NAVAL WAR COLLEGE, NEWPORT, R.I.

ORAL HISTORY PROGRAM

HISTORY OF THE NAVAL WAR COLLEGE

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NAVAL WAR COLLEGE

NO.

MR. FRANK McHUGH

ORAL HISTORY PROGRAM

NAVAL WAR COLLEGE

1983

Naval War College
Newport, Rhode Island
Oral History Program

The History of the Naval War College

Interviewee: Mr. Frank McHugh

Interviewer: Mr. Anthony Nicolosi, with
              Mr. Robert Kirkwood

Subject: The History of the Naval War College

Date: March 23, 1983

N: It's March 23, 1983 and this is the Naval War College.
We're in N22 of Founders Hall for an oral history recording
session with Mr. Frank McHugh, an old time employee of the
Naval War College and particularly the War Gaming Center.
With us today are Mr. Bob Kirkwood, U.S. Navy (retired), and
former employee of the War Gaming Department, and myself, Mr.
Anthony Nicolosi, the director of the museum and Historical
Collection at the War College. We're here particularly to
ask Frank McHugh to reminisce a bit, if he would, about his
long association with the War College.

       Frank, could you tell me when you began working in the
Naval War College?

M: Yes, March 1, 1934.

N: How old were you at the time?

M: Twenty-six, I believe.

N: Who did you work for when you first came to the War
College?

M: Roy Everett.

N: Who was he?

M: He was in charge of the drafting room and he was a war
gaming expert.

N: What did you do in the drafting room?

M: I went down on the board and plotted the moves and
transferred them to the master plot.

N: So, your association with war gaming began at the War
College from the very beginning of your employment.

M: Correct. The other thing I did was make maps and
formation diagrams...

N: Where was War Gaming located at that time?

M: That room was located on the center wing, on the
center of Luce Hall on the third floor. It moved shortly
thereafter to its permanent location in Pringle Hall.
Pringle Hall was just being completed when I got here.

N: And that was '37?

M: '34. I came in '34.

N: '34! That's right, the building was under
construction in '34.

M: It was finished in '34.

N: Was that the third floor?

M: I believe it was. We moved up there. And to my
knowledge, that war gaming setup was designed by Bill
Chadwick.

N: Isn't that interesting.

M: The drafting room was upstairs, just over the game
room; you go down to the game room. The blueprinting--all
the printing was done by blueprint--that was right there.
The pneumatic tubes, to send messages...

N: Yes, I remember seeing a lot of photographs...

M: They went down to the different rooms. If they were
submarines, they would get put in a pneumatic tube and send
it over to the plotting room. The plotting room was the one

with the, you know--it had curtains and screens, till you came into view, there was no radar there were screens dividing the forces.

K: Are you talking about Pringle coffee mess?

M: The coffee mess and lecture hall at that time.

K: Okay. I thought you said it started at the center of Luce Hall.

M: The drafting room was in the center of Luce Hall. There were two game rooms in Luce Hall--the east and the west--and they were just established when Pringle Hall came in. Kimball can tell you all about it. I think the two rooms on either side were the game rooms.

K: That's in Luce Hall.

N: I have pictures of the interiors of the war gaming room.

M: Yes, we were in Luce Hall. Pringle Hall, just after I came, opened up the master game room, it is now the lecture hall and coffee mess. And that scale was six inches to a thousand yards. The others, I believe are four inches to a thousand yards.

K: That's the tiles you're talking about.

M: Yes, the scale. And each one of those squares was
duplicated on a plotting sheet, HO 50-50. And I doubt
there's many of those around, but you transfer, you could put
the numbers on the board on chalk, and match them up with a
plotting sheet, and that's how you plotted the moves. The
players moved the ships. The plotters, Ray Gaudet and I,
would go on and make the move and transfer to the master
plot, and during the tactical games, Johnny Wilson ran the
mechanics of the tactical games, on the senior class; Johnny
Lawton on the junior class; and Mr. Ward ran the strategic
area.

K: This is the thirties, now--from the mid to the late
thirties.

M: This is when I came. And it didn't change. Nobody
left. Things remained the same. Nobody got promoted, nobody
got a raise--they stayed exactly in the same place, year
after year, yes.

K: That's the old Navy.

M: Well, it was. We didn't get back our fifteen percent
cut, sometime.

N: This was during the depression, too, wasn't it?

K: A fifteen percent cut? It's been a fifteen percent
cut.

M: Well, as I recall, when I came everybody in the
government, including the services had a fifteen percent cut
in pay. And sometime before World War II that cut was
restored. Okay. Does that answer your questions on that,
Bob?

K: I want to ask you another question. This whole
operation became duplicated or transferred to the east wing
of Sims at some point, didn't it?

M: Now, this was a long time later. This was in 1947
when, that was Barracks C, at the end of World War II... Now
again, I can't prove all this, I don't have the facts on
this, but I believe Admiral Spruance was president, he wanted
the logistics, somebody wanted it to go to Bayonne Logistics
School he wanted to hear it. That's what I heard. Admiral
Eccles could tell you the story on that.

N: He has, several times over.

M: Okay, then you know the story on that. But I went
down to the logistics department for two reasons: 1) I would

be junior and they wanted somebody who had been war gaming, and they said to me, "Do you want to go down?" which was tantamount for saying, "You'll go down." So I went down there and it was a game board setup which is now the coffee mess in Sims. And I plotted the games, at random games, the mechanics of the games for the logistics department. Now, C & S occasionally came down to use their game board. They also went to the NEWS. Joe Domingoes I believe came and went to the NEWS a few times--if he could fill in that--I never did go there. Ray Gaudet came down for the junior class. When the logistics department was changed to strategy and logistics and came back on the hill, they didn't know what to do with me--they put me in visual aids. That's a com center. And C & S moved down to Sims. And they put the war game room in where the wars or the color games are now. That was also an auditorium. And the tactical games were conducted on the floor there, and they also conducted called strategic games there. At that time the game board was in disfavor, tactical games would be phased out. War gaming about then reached its bottom....

K: This is in what year now?

M: This is after 47.

K: How you can jump from the thirties to the forties is,... so maybe you should go back.

N: Yes, but this is so very interesting and I can see the
continuity that occurred...

M: Also, there wasn't really much change. The War
College went on the same, the same people who were in the
games, one difference was Freddie Wagner,... The war game
setup was Hazard, Ward, Wilson, Wagner, Lawton, and Gaudet,
and me. Freddie Wagner had a train accident when he was
working for Brown and Sharpe and he hurt his leg. He signed
off on it when it was healed--he thought it was healed, but
it bothered him all his life and he was in the hospital for a
long, long time. While he was in the hospital, John Lawton
took over his job. There was a tremendous difference in pay,
but John Lawton never did get the money. There was no,
nothing there--he just... When I mentioned the secretary, I
was doing the same work that somebody else was doing for a
lot more money, so if you don't like it, get the hell out. I
could understand his viewpoint, and he couldn't, there was no
money.

N: There was no money.

M: And so, actually, for years Ward was the strategic
dean. John Wilson was the tactical dean for the senior
class, and Johnny Lawton for the junior class. Admiral
Spruance was the director, I believe, of the junior class
before World War II. Now, whether that was his job, I'm not

sure. But he was on the game board. I remember that. *.

K: Spruance...

N: The staff members, '37.

K: Spruance was a captain, was it 1937?

M: It was in the thirties. Now, I can't tell you the
year.

K: And what was he doing in war gaming again?

M: He was, you might today call it Game Director. I
don't know what he was called.

N: We have his position listed in the register of
officers for the War College, and offhand I don't recall what
it is, either.

M: He might have been head of the Tactics Department.
The Tactics Department really, as I recall, I didn't have
much to do, except for plotting. As I recall, the Tactics
Department was in charge of the games. The mechanics of the
games was run by *. They got the positions and they put them
on the board, they got out the form. They had everything all
set up so that when you went into the game, you were all set

to play. Joe was the historian. He went around in
shorthand, went around to the different people listening to
what they were saying and wrote the history. The moves were
plotted from the game board by Ray and I. We took the
sheets, we walked over to the master plot, transferred the
moves. Johnny Wilson would check to see the ranges, check it
for torpedo fire--because the torpedoes would be plotted on
the master plot, not on the board. Then he would take the
sheet upstairs, *, and take the master plot, put it to a
scale, to a standard size plate. He would edit it, so that
there was no extraneous information. And he and Joe would
get together, they'd do the history and the plates. When
that was all okay, they'd go down to the photo shop and make
a 3 x 3, 4 x 4 glass slide of that famous plate. And then
they'd come back and toward the end they would take it and
color in, like SS 42 would be orange--it was an orange SS.
Orange for Japan, red was Britain, and blue was the United
States. That's the only ones I remember. But they had other
colors: black for Germany, yellow for Spain. That system
went on for years. And toward the end they were trying to
speed up the moves how to expedite move three. But you only
can go so fast. Damage assessment took a long time. And
then they started simplifying damage assessment--I had a list
of the different factors you considered in gunfire, and I've
forgotten the list, how many. But it was a large number. Were
you under attack? Was this your opening salvo? Was it
smoke? Was it kind of, was it a tight(/top?) spot, and then

later radar? And all these factors you went through and what
you did, you computed the average damage for a 300 move and
then modified it according to all these factors.

N: It was a very serious business, wasn't it Frank?
Everybody was into it in a serious way...

M: They seemed to be, and they also had a bunch of
students doing the damage assessment. One of the problems
with the game board was the difference in speed between
aircraft and ships. You had a three knot ship and a 300 knot
aircraft. And one time we put the aircraft up on stands and
had a little model * so that the aircraft could move. Had
all kinds of things for aircraft. Aircraft moves different.
One time we had people running around the balcony, made it,
that was the idea--was able to see what was going on under
the foyer.

N: How long did a game take, Frank?

M: If I remember, Tony, it went on for a number of days--
quite a number. And the only way you're going to get that is
to go back and look at the games. Your memory is..., you're
apt to remember the ones that stand out, rather than the
errors. But try to remember, they gained a good part of the,
game after game, and the games were tied in with the
curriculum. Now, you have to check if this is fact, but

that's my recollection.

N: How do you assess the effect, I mean, what was the
spinoff? How did the students view the results? Did they
feel that it was something that was worthwhile?

M: I don't know. We really didn't, or I didn't talk to
many of the students. Now some of the staff would come up
and were very friendly. One was studying the Civil War while
I was there, and they always weren't too busy.

K: Could I quote Frank McHugh's book at this point, which
says that "they learned more than they realized at the time."

N: Excellent.

M: I talked to the students after I went down to Sims
Hall, I used to talk to them at length, because, you see, I
was part of C & S. You knew them. But we were upstairs and
outside of the staff, we didn't see too many students. At
least I didn't. And we didn't know them very well. George
Hazard knew the staff. He'd been around here for so long, he
knew most of the senior people. And they would come up and
talk, like Admiral Wayne that used to write up, he wrote
books, he wrote for the American_Mercury Book Reviewers while
I was on the staff. He illustrated the Saturday_Evening
Post, and he wrote stories for the Saturday_Evening_Post

newspaper. You no doubt know about him. When I was a kid I
read his book, Six Bayonets, and I was quite honored to come
here and see an author--a real live author! N: They made a
movie out of it, didn't they? Six Bayonets?

M: I don't think so. This is a World War I story of the
Marine Corps. I can think of his name after a while. *
cartoon that he made about Admiral *. I think one of the
cartoons showed this student telling the War College dream of
playing golf, and * War College *....

N: We have that in my archives downstairs!

M: Okay, that's the guy I believe that drew. Thompson or
Thomason. He was a Marine Corps colonel. And he wrote
something about the Marines in China. That's where the Horse
Marines were, was in China.

N: Yes.

M: "I'm Captain Jenks of the Horse Marines."

N: Do you recall seeing Spruance on the gaming board,
ever?

M: Yes, he was very interested in gaming. One of the
things they did before they started the game was to come up

to the drafting room and look at the plates of the last
year's game. And I imagine that they changed things around
to try something different. See, these are hazy
recollections, but it seems to me that they took the British
battle cruisers and would try them in the van and in the
plan. Remember, we did not have battle cruisers. Our ships
were very slow. But they had a large cruising radius. The
British ships were fast and they had lots of coaling stations
and they didn't need the cruising radius.

N: Frank, were they just integrating aircraft into the
war game about this time, or had it been around? That would
be a difficult question...

M: I suspect there was aircraft in the games when I came.
Now there were submarines in the game.

N: Oh, there were?

M: Yes. It was on the Pacific they had scouting lines of
submarines.

N: I've seen pictures of that.

M: Yes. But in the games you had the submarines.

N: Were you here when FDR visited the War College just

before the Second World War?

M: Yes. You could see the people walking to this. And
one of the custodians used to stand out here and watch the
people go by. We used to come out here for the graduations,
too.

N: Well, FDR was here for a review of the Naval Training
recruits in 1941. Did he come to gaming? He was crippled,
of course, he couldn't...

M: I can't tell you. I think I remember Truman coming
here, too.

N: Yes, Truman came here after...

M: Now, my boss told me about Teddy Roosevelt coming
here. And it seemed to me (now this is a recollection, but)
after Teddy Roosevelt came, he gave Navy officers Wednesday
afternoons off for exercising. Now, the civilians didn't
have it, but the officers went and took Wednesday afternoons
off.

N: What kind of a place was the War College to work for?
Was it a nice place? That's a leading question!

M: No, no, but it was a frustrating place in that there

was no place to go.

K: You mean you couldn't move up.

M: No, and you couldn't get any raises. Nobody left.
That group that I talked to you about in the drafting room
was here from when I came until George Hazard died.

K: George Hazard, your boss...

M: He was my boss.

K: He knew *, right?

M: That's my understanding, yes, that he knew him. In
those days, nobody would tell you anything. If you asked
questions, no, I'm not kidding, they would not try to, if it
were your job to plot, I used to say, "How do you assess
damage?"

N: They wouldn't tell you.

M: Well, it was a tendency... as much as anybody, Johnny
Wilson would. But there was a tendency to sort of say, "No."
I was interested in the mathematics of that, but, and I think
I could have done something. Everybody knew... I think there
were forty civilians. Everybody knew everybody.

N: What kind of a man was Hazard? He was kind of genius
type, wasn't he, really sharp?

M: When I came, he had apparently gone down below. As my
understanding, he was a very sharp person. When I came, his
office was on the third floor, there. He had vines growing
up and down, and the setup there. He was the old type boss.
And nobody left till he left in the afternoon. When he put
his hat and coat on, everybody else would put his hat and
coat on...

N: How times have changed!

M: And he could do everything there. I think Kimball can
tell you this story better than I can. It was all hand
lettering and he was very good at it, and he had this
tremendously large *. All the maps were produced up there.
And he went up to the blueprint machine, but he did it wrong.
Kimball was in there, and he took his hand * and he got so
mad, he said, "Get the hell home," and he had to stay all
night and do that over again. He was so mad that anybody saw
him. But he did it. Kimball was a crackerjack blueprinter,
and when he was running that blueprint machine, he was
singing. He was very happy. Now, I'm using fire effect
diagrams, which were made all year and you have the Blue
fleets. This was a continuous roll process; we used
machines. Kimball would take those sheets and slice them

across, and right around the table; we'd all walk around
cutting them, and we'd all walk around, you want the pages.
And that's how you correlate them. All that work was done
right there.

K: What was that material? What was being printed?

M: The fleets, the fire effect diagrams. These were
printed in volume. Now, we also printed the diagrams for all
the games-formation diagrams, the approach diagram, the
cruising disposition, the battle disposition--all those
things were drawn. And at the end of the, when all these
things were put together, the history was put together, and
they were all stacked. Game after game after game within
this closet. Now, I have someplace at home, I think I've got
one of those. But the rest were all thrown out. And all the
ships were destroyed. I've got some from Ray Gaudet. I
think I sent Joe Domingoes' in before they lost them all.
And they were around the War College and then Sims Hall and
people began to take them. And those books that I have that
I brought were stuff that I had that I found later on that
would have been thrown out.

N: Did things change very much when the Second World War
came on?

M: No. At that time there was a junior and a senior

class. I believe they started six-month courses and called
them Command and Staff.

N: They called them Command and Preparatory Classes. Two
courses: preparatory and senior...

M: Well, see you have the data now. Now, when the war
started, George Hazard had been with the fleet plotting in
World War I. The Navy asked for three to come from the War
College, the plotters, and Admiral Kalbfus would not let the
three go. The three would have been a necessity--John
Wilson, John Lawton, and I. Freddie Wagner couldn't go, and
Ray Gaudet had a wooden leg. And those were the three that
would have gone. They didn't, he didn't let them go. It
seems to me they had a plotting course here. They brought
some officers in and put them through the course. And this
would be the beginning of CIC. And that was at the beginning
of the war.

N: What is your opinion of Kalbfus? There is an awful
lot written about him.

M: The green book was his favorite, if I remember, and
that was an ungodly thing--nobody could understand it. I
never could understand it, I could never read it. The
estimate, the estimate of the situation. I didn't know the
man. I saw him in the hallway once in a while. The only

thing that I recall is, I believe it was he that had come in
the game room, a cartoon that showed a player picking up a
ship and going home. He didn't want to play. Now, I could
never find that cartoon, so I had the artist make me one and
I used it in lectures. And I believe that was the cause of
changing the name from war gaming to maneuver room. And
there's a letter... You may have a copy of that letter. It
was sent to the fleet to change the name. Now I have a copy
of that someplace. If you don't have a copy I can find it.

N: I would love to have one.

M: I thought you had a copy.

N: Well, we might, but I don't recall it offhand.

M: Well, I'm going to sell my stuff. If I find anything
like that, you might as well have it. If I want to see it, I
can always come in and see it.

N: Of course. No question about it. How about the
Second World War period, Frank, did things speed up here?

M: I was away most of that time.

N: Oh, you went into the service.

M: I was drafted in the Army. John Lawton,... Kimball.
Kimball took my place in the drafting room. They had a young
girl come in to run the blueprinting machine. As I
understand it, they were very busy with games for the
six-month course. And about that time they were starting
this plotting backwards--rear-view plotting. I came back and
went back to my job in the drafting room.

N: When was that?

M: I got out of the service fall of '45 and I took a
month off. I think I started either December of '45 or
January, somewhere in there.

N: Your job was secure?

M: My job was secure. But some of the promotions they
made, they lost out on.

N: Oh, they did?

M: Yes.

K: There was a well-known story around that Frank was
assured that he would not be drafted.

M: It's been overemphasized. It's been changed. I've

heard it and it's not true.

K: Well, what did happen?

M: The... And I have the letter someplace. I think the
secretary wrote to the draft board, saying that I was needed
here. And he assumed that that would be sufficient. The
chief clerk, Joe Whittier used to kid me about it, and I
said, "Joe, I'm the only one of draft age in that group." I
was only 35, I was ready for the infantry. They were looking
for tough, hardened men. And he said, "You'll never have to
go." I went down to the draft board to check and they said,
"Oh, we won't take you till September, or something, anyway."
I went home on Monday and there was a notice that I'd report
the next Monday.

N: One week? Wow.

K: He was involved in a number of major campaigns in
Europe and spent a long time in Italy and Rome...

N: I didn't know that. Is that right?

M: No. Let me see. Dan McFadden was a big, husky, young
guy that went out and came back again and he didn't pass the
physical. Did you know Harry? He was a frail. H went with
me. He stayed in Le Havre, he didn't get into the battle. I

thought they'd put me into artillery or something like that.
But at the time I went in they were looking for replacements
for infantry and combat engineers--they expected heavy
casualties. So I went to the replacement training center,
which is a bad place to go to because they have no interest
in you. All they want is for you to get good grades and pass
and get out. So, that was the beginning. No, I got into a
couple of campaigns, but I missed most of it.

K: You were with Patton at Castogne?

M: Toward the end. I was not in the whole campaign, no.
Joe DiBiase is the guy that can tell you. I missed out on
part of that campaign.

N: When did you start back at the War College again? You
mentioned that...

M: Yes, it would be December of 1945 or January. I
think I started before Christmas.

N: Yes, this was before Spruance came back and took over
the presidency, wasn't it? Was he president at the time you
came in? I think he started in '46.

M: I don't know. Who's president really doesn't affect
the people up in the drafting room. No, actually, it has no

effect. The presidents in those days did come down on the
game board and watch the games. Admiral Spruance was a good
one for coming down on the game board and looking at the
game.

N: I have a picture of him with his dog on the game
board. Did he...?

M: I never saw him with his dog on the game board. No.

N: Well, let's take a look at this postwar period. How
much did things change then? We picked up Sims Hall then,
didn't we, '46?

M: Here's what I can tell you about that: in '47 I went
to Sims Hall, the logistics department. Let's see, they had
the east wing and part of the connecting between that and the
center wing. Admiral Eccles was in charge. I was off in the
corner in the room that had the garbage chute on the outside
I believe. There was grass where the parking lot is now, and
the out door was boarded up and there were cracks about that
big *. Finally I got that thing fixed, and of course by that
time I moved out.

N: This was a drafting room for the war gaming down
there?

M: Yes. I was part of Mr. Ward's outfit. He was in
charge then. But I was down at Sims Hall. And what had
happened was I was on my own hours. And that went on, I
think, till '51.

N: Were those logistics games that were being played on
that side?

M: There were not many played. The one I remember there
was Captain Bill Eldebridge, and someplace we have a picture
of them showing... it was a demonstration game and they all
made a move. There were training circles. And then I had
the game moved and I would run the games, make the drawings,
* the torpedo *

N: Now, the other type of games were junior class games?

M: Well, they were called C & S *. And some of them came
down to Sims Hall. Some of them went to the BZ trainer. I
tell you, I was not down there. I think Joe Domingoes went
down there, and I know Kimball did. I can't tell you any
more about those. I can't tell you about the C & S games
down there because, I think I was in one or two with Ray
Gaudet. But I didn't know too much about them.

N: Do you remember what Admiral Bates was like during
that period? Did you know him at all? He was working on the

World War II Battle Evaluation Group.

M: He was working on the Battle Evaluation Group. I knew
him on the game board as a commander before World War II.
There's a picture of him in <u>Life</u> magazine and I believe I can
point him out to you. Commodore Bates during the day,
Admiral Bates at night. He was very outspoken. He knew me
sometimes. Other times, he didn't know me. He and Nicholas
knew each other pretty well, I believe. They were in a big
argument one day and he came into my office with me to settle
it. I wisely refrained from doing so. He knew Mr. Ward
pretty well and one day they went in and just dropped two
grades, and there was nothing he could do about it. And this
is my understanding, that Commodore Bates, when he was in
Washington, found and got the grade back. Mr. Ward would not
ask for it. He is a gentleman. He wouldn't fight for these
things. At that time, the secretary said, "War gaming?" He
said, "You can call them paper hangers, I don't care." I
forget his name. War gaming was very volatile.

N: It was.

M: Yes, it was. War gaming comes up and down.

N: What about the concept of NEWS? When does that come
into...?

M: 1945 or 6. It was based on the PPI. There was an
Admiral Ennis. That information is around, too. It should
be in the records, in the training device center, I think or
started this. They brought up, as I understand, some of
these PPIs and put them in the game room. Now, the whole
context of gaming, that whole idea of NEWS is brought up, but
Mr. Ward, who was the war games expert, had nothing to do
with it. They started from scratch. It was a shame.
Because some of the mistakes they made were *. I went to
visual aids from Sims Hall.

N: When was that, Frank?

M: '51. And I went, they gave me a job because of
cartographics. I made them lots of maps. At that time I
learned how to make * which you don't use anymore. Pocket
calculators are much better. But I made them and some went
out to the Fleet for reviewing. In 1955, I believe, the
Strategic War Game was introduced by the Naval Warfare
Class--the Naval Warfare Course, I guess it was then. Parker
Olsen was the commander here, as I understand, was
instrumental in this game. And he went all over trying to
find good information on gaming from different groups that
were coming in now, Rand. And he got tied in with the George
Washington Logistics Research Project, and they were going to
have a digital computer, and they were going to make an
economic model and process the model and produce the results

by teletype, here. The following year, most of them left.
And there was a captain here that had the game, and he came
down and asked me if I would work on that game. So he got me
an office next to the Marine Shack, right over here in Luce
Hall, and I worked there mornings; and afternoons in visual
aids. And I rewrote the rules for the game, and I was in
that game in '56; and then in '57, C & S wanted to know if I
would go down there to the NEWS; and the secretary wanted me
to stay here. But I had a choice--first time in my life I
had a choice. Now, I liked the strategic end, very
interesting. I was doing the economic model and also the
other; but mainly the economic model, and the nuclear effects
model. So I tried to figure, which would I do? They were
talking about physicists down there. They had Ed Murphy as a
physical scientist started down there. And I finally
thought, "Well, I never worked with equipment." So, I said
I'd go down to the NEWS. And I moved down there. So I had
to stay for the last game--the strategic game. And after
that game, I went down there just in time for the first game
on the NEWS. And when I got down there, there was no damage
computer, and they said, "You're here to assess the damage
for this game." And one thing I did was watch the blinking
lights to find out who was shooting. But that was a good
move. From then on, I liked NEWS--got along very well. We
were part of C & S. It was called the EMBS section--the
Electronic Moving Board System. There was a captain here in
charge of C & S, and he wanted to get the name with an

acronym, and he came up with NEWS--Naval Electronic Warfare
Sytem. Now, Ed Murphy and I told him not to do it, because
it did not simulate electronic warfare. He was the boss, he
put it in.

N: So, from then on you continued to work in Sims Hall?

M: I stayed in Sims Hall, until last July. I left Pacer.
And then I worked... So I had the advantage of working on
the game board, the chart game, the NEWS, Wars, and NWS. And
a lot of these things were reoccurring. The Navy Electronic
Warfare simulator was designed to replace the game board.
The terminology *, the designers went down to the game board
and watched the people. Now, the A factor, the M factor,
were factors taken out of the damage assessment book. They
were the very same things.

K: These factors you're talking about are factors that
are used in the Analog computer?

M: Yes. They had an A factor and an M factor. Now, they
were told (and this is how ridiculous things...) that the
umpires could, during the game, change the M factor, change
the outcome. Does that sound familiar? So they did. And
they changed the outcome in ways they never thought would
happen. Unfortunately, for some ungodly reason, they had
two--an air and surface. I talked to the man that ran the

project from here, called Navalex. I just said, "Why don't you put sonar." He used to get very mad because he told me that they were going to put it in, and he came to the War College and they said, "Take it out. Submarines are not important."

N: This was during the early fifties?

M: Yes, between the forties and the fifties. This thing went on and on. And, I think it was Admiral Conolly, finally said, "Let's go with it." And he was right.

N: That was '52, wasn't it? Or '51. He was president...

M: I don't know the year, because I worked with his son. I was here when the son worked with me when his father was killed in the air crash. He was president of Long Island University.

N: Yes, it was '53, I believe.

M: No, no.

N: No? Later?

M: Oh, yes. Because he was with me, working with me on the NEWS. He was a young lieutenant commander. And one of

the things I always said, that he was a young lieutenant commander and I was a GS-12; when I met him as an admiral, I was still a GS-12! The Navy moves up fast. That's something the Navy doesn't realize. But I met him one day on the plane, Bob Conolly, and he worked,... he was the first operations research analyst that the Navy sent there. Before that, I was an operations research analyst, and I had nobody to check me, which in a way was good.

N: How did the War College change during that period, Frank?

M: I can only tell you about, really, about Sims Hall. Sims Hall, and up on the hill were as far apart as Washington and Kokomo.

N: They still are, I guess.

M: To illustrate, I took some classified material up to the furnace to be burned.

N: In Luce Hall?

M: Yes. They used to burn it in the furnace there. And I can't think of the custodian's name, but he said to me, "I'll burn it for you, after I finish the War College's!"

N: That's about right!

M: That's exactly right. That's exactly the idea.

N: Well, how was it down in Sims Hall? Was it...?

M: We were part of C & S. It was very good, because you
go in on the planning for the game. Ed Murphy and I set up
the NEWS, so we'd have to know what they were going to do.
We'd go in on the critiques. And I programmed the damage
computer, and they'd program the DNL--Detectable *.
Horrendous job. And all of a sudden, he quit. So I got
both. It taught me a lesson--be sure you learn all the parts
of the job. You never know. I have some idea, but I haven't
gone into detail. So during the critiques, you would get
called upon, why did this happen? And then as the games
became more aggregated, then I gradually took over. I did
all the damage assessment for years, until Frank Nadolny and
Dave Barnhart took over damage assessment and I went into
working with the WARS.

N: Was there any transition in the NEWS development after
it was instituted?

M: Yes, there were.

N: There were quite a few...

M: There was a big improvement *. They put the * in.
And, another thing, they called them (and this is something
you would never know) they called them specific names--air,
surface. So, in programming the moves initially, to put a
submarine, I would put the submarine, D would be an aircraft
in the system, at 45,000 feet. And then you'd have to give a
depth charge, see, a range... So I had two sets of figures:
one that's a set that you tell the people; the other set you
couldn't, because to get that effect, you had to give them a
different range. Now, when they put the other *, * put A, B,
and C. And then you could do anything you want with them.
But once the players * want the submarine to go down deep,
and you could see it going down, you press the buttons and
you could see it, and you change. You must remember those
altitude and depth levels.

K: Yes.

M: Everybody would come in, a new group would come in to
the NEWS, and we'd give them a training period.

N: Did the fleet use the war gaming at all during this
period?

M: Yes, the fleet started war gaming when the NEWS came
in. To my knowledge, there was never any fleet gaming here,
which was, one of the directors of the war gaming * very

angry when he told him that. He must have been telling
people fleet gaming had been always at the War College. It
started because he remembers big system was only being used
by the War College in July,... No. They used it in the
spring--the War College--so they had it in the fall *. So
why not use it for the fleet? And I think Commander Sapp,
who was the head of *, may be the one who thought of it. I
don't know. So they started having the fleet war gaming
course. They had two a year. And they were trying to
advertise... Now I lectured to Naval Warfare on war gaming,
and that was one of the things I tried to bring up--when you
go into the fleet, you can always come back here in war
gaming.

N: How much lecturing did you do during this time, Frank;
and when did you start lecturing, really?

M: Somewhere around '58, something like that. When the
war gaming department was small, I did most of them. As it
got larger, people would take different ones. And I finally
wound up with an Introduction to War Gaming, and I wound up
with * NCC, and I used to give them one on probability--I
always called it not research type, but very down to their
level. It was very good to talk to NCC--you had to come down
and say specific terms. You couldn't generalize-- * .

K: How did you come to write the book Fundamentals of War

Gaming?

M: There was nothing on war gaming, and somebody said to
me, "You go ahead and write a book. Tell us about war
gaming." I had written one on visual aids--a pamphlet on
visual aids at the War College, and a few other things. So,
I started and I had no idea what I was going to do. It wound
up bigger than I thought. It first came out in a smaller
volume...

K: What year would that be, Frank, '60, '66?

N: I've got one edition of '66...

M: There was an earlier edition called * The Manual of
War Gaming Submarines, and I went into the history more than
I... I went back into the history of the War College, and
there was that Air Force sergeant ...

N: Eure? E-u-r-e.

M: Yes. * and he found more stuff out. In fact, some of
the people in the Navy didn't like him because he could tell
them about the War College. And he found out McCarty
Little...

N: Yes. We've got a number of his unpublished writings

in my archives. He wrote the history of the buildings here,
it's the only history we have.

M: He knew the price of the building? Oh, I just
started, too. When they started the fleet war gaming course,
they wanted somebody to go back and talk about manual gaming
and I used to have a talk on the game board *. And I had one
on damage assessment, I had one on NEWS gaming, and I did one
on naval warfare. I always get into the reserves, to the
fleet war gaming courses, to C & S.

N: You must have had a lot of research on that (truck?),
Frank, because it goes way back in time...

M: Yes. Well, it was interesting. You've got some
misinformation here. They brought all of the Colonial Dames,
I think, or some organization, when I first came down to the
NEWS, and they brought over some of the old naval officers
that had been here and they wanted me to talk on the game
board about *, so I talked to these people on the game board
and I didn't get any wrong business. But I've heard people
describe the game board and it's completely wrong. And this
is perpetuated. Now I've heard some things about the NEWS.
I was there when the reporters asked the head of the war
gaming department a question and his answers were wrong. But
what can you...? You can't sit there and say.

K: But it still goes on.

M: Sure, it goes on.

N: But that stimulated you to write the book, actually.
That was a stimulation to you, to get things right, to do...

M: I think that they wanted Ray Brookes. It might have
been Ray Brookes. There was a guy who read books here who,
*, who took and they called the operations
department--operations section, *. They always had
engineering and operations. Now, they'd call it by different
names. But,... and I was in operations, and I think there
was nothing around and I had written something and presented
something and he wanted some more. He said, "Why don't you
write a book, go ahead and write this." So I wrote it. And
I did a lot of work on my own, and I could never have
finished that book.

N: What was the reaction to it when you, I guess you
submitted it to the college here

M: It went through.

N: It just went through.

M: Oh, yes. The head of the department said, he read it

over and he said, "I wish you'd change 'real world' to 'the actual world.'"

K: Change happy to glad.

M: I was amazed how that's gone over. I got a call from New Orleans the other day, and a fellow was on the phone, he must have been on for an hour talking about naval war gaming. If I had known how it was going over, I would have probably hesitated to write it, because I've had calls, I've got a letter someplace from the Commandant of the Marine Corps who called about it. I've got all kinds of things. And people want to know where to get something. Most of the facts in there are facts I like to verify it.

N: There's still a great deal of interest in it now. People are calling up about it.

M: It's amazing how well it went over. Now, much of that stuff is originally, I had the pregame procedures. Then I developed for the talk a series of pregame procedures, and I found later on a joint war game manual and they flow from one to the other, and you've seen them *. A lot of people use them.

K: I did a bibliography two years ago for a war gaming course and looked through a lot of books and found that the

books all tend to refer to Frank's book.

M: They wrote an anthology of this and a critique of all
the different books on games and they were very kind to me.
* read this whole article about it. And Hubert always came
up to see me. He and Brewer were working for * at that time.
But that's about the story.

N: Well, how about wars? When did that come in? That's
fairly recent, isn't it?

M: Wars came in... go back a ways. When the NEWS was
completed, it started in '45, I believe. It might have been
'46. The concept was an analog system--a digital system
would be coming into effect around the early-middle fifties.
When the NEWS was completed, one of the first things why
don't we supplement this with a digital system? For example,
they're only handled... I've got to remember now.
Twenty-four forces on the side, * individual forces, you
could control them, you could get detection from them, you
could fire weapons. And in fact, one of the early, one of
the, 1960, somewhere * to Washington,... not to
Washington--to New York, and we went to a small computer
program there. I said, "What do you want to use it for?"
Well, we want to change scale. Now, the NEWS was set up with
a hundred * represeting forty miles, four hundred, four
thousand. And then somebody added a thousand. And the

feeling was that you'd start at the four thousand, change to a thousand, change to a four hundred as the chips closed. This was the game board. You could bring them together, and in fact on the chart maneuver you'd start them out and you (put them on?) the game board for tactical. Not all of them. So, the same scale, from zero to four thousand units is used regardless of the ocean scale size. So when you jump from four thousand to one thousand, everybody had a different number; and they said we could use this computer to reprogram (guessing at it?). Red Brookes said to this programmer, "Can you do that?" "Sure. Nothing to it. I'll have it for you by 4:30." The next, 4:30, I'm a little late. The next day, there's nothing to it, actually. It's a linear function. Then he finally got it. But all you had to do was draw a line on a piece of graph paper, you get the same thing. So that's sort of played out. I proposed to the head of the department that we take one table, the news umpire, and we go down and watch what they did, and write it out, step by step by step. And then, when that was finished, give it to the umpire and tell him to use it. If he found changes, he'd make the changes. Then we'd go to NUSC and get the programmer to program that and we could hook up with NUSC and have a remote terminal. It wasn't enough money for the program. So C & S started their logistics. Remember the logistics problem C & S used to have? Now, maybe they didn't have that when you were here, but they had a logistics problem and he went over there himself and got them to

program some of that, and then the program * . but that was

how those people started talking about a digital system. Oh,

then, we need more images, so why not have a digital system

that will control forty-eight more images. And you get onto

that and then the war started. And Captain Henry was the

department head. He went down to see * and he was highly

impressed with that system. That system, two twenties and it

was really, it was set up by Logran and the *... the Irish

guy in charge of that, for Navalex... And they came to the

War College, and that was the beginning of the WARS.

N: What year was that, though? That was in the

seventies, wasn't it?

K: That sounds like about seventy-seven.

M: Yes. I went down to San Diego in 1970 to work on that

system. Johnny Johnston was here and he was a project

officer. The system was played like all of the systems * and

somebody would set up a model and come here. The man who had

gone over them had left and another guy wanted something

else. And they also, they're optimistic. The programmer

came with me and sat down to talk about damage assessment,

and he said, "Oh, we can do that with no problem." I said,

"Now put it together." "No problem, no problem. You don't

understand the great capacity of digital computers. We can't

do it today." There's so many complexities. There's so much

processing. Now, you can take and start adding details, and that processing grows at an exponential rate. And that's one of the problems in war gaming. Now, I believe in the simple approach where you have a probability and use that as an outcome. Mine warfare. You can have a whole computer devoted to just mine warfare. Where is each mine? When is it activated? When do the ships come?

N: You were on the scene when this was going on, weren't you Bob?

K: Yes, I was a student here in '71, and then I went down for the C & S staff at Sims for duty after graduating in the senior course. And after a few months they disestablished the C & S course, or the faculty--they had a separate faculty. They disestablished that and I went to war gaming in January or February of 1973, and was there until '78-'79.

M: You didn't think you be around there a decade later, did you?

K: Well, I walked up the hill as a student, and saw the bay and the old building and I said to myself, this is too beautiful.

M: Well, I left the War College in '74, and then went to work for Pacer.

N: That's '74?

M: Yes.

K: You worked a long time...

M: I was working at Pacer. I wrote the detailed
statement of plans. It's not as your author, it's the War
College...

N: What is that? What does it stand for? Naval war
games...

K: Naval warfare gaming system.

M: Or naval war gaming system. Okay, that covers about
everything...

N: ...before? How did it change, or was there any
change?

M: Yes, there was change.

N: But strictly speaking, you were doing the same type of
work?

K: * the present big gaming system that we have, Frank

wrote the detailed special requirement...

N: I don't appreciate that statement. Would you tell me
a little bit about that?

M: What are the requirements for the system?

K: I'm saying the description of war gaming in the modern
digital system which embodies the principles of war gaming in
which you have...

M: Now, that's not one that's authored by,... It's put
out by Navalex and...

K: It doesn't have...

M: It's done under contract. It's released to the
company or for the War College, and they, it's part of the *.
It's not done as an individual author, and other people
contributed to it.

N: When you left war gaming finally, after your contract
relationship, how did you look back on things, I mean, did
you see a natural progression in the science of war gaming?
Were you satisfied with what you saw? Was it being more
effective in how it was being used?

M: War gaming is very amorphous, and people coming and
going there's a cycling thing, people coming and going, and
many times you start the same thing over again. A new person
comes in. This was very true of the NEWS. You have to
describe the NEWS inevitably. People would come up with this
idea that had been thrown out four times, but it was a
natural idea, and it would go through. Now, many of the
improvements on the NEWS were one-time improvements. The
person in command would want to push it, and by the it's
spent it's long since gone, and the thing was never used.

N: There's something definitely wrong with that kind of a
system.

M: Well, it's inevitable in the short-span organization.
There was no one there in the long term that had the
authority to say, "No."

K: It's still a problem.

N: It is still a problem.

M: It's a problem. They had at one time (someone battery
charge??) that wasn't in the system. In order to simulate it
they took the firing keys and modified them to simulate
battery charging. Well, after a while they didn't use them
and people forgot that this key that's supposed to have

certain delays you set in there, that wouldn't delay at all.
It would be something different. And with the people coming
and going that maintain the system, this is sometimes
forgotten. And I had one bad problem there one time setting
up the scaling of the master plot and getting the thing
wrong. And I kept going back and saying, "I checked my
figures, I went over them, I went over them." And to the
chief who was running the thing, I said to him, "You go to
Chuck Ames and check that out." He didn't go to Chuck, but
they were wrong. I had tried this thing several... Now, I
wrote... Chuck Ames and I wrote the NEWS program, which was a
big thick book covering all the details of programming, so we
were fairly familiar with it. He hesitated to go to somebody
like Chuck and ask him questions.

N: But why?

M: I suppose it's,... when you're in charge of
something...

K: These are smart, energetic officers who come for a
short time and are accustomed to making decisions, and
just... you know, the civilian War College family just kind
of bears with them, with the shock until they go away and
another group comes.

M: Now, there was a delayed fire, in the NEWS, they used

to get * the minute you pressed the firing key - whammo. You
had a hit or a miss and damage was assessed. Well, now, that
doesn't happen. First of all, damage is,... you never know
the damage for a long time. But when you fire a long-range
missile there's a certain time between that missile impacts,
and the same with a torpedo. But in the NEWS there's this
huge drum that's turned around once every sixty seconds. And
that's sample-the sampling interval. You know my sampling
interval stories, that some of those people who were trying
to,... sampling interval made no difference? Well, the
sampling interval'd go around, and when you pressed the
firing key, as soon as that swung around to you, would sample
your firing key. And the firing post would go down into the
system. It would take the target and the firing weapon,
firing vehicle, measure the range, go into the ADSSG they
called it--the analog data selective system storage, and pull
out the data and say, "Did you get a hit?" If you got a hit,
what was the damage, and then you would randomize the damage
around the mean. And that was an accurate binomial
distribution. You should have a delay. They spend all this
money on delays. Now, the delay, when you press the fire
key, there's a timer set in there, you delay the impulse
going down. But how could you set the timer? You set it
before the game. Now, you fire a torpedo at a ship, and the
ship is moving away, this fire * it measures the range at the
time later on. Now, we didn't know what range anything can
be fired at. (I think?) * once or twice * and I know the guy

was a terror and he pushed it through. You get somebody
that's a gung ho guy, he pushed it through. A lot of money
spent. That system,... I used it for a few other things--*,
and other things * like I used DNO. * you could take the
system and a digital system could be used the same way. But
it was never used to delay the fire.

N: Can you make an analogy between what war gaming
represents to you today and how it was played back when you
first came here? I mean, wasn't war an efficient thing, or
did it become a more efficient thing? Or can you use the
term efficiency to make a relationship between the two? Or
did it remain the same--just a technology change?

M: I think it was given more thought than a few years ago
because there was more time. Today people come, they spend
two days and they're gone. There's no formal critique *.
There's not the records kept of the games. And there's not
the replay. A game is played here and they keep saying it's
a one-time play, and there's a lot of confusion between
playing and iteration. The scientists are in favor of
iteration. And I gave a talk at one of the labs--Dahlgren,
one of the Navy labs. And one of the questions came up--this
can't be a game because there's no iteration. Regardless
how, what sort of a distribution you give, you cannot foresee
the future from that distribution. You can only take a
sample from it. So what you're getting is too much talk

about it. All the game does is give you some indication of what can happen. But to my idea, from my experience, a game is for the people who have to plan it and then play it, because now they have to plan there's an opponent, and he might do something they hadn't thought about. If you're a submariner, you've spent all your life in submarines, now you have to think about aviation. You have to think about logistics. Some of these are good things I have seen an oiler out there with no escorts, just because... You know how the Navy likes to plan. You've heard of the Naval Planning Process...

N: I've heard of it, yes.

M: And all the annexes. Everybody writes an annex. He writes the aviation annex, and I write the communications annex, and you write the logistics annex. We're busy--we're very busy. We put them together in a pile and stuck it in a safe. Now you're bringing out the triad, they may not mesh. This, to me, has been the greatest part of fleet gaming. Now, Rob could tell you more about that, because, look, he's experienced in the fleet. I'm not.

N: What I'm trying to get at here is war gaming, at its conception, was viewed upon as a tremendous asset in the educational process. It became more than that, ultimately, but it was because it intrigued officers into wanting to

understand more fully by a medium which was a valid medium.
And so it occupied their attention, their energies, their
native talents, their imagination to a limited degree. I
mean, the technology was primitive. Yet, during that time,
when William McCarty Little got it off the ground and it
developed until the turn of the century there, it was a very
vital part of the curriculum system. And it seemed to me
that the students felt that it was a valuable part of the
curriculum system. You know what I mean?

M: I have always tried to get some feedback and it's very
difficult. Admiral Nimitz liked gaming.

N: I remember that.

M: I wonder what he would have said when he left here as
a student *. I think that, sometimes, that gaming is like
any school subject. You might have studied history in
college, you might have said, "Well, what good would that
do?" and then twenty years later, suddenly found, "Hey, I can
use this now." Geography--I had geography in grammar school
and I thought it was boring. But when I came to the War
College we used to be having strategic areas all over, I
found the knowledge of geography quite useful.

N: Yes, but war gaming wasn't meant to be a precise
solution. I mean, William McCarty Little...

M: * solution.

N: Okay, right. And maybe therein lies its value. I
mean, William McCarty Little said something ridiculous like,
well, it wasn't really ridiculous, but he said, "The
principle applies if it flies, and it doesn't apply if it
doesn't fly!"

M: He also said, "It's exact because it's mathematical."
He was very enamored of his mathematics. When you draw a
plan in the Navy, in the Army, in the Marines or business,
you draw up a plan and you get out there in business and you
execute it, and you find out that the product doesn't sell
and you have to go back and change it. Well, this is what
happened in... The students come here. * the military
planning process. So they go through the planning. The last
step in the military planning process is supervision of the
planned action. The supervised planned action, that's the
gaming part. So that's the only part in that plan. So you
can supervise it now if you find that, a carrier was (sunv?).
You have to make provisions now to change your plans, and
that's the benefit of it. Now, it doesn't mean that if you
went to war it would happen that way, but it means that you
have thought of these things... I think it was Napolean who
said, "I have always fought the battles in advance and
thought them through," and that's what helped you.

N: And therein lies the value of war games.

M: That's to my mind. Now, Rob can give you a better...
I've only seen one aspect of it. He's seen it from the Navy
aspect, he's been out in the fleet when they had sailing
ships.

N: Are we forced to generalize about this still, Bob?

K: Yes. It depends on * experience. You're educated to
talk about it *. It's just one of those things where you can
study it at your desk and you may find all kinds of things
suddenly become obvious about which were not obvious when
you're studying at your desk.

N: Do you think that would be obvious in a real
situation?

K: Sure, time and space * I wish we had a quote. We had
a lot of things, logistics, time and space,
organizations--things that are very important but would fall
through the cracks when they're just being studied out of
context, but when you game them they suddenly crop up. Very
important then.

N: But you would add more time to the students...

M: We don't have much time now. These games were
conducted in a short space of time. Now, I would slow the
games down. The tendency now is to go fast to make decisions
in real time. But when you're learning something, you're
going to need a little more time to learn to make a decision.
That's my theory. And again, remember I'm only saying this
from a technician's point of view. But that's my feeling.
If you bring a bunch of students up in the Command centers,
and you turn that clock fast, it will do things. They
haven't time to think them through. Now, on the battlefield
they haven't time, either. But they also have a large staff,
and also, presuming they have more experience when they get
into these positions, Lieutenant Commander Atkins as an
admiral has had more experience when he becomes an admiral,
hopefully. The other thing about students, today's naval
officers, their experience is segmented. Years ago, I can
remember the captains coming up and telling about the gun
turrets. They could tell every detail. They just spent long
hours * years working in the gun turret. All they had was
the gun and the torpedo *. There was no radar, there was no
sonar. They stayed in the Navy a lot longer. Now, they're
out of the Navy in 20 years. They have radar, they have
sonar, they have missiles. Naval warfare is much more
complicated. So you bring these things together, you have a
war game. You can bring them together. And also teach these
things in probabilities. You can fire a missile that has a
.6 probability, and you can fire two and expect a hit because

* say, well, .6 times two is 1.2 *. But you can go many
times without hitting again. Or you can get two hits in a
row with a .1. Morison covers that in his history--the naval
warfare, particularly. Torpedo *. He covers that well. I
quoted him someplace because he covers that very well. But
those are the kinds of things. And if you go through some of
his books on the chance factor in war gaming-should you use
average values in the game, should you use the chance
factor...? And that's still going on. Now I have a theory
in technical games: you should use the chance factor. In
campaigns you should use the deterministic model. That's
what I would use if I were. But again, these are all
personal views.

N: Yes, the technology has changed tremendously.

M: But you're doing the same thing.

N: But you're doing the same thing.

M: Right now you have a pocket calculator. But you could
do the same thing with a log table. It took you longer, but
the only thing is you understood it when you did it with a
log table. I could sit down and now,... in fact, I used to
have the secretaries doing a lot of these things with a
pocket calculator. But if you took away the pocket
calculator, you could do it.

K: One of the secretaries almost quit because this nice
lady was * asked to do these calculations that she just
didn't understand.

M: They did a good job on them. I tried, for instance,
Lanchester's Law to illustrate that. Now, do you know that
admiral who said learn Lanchester's Law first, he saw the
problem empirically. I've got his book someplace. And I was
trying to repeat the... Now he claimed that * the game
board. They also used Lanchester's Law at the game board
here, and I had someplace a lecture that they went from here
to Annapolis to illustrate the law by the game board. Now,
that lends itself to the game board where you have
deterministic values. That was interesting. That was around
the fourth *. You should read that sometime. He wrote the
first articles in 1914, and then wrote the book in 1916.

N: I've got one more question for you that has to do with
the people associated with war gaming. During the formative
years, you know we had William McCarty Little here from the
very beginning up till about 1915 when he died, and he
provided a certain continuity in development...

M: And prestige to that continuity.

N: Okay, prestige?

M: Yes.

N: But also he, in the person of himself, made possible the transitions smoothly into another dimension of things, and he kept things on an even keel, so to speak. Because he was around.

M: Now, you're saying "smoothly." I don't think it was smoothly.

N: You don't think so?

M: No. You read between the lines in some of these and there's no transition that's "smoothly."

N: All right. But anyway, he was around to see it all through, and if there were any serious questions they could always rely upon his corporate memory, right?

M: Right.

N: And then Hazard came by and the same thing was true.

M: Hazard had tremendous prestige. And that was about at the end. Now he didn't toward the end. He, Hazard, it was sad, to watch a man go the way he did.

N: It's unfortunate, yes.

M: And they were sad at how he let everybody else down *.
But he was very able, and the people here *.

N: Well how do you feel about this ingredient--about
having a corporate memory an individual?

M: You need someone... in fact, you need two people, I
think. Years ago I proposed that we get in to the war gaming
department two boys just finishing school, majors in
economics. Economics is an imprecise science as is war
gaming. I proposed that you get them from Newport, because
they perhaps would stay. Newporters tend to stay in Newport.
And start them on the NEWS and then go and start learning the
WARS so they could know the wars in and out and could program
it. It would save the Navy a lot of money. You wouldn't need
those contractors. The Navy would have benefitted from it.
But they have civil service and they have... You also have
to give them the authority as well as the responsibility.

N: I would think so. Yes.

M: But there are bound to be changes. This is not
unusual and the Army War College had a man there setting up
the games, Clinton. Now, he took a game and he did a pretty
good * programmer. He and his wife programmed the game, and

then they got... He went into business for himself and
brought the game down here and was in Europe the last time I
talked to him. RAK research analysis and... First there was
ORO. You probably know all this. The Army wanted to get rid
of the head of the outfit, and they couldn't, so they dropped
the ORO and sent new people in and they got their new
director. RAK did the Army war gaming for years, and that's
where I get the idea of having one table at a time to
digitize the games. That's how they did it. They took the
intelligence section, they took another one,... The guy that
wrote that book on * simulation and business in war, and I
was in contact with him *. I think you have the book. I
have it at home.

K: I don't own a copy, no.

M: But you know the one, yes. Al Houser.

K: Yes.

M: The Navy's planning analysis group panned it. They
did computer gaming for years. When CSC got the bid, I said,
"Why don't you get some of these guys? They know computer
gaming." But they didn't.

N: Well, I don't have any more questions. Do you, Rob?

K: No, I'm talked out.

N: Any comment you want to make, Rob, before we close
this off?

K: No, I don't think so.

N: Well, we thank you very much...

M: That's a new * contracting *

N: Frank, thanks a lot. We appreciate this very much.
And Bob, I want to thank you, too, for coming along.

M: Well, I said to Mary, eventually I got to go over
there. So I've got to go. And I found those books and I
guess this is a good time to bring them.

N: Yes. This is probably about five or six years
overdue, you know. I've been seeing him on the street all
this time, saying, "We've got to get together."

M: Well, I'm afraid if I didn't bring those books, they'd
be lost in *.

N: Well, we're delighted that you did...

M: And if I find anything else sometime that I think is of value, I'll bring it over.

N: Well, now we've got an archival rapport with war gaming... What's his name? Tom *?

K: He's going to be *?

N: Well, he's our go-between, him and this Suller. We set up a system whereby they'll have routine deposits of material, permanent retention material with us for the first time.

M: Okay, about '74, I checked all the statements for the war gaming department--the weekly schedules that came out.

N: Fantastic.

M: I said to Rob, we had to get rid of these, to see if you wanted them.

N: By all means. We have so very little on war gaming, you know, and we'd be more than willing...

M: I'd never throw them out if you could use them.

N: No. If you're going to throw anything away, and you

know you're going to throw it away, give us the option.

M: Every one of those. Now I asked the secretary to make
it a point to go down every single week and pick those up.
And if they didn't have any, make a copy. Now I also tried
to keep some of them that the War College puts out
themselves. But I do have the schedules. And in using those
schedules you always have to realize that there's sometimes a
change. That's the way a historian familiar with a subject
can go wrong. But anyway, if you want to get rid of them,
you need some space...

K: Give it to him.

N: By all means. Thanks a lot.