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DEPARTMENT OF THE ARMY
UNITED STATES ARMY INFANTRY SCHOOL
FORT BENNING, GEORGIA 31905

IN REPLY REFER TO

22 September 1971

MEMORANDUM FOR THE RECORD

SUBJECT: Command and Control in RVN, 1970-1971

1. The following records my convictions on the subject of command and control, drawn from my experience as commander of an airmobile brigade which operated in the jungled mountains southwest of Hue from August 1970 to August 1971. Herein, I have tried to answer this question: What does a brigade commander need to know in order to command and control his units?

2. When I assumed command, I found that my unit had no system for organizing and presenting patterns of enemy activity. I have long been convinced that the guerrilla enemy, contrary to the impression he attempted to convey, and contrary to press depictions of his prowess, relied upon an extensive and discernible system of installations and routes, essential for support of his combat operations. The enemy fights the war the reverse of our modus operandi: he projects his logistic tail forward, and only when his combat support and combat service support installations are in place can he move his battalions into an area. Accordingly, the first step in countering the insurgent is simply to find out where these local installations are situated, and to locate the routes connecting them. This is not easy, but it is by no means impossible. One solution, which I have personally seen working on two tours in RVN, is simply to place on a map, using a graphic code, every reported sighting or sensing of the enemy for as long a period as the records will permit. From such a graphic display, patterns will usually emerge, and these in turn will facilitate targeting of friendly operations to confirm or deny the validity of the patterns. Within four weeks of assuming command, using this system, I was able to bring my forces into contact with the enemy in a 100 km sq. area where there had been no reported contact for several months. In fact, this system eventuated in over 250 enemy casualties in a 6-month

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period in the same "dry" area -- -- I believe the largest return per square kilometer of any place in Vietnam in the same period.

3. By the same token, I found a need for determining where friendly operations had been conducted within the recent past. I borrowed a technique from the 1st Air Cavalry Division called a "footprint map." This is simply a graphic display of the reported point location of each company or independent element at 1400 and at dark each day, connected by straight lines. A color code discriminated among units, and each month's operation was kept on a separate overlay. By superimposing several months of operations, I could see at a glance where we had been, and by putting this display over the enemy patterns graphic, I could compare friendly with enemy activity, and draw useful conclusions for planning my own operations.

4. The input for both the foregoing was readily available; the enemy data was taken from the intelligence summary, and the graphic was posted daily by my OB clerk in the Brigade S-2 Section. The footprint maps were taken from the S-3 journals, and were posted by the Brigade S-3 draftsman weekly. Since both inputs were essentially numeric, I see no reason why we could not log by punched cards, or by some other form of binary code. A computer compilation and recall would obviously greatly facilitate using these techniques.

5. I kept my footprint maps in my command post, usually in my office, only rarely taking them to the field. The enemy pattern analysis, however, traveled with me whenever I wished to talk future operations with a battalion commander. I had fabricated an aluminum triptych about 5 feet high, and approximately 3 feet wide when folded. There were clamps and a handle, so that when folded it can be man-handled on and off a helicopter with ease. Opened up, it displayed a 1:25,000 color-contoured map of the area between Hue and Laos. By putting 3 leafs of maps on the boards, I was able to provide an area coverage of approximately 60 kilometers by 60 kilometers. Acetate overlays recorded the enemy activity reported in the area for the previous 3 months. The color code differentiated months, and symbols distinguished among 20 different kinds of reports. The color contouring began at about 200 meter contour, since this was the elevation at which one normally en-

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countered fog and low lying clouds during the NE monsoon -- -- a very useful differentiation for us airmobile types. My aluminum board became my constant companion. I wanted to bring it home, but the ADC directed me to pass it to my successor. I gave it to him with the hope that it would serve him as well as it did me: with it I was never surprised by the enemy; with it my brigade successfully located 2 enemy regiments who attempted to penetrate my brigade zone. That aluminum map enabled us to find them, and that in turn led to our fixing, fighting, and evicting them from zone.

6. We need precision map-coordinates in reports. To get precision was considerably more costly, because the only way I was able to obtain it was by exorbitant investment of my own time and energy. I found that intelligence printed in the Division Intelligence Summary was unreliable in the sense that reported map coordinate locations were invariably inaccurate. The chief offender was the Division Air Cavalry Squadron, who was the chief producer of intelligence reports. I became aware of this inaccuracy through the enemy pattern analysis mentioned above. Looking at 6 months' worth of enemy activity in a given area, I could see that the reports grouped around specific areas, but I was struck that similar reports were dispersed around the nucleus over a substantial area. This led me to devote time to watching air cavalry in action, and this in turn to the conviction that the cavalry pilots could not or would not read a map with an accuracy of even a kilometer. I found that the same observation held true of pilots flying personnel detector (sniffer) missions, and of pilots flying psy-war, loud speaker or leaflet missions. All of these operators, busy with the job of flying and fighting or sniffing or broadcasting, were inept at locating themselves precisely on the terrain. Accordingly, reports generated by them were of poor quality. Convinced that I needed six digit accuracy on coordinates, I adopted the policy that any aircraft, on any mission other than Infantry troop support, anywhere in my brigade area, would have a command and control aircraft overhead. The purpose of the latter aircraft was mainly to plot and record. Usually I would put aboard this aircraft an artillery liaison officer, so that the C&C aircraft would have the capability of initiating fire requests immediately upon acquiring a lucrative target. Simple shortage of C&C

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aircraft dictated that more often than not the C&C in question was me. When the weather closed in (maximum rainfall, October; maximum cloud cover, November thru February), we worked out a system for reconnaissance forward of my Infantry elements in which I would fly as far out into the mountains as the weather permitted, and then call a cavalry team to join me. I would station a forward air controller above the overcast, overhead me and my cavalry team. We would then commence scouting. Whenever the scout aircraft saw anything worth reporting, he would mark the position for me, sometimes with smoke, sometimes simply by overflying and calling: "Mark, mark." I would plot as he did so, and found that eight digit accuracy was easy to attain in most areas. Aboard the aircraft with me, I would have, of course, my artillery liaison officer. Whenever we located enemy -- -- usually from a "shot at" -- -- we would initiate artillery fire requests and simultaneously order air. Not infrequently, we were able to attack the target both with radar controlled bombing and with all artillery within range. Within 20 minutes, in the usual case, we could get either or both types of ordnance onto live targets. I personally flew such missions throughout a period of 5 months, and I am convinced that it is a sound method of operation. The key to pinpoint radar bombing and fast artillery reaction is accurate map plotting.

7. An allied problem, which also required my personal intervention altogether too frequently, was the essentiality of knowing precisely where friendly elements were located, especially when in contact. Even in an airmobile division, the battalion commander was not always immediately available to move to the scene of an action. I found that, whether simply because I had a better fingerspitzengefuehlen, or whether I was simply more readily available, I usually arrived over an action before anyone else. My first action was to find out where our guys were on the ground. As you might expect, they were usually 500 meters or so from where they thought they were, a potentially fatal error. The process of determining location still depended, as of the time I left the battlefield, on their throwing smoke or otherwise marking visually positions on the ground for an aerial observer. No electronic positioning devices were available in my unit.

8. The two foregoing points suggest strongly to me that we need a position indicator aboard each C&C aircraft which will permit readout in map coordinates. A similar device should be aboard scout aircraft.

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Moreover, elements on the ground should be equipped with some sort of simple transponder which would permit a C&C to detect azimuth and range to the unit on the ground, and translate that data into a map coordinate location for the ground unit. I feel certain that the technology is available, and I believe that the device would be a significant addition to our ability to control the battle.

9. Moving to the subject of audio reception, I was continually bothered throughout the year by my lack of access to UHF and VHF aboard the aircraft. I had a 3 radio console in the rear for my use, but I could obtain UHF capability only by sacrificing an FM radio. Moreover, re-configuration of the antenna system for the UHF made the replacement a much more lengthy process than simply replacing the radios. Accordingly, I elected to retain my 3 FM capability, since I found it absolutely essential to monitor two nets continuously, and failure rate on the FM radios ran just about 30% per day. Also, while I needed to monitor 2 radios, my artilleryman needed a radio for his use to communicate with an FDC or an FAC. The problem with the UHF and the VHF was simply that these radios were employed by air units, particularly air cavalry, in preference to the FM. It is particularly important, when working with a cavalry scout team, to have the scout and his gun cover working on an exclusive channel, where there is no possibility that a transmission from the scout would be blocked by some other station. The crowded FM nets, with their frequent override from Vietnamese units, forced the cavalry into UHF and VHF. I could not follow them, much to my disadvantage, except by plugging into the pilot/gunner intercom -- -- a clumsy arrangement which cut me off from monitoring my 2 FM nets.

10. This leads to a comment that the console with which I was working -- -- the current standard console -- -- is unsatisfactory. It is ponderous and undependable. The control format is workable -- -- that is, the notion of an array of individual switches permitting selectivity is acceptable. The high failure rate we experienced (and I should comment here that I brought to bear the very best maintenance talent in the division, but was never able to lick it except by replacing components) renders the current design entirely undesirable for future use. Assuredly, miniaturization offers a better solution.

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11. To sum up, what I think we should be looking for is a console which would weigh no more than a man, take up no more room than a man, and guarantee access to at least 2 (preferably 3) FM radios, a UHF set, a VHF set, and an intercom linking the pilot and 5 persons in the command group. Each person should have access to the radios individually or collectively, and the intercom arrangement should preserve the "private" feature found in the present set. The console should display in six digit map coordinate the location of the aircraft (through some sort of doppler radar arrangement to a base station). It should also have a small screen (I would guess that a 10-inch screen would be acceptable) on which it would display a map of the terrain around the aircraft out to a distance of 5 to 10 kilometers (I leave the scale vague; scale would depend on image definition). I would see this map as being a television reading of a tape in some central bank, at the base station. The commander should have the option of throwing on the map the last week's/month's enemy activity reported in that area. He should also have the option of displaying on the same map the last reported friendly activity in the area. The map should be coupled with the ground-unit transponder, so that the commander would also have the option of showing on the map a friendly unit whenever he so desired. A slave display unit forward in the cockpit would afford the pilot a superb navigation aid, or serve a commander-pilot. The memory for the console should be in the rear at the base station. The memory bank might include such information as the location of artillery concentrations, flight corridors, or specific bits of information like the characteristics of particular Air Force ordnance, so that on interrogation the computer in the rear could inform the staff forward quickly and precisely whenever the commander had a specific question of fact. Obviously, the reporting system within the brigade would have to be geared to provide constant input, and the brigade would have to have access continually to information from divisional level sources (and vice versa).

12. I acknowledge that my experience was largely with low-intensity warfare. I can assert that I have operated against antiaircraft guns, but I recognize that the commander in a European or mid-Western battle would scarcely enjoy the intimacy with the battle, and in particular the visual contact with the battle that I enjoyed. I believe it is more essential, however, that we move rapidly to a more sophisticated, more flexible, more

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rapid command and control aid. In a fluid battle against a sophisticated enemy, there is no way that the current system of staff and command can equip the commander to do his job. Fundamentally, even with all of our console gear, we are still in the grease-pencil and acetate era as far as command and control is concerned. It is time to make a bold leap forward.


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