: Exactly. There's a strong need for people to know that the technology is as good or as bad as the people who use it. It's a very powerful weapon, and shouldn't just be left for the ruling class and the killers. One thing about Watergate was that the technology was so beautiful; they had this tiny bug smaller than your fingernail which could be put inside a telephone and had no way to be detected, with a battery which could keep it going for over a year. It could only be picked up by an \$85,000 receiver across the street. That kind of technology is just so fantastic.

JUD: Sophistication and minaturization.

DMITRI: And for a specific purpose. Comparing the socialist system with the capitalist system, here in the capitalist system it's an advanced consumer population, spending lots of money; even though the US earns less per capita than Germany or Sweden, the per capita spending is more than twice as high. Since the Soviet Union countries don't have this consumer population, the video that exists is very centralized, in broadcast systems, by with low levels of technology integrated into the society. If it did get integrated, I wonder if they could use independent productions. I don't agree that it would necessarily fall into the hands of the dissidents, a hopped-up situation as I see it. In the US, because it's a free market, supposedly, Sony and the US distributors are making as much money as they can and producing portapaks like GM cars. They don't care if they could make something better, even if they could save money; they prefer the same basic style and they just improve little things, but not the basic design. But that has spawned the whole video culture. America seems to be really well adapted to it be-

cause people watch television so much and are used to having technology around them, in quick fast bursts, and can pay attention to it, and use it and react to it.

JUD: Video process imagery through synthesizers and other means is an interested among some video people, and some others are into controlled studio situations which are then processed and edited. Do you feel that the portapak itself is essential to your mode of expression?

DMITRI: Definitely. It has so much to do with independent production. With the computer tapes, I was pretty well prepared, had done the preparatory work myself. It's very adaptable and it really reflects exactly what you're thinking. I read in a good book about video, THIS DAY IS NOT A TOY, that's hard to get, published by the Council of Social Work in New York, where they talked about video being different from writing in that if you make a videotape report about a situation, you can't possibly fake it, whereas writing is very easy to fake. And if you've done a job or a good report, even if you fuck up on the technical end, the idea comes across in video.

The video distortion thing is done by a lot of people I am really close to: Bill Etra, The Vasulkas, Walter; their concept of video is completely different from mine, concerned with this artificial image, controlled by electronics, which has little to do with the camera. The Vasulkas are getting more into the camera stuff; they've always been camera people. I think you can see video broken into two groups: people who use it for the political, cheap side, involving usually a portapak and quite often interviews and live action events; and a smaller group which uses pure electronic imagery, and these people have most come to the fore at the Kitchen. One problem with a great many of the live action tapes is that they're boring, are done by amateurs or by people who don't really think about what they're doing and have no point of view or message to express. They spend a lot of time and tape interviewing people and going along slowly, and only someone interested in that particular situation would be interested in the tape. These tapes can be given to cable, because there's not much invested in the tape, money-wise or experience-wise, and they don't need the money back from the cable station; it's much more important for them that the tape gets shown.

On the other hand, the artist people who are really involved and spend a lot of time, and are starting to turn out what they consider works of art, for some reason, are staying away from political things. It'

disappointing to me. I'm one of the few; there are number of others, who make up perhaps a third category, who use electronic effects to do political things, and do both, sometimes in the same tape like in my Nixon piece. A number of poeple are using religious themes, or yoga, but they're not essentially video people. They're using video as a tool rather than video being the main thing. I think that any use of video is valid, even the police use of video is valid. It's video that does the job.

There's also a group of video artists whose work is not much different from filmmaking, particularly in Berlin, where this group, the NDK, Neues Deutches Kinemat, or something like that, do all the work on film and then transfer it to videotape, and they say "we're video artists" and feel that they're working with the medium.

As to ways I see video going in the future, I see lots of linkage of computer systems with cable TV and I really see people having terminals in their homes, so you could get any program any time, read through your lines digitally. I also think that a lot of uses that other media fulfill now will find video more adaptable.

JUD: You've been doing a great deal of documentation tapes recently, on a trip to Germany.

DMITRI: I now want to investigate that end, but I'm not giving up the other end; that will always be there. The documentaries are a sort of personal thing. The existing groups working with electronic things are not at all sharing a certain consciousness that I feel very strongly about the political situation and the necessity for the individual to relate his life in a meaningful way to that situation, particularly to mass ignorance and people's reactions to horrible things like bombings and murder and corruption. I'm concerned more with regular people. You can affect young people. So, in the immediate needs right now, portapak and documentary wrk is much more useful and so much of the work in the other field seems so cloistered and individualistic.

JUD: What do you feel about the role of video as a spiritual communication tool?

DMITRI: I've said it a number of times to other people; I feel that on a videotape you record four tracks: one, very wide, which occupies most of the tape, which is the video; and on the bottom is the control track to keep the heads in sync; and on the top is the audio; and then somewhere in there is a fourth track and you can't call it anything but vibes. Somehow there's something that communicates the feeling; you feel

that you could notice it even if you didn't see the tape or hear the tape. Of course, if you turned down the brightness and turned off the sounds, you wouldn't get those vibes, but there's something that video has inherent in it that very succinctly captures atmosphere and nuances and is so manipulable. I think it has to do with, as opposed to an image reflected, bouncing back at you off a wall, it's the source itself pouring out the signal, and even though the signal happens as a picture on a screen, it's much more direct, right into your brain. There are thus channels that you have in video that are other than simply visual and auditory, that establish an association of qualities.

Video can teach children to read. When I think of the children of Los Angeles who see the world in a gray box, even through their car windows, and most of their experience is through the TV at home, it breeds a consciousness of the slickness, but that nothing can be of such great importance that it won't be followed by something else, an ad probably; the worst tragedy, President Kennedy is slaughtered and his blood drips all over the Cadillac, and Gulf Oil is sponsoring the whole trip. Nothing surpasses this ongoing grinding.

It's interesting how closely the technology is related to how the physiology works; for example, the scanning process which is something the brain does. The whole brain principle is a scanning of all the inputs, which is what the alpha wave is; all the inputs on your body going to this central core. 8 or 10 cycles is the main wave, and all these little reverberations are happening in between. The scanning thing as a way of thinking relates to the way video is very easy for teaching children; it's easy to communicate very quickly with little flashes of information over video, much more so than film. It's also possible to show less change, a more constant thing for a longer period, even an interview, without boring people. It's partly that video is coming out at you but it's also a scanning process related to the scanning process of your brain.

"Scansion in the human brain...the abstraction is a derivative of the total inputs. In the Optical Cortex, the eye is caused to respond to slight changes of an over-all sameness, like a fly flying in front of a white wall; it is the new, significant information to which the eye is drawn. In the Auditory Cortex, significant relationships between notes and chords

are gleaned from the mass of sounds produced, explaining man's propensity to the 12-tone scale...In the Cerebral Cortex, the abstraction made is the constant dichotomies to which man must be well adapted. To choose to do one thing is to choose not to do another. The human brain presents itself with reports from every receptor in the body. Certain stimuli have priority over others, but there is still a balance reached." - DMITRI DEVYATKIN in NEURAL NOTES For The VIDEO WORKER in RADICAL SOFTWARE.

JUD: By spiritual, I mean a kind of consciousness awakening, not merely on social and material levels, but in terms of improving one's state of mind, and the extending of one's aura into one's surroundings.

DMITRI: It's really hard to be intentional about that. Let's say you would make a tape which was intended to be a spiritual lesson, it would be a different spiritual lesson than you had intended. It would be a message about you and your idea of spiritual relation. If I made such a tape so much of what would be shown in that tape would be unconscious and unintentional.

JUD: That also brings up the point of opening up a channel through which forces work through you, which I see as very much a part of the intuitive process. With a portapak camera, it comes into play in what you select, how you frame it and react to it, compressing it down into that ratio. In terms of image modification, with an analog computer, it's real time also.

DMITRI: My own particular view is much more involved in the material thing when I say I have a reason why I feel people should watch my tapes. It's an ego thing, yes, and I usually like a lot of them, but you have to be that way if you're involved with any kind of media thing.

JUD: Once you take the step of deciding that you want to show it to other people.

DMITRI: Yes, and you have to deal with that. I don't feel my message is a spiritual one. If there is any message, it's probably political or philosophical, probably an attitude of perhaps introducing people to technology, not as a pristine, foreign, untouchable thing, but much more as a warm, friendly and integrating thing. You don't say: "Oh, what a wonderful piece of metal." You say: "Oh, what a wonderful brain this other person has, or how beautiful, or what an incredible situation." You don't concentrate on the fact of what the media is; when you look at the information, it brings you to it.

"Anyone who has had the good fortune to listen to Wiener and von Neumann and Rosenblueth and Pitts wrestling with the problems of modern computing machines that know and want has a strange sense that he is listening to a colloquy of the ancients. But they would be the first to tell you that they themselves were drunk with an American wine of an older vintage; they quote liberally from Charles Peirce and from Josian Willard Gibbs. These men have altered out metaphysics by altering our physics. It is epistemology that is most affected, for it is the physics of communication which is today receiving an adequate, theoretical treatment. For the first time in the history of science we know how we know and hence are able to state it clearly."

- WARREN S. McCULLOUGH, "Through the Den of the Metaphysician."

JUD: Has McCullough's thought influenced your views on media communications, particularly in relation to video?

DMITRI: Unfortunately, it's not a completed relationship. I feel I've started many things I haven't completed. I became very interested in such ways that the actual information itself perhaps didn't affect me as much as the way of thinking and the breadth of thinking. I was lucky to meet Mrs. McCullough and to get along with her very well, and I'm glad to say we're still very close. I haven't communicated to her for a while since I was traveling, but she's an unbelievably beautiful woman. You can see from her just what kind of relationship she had with McCullough. He seems to have been, in many ways, neurotic, and obviously in other ways, a great, great genius, a wizard, an unbelievable wise man who had incredible interests in so many fields: poetry, philosophy, teaching, psychiatry; he was a brain surgeon too. And the contacts he had with other people, other unrelated scientists, and even more important, the networks which he established-

JUD: The interdisciplinary connections-

DMITRI: Yes. Unfortunately, a lot of his networks are not being used although they still exist, and that's something Mrs. McCullough is trying to do, to keep those networks alive, to find people who have tape of McCullough speaking. He never did get involved in media. His work was mostly theoretical, concerned with calculus and the nervous system. He and Walter Pitts are very famous for deriving this mathematical system in which you could hypothetically say how the nerves had to react

in order to give certain messages, and it's still widely accepted, both in Western and Soviet physiology. He was also very anti-Freudian (NOTE: See McCullough's THE PAST OF A DELUSION, 1953, in EMBODIMENTS OF MIND, MIT PRESS.) and very strongly individualistic. I won't say he was political; infact, his politics were even in some way warped. In common with a great many Americans who are intelligent in certain ways and yet blind to existing relationships around them. But he wasn't just highly theoretical because he was applying his learning all the time, as a brain surgeon.

"Now Pitts and I have computed the information in the output of a piano player surpassing any ever known. We have given him a keyboard of a hundred keys, let him strike independently with each finger with any one of ten strengths ten times per second, and let each hand span ten keys. That sounds like a lot of information, but on computing it we find it is only about two units per millisecond.

Recent telephonic devies have sampled waves every thousandth of a second and passes on one pip if the wave was then of a given deviation from the mean, otherwise no pip. They are relayed to a smearing device and heard. It is better than 90 per cent as intelligible as the original voice. Three such pip per millisecond determined by eight possible values of the wav reproduce an orchestra. So much information at most may we hope to convey."

- WARREN S. McCULLOUGH in WHY THE MIND IS IN THE HEAD.

JUD: He was also interested in behavioral manifestations.

DMITRI: Yes. For example, I've heard stories that he was a sexist, and felt women were inferior in some ways, though he never came out and said it or wrote about it, but I wouldn't doubt it. And he was shunted around MIT a lot, promised high positions, money and facilities, and was never given them. People who invited him and respected him, were never able to really help him because the people higher up were against him. So he really suffered and lost his job, drank a lot, and was also very egotistical and self-centered. But the spirit of the McCullough farm where we would go to listen to tapes of him speaking, and the way we listened was not that this is the king, this is the wise man; nobody worshipped him; no one takes every word because it's well-known that some of the strict

scientific things he did are very widely accepted, but, on the other hand, a number of them have been either disproved or surpassed. Work has gone far beyond it, so we didn't think of him now as the wizard, the true giver. As a philosopher, his ideas pointed more in a new direction and towards wide spaces, and breaking bounds, as opposed to strict and precise definite statement and facts. One of his favorite remarks which he used that I love: "Look where I'm pointing, not at my finger." (NOTE: To people who criticized or missed his points, he phrased it: 'Don't bit my finger, look where I am pointing.')

JUD: Which of course relates to a Zen koan: "I cannot show you the moon. I can only show you in which direction it lies. Do not however make the mistake of thinking that my finger is the moon."

DMITRI: Yes. So, to relate this to the video media, I feel that I would love to be that same way, to show people wide open spaces. I hate that feeling of being responsible in terms of every word you say having to be accurate. You can communicate by your nose and eyes as well as you can with fantastic words and grammatical structures. I don't know if he would approve of what I am doing. Maybe he would be interested in video too; he died before it ever got to be available. There is a film of him that was done for Canadian Broadcasting; it's really amazing. I copied it on video, so you can hear his voice and see his motions. His accent is very hard to understand, very Bostonian mixed with Southern, because he's from Carolina.

There's a great tendency among people who use the word "cybernetic" to misuse it, to psyche up what they're saying by using words and phrases from it, and not to be truly scientific about it. Psycho-cybernetics and cyborg and all that nonsense stuff has nothing to do with cybernetics. Cybernetics really means those systems in which negative feedback is used to control the input, that's all. It doesn't have anything to do with the study of communications, but communications has this in common with it, though: when you read somebody referring to McCullough about it, a lot of things pale in comparison.

In the future, I would say there will be a more integrated use of machines and technology with normal people. Like what the container industry is doing to shipping; because they're able to replace longshoremen with these containers, big metal boxes that they pick up on cranes and roll on wheels, they're closing down most of the ports in New York, and longshoremen are being thrown out of work, and yet freight shipping

rates are higher than ever. So who's making all the money?

A similar thing in the newspaper business: the New York Times and other big newspapers are running on old-fashioned equipment, and modern equipment is available, and not even that expensive, but they're so money-hungry and profit-oriented, that they rationalize each year that they can wait for better equipment. They would probably need the same amount of people to run it, but it would make the work load less; it would make it easier and a more advanced kind of work. The computer is a special child of this technology. It will probably be the most significant thing ever affecting communications and information, specially when linked to television systems. Some people I know at SRI are working on a system, and others in this country have computer links, and they work on video systems that you can type into and really see things getting advanced with pictures realized as soon as they can be visualized. And cameras are being developed which give a direct digital picture to integrate the analog into the system. The people at SRI felt that their system was relatively cheap, could be used by large numbers of people, on a time-sharing system, and they felt that when this system got widespread and widely used, the effect on the society would be more than the combined effect, if you can imagine it, of Gutenberg's invention of the printing press plus the invention of writing. Plus the thought is now more with people orientation involving computer/human relations, and much less hardware orientation.

One thing about technology that's great is that it lends itself well to manipulation by the few of the many. When it's centralized as it is in most countries, and well centralized in the US- CBS controls billions of dollars worth of money with mass consciousness effecting. I can see independent production increasing, with time-sharing systems. Batelle in Seattle has come up with a 3 by 5 plastic card that has digital information pressed into it that's read by a laser into a display that's color for a half hour with sound on this little card. You need the computer to read this information through.

JUD: That's coming closer to the little black box with a card or film program that's been dreamed off in media production for years.

DMITRI: And I feel recording things off the air is part of video too, because I don't believe in the purity of video images. They're yours wherever you get them, and you can do whatever you want with them, and

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I love taking things off the air and mixing them with other stuff, and I suppose it's an addiction or infatuation as opposed to really liking it because, like everyone else, I'm a child of the video generation. It's really affected people's minds.

JUD: You feel that this is valid material for usage, like the food that they market to you; you still have the option of how you're going to cook it up.

DMITRI: Right. It's yours to churn away at. I don't use that much, but this ability to sit with your record button, ready to record anything you want; I like that. And a digital system would be fantastic and so cheap because of the amount of information you could store on one little card, or one little drum or disc, so it would be as cheap to keep on recording as to not to. If you could have the computer integrated so you could describe the kind of information for which you were looking, and the computer would be a brain that would seek it out, and then you could do digital editing with the computer; "I want Joe's face; now I want to see his teeth; now give me the image of a star." That would be fantastic.

JUD: There is a real ingenuity now in the alternate video generation's ability to adapt the equipment to its needs, a real first in consumer technology. It's being modified to do things that weren't intended by the manufacturer, with supplementary equipment amplifying its usage. Some of the biofeedback devices are called "Time/space demolishers" because they make possible to achieve what would ordinarily take hours and days, and even months, to do ordinarily, if at all. Selectivity with video programming could be like that; right now, the problem is access, both to the necessary software and the hardware itself.

JUD: What anticipations do you have for your forthcoming trip to the Soviet Union, especially as regards video?

DMITRI: I'm hoping for special new relations between the Soviets and the US. Perhaps they'll let me go places to make tapes. I'm not going to make anything that would threaten them; I'm going to do things with the people, how they live, and special cultural events. I think video would serve a real purpose. They'll probably be really amazed by it too. I hope there's some way of integrating this little system that I'm bringing with other systems, maybe film or regular television. They might be able to be shot with another television camera, since I don't need that much money, they could transfer it if they wanted to. It's something to

work towards, rather than right now. It would be a matter of setting up the right situation. Ordinarily I try to do things on certain premises, but there I'll try to do what has to be done. When I went to Sweden, I could only do a little of what I wanted, on that video tour last summer. I went for the UN Conference on the Human Environment. But when you record a direct tape of someone doing something like acting or singing, a real event, the video becomes so clear as just the medium, and it's so adaptable to that, particularly the tapes I made of the Berliner Ensemble in Berlin, who are fabled but haven't been seen by so many. There's one tape of the music of a special Kurt Weill night. You really see this immense power even though you can't understand the German. They're a very professional theater company.

(NOTE: OF WHALES AND MEN, the UN Conference, Stockholm, Sweden, 1972, 30 min. B&W; TENTH WORLD YOUTH FESTIVAL, Berlin, GDR 1973, 30 min. B&W; BERLINER ENSEMBLE from plays of Bertolt Brecht, Berlin, GDR, 1973, 30 min. B&W; plays by the Taganka Theatre, in Russian includes THEN DAYS THAT SHOOK THE WORLD, 1974, 2 hours, B&W; HAMLET (Russian text by Boris Pasternak) 2 hours. B&W. Also SUGGESTOPEDIA, A SCIENCE OF LEARNING, translated into English, 1972, 30 min. B&W and SCENE IN RUSSIA, a personal video window, concentrating on people, 1975, 30 min.)

DMITRI: When you're making an event tape, the video is very passive. The message of the act itself comes out very clearly. Like the theater work was already prepared, rehearsed and perfect. With the portapak, I found this summer the necessity for the immediacy of being on time, there, ready to move, and be up close. And at the conference something was happening everyday and you've got to carry your equipment 20 miles each day. And all you have left is the signal on these tapes, an arrangement of molecules. All video discussions seem to end in hardware; The blur between the video artist and the technician is incredible; it's dependent on it.

"Imagine if we were differently constructed, or imagine the people occupying the distant galaxies. It is entirely explainable through survival of the fittest that these sensory devices are actually best adapted to the local environment, but imagine life on a planet with a much larger sun, causing entirely different ratios of all energies. Imagine the video these people would have."

- DMITRI DEVYATKIN, NEURAL NOTES For The VIDEO WORKER.