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But regardless what a businessman is doing today he must be considering pollution control efforts for tomorrow.

One thing he can do is write for a free booklet entitled "71 Things You Can Do To Stop Pollution." It doesn't have all the answers on pollution. But it might give a businessman a few ideas for both today and tomorrow.

People start pollution. People can stop it.



### THE CADET MAGAZINE OF THE U. S. A. F. ACADEMY

VOLUME 17 NUMBER 7 MARCH 1972

# Talon



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# Japan - Assembly Topic

Last summer when I was sailing into Yokohama, the English writer Angela Carter commented to me that Japan was "an example offering all the benefits of of Capitalism run rampant" capitalism with a maximum of destruction. She followed this comment with the observation that Westerners who visit Japan are generally either intrigued by Japan or totally disillusioned by the country. Standing on deck, choking in the sulfurous air, and watching the yellow-brown water of Tokyo Bay foam around the ship, I was ready to concur with the latter opinion — a prospect I was not joyous about after fighting the Soviet Bureaucrats all the way across Russia. However after spending the night reading Haiku with a young lady, listening to the rain fall in the Japanese Garden, and then watching the dawn creep into the dew covered yard with the bird calls and gold fish splashes; I found myself viewing Japan with mixed emotions.

Later when I was sitting in Yokota AFB waiting for a hop back to the States, I watched an old Japanese janitor with his mouth turned down in to the furled wrinkles of his neck. He went about his work with utmost care keeping the floor spotless and the chairs perfectly arranged. If anyone threw a cigarette butt or a piece of paper on the floor, he immediately went to pick it up. HIs pride in his work and his ability to persevere for long hours impressed me almost as deeply as his morose face — the face of a man living in his own country but subject to the relations of a different race of people from a country far away but much bigger and more powerful than his own.

These and other paradoxical aspects and relations of Japan will be topics for the Academy Assembly coming in April. For the many cadets who have traveled (or plan to travel) to Japan, the Assembly will contribute much to their own (or future) impressions of Japan. As traveled and future officers, our need for an understanding of the Orient will greatly increase with the new American policy toward China and Asia. In this respect, the cadets who have time to attend any of the workshops or speeches will find ample opportunity for gaining knowledge about Japan and Asia and for communicating different ideas with other college students — both of which are aspects that we in the American military can afford a little information and experience in for today's era.

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# ARMED FORCES

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Oh woe is me, woe is me not. I came pressing and smoking into endeared USAFA the other day and thought I'd be really gung-ho by showing up a day early from a weekend. Unfortunately my decision proved to be exactly that unfortunate. After accepting my Form-10 for improper haircut before signing in no less, I received the distinct honor of being restricted to the area for the rest of the weekend. As additional motivation I was permitted - required to - monitor all tour formations. Well, I don't want it to look like I received insult heaped upon injury, but as I was dressing to go out and monitor the formation, I carefully thought out what uniform I would wear. Now, Service Alpha is the most formal uniform one can wear on duty. So, naturally I figured I couldn't go wrong with that on. As I was dutifully standing upon the pebbled slab watching those daring student form up so perfectly, low and behold upon the same slab strode a fine example of what I'll be if I should be so lucky to graduate from West Point. "Harken," the Officer said, "Mr. Charlie what exactly is the deal here?"

"Deal Sir?" I respectfully replied, "I don't understand."

"I mean, why aren't you in the correct uniform?"

"Well Sir, the notice on the bulletin board said to wear Service Bravo. I felt that if I wore Service Alpha I certainly wouldn't be incorrect wearing the highest class uniform."

"Mr. Charlie, what is the uniform for this formation?"

"Sir, it's Service Bravo."

"Go change your hat, Mr. Charlie."
"Yes Sir." I said with respectful

cheerfulness.

I guess when you think about it, with all the PERSONAL attention we receive around here from the officers, we cadets certainly aren't non-entities— although we may be persona-non-grata.

Wait! I have another little jewel of gossip for you. Did you hear that

when the President expressed his desire for the Cadet Chorale to come and sing at the White House, the Scheduling Department wouldn't let them go because they'd already taken their allotted number of trips? YES. I guess somebody had to remind the bureaucracy who the boss is (\*\*\*).

Well don't do anything I wouldn't do.

charlie

# letters to the editor

LETTER TO THE EDITOR

To the Talon Staff:

I wrote this because perhaps it touches some of the thoughts that often bother many cadets. It may cause members of the Wing to think. It caused me a lot of thought just writing it. If you think it worth printing, I feel it should be anonymous. It would have more effect that way.

A Member of the Cadet Wing

#### THOUGHTS ON GROWING UP

I am not the same person who left home three years ago, full of ambition, drives, and worthy dreams.

Too much education, too many years spent struggling for the almighty "A" stifled the spirit.

Time, the master of us all, does not allow luxuries such as a social conscience. Today my dreams are in terms of money, my goals based on pleasure.

Be a pilot? Be a navigator? It matters not as long as the price is the same. Am I sad? No!!!

I think that perhaps now I am a man. It seems that to be a man is to turn your back on things which displease.

See something which is troubling? Pretend it does not exist. Give in to it. Is It Possible That The Boy I Once Was Had A Greater Wisdom Than The Man I Now Am?

Signed,

A Member of the Wing



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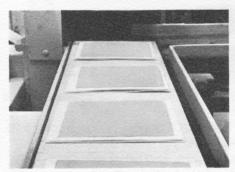
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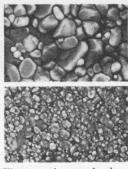
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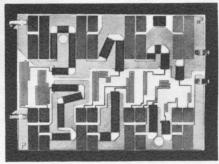
# WESTERN ELECTRIC REPORTS



1500° C furnace was specially designed to fire these new substrates. The relatively low temperature results in smooth substrate surfaces for practically fault-free thin film bonding.



Electron micrographs show the great difference in grain size between new ceramic material (lower) and the previous material (upper).



Thin film integrated circuit shown here is part of a resistor network. It is one of many that benefit from the improved substrate. Metal leads on sides are bonded by thermocompression to tantalum nitride resistor film.

#### Smoothing the way for perfect thin film bonding.

Aluminum oxide, or alumina, is considered to have the best combination of properties for thin film circuit substrates. Until recently, however, the bonding of metal elements to gold-coated tantalum nitride resistor film on alumina was somewhat unpredictable.

Now, an advance at Western Electric has made it possible to get practically fault-free bonding of these materials.

This new perfection in bonding came through the development of finer grained alumina substrates.

The process has four basic steps: milling, casting, punching and firing.

During milling, alumina is combined with magnesium oxide, trichlorethylene, ethanol and a unique deflocculant. For 24 hours, this mixture is rotated in a ball mill. In a second 24-hour period, plasticizers and a binder are included.

The deflocculant plays a major role by dissipating the attraction forces that exist between the highly active alumina particles. This prevents thickening, which would ordinarily make an active alumina mixture unworkable.

The 48 hours of milling is followed by casting. When the material comes off the casting line, it is in the form of a flexible polymer/alumina tape, dry enough to be cut into easily handled sections.

After casting, a punch press cuts the material into the desired rectangles or

other shapes. Holes can be punched at the same time.

Finally, because of the use of active alumina, the material is fired at an unusually low temperature which results in smooth substrate surfaces for reliable thin film bonding. The finished substrate is then ready for the various processes of thin film circuit production.

In developing this new process, engineers at Western Electric's Engineering Research Center worked together with engineers at the Allentown plant.

**Conclusion:** This new way to produce substrates is a truly significant contribution for thin film circuit production.

The ultimate gain from this smoother substrate is for communications itself. For through the achievement of nearly perfect bonding of metal leads to tantalum nitride, thin films can be produced with even greater reliability and economy.



We make things that bring people closer.

## **Academy Assembly — Japan**



#### By Marc Micozzi and Steve Pitotti

On April 12-15 USAFA will host the 1972 Air Force Academy Assembly in Arnold Hall. This annual event, a student congress on international affairs, has been held every year since 1959 in conjunction with the American Assembly of Columbia University founded in 1958 by President Eisenhower. The financial support will come from the American Assembly with the Academy providing personnel and facilities. Participants will include 125 student delegates from 75 different universities and colleges throughout the nation. There will also be adult delegates from the military, business, and government. When all come together on April 12, the Academy Assembly will convene to discuss United States relations with

The man heading up operations this year, Maj. Michael A. Freney, a Naval Academy graduate, is a political science instructor at USAFA, and Director of the Academy Assembly. According to Maj. Freney, the main purposes of the Academy Assembly are to get people thinking together on an issue and to provide a forum for the interchange of ideas on this issue. The actual mechanisms which implement these purposes are complex. The

Academy Assembly and each of its components must adhere to a strict agenda throughout the four-day period in order that objectives may be properly fulfilled.

The Assembly will include an impressive list of dignitaries in key positions concerning U.S.—Japanese relations. Business will open with an introductory address delivered by H.E.

Nobuhiko Ushiba, Japanese Ambassador to the United States. Following will be the keynote address by Marshal Green, the Assistant Secretary for East Asia and Pacific Affairs of the Department of State. From here the Assembly will proceed into the serious business of panel discussions and roundtable seminars. Here the hard labor of thought and deliberation, debate and reconciliation, will take place. Official observors to these proceedings will include representatives from the National War College, Army War College, Army Command and Staff College, Army Information School, Naval War College, and Department of International Affairs.

A total of four panel discussions will be led by experts on U.S.-Japanese relations such as Richard A. Erikson, the Country

Director for Japan of the Department of State, and Z.B. Brezinski of Columbia University. This discussion will take place in Arnold Hall on the evening of April 13 and should provide ample opportunity for the airing of different views. The proceedings will be moderated by Col. R.F. Rosser, Head of the Department of Political Science.

On the fourteenth the action will move to Fairchild Hall, where seven roundtable discussions will be held in the academic department conference rooms. There will be an average of 18 delegates per roundtable each led by an adult expert responsible for the guidance of the group. These leaders will include: Gary Saxonhouse, Ph.D., Michigan University; Paul Lainer, Rand Corporation; R. Butwell, National War College Faculty; Claude Buss, San Jose State College; Maj. John Endicott, Ph.D., Tufts University and political science instructor at USAFA, and Peter Sheatt. Each roundtable must be run according to agenda which follows a standardized format. The delegates provide the commentary. Items to be considered by each roundtable within their specific areas include how things stand now, how they will stand in the

future, and how we can best protect national interests while maintaining favorable relations abroad. On the basis of these deliberations a consensus report will be compiled under the direction of Michael Curtis. This report will give observations and recommendations of the panel and roundtable discussions concerning U.S. relations with Japan. It will be widely distributed within the government and educational institutions.

Major Freney indicated that the Assembly's consensus report would probably center around recent difficulties between the United States and Japan due to the surtax and dollar devaluation. Under heavy consideration will be the nuclear umbrella that the U.S. is currently providing for Japan. This situation is quite costly to the U.S. both in terms of dollars and commitment. President Nixon's meetings with Emperor Hirohito in Alaska and Premier Sato also will figure prominently in the deliberations. Having taken all into consideration, the output of the Assembly will be recommendations concerned with preserving good relations between the United States and Japan.

The final outcome of the Assembly will rest upon the shoulders of the

delegates. Consequently, the success of the Assembly will be determined by the expertise displayed by the delegates in their dealing with U.S.—Japan relations. For this reason, the process by which the delegates are selected is a most important part of planning for the Assembly.

As preparations go into full swing and arrangements are made, the selection of delegates begins with General Albert P. Clark, Academy Superintendent, who sends letters to 75 colleges and universities throughout the country. These letters request the respective college presidents to choose senior or graduate students with leadership experience who are well versed in the topics under consideration. From this point, the actual selection process is left to the discretion of the individual college.

Once the delegates have been selected, the Academy provides all required facilities for them during the Assembly. The Cadet Wing hosts the delegates and provides quarters for all male participants. They live in the dormitories with the respective cadet squadrons providing the delegate with insight into the cadet way of life. Here is an opportunity for the future leaders of the military to communicate with the future leaders of civilian

society. The results can only be beneficial for the Academy.

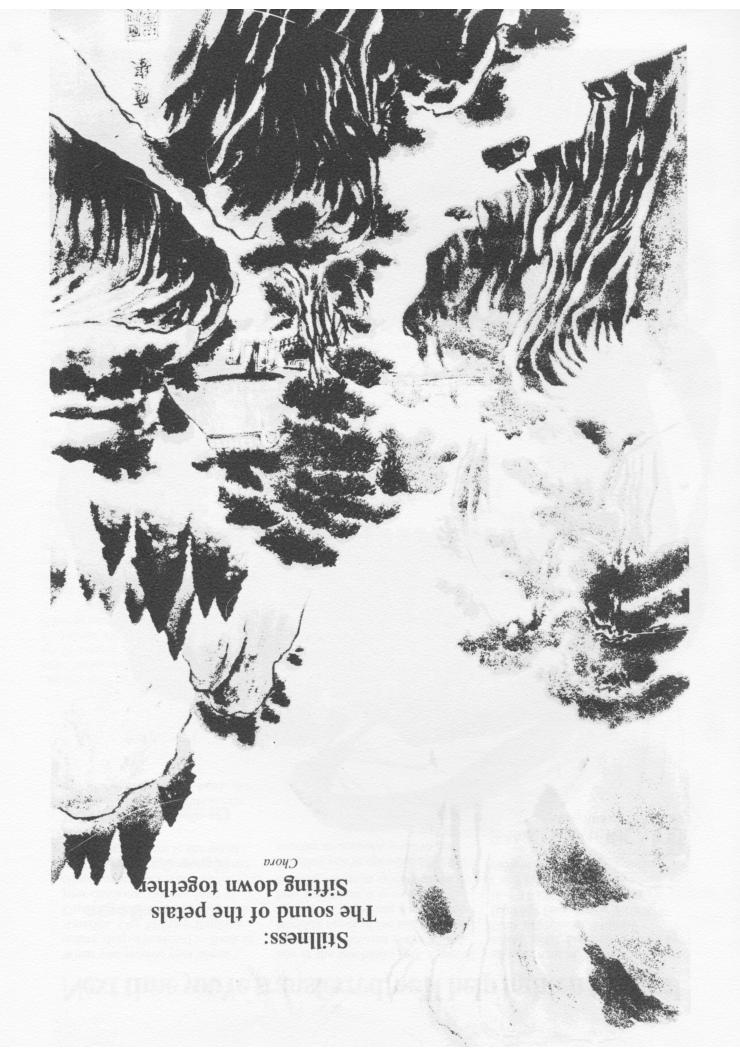
The essential feature of the entire Assembly is cadet involvement. The Cadet Wing conducts the operation of the Assembly. This year the Chairman of the Air Force Academy Assembly Committee is Cadet Colonel Charles M. Hardman, Wing Commander. Under his direction is the First Class Staff, which handles all functional areas of the Assembly. The Second Class Staff is responsible for the administrative duties such as escorting delegates, making arrangements, and meeting expenses. Third Class monitors provide required assistance at the roundtables. In addition, there are fourteen First and Second Class Cadets participating as delegates.

Major Freney reminds all cadets that the Academy Assembly is not a closed operation. There are many openings for Third and Fourth Class Cadets. He has distributed a letter to the Cadet Wing calling for interested volunteers. The best way to prepare for consideration as a delegate to the Assembly during First and Second Class years, is to take on administrative responsibilities during Third and Fourth Class years. The entire program is strictly voluntary.









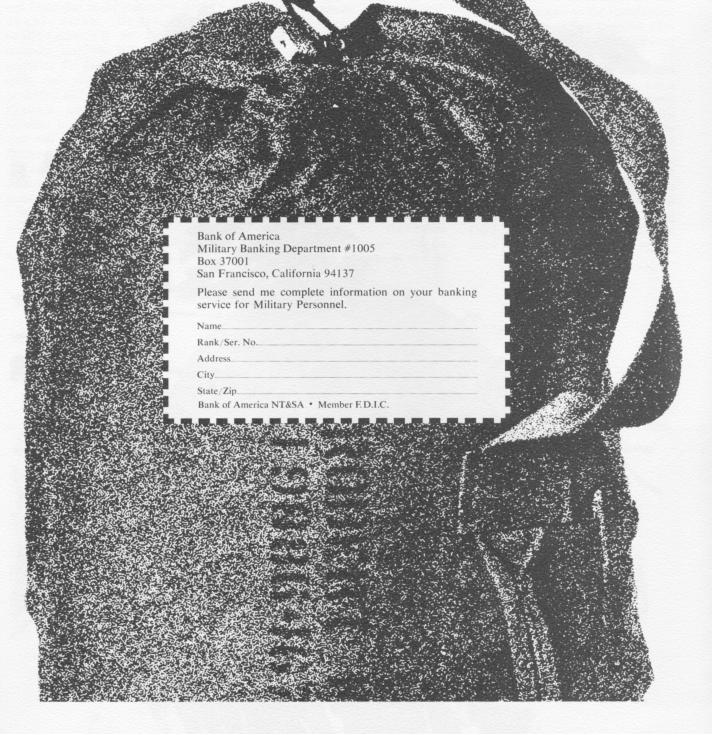
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# Cadets Begin New Academy Drug Program

By Pete Strunk

"More than half of all United States Servicemen have experimented with drugs. As many as ten percent of the Americans in Vietnam are using hard narcotics. And the drug abuse problem in the services is getting worse."

This quotation appeared in a recent issue of the Air Force Times. As incredible as this statement seems to be, it is not exaggerated. The drug problem in the military is increasing at a large rate in spite of the diligent efforts being made by the government to curb it.

As future officers in the United States Air Force, we will be the ones to inherit this very real and pressing problem, and it will be our responsibility to deal with it effectively. However, because there is so much emotion in our society concerning drugs, especially the controversial ones such as marijuana, the task of dealing with the drug problem could prove difficult unless we have a knowledgable foundation on which to base our decisions and actions. The mission of the Air Force Academy drug education program then is to provide this factual base to the cadet.

Now you say, "Oh no! Not another drug education program," and visions of past programs come back in full color. But what if I told you that a new drug education program has been approved for the Cadet Wing? The new program unlike its predecessors, is not under the supervision of a board of officers; rather, it is under the direction and control of Wing Staff.

#### Cadets Administer Program, They Are Closer To Problem

Now you ask, "Well what difference will that make?" For one thing, by having cadets administer the program, it might help to dissolve the atmosphere of apathy which surrounds the lectures and discussions conducted by officers. Cadets are much closer to the drug problem and come into much more contact with it than do officers. This inevitably gives cadets not only somewhat of an insight into the complexities of the drug problem, but more importantly gives them an understanding attitude towards it. Consequently, cadet led discussion groups would probably be more conducive to a freer and more willing atmosphere in which a ready exchange of factual information could occur. A big advantage of this system would be that cadets could draw on their personal experiences with the drug environment to help other cadets understand what it is really like. This is the kind of communication for which the new program is designed.

The objectives of the new drug education program are broad in their scope. Actually, a relatively small part of the entire agenda is devoted to discussion of just purely technical matters. It also explores much territory on the sociological and professional aspects of the drug problem. For example, on the sociological end, some of the objectives are: to question the need for chemical use outside the field of therapeutic medicine; in this questioning, to understand the broad implications of drug abuse in society and the problems such abuse cause; to be familiar with some of the problems which lead to drug abuse such as lack of identity, escapism, peer pressure, and ignorance; to be familiar with the different illegal drugs and to understand why their use has been made illegal outside the field of medicine or research. On the professional end, which will be the most practical part of the program for cadets, objectives will include such things as: familiarity with current Air Force policy on drug use and procedures for treatment available to the drug user; understanding how drugs can affect the command situation and cut down on mission effectiveness; finally, to make clear the legal responsibilities of a commissioned officer and cadet in upholding the laws of the United States.

On the whole then, the new drug education program is designed to give the cadet the necessary tools to effectively cope with problems of drug abuse in Air Force units when he becomes an officer. This goal admittedly, is the same as preceding programs; however, the novelty of the new program is that it is under the direction of cadets, with lectures being conducted in small groups within each squadron to better facilitate exchange of information.

The central idea and success of this program rest with the cadet's initiative and participation. Because of this, some administrative officials have voiced doubt that the program will succeed. Are they right?

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# girl of the month







Born in Japan, Miss Yuko Nagano spent most of her life in Okinawa until coming to school in Colorado. Miss Nagano spends her spare time modeling, wandering through the Denver Art Museum, or just talking with her friends at the Temple Buell Union. Majoring in History and French, twenty-year old Yuko plans to spend her Junior year even further abroad in Switzerland. Yuko translates into "Grace" in English, and we think you'll agree her nickname is quite apropos.

Photos by Chris Sebald















# Honor Code Must Be A Way Of Life

The following is an address to the first class cadets by the first Commandant of Cadets, Brig. General Robert M. Stillman in the fall of 1955. We think it bears re-printing:

All of you came to the United States Air Force Academy with slightly different attitudes toward life. Your early environment and home training have contributed to these differences. Yet you all possess one common interest — the desire to become officers in the United States Air Force. By now you have given careful consideration to the challenge of a military career.

In you case there is an additional challenge. Not only are you entering the rigorous course which leads to a regular commission, you are the first group of cadets to attend the United States Air Force Academy. As a member of this group, each of you will be invested with a grave responsibility. Each will be charged in these early years of the Air Force Academy with

the establishment of an Air Force Cadet Honor Code that will serve as a cornerstone for our Academy, an Honor Code by which you as an officer will live in later years wherever you may be — in the vastness of the Pacific, the great land mass of Asia, the European continent, or Middletown, U.S.A.

Why is Honor so important to military men? A former Secretary of War, Newton Baker, expressed the reason very well when he said, "Men may be inexact or even untruthful in ordinary matters and suffer as a consequence only the disesteem of their associates...but the inexact or untruthful soldier trifles with the lives of his fellow men and with the Honor of his government..." We are a young Air Force, still engaged in building traditions. Perhaps our finest tradition is devotion to the mission an Air Force pilot does not turn back from the target, regardless of opposition. This grim dedication to the accomplishment of the mission, which has its parallel in the Crusades, is a direct outgrowth of personal integrity, mutual trust, and loyalty to country - in a word - HONOR. Here

is a rule of behavior, born in the minds of men and tempered in the crucible of battle which has never failed your country — and it never will. This rule of behavior is emphasized through the use of an Honor Code.

In the establishment of this Honor Code, the mere placing of the rules on paper is not enough. The code must be a way of life. You and your classmates have the opportunity and the mission to create this code and to live by a standard of conduct which will stand firmly as a bastion of moral strength, now and in the years to come. Your Honor Code must stand as an inspiration to all Air Force officers.

What rules do you need to guide you in this endeavor? There are many definitions of honor, but basically they all have a common meaning, a meaning that describes a true gentleman. He will not lie, he will not steal, he will not cheat, nor will he allow among his associates anyone who will violate these precepts. These are the four commandments of honor. This is a very real and vital code by which every officer must live if he is to perform his duties and carry his responsibilities properly. Failure to

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live by this code would make it impossible for you to maintain the respect, the confidence, and the wholehearted cooperation of any command.

Among yourselves you will find various interpretations of the concept of honor. If you are devoid of the basic qualities that support this concept, there isn't very much, frankly, that can be done about it here. Time will show that you cannot succeed as a cadet. If, on the other hand, you do possess the essential qualities that lead you to this concept of honor, then your life here at the Air Force Academy, and your relationship with your officers and fellow cadets will serve to develop your sense of honor. You cannot be given the essential qualities of honor, namely, an utmost sense of honesty and justice, devotion to duty, and unquestioned moral character. You can only be provided with the best opportunity to practice and develop these virtues. The HONOR CODE as such will be your principal vehicle toward this end.

In most things it is difficult to say, "This is all black and this is all white," but in this matter of Honor within the Air Force Cadet Wing we must draw a line that will permit us to make just that determination. In the science of mathematics the solution of any problem must be exact — it is right, or it is wrong. Truth is just as exact. There can be no shading, no equivocation, no quibbling, when a

man is dealing with truth and his honor.

In the weeks to come you will be given advice concerning the rules which should guide you in your fellowship as cadets. As members of the Air Force we are inextricably bound together. No man belongs to himself. As long as you wear the same uniform I wear, I am responsible to you and you are responsible to me. What you do is no longer, strictly speaking, your own business. If you lie, the Air Force and Air Force officers are lying. If you cheat, the Air Force and Air Force officers are cheating. If you steal, the Air Force and Air Force officers are stealing. Everything that you do which detracts from your character detracts from the Air Force as a whole. If you pass a bad check, it makes it all the more difficult for an officer to cash a good one. If vou are seen drunk in uniform, we have a drunken Air Force. The point is that you are entering a community of men who are dedicated to a common mission. We need officers who are truly men of strength; twelve inches to the foot, sixteen ounces to the pound strong as individuals but who contribute their individuality to the welfare of the group. In the words of John Donne, "No man is an Island entire of itself; every man is a piece of the Continent, a part of the main...any man's death diminishes me, because I am involved in mankind...therefore never send to

know for whom the bell tolls; it tolls for thee." With every passing year in this great country's service, the truth of this philosophy will become more evident to you.

As graduates of the Air Force Academy, you will be expected to set the standard for all junior officers. In future years, you will be responsible for military policy and decisions often momentous in nature. Remember that the people of the United States, through their elected Congress and their elected President, have placed their confidence in you. Along with this confidence they are planning to bestow certain authority and responsibility. There are no absolute means of measuring your capability to carry these responsibilities. You, therefore, must frequently ask vourself this question, "Do I have that moral integrity, that honesty and sense of justice, that humaneness, and above all the fabric on which these must be woven together, that sense of duty and honor, which will enable me to exercise my authority properly?" Only you can answer this question.

> ROBERT M. STILLMAN Colonel, USAF Commandant of Cadets

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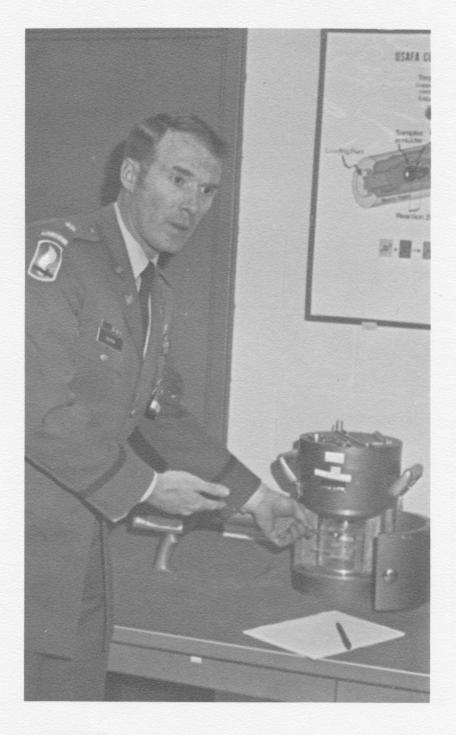
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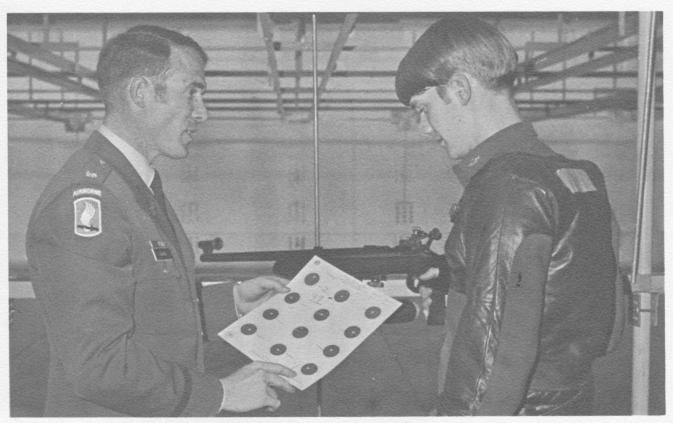
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### **Point Grad Evaluates Academy Efficacy**

In evaluating the efficacy of the Air Force Academy, it is essential that one consider the quality of its academic program and its graduates vis a vis those of the general civilian college. Requisite for this task is the insight that can only be attained by working in the respective environments of a military academy and a civilian university. The Talon staff found just that insight when they consulted Major Lee Nunn - 1959 graduate of the United States Military Academy, graduate of North Carolina State University with a master's degree in nuclear engineering, and Air Force Academy faculty member in the Department of Physics. Sporting the philosophy that an officer should seek to make a tangible contribution wherever he is stationed, Major Nunn has enthusiastically involved himself in coaching the cadet lacrosse team, sponsoring the cadet rifle team, and working with the cadet aero club.





#### TALON:

Sir, could you tell us something of your career preceding your assignment to the Air Force Academy?

#### NUNN:

I am a 1959 graduate of the United States Military Academy and took a commission in the Corps of Engineers after graduation. I went the usual route of airborne and ranger schools. My first duty assignment was with the 101st Airborne Division at Fort Campbell, Ky. where I spent two and a half years, primarily working with troops. Following that assignment, I went to Korea where I was what the Air Force would call the base engineer. We had a small base of about two thousand people in direct support of the Korean Army. This assignment involved maintaining all of the facilities - air, field, buildings, power plant - much as a base engineer would do anywhere. After Korea I asked for and received a graduate school assignment at North Carolina State University in nuclear engineering which was a two year assignment and resulted in a master's in nuclear engineering. I anticipated going from there to the Military Academy as an instructor in math or physics, my minors at grad school. About that time. Vietnam loomed on the horizon so I took a short course at the Army Engineering Center and went to Southeast Asia with the 173rd Airborne Brigade. I was the commander of the brigade engineer company consisting of about two hundred men. Among other engineering tasks we were responsible for moving the brigade around which in the mud and jungles of Vietnam became a pretty tough job. About half way through the tour I was wounded when my vehicle hit an enemy tank mine. I was evacuated to Japan, then Walter Reed for surgery, and I didn't return to Vietnam. While at Walter Reed. I arranged to get assigned to Fort Belvoir as a nuclear reactor engineer, and was subsequently assigned as commander of the SM1 Reactor. Following that assignment I went to the Command and General Staff College at Fort Levenworth, Kan. While there I anticipated returning to Vietnam with the 101st but I received a call from the Air Force Academy Physics Department asking if I would be interested in teaching. My family and I were very pleased to have the opportunity to come to the Academy, even if the alternative was Vietnam.

#### TALON:

Sir, while you were attending the Military Academy, did they have any type of majors program or curriculum differentiation as we have here?

#### NUNN.

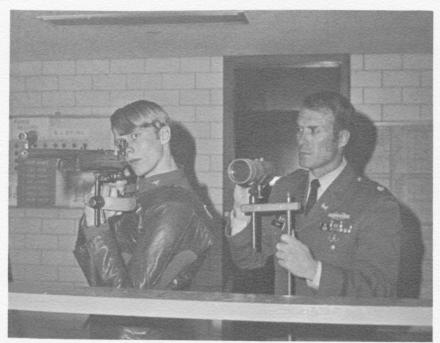
No. The Military Academy allowed no variation between the course work that one cadet pursued, versus another except that cadets could choose among six foreign languages.

#### TALON:

The Air Force Academy had a similar academic program when it was first instituted, but over the years several changes have been made including the establishment of majors and later the cooperative graduate programs. Have similar changes been made at the Military Academy?

#### NUNN:

I have not kept up as much as I would like to have with the Military Academy's evolution in the academic field; however, we were given a



thorough briefing before we left on changes in the curriculum that would take effect after we departed. It primarily had to do with a system of electives rather than toward a majors program as you have here. The electives were carefully thought out and selected to provide essentially the same type of education in the same field. In other words, cadets at West Point were not going to be able to weight up in the social sciences as opposed to the sciences; but, they would have the opportunity, for example, to choose a history course from perhaps five possible courses. At present the academic program has evolved beyond that so there now is an opportunity to specialize more in a particular field. However, it still falls short of the majors program that we have here. I'm not so sure that that's bad; you might like to inquire a little further about my view of the majors program.

#### TALON:

Very well, sir, but let us preceed that inquiry by saying that statistics which have been made available show that in the Air Force individuals who had been provided with additional education beyond their undergraduate studies have done rather well. Those former cadets who had won a scholarship have been promoted below the zone to major at the rate of approximately 70%, and those former

cadets from the Air Force Academy who went into the cooperative majors program have been promoted likewise at a rate of approximately 33%. This compares with an average, over-all Air Force rate of approximately two percent. So with that, sir, do you think that the majors program is justified in giving a young officer additional training before he goes on active duty?

#### NUNN:

I think that for a person who has his future well mapped out or his interests well defined, the majors program is a fine thing. I certainly wouldn't take any exception to the Air Force Academy's idea that a man can go as far as he is able to, as fast as he is able to. I think that's a fine program. I believe that there are some hard competitors here who can go further, faster, and they should be allowed to. However, the success of the majors program in the Air Force may just be indicative of the fact that these individuals who know what major they want and go into it with great vigor and enthusiasm and do well, will do well when they get out into the Air Force. I was very glad to have the broad general education offered at the Military Academy primarily because I hadn't chosen a field of specialty upon graduation. It was apparent four years later, when I was eligible for assignment to grad

school and able to select my graduate school, that I could have as easily picked history at Duke, engineering at MIT, or business at Harvard. It would have been my choice so to speak. The broad education which I had received at the Military Academy afforded me that latitude of selection. This is not to say that if you specialize, say, in civil engineering at the Air Force Academy, that you couldn't go back to grad school in international relations; but I think that is a sort of changing horses in mid-stream which could be rather uncomfortable. I don't think that the majors program should be so strong that it would pre-empt a young officer's desire to go into another field.

#### TALON:

Sir, we have approximately thirty-six required courses, and the remaining sixteen for graduation are elective. It is presumed that the Academy is attempting to provide a breadth of education, but also to provide the cadet the opportunity to select an academic major in which he is interested and in which the Air Force also has a requirement. Do you think, perhaps, that the core should be increased?



#### NUNN:

I believe that 36 to 16 is a reasonable ratio. I don't want to be categorized as reactionary, but I would not like to see the core reduced much below that. Consider the case of an individual working on his doctorate in philosophy. I think it would be a shame to see anyone arrive at that exalted state without being exposed to the philosophies of other fields. Too much specialization would tend to reduce the interaction of an individual in the social application of his field. Also in the military, you are going to be given assignments of such a general nature that you will not have had schooling or will not have any interest in that area, but still must perform well. General officers are generalists rather than specialists, and they probably became generals because they were very good in general fields.

#### TALON:

Sir, having been a student at both the United States Military Academy and North Carolina State University and a instructor now at the Air Force Academy, how do you view the comparative quality of academics at a military institution as opposed to a civilian university?

#### NUNN:

I think that there is no need for the Academies to apologize for their educational programs when compared to any university. Certainly there are better engineering schools, for example, than the Academies, but I think that those engineering schools would be hard pressed to come up with graduates who had done any better in engineering than have Academy graduates. The curriculum that the Academies offer and the load that cadets carry is very, very fine. I see Academy graduates going back to graduate school and sitting down alongside of the best that the civilian community has to offer, that is, those going to graduate school. It is seldom that you will find the military personnel in the bottom of the class; rather, they are consistently in the top. The Academies have sent the civilian community their graduates, and they have measured up quite well.

#### TALON:

Do you think that the military services in general would be hurt much if the draft were suspended?

#### NUNN:

I am against the strictly mercenary army or military. It may be that the all volunteer military is not going to be a mercenary military; it may have a great deal more dedication than that, in which case "mercenary" would be too harsh a term. But I think that if we do away with the draft and hope to be able to attract enough people to defend the country, then we are going to have to do that with higher pay scales. The public is going to look at those individuals in the military and assume that they know what they are doing and that they are doing it primarily for the money involved. Then, when something happens to you - you are injured or somebody's family down the street loses a son in the military - the attitude might well be, "So what? It's a dangerous job, but he was merely doing it for the money. It's like washing windows at the UN or the Empire State Building. It's a dangerous job; the pay is high, but it's dangerous. The guy knew what he was doing. Things simply didn't work out." This could isolate the military a great deal from the public. Now with

the draft, we pick the individuals at random and call them in to the service of their country. I think either that or universal service is valuable. If a war comes up or if the defense of the country is important enough to draft people, the whole population of the United States knows there is a problem; they know there is a war, or they know there is a problem of defending our country. They are concerned, they are involved, and they will give you support. Now look at what the situation would be if we were all in the service as a career, based solely on pay. All of our decisions may become parochial; we might not have the imputs of the civilian community or have their interests foremost. We could easily become isolated from the American people in respects that we are not isolated now. I think that would be very much to the detriment of the military. For that reason I would be very hesitant to endorse an all voluntary military. I think that what is being done to make the military attractive is good because there were some irritants in service life that really weren't necessary. But that doesn't mean that we should do away with the sense that the young people of this country have an obligation to this country which must be discharged in some way - universally or by a random draft.



"Roger, Trans Am 713."

"Trans America Air Lines Flight Seven-Thirteen, this is New Orleans Central Control, over."

"Trans Am 713, here. We read you, over."

"Trans Am, we have a person here to talk to you."

"Put him on."

"Trans America 713, over."

"This is Trans Am 713."

"Roger, Bill, this is Tom Toynbee, Trans America Bomb Section here."

"Read you loud and clear, Tom. What's new?"

"Not much, Bill. Houston Police received one call from the bomber and not much info available. We do know that the bomb is designed to detonate as you descend for landing. We do not know the exact altitude at which it is set to explode. But from the sound of the caller, he expects it to explode in full view of Miami International. We calculate a set altitude of 2,000 feet."

"Roger."

"A bit of good news, though. Havana Air Field elevation is a little over a thousand. But there is a definite, deep low pressure cell over the city. You might, ironically enough, be able to save it all. Funny, ain't it?"

"Yeah, real funny."

"How is the search going?"

"Searched everything but the passengers and baggage. Baggage we can't get to. The passengers are already on edge with this gunman here and we don't want to panic any of them."

"Roger, I doubt if the bomb would be on any of the passengers anyway."

"Agreed. So you think Havana might be a lucky break, eh?"

"Roger, Bill, leave you now and good luck."

"Trans America 713, out."

"Trans America Flight 713, this is New Orleans Central Control. Any luck with the bomb?"

"Negative, New Orleans, but we have just subdued the gunman. It seems the poor fellow became quite air sick. The Flight Engineer disarmed him while he was bent-over double. Now on a course of zero-four-eight degrees to Miami. Estimated time of arrival is 1:12. Have only twenty

minute fuel margin. Request you inform Miami of our difficulty."

"Roger, that is being done."

"Thank you much, New Orleans."

"New Orleans, this is Trans America 713, over."

"Trans Am, this is New Orleans, over."

"Airborne emergency is over, New Orleans. We have found the bomb."

"Say again, please."

"Bomb has been found."

"Thank God."

"Affirmative, New Orleans. Navigator discovered it in his map briefcase while replacing the Havana air charts. There it was. Flight Engineer successfully disarmed the device. He has been a real hero today. Funny, but the bomb wasn't an altitude detonated device, just the standard time bomb variety. I guess those Houston detectives really missed on this one."

"Roger, Trans Am. Glad everything is finally cleared up. Turn to frequency one-one-niner, Miami Central Control should be waiting."

"Thank you much, New Orleans, nice talking to you. Trans Am, out."

"Trans America Airlines Flight Seven-Thirteen, this is Miami Central Control, over."

Silence.

"Trans America Flight 713, this is Miami Control, over."

Silence.

"Trans America 713, this is Miami calling. Do you read me, over?"

Static.

"Trans Am 713, this is Miami Central, do you read me, over?"

Static.

"Miami calling Trans Am 713, come in please!"

Static.

"Trans Am 713, come in please!" Long, loud static.



### Marretta and Halpiaz

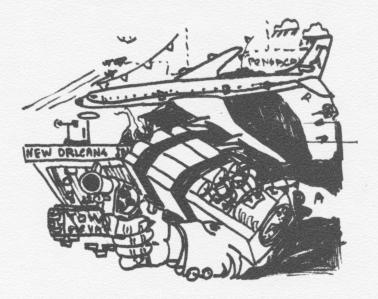
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# Flight 713 . . . .

#### By Doug Dildy

"Good morning, this is your captain speaking. You are flying aboard Trans America Airlines Flight 713, Boeing 707 jetliner service from Houston to Miami. We are flying at an altitude of 40,000 feet, at an estimated speed of 490 miles per hour. Our estimated time of arrival is 12:35 local. I hope you will find your flight pleasant and enjoyable. Thank you."

"New Orleans Control, this is Trans America Airlines Flight 713, Houston to Miami, flying at 40,000 feet at 490 knots at a heading of 106 degrees."

"Roger, Trans America Seven-Thirteen, this is New Orleans Control. Weather for your route should be clear until you reach the warm front from Pensacola to Key West. There is also a low pressure area centered over Havana. No traffic at your altitude and route."

"Roger, New Orleans Control, everything is looking good."

"Pleasant flying, Trans America 713, out."

"Trans America Flight Seven-Thirteen, this is New Orleans Central Control. We have an emergency. We have just received a call from Houston International. You have a bomb aboard."

"Roger, New Orleans, we have a bomb aboard."

"Affirmative, Trans Am 713, the Houston Police report it to be altitude detonated."

"What altitude?"

"Trans Am, we have no word on the altitude it is set to go off at."

"Roger, New Orleans, what do the air detectives think of it?"

"It's a real live one Trans Am."

"Roger, New Orleans, any advice from Ann Landers?"

"Negative, Trans Am 713, we are working on it. Trans America Bomb Department will brief you on it when all the data is in."

"Roger, New Orleans, we have four hours of fuel on board. Will continue on course to Miami."

"Roger, Trans Am 713, out."

"New Orleans Central Control, this is Trans America Flight 713, over."

"Trans America 713, this is New Orleans Central, have you located the bomb?"

"Negative, New Orleans, we have an additional problem here."

"Roger, Trans Am 713, what is it?"

"New Orleans, we have a man here with a gun and he says his home is in Havana."

"Oh, no."

"Roger, New Orleans, Trans America Flight Seven-Thirteen reports a change in flight plan. Changing course to one-seven-zero, speed 487 knots, ETA Havana Air Field is 1220 Eastern Standard Time."

"Acknowledge, Trans Am, do you have the necessary charts and information on Havana Air field?"

"Roger, New Orleans, thanks anyway."

"Trans Am 713, how is your fuel?"

"We have an hour and ten minute flying time margin. Three hours of fuel left."

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### Cadets Look Forward To Sgt. King's Class

By Kurt Bock

Before the beginning of the fall semester, it was evident that someone had made a mistake on every fourth-classman's class schedule. Everyone seemed to be scheduled to take a course called Instructional Technology 101, Academic Skills. Why did any of us need IT 101? We were here, weren't we? We all thought we knew how to study, take notes, and listen, and of course, all of us could read. Yet it seems rather paradoxical that on the course critique at the end of the semester that 98.6% of all fourth-classmen rated IT 101 anywhere from "helpful" to "very worthwhile."

Instructional Technology 101, or in doolie vernacular "Sgt. King's class," is the product of the efforts of its course director and only instructor, MSgt. James G. King. Sgt. King is a career enlisted man in the Air Force. Prior to coming here in 1970, he served as a surgical technician and a medical laboratory technician. Upon graduation from the NCO Academy, Air Force Systems Command, he returned there as a faculty member teaching communicative skills and human relations. From there, he then became associated with the Directorate of Instructional Technology here at the USAFA and eventually, IT 101.

IT 101 is a required course for all fourth-classmen. Included in the course are organization and study methods, note taking, test preparation, effective listening, and reading improvement. By covering these many and varied areas, it is hoped to develop a cadet's academic skills to a point where he is given the tools to be a more efficient and organized student. Yet, it should be stressed that these new ideas gained are only tools, and the cadet himself must implement them. If the cadet doesn't, he can easily fall back into his old habits.

Yet, how can a class such as this be made interesting? After all, IT 101 is non-graded and on a pass/fail basis. However, Sgt. King has a method – humor. To him it is a valuable teaching

tool. When asked about his use of humor, Sgt. King stated, "I felt when I organized this course that if I could answer a need you had in that IT classroom, to make it a place you would enjoy coming to, that you would work twice as hard in there. With a course of this nature, it is very hard to tell a group of guys that do not know how to study, listen, or read that here is the way to do it. But if I can establish the course as a place that the cadet wants to be, I think that he will look forward to coming to IT. Then, once I get them in there, I can slip some learning on them, have them enjoy it, and in some cases, make it a little less painful."

This less-painful method has proved its worth in several ways. Statistically,

the average fourth-classman came to IT 101 with a reading rate in the 70th percentile of all college freshmen and with his comprehension in the 72nd percentile. However, when he left, his reading rate had increased to the point that he was in the 99th percentile while keeping his level of comprehension the same. By these such results IT 101 keeps constantly evaluating itself, keeping itself current and relevant, providing more efficient means of study to each incoming class.

In short, Instructional Technology not only provides a cadet with the academic tools he requires, but also with a place of learning where humor and joking are an integral part of the course.



# PORUM.

Admiral Elmo Zumwalt
Chief Of Naval Operations
March 15, 1972

7:30 P.M. Arnold Hall



Upcoming Forum Speakers:
William F. Buckley; William Waltze

# S











#### Falcon Player Brings New Look To Cage Squad

By Ray Swider

Despite a mid-season slump, Falcon cagers have several bright spots. Among these is Coach Egan's playmaking Junior guard - Tom "Bud" Blase. Tom's promise lies not only in the two good varsity seasons he's had now, but in the experience and talent he'll bring back to next year's squad. The new style of play utilized by the team this year is conducive to Tom's best efforts. He describes himself as a run-and-gun type ballplayer from high school on and feels that the Falcons new look on the court is more comfortable for him. Tom also brings discipline and leadership to the court which he uses to direct the Falcon attack and defense.

Tom's father, a retired Air Force colonel, lives in St. Louis where Tom spent his last two years of high school before entering the Academy. Before that Tom played ball in Alabama at Maxwell AFB where his father was stationed. There he played football and baseball as well as basketball. In Tom's sophomore year, he played on the Alabama state basketball champs.

His next two years were spent in St. Louis where he lettered in baseball and basketball again. In baseball he earned all-metropolitan St. Louis honors and in basketball he earned all-conference and all-metropolitan St. Louis status. He carried a very impressive 19 points per game average through his last two years in high school.

He received scholarship offers from several local colleges in the St. Louis area but eventually decided to accept the appointment he had to the Academy following his brother, first classman George "Sparky" Blase. His basketball career at the Academy can only be termed successful and a valuable asset to any basketball squad. He feels that his role on the squad should be considered as just a part of a well balanced team effort. He credits Coach Egan with developing a good team attitude as well as a mature, disciplined team effort. Tom points to the close competition for scoring leadership by several team members (he presently leads with approximately an 11 points per game average) as evidence.



### Fencing Fields Hope In Inexperienced Team

As this year's Academy fencing team goes into the new season, they are faced with the challenge of preserving the fencing team's fine record of never having a losing season. The biggest obstacle to the team will be its lack of experience. Coached by Maestro Nicholas Toth, himself a world renowned fencer, the team has only 4 returning lettermen from last year's team which won the Western Championship and posted a 11-0 won-lost record.

Fencing is a fast moving sport which is quickly becoming more and more popular on the college scene today. It's broken down into three weapons - foil, epee, and sabre. Teamwise, it consists of nine members, with three each competing in one of the three weapons. In a team meet, the winner is determined by the most number of bouts won, with nine bouts in each weapon, with a total of a "27" possible score. Winners of individual bouts are determined by the first to score 5 touches gainst his opponent. In foil, a touch is scored by a point thrust only on the torso. In epee, a touch is scored by a point thrust on any part of the body. In sabre, a touch is scored by either a cutting action or a point thrust anywhere above the waist. No matter what the weapon, though, a fencer must be very quick and agile if he has any aspiration of beating his opponent.

Epee is probably the team's strongest weapon this year and is led by C/1C Bob Berg, who placed 15th in the NCAA championship last year. He is joined by returning lettermen C/2C Mike Turner and C/3C Jim Blackman, Terry Clemens, Bob Crenshaw, Doug Pelton. In foil is C/2C Kirby Knox who had fenced epee up til this year. Also in foil are C/1C Phil North, C/2C

Ken Vargas, and C/3C Merril Powell, Bill Mitchell, Rocco Detomo. Sabre is led by returning letterman and team captain, C/1C Bill Walker, followed by C/1C Mark Mayer, C/2C Ed Haegele, and C/3C Dennis Vollink, Bill Dillard and Mike Reich.

The team hopes that by the end of the season it will have gained experience and will again be able to defend its title at the Western Championship.

#### The Flashing Skates of Dave Skalko

To all Falcon hockey fans, the name Dave Skalko signifies flashing skates, amazing stick-handling and unlimited scoring potential. Dave, a second classman and center on this year's vastly improved team, is on the verge of establishing a new season record for points scored by an individual. With ten games remaining, he is almost assured of scoring the seven points he needs to break the record. He already holds the record for assists scored in one season at 34, a figure that will no doubt increase before the season ends.

His younger brother Jim also is a fine performer for the Falcons. Dave was an all-around athlete at his Sparta, Minn. high school, lettering in five sports, making the All-State hockey team, and being named Most Valuable Athlete of his school. Besides sports, his other interests include reading, especially novels, which probably indicates why he chose humanities as his major. After graduation, Dave would like to continue his education in quest of a master's degree in English.

As for hockey, Dave hopes that this year's team can attain its first twenty-win season. The team is now 16-5 so the outlook is favorable for the Falcons and Dave. With still another year ahead of him, Dave is certain to establish himself as one of the finest players in the nation, a recognition this highly competitive young man truly deserves.



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#### THE NEW WORLD ECONOMY

By Herman Kahn



(Director of this renowned Hudson Institute, Herman Kahn is a futurist, physicist, mathematician, and specialist in national security affairs. An international lecturer and prolific writer, he has authored such books as On Thermonuclear War, Thinking About the Unthinkable, The Year 2000, On Escalation: Metaphors and Scenarios, and The Emerging Japanese Superstate.)

An issue which will affect the lives of all of us during the next few years will be the evolution of the world economy. There will be changes which are likely to prove surprising, and for Americans possibly even a little disconcerting. The university student of today, if he enters business or industry, is likely to find himself working for a new kind of enterprise which can play a role in the late 20th century near-revolutionary in its economic impact.

The basic structural changes taking place in the world's economy today can be described as "internationalization" and a "shift from the U.S." The center of productive economic gravity is beginning to shift from the U.S. (and Soviet Union) to Europe, Japan, Pacific Asia, and to an increasing degree China, Latin America and even elsewhere. Moreover, this physical establishment of industry in foreign lands often retains a foreign or multinational - often U.S. corporate identity. Thus U.S. industry abroad is often called "economic colonialism." This is not unreasonable, although it is not true that these industries are "tools of the American government," or the reverse, that "the American government is a tool of these industries," or even that there is usually a flagrant exploitation of the country where these industries are established. Nonetheless companies today are definitely American in terms of values, outlooks, attitudes, and interests. This, I think, is going to change.

The basic pattern that is emerging is one in which the multinational company produces for home markets in foreign subsidiaries where production costs are lower. This obviously is likely to increase pressures

for protection on the part of the host countries. But it is also likely to increase pressures for working out solutions to common problems. As these companies grow in importance in terms of their influence on worldwide production, and in their marketing, financial, technological, etc. capabilities, they should play an increasingly dominant role in international economic relations.

One major danger is, of course, that the U.S. — the great advocate of free trade measures in the past two decades — will no longer take this position. It is little wonder that the U.S. has been a willing campaigner for free trade. Our economic advantages have been so great over the last three decades that — had there really been unfettered trade — it would have been an American world in a much more fundamental sense than it is or has been. It also would have been a much more integrated and unified world economy.

In fact, for a number of reasons, the free world chose to reject this kind of interdependence with American commercial dominance in favor of creating "balanced economies" by artificially supporting or protecting national industries. But the major characteristic of today's economic world is that these national economies in Europe and Japan do not represent "pieces" of global economy based on comparative advantage; they represent potentially directly competitive "balanced" industries serving major markets.

The world economy is thus evolving into what one might refer to as a multipolar and partially competitive economic world where the U.S. domestic economy is but one of several mass economies with not too dissimilar economic bases or mixes. As the Japanese and European economies. in particular, increase their productive capacities, the possiblity for major economic dislocation vis-a-vis the United States increases. I would argue that this evolution also makes it increasingly likely that the multipolar economic world will evolve a new synthesis; that is, as the chances increase for major problems arising from direct competition between

national or regional economies, so do the pressures increase for evolving a new stability based on the shift in economic power. And I would bet on a successful synthesis.

Basically, I am suggesting that the U.S., while still in a dominating position as compared to other countries, is no longer in the unique position where its major industries are largely immune to serious competition and displacement. In this respect it is now no different from other countries. Presumably this need not change anything very fundamentally, since almost all countries have had to be like this. But it is a new role for the U.S. and likely to arouse certain fears. One is a serious tendency towards protectionism.

I think, though, that we will escape the kind of breakdown or drastic slowing of world economic expansion which protectionism could bring about. I am, rather, an optimist about expansion, not because I believe a growing world GNP is always and necessarily good in itself, but because the greater part of the developing world still badly needs industry, goods, jobs, and the economic benefits which we in the West have so long enjoyed in such astonishing abundance.

For this, it seems to me that the multinational corporation - for all of the troubled issues of sovereignty and national economic independence it raises - can prove a revolutionary institution in the late 20th century. It seems to me the most efficient means in the world today for transferring capital, technology, knowledge, and working skills to the developing countries. For all of our efforts these last three decades to find the right methods to develop the Third World, it seems to me that the multinational corporation has already proved the best. Simply by applying its own criteria of productive advantage and profit it can bring net economic gain to the world. The new businessman finds himself with new horizons beyond those of his national borders, but also, it may be, beyond purely economic borders and interests as well.

Herman Zahn

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