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JPRS L/10082

29 October 1981

Japan Report

(FOUO 62/81)



FOREIGN BROADCAST INFORMATION SERVICE

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29 October 1981

JAPAN REPORT

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POLITICAL AND SOCIOLOGICAL

U.S. PROTECTION OF JAPAN EXPECTED

Tokyo BUNGEI SHUNJU in Japanese Jul 81 pp 88-96

[Article by S. Kurimoto: "America Will Not Fail To Come To Protect Us; Why?"]

[Text] Everyone is talking about America. At the root is the current economic friction between the United States and Japan. It seems to me there is too much concern that there are great obstacles to the anti-Soviet defense question because Japan, an economic superpower, is contributing a mere 1 percent of her GNP to defense costs at a time when anti-Japanese sentiment is running high in the United States. Let's analyze the international situation objectively. It is criminal to frighten the Japanese, who are apt to be frightened, by saying things like "America will forsake Japan."

At present the Japanese are worrind about what America's stance will be. With ill-feeling toward the Soviet Union and North Korea, the Japanese are uneasy on all sides. Even a slipshod book on that subject will sell. But, wait a moment. If the Japanese begin to view America's intentions with docile eyes and become nervous, the American government will probably be pleased at heart that it can easily and profitably manipulate Japanese public opinion. Even the Soviet Union, which is at a deadlock in world affairs, will sometimes make threats and likewise scheme at manipulating Japanese public opinion.

It's Senseless for Japan to Reconsider

The effect of Japanese nuclear "allergy" aside--though it is a culturalanthropological perception of the Japanese--there is no other country [in the world] whose public opinion is so easy to manipulate than that of Japan. It is a kind of pose for the leaders of both the United States and the Soviet Union to try to exacerbate the emotional uneasiness of the Japanese people and control things as it suits them. Thus, it is important for us not to be afraid of childlike threats and, instead, to understand the other side's true position.

It is nonsense to fear that America will not earnestly defend Japan. Historically, America has never earnestly defended another country. She has only defended another country to serve her own vision. It is the same now. No matter what type of survey is used--for example, one carried out by a t.v. station in America--when one questions the general feeling toward the yellow-race Japanese, there is room for only one choice: America will probably defend Japan for her own interests.

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Isn't there some aspect lacking in Japan? If there is, it is senseless in terms of international politics to think that we should reconsider. The reason is, obviously, that their logic is different from ours. Even if Japan does everything it thinks it's supposed to, they will get mad. And, conversely, they will be pleased with unrelated things. We cannot perfectly match their logic. But, if we are able to understand what annoys them, it will be a chance to display our friendly feelings toward them. I think it is necessary that Japan be calmer because currently the relationship between the American and Soviet superpowers, for their own reasons, are strained.

Because America is the problem, I propose at this point that, by understanding how to perceive America, we do not overreact to the defense question.

On the matter of the clash of "other vs. other" which he calls international politics, I have criticized former MITI member Amaya Naohiro's "merchant-nation theory" for exacerbating without foundation the inner community logic, where "other" does not exist. Furthermore, as opposed to "one-level international cuestion" critics, whose reports, like Defense Minister Sase Masamori, have been sufficiently spelled out, I have said that the degree of America's understanding of Japan cannot be deepened only with unilateral changes on our side.

Differences Must Exist in the Community

My words have been quite harsh, I am afraid. To understand another person or another country, my real intention is to say, as psychiatrist Hideo Kishida does, that it is necessary to enter from the psycho-analysis of the community, which becomes the object, and that that must be the point of departure for comparative cultural study. It is quite dangerous to depart from the relationship of things, or the relationship that concerns things--like the theory of vertical and horizontal society that was popular some time ago. In the current Japanese-American problem, the economic problem is one trigger. It is necessary to proceed by seeing the ideal form of America's unified vision, which causes discord.

Do we call a community a stable unified vision? When one has a national vision, one feels oneself to be fortunate, and one does not have a violent attitude toward another country. However, the trouble is that from the foundation stability is not spiritually possible--no matter what kind of community, what kind of nation.

To put it in complex terms, whenever dividing lines are made, distinctions are necessary in nations and communities. Whether it's wicked, whether it's one who is discriminated against, an "outsider" is created, attacked, and by that action individuals and nations are finally stabilized. However, the way to affirm that identity is after all only through the vision. But, if that is a unified vision, you obtain a brief stability only for the time being. I say brief, and that is important.

In other words, the question of "what is a nation" is always clear only through the existence of a dangerous foreign power which invades or through "outsiders" who must be criticized internally. It is natural because culture is basically a system of acknowledgment or value judgment. When international friction

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becomes a problem, if it is America, one must start from the point of understanding America's system of understanding and acknowledging Japan. Thus, it is completely senseless to bring in Japan's value judgments, to reconsider on the basis of that, and to consult with America on regulation. Just when we think what a friendly foreign policy it is, they think it is a terrible plan, and isn't that the end of it?

The Automobile Problem Is America's Responsibility

Moreover, there is another problem in that America differs, in a fundamental way, from other nations. Since her formation she has been a centerless, decentralized society. America is a country that is basically lacking a unified culture and history. Therefore, one naturally needs a separate approach from European studies when dealing with America. In other words, as Japan, France, and other countries with extensive histories do, America lacks the means to gauge her internal concentration and makes a scapegoat within herself.

However, even in America, in small country towns, internal concentration occurs. Like the small southern towns of the nineteenth century, they killed the "bad blacks." Just recently, as a final move to maintain his authority, Khomeini of Iran made former president Bani-Sadr's party the scapegoat.

To repeat, as a nation America does not have that means within itself. The Japanese-American friction--playing on the automobile problem--becomes very much of a problem when tied with moves to make the Japanese people a scapegoat. But, I have related that there is a danger they will not understand when one argues from the point of view of things and numbers. It was my intention to have related that terribly obvious fact in a mild-mannered way.

Well, American specialists know the data better than I do, and trading company people know it better than the American specialists. If there is something I can say, it is that what America fears is not a falling back of the economy, which is centered on the automobile industry. They are afraid they can no longer keep up the picture based on the vision of the great U.S. protecting the world--the 50's vision of America which is in back of it all--the big cars, big buildings, big universities, the big Presley-style guys. That is, to speak frankly, a concern only of the dominant, upper class white people, the WASPS. Outside of them, one cannot find a sign that they have a particular bad feeling or reluctance toward Japan. While "Revelations of Hell" is insufficient it showed that the WASPS' worry is rooted in peoples' leaping to the theme of finding salvation in the eternal paradise predicted by St. John in the Bible.

The reason for America's problem with Japanese cars is that the American automobile manufacturers began making small-size cars too late. The fundamental reason is not that they failed to forecast the demand for small cars, but it lies in the vision of the bond between a rich America and the large-size car. The basic reason is the mental attitude of the leaders of the American automobile industry--it's not a problem of ability.

Half of the deficit in America's balance of payments that frequently became a problem in the 1970's was for imported Arabian crude oil. That meant desperately

defending America's vision of skyscrapers that light up the night sky and running full-size cars that waste gasoline. Now in 1981 people are beginning to buy small-size--primarily Japanese--cars. They have reached the point where they are saving oil. Such a situation is neither materially nor economically related to Japan; the Japanese are not responsible for it.

The Middle Class Is Not Anti-Japanese

I would at this point like to comment on the American situation, based on my economic-anthropological studies. I have said that in America the common vision of itself as a unified nation--a vision that existed somehow in the 50's--is on the verge of collapsing. Let's take notice of the fact that, as a result, naturally, people aren't buying cars "for America." That the people chose Reagan, seeking to revive a strong America, and that they do not buy big American cars that frequently break down and that consume much gasoline--these facts go together. Reagan is not a symbol of everyday life for the American people living in the highly-inflationary American economy. Reagan is a leading WASP, or white western European. But, even people besides WASPS must defend their way of life. Even including black intellectuals, they really have fine middle-class goals.

Japanese and French intellectuals are nothing but surprised at the Americans' strong feeling toward contemporary individualism. They accept the occult and mysticism and the flashy new rock group called "Kiss"--which, on the other side, are like a necessary mild poison in the life of the middle class. All members of families rush to see the fire-breathing Kiss Band.

In terms of the aims of that kind of middle class, the devouring of American cars by Japanese cars is absolutely not an important matter of general, primary concern. People usually have no resistance now; they seek the highly efficient Japanese cars. Having a Japanese car is becoming a symbol of the middle class.

In Chicago, which I visited this year in April and May, it usually took 6 months to buy a Japanese car. If you could do it in 3 months, that was considered good. People seeking Japanese cars would phone Japanese companies with which they'd had some kind of dealing in the past trying to make a connection in order to get a Japanese car. The honest reaction of the American people toward regulating Japanese automobile imports was--if only they would relax the regulations a bit, we could buy the cars we want!

Generally, American car dealers in and around Chicago were rapidly switching to Japanese car dealerships or they were going bankrupt. The employees in the companies that switched have to sell Japanese cars, but this doesn't seem to have caused an increase in anti-Japanese feeling. After all, if they can maintain their individual livelihoods, it's o.k. If having a Sony or Hitachi t.v., rather than a Zenith, is more suitable to middle-class stability, there's no resistance, only praise. For work they buy Japanese cars, at home they watch Japanese t.v.

My mentor, Professor George Dalton (economic-anthropologist), is Jewish. He is an intelligent person with no need to empathize with WASPS. When I sought his

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unreserved opinion on the current Japanese-American automobile problem, he answered: "The executives of government and industry, who didn't see the connection between the world situation and the lives of the American people and who did not worry about large-size car production, made a bad mistake. Let them suffer." His statement is clear and forthright. It's an obvious statement if one can see, more or less, the relationship between cause and effect. After all, it was nonsense to cling to a vision of an America where big cars run quietly (while spilling gas), an America which was the world's party-land--though that was a vision the rest of the world couldn't share.

America made that vision collapse. It wasn't the fault of Toyota or Nissan. The success of Toyota, Nissan, and Honda are results. Intellectuals in general perceive this.

Japanese Products Are Symbols of the Middle Class

On the other hand, the general population, including the non-intellectuals, must preserve their way of life in the aforementioned circumstances, and preserve their individual vision of middle-class goals. America is the home of the lemon: the cars break down and the t.v.'s are no good. If one buys a lemon, one cannot defend a middle-class way of life that seems to be pushed around and is collapsing.

In the Chicago suburbs, a house is at least \$110,000. If you don't pay \$150,000 you won't get a real middle-class home. Even so, you can hardly find a house for that price. One college teacher, as a side-line, built and started to sell a 15-unit condominium 2 years ago. So far only one unit has been sold. Of course, this is the worst case among those I heard. But you can see that both buying and selling are tough.

There isn't much to indicate that middle-class Americans-or, the American people who keenly strive to be middle class--think that the invasion of Japanese goods is the cause of their economic troubles. They break their hearts protecting their way of life. Japanese goods have become symbols that represent their middle-class-ness. Among white people, besides WASPS and colored people, one gets a sense of respect toward Japan--Japan, which economically leads second-rate white countries like Canada and Australia.

It is not so easy to judge the reaction of the Chinese and Korean people, because it depends on their respective historical relationships with Japan. Even so, Japan's economic successes do not have the character of arousing antipathy in those countries. In conclusion I will say that it is a matter of over-concern to think that antipathy toward Japan exists among the American people in general.

Why Are the WASPS worried?

Then why, at times, is there a signal in the messages coming out of the media and the political world that can be taken as anti-Japanese. Isn't it a cause for worry?

No, it isn't. As Naoki Komuro correctly warns in "America's Counterattack," I think it is a situation where Japan must be warned regarding the attitude of the

"nation" of America. If the people in general do not have that much of an anti-Japanese attitude, then what is going on? A "state" is actually a controlling group. The WASPS who had the power to elect Reagan take the economic success of Japan very badly. It may be better to broaden our terminology and say they are Western European whites, rather than WASPS.

They came to enjoy the privileged position of America, which has been leading the world economically since World War I and through the period of the great depression. America's war and pcst war hero role has been dissolved.

Those who were in a weak position in the United States were able to maintain their identity as Americans, seeing the pitiful conditions of European and Asian countries when they were stationed abroad as soldiers. And the white leadership, backed by the strength of being able to supply the American dream to the world and even to black people, was able to hold onto the stable structure outside and in.

But, maintaining that had already become difficult. When the people begin unconsciously demanding and the united vision of a country trembles, it's not a general stability but an eternal paradise with a basically different dimension. An eternal paradise where bliss and tranquility reign for a thousand years after Christ's second coming--as John's Revelations in the new testament shows--this thought is not limited to Christianity but is a dream all people deeply share.

The search for eternal paradise is born out of cultural crisis. The very emergence of a sense of eternal paradise is proof of cultural leadership crisis. What I have cited in "Revelations of Hell" shows that.

The WASPS are in a position where they should worry about that situation the most--or, rather, it's their only worry. For others, America as a whole is a kind of sick modern society. Just sustaining life is a goal. Whatever the case, I don't think there's any basis for a particularly negative feeling toward Japan.

There's No Country as Easy to Manipulate as Japan

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Despite that, for books like "America's Counterattack" by Naoki Komuro and "The Day America Abandons Japan" by Nobuhiko Ochiai to be published and which stimulate a sense of crisis, this means a tremendous growth of the Japan vs. worried WASPS problem.

Mr Komuro's book, leaving out the fact that it doesn't touch on America's unified vision, has numerous points that are unique and that one can agree with. It is particularly helpful in breaking down the fixed idea of America. But Mr Ochiai intended to seek sensationalism. In the current international situation America can't abandon Japan, can it? For a very long time up to now she has been investing her money and building up her pride here; it would all revert to bubbles. Even so, for America to abandon Japan is shocking—and it is a theme that will sell. There is, however, no foundation for it anywhere. They can't do that kind of thing; it will be a loss for America. China, a large country in Asia, does not have that much power. Rather, America should know that internally China's entropy has greatly increased, and no matter what is said it is not as easy to handle as Japan.

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If we reflect on it, it is clear even in the example cited by former Ambassador Reischauer, who recently caused a great stir, that Japan is easy to control. I see his words as a splendid cooperative play by the Japan-America ruling classes. It was originally the same thing, but they caused opposition for the sake of opposing one or two anti-war groups, made of simple-minded college students, and citizen groups and revolutionary parties who could be expected to react in a predictable way. It was their way of making themselves immune from the whole thing. As for the Japanese Government, if the Cabinet members frown and show their displeasure, that will acquit them. Troublesome it may be, but I think that if we understand the process, nothing is so simple and easy as (taking) this (kind of stance).

Reischauer knows his politics. He is famous as a Japanologist, but we give too little credit to his abilities in the sphere of information gathering.

The Fear of 'Yellow' Business

It may be a bit harsh to say that in American universities Japanese studies are a third-rate field of study done by third-rate scholars, but it is essentially true. Using Reischauer, who is the exception, the American Government carries out its cooperative play with the Japanese Government. This is probably not done in China. In other words, Japan is expected to be a partner that politically is absolutely easy to do business with. The Americans have made quite a few investments here, and thus it's o.k. not to worry about them suddenly doing an aboutface.

However, the feelings of America's leading whites toward Japan are subtle. Their hidden antipathy is a problem for us. They can't abandon Japan, but they fear the Japanese business that is invading America. As I have already pointed out, Japan has no responsibility, because America's retreat is her own fault. But the ruling whites in general--the WASPS--want a scapegoat to take the blame for America's problems.

Japan and the Japanese are certainly in that role. The Soviet Union and the Russians are of course the enemy, but they cannot be blamed for America's domestic economic retreat. It is difficult to get a consistent image of China and the Chinese, but they aren't much of an economic threat. In a sense, the image of Korea and the Koreans is worse than that of Japan, but, since the Vietnam war, the American government and its leaders have felt a sense of debt toward Korea. Thus, they have shown a much more lenient attitude toward immigrants from Korea than toward the Japanese. Outside these groups, there is no strong group image. Whatever one thinks, Japan is now in that position of being blamed.

It seems unexpected but the campaign to stop whale hunting and the movement to protect dolphins have very dangerous and dubious features, absolutely contrary to the intellectual mood that appeared on the surface. They say we shouldn't catch whales because they are mammals, but it is a well-known fact that Japan used to be far behind as a whale-hunting country-for a long time far behind Europe and America. This campaign has quite a bit of strength even in American universities. What is dangerous about it is that, rather than a simple anti-Japanese agitation, it plays on the heartstrings of the white peoples' spiritual

outlook. Even those who think of themselves as pro-Japan suddenly put on serious expressions. In conclusion, as countries that hunt whales, the Soviet Union and Japan are villains, and, moreover, the Japanese fishermen who kill many dolphins are villains. Although in the nineteenth century, the American whalers were most violent....

Probably, the aim of a portion of the white upper class behind this is not to cause America to abandon Japan. It is, by making the results unpleasant, to add to the mood that makes Japan as a whole cooperate with and be conciliatory toward America. But the by-product of this tendency will be to raise potential and unnecessary fears over cooperation between the two nations. America has assumed a fearful attitude. We must clearly recognize the problem and confront it by making clear our own intentions. That's all we can do.

I am of the opinion that Japan's mass media and her intellectuals must all together confront the cunning and, in conclusion, anti-Japanese campaign that runs through the whale and dolphin problem--and eradicate it. Their love of whales and dolphins takes the form of a personification of whales and dolphins--thus they cry "extinction" etc. Compared to squid, octopus, and shrimp, whales and dolphins are personifiable. Thus, Americans "love" them. What we mean here by whale is "killer" whale. Those killer whales, with their circus show, raise the image of friendly whales.

On the other hand, they don't have the same special feeling for cows, which are mammals. Five years ago I toured a cattle ranch in Idaho for a research project. On the third day of my daily inspection of the ranch, suddenly the manager of animal husbandry in a country town in Japan got angry.

He said: "Americans are cruel to cattle." Cruel or not, I thought, after raising the cattle people eat it and it's the same--whether America or Japan. But I listened to him: they were raising cows in the muddy ground on several ranches in Idaho. For cows that can't move around, it's pitiful, he said.

What Is Behind the Whale Campaign?

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In other words, the Americans themselves feel no kindness toward cows and pigs, but as self-appointed defenders of the sea, they feel kindness toward killer whales. This is based on a cultural difference; it is, in short, a simple problem of taste. The campaign against killing whales and dolphins is, in a sense, basically nonsense. It is not at all an intellectual movement. It is completely ridiculous to identify it with part of Japan's citizen movement. But the definite love of animals and whales and dolphins is common not just to WASPS but to those of European descent in general. In other words, we are talking about the American middle class in general. Because it sounds intellectual, therefore, it attracts intellectuals also. Consequently, it becomes an anti-Japanese movement. Even though the movement isn't that pervasive, it is a very convenient theme for American leaders, who think they want to force Japan as much as possible to cooperate and make large conciliations.

The whole problem, and which is something we have to look into deeply, is America's internal and external retreat and WASP fear within the United States. Apart

from the whale and dolphin problem, won't it be all right if we oppose them clearly and in a friendly way, without worrying too much? Luckily, what Japan now can do is to explain the reasons for its actions and take a direct stand with the American people. The Japanese Government can financially afford to wage such a campaign.

The people are a blank slate and can begin all over again. We can probably sell "friendly Japan" in a nice way, clearly, without an inferiority complex. If we do, the purpose is not to exclude Japan as leader, but the goal is to maintain our foundation and to preserve our identity. Thus, they should find a scape-goat themselves somewhere else.

Of course, the old-line white leaders will be excluded from the group of middleclass people, which incidentally is formed by the weaker classes. I feel that a new mood may be emerging in the United States and a new American society is possible. For us this may be a problem we cannot, for the present, tackle.

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OUTLOOK FOR ADMINISTRATIVE REFORM ANALYZED

Special Diet Session .

Tokyo YOMIURI SHIMBUN in Japanese 19 Sep 81 p 2

[Excerpt] With the opening of the extraordinary Diet close at hand, the prime minister's official residence has been unusually active for the past several days. Whether the prime minister will be able to lay the basis for the consolidation of his regime and the Liberal Democratic Party's presidential election next fall will be an acid test for him. The prime minister is therefore showing great interest in the upcoming Diet session.

Bullishness and Confidence

The prime minister declared: "Administrative reform is mandated from heaven. Despite countermoves by some opposition parties, I expect to fully implement it." He indicated that he is ready to force a breakthrough of the comprehensive bill on administrative reform. He also appeared highly confident when he said: "The opposition parties would not dare to place a frontal block."

The minister in charge of the reform bill, director Nakasone of the Administrative Management Agency, said: "The special committee for administrative reform will be for several days in succession. Compared to the struggles I experienced as MITI minister in pushing through bills in the special committee hearings on the oil crisis while surrounded by crowds of demonstrators, it is nothing this time around." He smiled confidently as he continued: "If we break through the middle, fair and square, we will get our way." His attitude gives the impression of a defiant director fully immersed in Suzuki's reform policy, but he does appear to be fully confident.

Actually, beneath his bullishness there lurk traces of anxiety. The government indecision regarding the title of the bill is one indication. At one point, the bill was designated an "extraordinary measures bill pertaining to the reduction of national subsidies," but it met strong protests from the party in power (LDP) at the liaison meeting between the government and the LDP. Because it would leave "a bad taste of administrative reform," cosmetic changes were made, and the title was amended to a "special measures bill to promote administrative reform."

Despite its content, which had a strong coloring of financial restructuring, it was considered an "administrative reform-related bill." This is an expression used by the government and the LDP, which is seeking to forcefully establish a special committee on administrative reform, concealing the actual content under heavy makeup.

Bullying and the Opposition Parties

If brought into question, the weak point of the government/LDP is "whether the upcoming Diet could properly be called an 'administrative reform Diet'." The opposition camp has strongly criticized the comprehensive bill on reform which is about to be submitted as "nothing but a subsidy-cutting bill which picks on the weak under the cloak of administrative reform. It is actually like using a better brand name to sell inferior goods."

It is true that the comprehensive bill drafted by the government is limited to a revision of financial laws and to cutting subsidies, including "a lower national burden for welfare pensions," "a lower public burden for child allowance," and cuts in spending by "curbing the plan for a 40-student class-unit system" and "abolishing or reducing the number of special regional public works projects." It is in fact "aimed at the formulation of next year's fiscal budget on financial reconstruction, rather than at administrative reform." (LDP source)

There are subsidies totalling some 250 billion yen which could be cut through the 36 legislative items up for revision. They include a 196-billion-yen, or 80 percent, reduction in the public burden for welfare pensions, child allowances, etc. The opposition is certain to question the government by focusing on the welfare issue and to accuse the bill, as "a result of the welfare-cutting philosophy" of the government, of being "intended as a breakthrough to reducing the future welfare budget."

"Carrot and Stick" Policy

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To counter this, the government is prepared to use the "carrot and stick" approach and say: With regard to easing the national burden for welfare pensions, we plan to add interest and return the money to the related agencies, after financial reconstruction has been achieved. We do not intend to reduce the budget permanently." However, despite the contention of the government and the LDP that "the comprehensive bill faithfully complies with the interpellations in the second extraordinary investigative hearings," the bill has not promised a second look at the special tax measures--a step which could cause "inconvenience to financial circles."

Therefore, the focus of the debate will probably be placed on the "posture of Suzuki politics," rather than on the finer details of the bill. The first issue to come up for debate is the defense issue. While severe questioning has been directed toward the welfare and education aspects of administrative reform, the rough estimate budget request for the next fiscal year gives "special treatment" to defense spending. Moreover, in view of the Reagan administration's midterm reduction of its "sacrosanct" defense budget, there is a popular view that "the heating up of Japan's own defense debate is unavoidable." (A source in the prime minister's office)

Sensing that foreign affairs issues such as the questions of economic aid to South Korea and Japan-Soviet relations are certain to become a focal point of debate, the prime minister's advisers are busily preparing interpellation data and "carefully preparing every detail so that the prime minister will not be caught in a bind by unexpected questions." (A close prime minister adviser)

Concurrently, key issues in the confrontation between the LDP and the opposition are: the Personnel Authority recommendation (pay increase for national government employees) and the arbitration case before the public employees labor committee (wage increase for employees of three public corporations and two field offices). Especially regarding the Personnel Authority (PA) recommendation, the government, in its general principles on administrative reform, clarified its policy of refusing full implementation, saying: "We will take proper control measures concerning salaries for national government employees." This was in accordance with its reply in the extraordinary investigative hearings. However, because it involves the question of the right to strike by public employees and also constitutional questions, it will be difficult to handle.

Moreover, there is no consensus within the LDP, and if a single mistake occurs in its handling, it could shake the government to its foundation. The government is therefore extremely cautious. "The content of a revised pay scale bill presented to the PA and the timing in submitting it to the Diet must be based on an extremely careful look at the direction of the debate in the special committee on administrative reform." (A close adviser to the prime minister)

Faced with such complex issues, the prime minister is secretly honing his strategy "to prevent the debate from digressing into administrative reform." His aim is to invite debate which will bring the "total image" of the Suzuki reform into relief through the debate in the special committee, and to pass the bill in the Diet with the backing of "national support." How will the opposition penetrate the shrewd hand of the prime minister, who seeks to solidify the regime's foundation? Much controversy is anticipated from the start in the extraordinary Diet.

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Attitude of Parties

Tokyo YOMIURI SHIMBUN in Japanese 20 Sep 81 p 2

[Text] May Not Proceed According to Schedule

A cadre of the Japan Socialist Party (JSP) termed the administrative reform Diet "a dense fog Diet."

"They are selfishly setting a date for a cabinet reshuffle after the Diet ends, but the Diet does not exist for the LDP alone. We cannot condone the unwarranted attitude of the LDP. We will disrupt the schedule of the self-seeking LDP." Tsuruo Yamaguchi, deputy chairman of the JSP Diet policy committee, cited the example of the fall of 1975 during the Miki cabinet, when fruitless deliberations on the bill to hike the prices of alcoholic beverages, tobacco and postal rates continued for 1 month after the opening of the Diet, and resolved to wage all-out opposition.

Because the administrative reform Diet, which Prime Minister Suzuki is determined to face with "indominate resolve," will be followed by a schedule of political tasks including a cabinet reshuffle and the drafting of a budget, the Diet session must be ended by mid-November. However, the early schedule for the extraordinary Diet--which calls for its opening on 24 September, the prime minister's speech outlining

his views on 25 September, and interpellations by delegates in the Upper and Lower Houses in a joint assembly on the 28th--is already being resisted by opposition parties and may be delayed by 3-4 days.

It will be followed by the difficult problem of forming a special committee on administrative reform to deliberate the comprehensive reform bill, and this will also face rough sailing because of resistance by the JSP. Although JSP Secretary General Sakurauchi says: "Within 10 days of the Diet opening, we will start deliberating the bill, and if we deliberate intensively for 20 days each in the Upper and Lower Houses, the opposition parties will not have any more interpellations left." But it is questionable whether the debate will proceed as smoothly as he hopes.

Of course, the Komeito, Democratic Socialist Party (DSP), New Liberal Club (NLC) and the United Social Democratic Party (USDP), which expressed the view that the formation of a special committee and the comprehensive bill were "unavoidable," criticized the JSP and the Japan Communist Party (JCP), saying: "A confrontation from the beginning of the Diet would be tantamount to crushing the comprehensive bill. " (Komeito political deliberation committee chairman Masaki) In such circumstances, the JSP and the JCP probably would not be able to continue their monotonous shouting in opposition.

At the Opening or Closing of the Diet?

The handling of both the PA recommendation for a pay raise for public employees and the public workers labor arbitration committee case, submitted by the workers of three public corporations and two field offices will have a close bearing on the passage of the comprehensive bill.

A debate is continuing in the Lower House Steering Committee directors meeting, between the government and the LDP versus the opposition, regarding the Diet schedule and the pay raise for public workers. The opposition is telling chief cabinet secretary Miyazawa: "The government is leaving the arbitration case in the hands of the cabinet, but you should decide on full implementation of the recommendation and remove the arbitration resolution from the agenda."

The opposition also asks: "How do you plan to deal with the PA recommendation? It is strange that you should say the government's decision will be delayed until October or later."

Chief cabinet secretary Miyazawa, with the argument for control of pay raises for public employees as a backdrop, is evasive in his replies to opposition demands: "We have no intention of withdrawing the arbitration resolution." "A budget measure is necessary to implement the PA recommendation, but we do not intend to submit any supplemental budget to the Diet." It seems likely that the fruitless dialogue between the chief cabinet secretary and the opposition will continue.

According to the tactics of the government/LDP forces: "We will separate the PA recommendation and labor arbitration from the administrative reform bill, and abstain from any debate, at least in the opening stage of the Diet. We will make a judgment during the last stage of the Diet, but we may pass the PA recommendation to the regular Diet session, depending on the circumstances." The intention is to curb the opposition's attack by reviewing the PA recommendation and arbitration case in the closing stage of the Diet, in order to prevent the opposition from limiting discussion to the two items.

Meanwhile, the opposition, especially the JSP, says: "We will not permit that. The pay raise for public employees is a prerequisite for administrative reform. Unless that point is clarified, deliberation on the reform bill would be meaningless." (A JSP Diet policy committee member) The JSP demands that the questions be dealt with at the opening of the Diet, and its plans to obtain cooperation from the Komeito and the DSP, which agree in principle with administrative and financial reform, but demand a pay raise for public employees. The administrative reform Diet is likely to become a complicated one over these issues.

- Four-Party Solidarity Appears Difficult
 - Another focal point in the upcoming Diet is the movement to form a united faction within the Diet among the so-called four centrist parties. A new faction will be formed on 21 September between the NLC and the USDP, but the Komeito and the DSP both regard this as only a forerunner to a four-party consolidation. A meeting of the Diet policy committees of the four parties which seek such solidarity may become the subject of further discussion.

DSP political deliberation committee chairman Ouchi emphasizes: "The coming Diet gives the centrist parties a chance to grab control of Diet operations." Komeito political deliberation chairman Masaki also says: "The four parties will join efforts insofar as is possible." A demarcation line between the four parties and the JSP-JCP is thus indicated.

The four parties have already drafted a joint demand resolution, saying: "The government posture on administrative reform is understandable, but the burden will fall largely on the socially underprivileged." In particular, they are demanding a compromise from the government/LDP on welfare and education issues.

However, relations are also complex among the four parties. For instance, the defense policy issue. At the regular meeting of the Federation of Textile Workers Unions on 16 September attended by the leaders of the four parties, Komeito Secretary General Yano and DSP Chairman Sasaki stressed the need for "solidarity among the four parties." Whereupon NLC acting representative Kono criticized the rightest trend of the Komeito and DSP defense policy, saying: "It is wrong to continue leaning closer to the LDP." The NLC and United Social Democratic Party plan to draft their own security and defense policy.

The JSP, which has been quietly observing the moves by the four parties regarding such defense questions as the clarification of the "consensus on the Self Defense Force," is also demanding collaboration from the Komeito. "While discussing administrative reform, an attempt is being made to transfer the money saved to defense. In the administrative reform Diet, we should be looking into the covert line of military expansion." (Director of education and propaganda Ueda) There are apparently still many problems to be solved before the four parties can be consolidated.

The administrative reform is already entering a dense fog at the Diet "entrance." In the view of all the parties, there is no clear perspective as far as the Diet outlook is concerned, and they are all groping as they move forward in the fog.

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Suzuki Strategy

Tokyo YOMIURI SHIMBUN in Japanese 21 Sep 81 p 2

[Text] Strong Determination and Tenacity of Purpose

"How would you deal with the administrative reform Diet? It will not be simple, but tough."

It was 19 August on a golf course in Karuizawa, Nagano Prefecture. It had been arranged to have former Prime Minister Tanaka meet Prime Minister Suzuki in a feigned chance meeting, because of various considerations. The prime minister bowed as he said: "I would like to ask for your cooperation." Whereupon former Prime Minister Tanaka replied: "Well, as far as the chairman of the administrative reform committee is concerned, I think our man, Shin Kanemaru (former defense secretary general), would be the one."

It was Prime Minister Suzuki who, well aware that the "Tanaka influence" was the strongest pillar supporting the Suzuki administration, nonetheless was trying to strengthen cooperation with former Prime Minister Fukuda--the other pillar--in order to ease away from Tanaka's influence. The fact that the prime minister, who since his inauguration had maintained that he would "not meet publicly with former Prime Minister Tanaka," broke his vow to save Tanaka's face indicates the degree of his determination and tenacity of purpose regarding administrative reform.

It may be that Prime Minister Suzuki's basic strategy is to bring the reform-related bill to a solution, recover his prestige which has been in limbo since the Japan-U.S. summit meeting, and carry out his hoped-for cabinet change and restructuring of the LDP leadership during the 55-day Diet session. And, further, to win reelection in the party presidential election next year. A senior cadre of the Suzuki faction admits: "The administrative reform Diet will be the severest test for Prime Minister Suzuki. We are resolved to win, but if the going gets tough, we can always count on support from former Prime Minister Tanaka."

Concerning the Suzuki strategy, there is no group within the LDP that would openly object to the promotion of administrative reform, on which the prime minister is staking his political life. The two leaders supporting the Suzuki Cabinet--Messrs Tanaka and Fukuda--have not altered their posture of full cooperation. Even Administrative Management Agency Director Nakasone and Economic Planning Agency Director Komoto, who are keenly eyeing the "post-Suzuki" premiership, are locked into the cabinet and cannot help but cooperate. Especially Nakasone himself, who is said to be the shortest distance from the post-Suzuki position, remarked: "Unless the prime minister says he will quit, I will cooperate to the end. I plan to commit suicide with the administrative reform." There is the dilemma that, "even if Mr Suzuki fails, at least he has been prime minister. But, if Nakasone fails, he is finished. However, if he succeeds, we will be helping to extend Prime Minister Suzuki's political life." (a Nakasone faction cadre) Nonetheless, all-out efforts are being made to pass the reform bill.

Suzuki Faction Is Too Naive

However, there is no change in the fact that the immediate political situation, facing administrative reform and a cabinet change, is fraught with seeds for turmoil. Former Prime Minister Fukuda does not hide his anxiety when he says: "The

administrative reform Diet is not so difficult, but it may not be over by mid-November. Based on my own experience, one can never tell what will happen." Even the Tanaka faction cadres, who are well-informed in Diet policy, are pessimistic about the Suzuki clique's optimism (?) in planning a "brief and decisive battle." "To begin with, the Suzuki faction is too naive. Do they think they can railroad every bill through...the arbitration issue, the unfinished bills and the comprehensive bill on administrative reform? Failures are common in any Diet session.

Meanwhile, the Komoto faction, which takes a slightly different tack in stressing full implementation of the PA recommendation and which points out the need for a business stimulant measure tied to administrative reform, reveals a subtle difference. "It is commonsense to force through passage of a bill in the Upper House. That is the way we also understand it. However, it is questionable whether matters will go according to the script. They could change completely, depending on how the PA recommendation is handled." (A cadre of the Komoto faction)

The greatest relief from Prime Minister Suzuki's standpoint is the fact that, although the various LDP factions entertain ambitions regarding the "post-Suzuki" premiership, a strong centripetal force is working at this time to avoid the collapse of the party's internal balance. Supposing, for instance, that Prime Minister Suzuki should fail in the Diet and be forced to the brink of resignation--there is absolutely no consensus regarding his successor. Even the Tanaka faction, which is headed by a so-called "kingmaker," is at a loss, saying: "Nakasone cannot be trusted. Komoto, who is still somewhat under the Miki influence, is also unacceptable. Mr Nikaido (chairman of the LDP general affairs council), who has secret ambitions, may lack the power to win. We don't know about Mr Fukuda, who may wish to slip into the open slot." (A Tanaka faction cadre)

The Fukuda faction, which gives signs of "putting its hopes on Fukuda," actually has no card up its sleeve to field him as their presidential candidate. Prime Minister Suzuki, who perceived such a stalemate, is said to have remarked: "You say I am not qualified, but is there anyone who is? I don't intend to hang on desperately to the government, but I would not want the party to fall into disarray, you know."

Rumors Are Flying

Despite the atmosphere of "negating any possibility of a Suzuki reelection" (a Fukuda faction cadre) because of a series of faux pas since the Japan-U.S. communique, the outlook is that, lacking a prominent presidential candidate, there is no alternative except for Tanaka and Fukuda to continue to support Suzuki. Herein lies the key to Suzuki's toughness which permits him to maintain a strong posture in face of the upcoming reform Diet.

Nonetheless, if the comprehensive bill should result in failure, or if he should err in the handling of such important issues as the PA recommendation and the labor arbitration, criticism will come not only from the opposition, but also from within the LDP itself, in connection with the political situation. As a result, the cabinet change, the purpose of which is to strengthen the regime, will be meaningless, and the next regular Diet will be faced with an enormous task.

As for the cabinet change, some circles forecast that "Nakasone and Komot will remain and Finance Minister Watanabe will also be retained to deal with administrative reform. It would be difficult to cut Foreign Minister Sonoda, who has only recently been

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appointed, and the removal of MITI Minister Tanaka would also be difficult." (An LDP elder) There is also talk of Nikaido as a candidate for party secretary general and Policy Research Council Chairman Abe as a candidate for foreign minister. These rumors are already having a subtle effect on the party's internal balance.

The administrative reform Diet is anticipated with a mixture of optimism and anxiety. How Prime Minister Suzuki will deal with these difficult problems, and what their outcome will be, are questions directly linked to the future political situation and to the post-Suzuki direction. The administrative reform Diet therefore demands close attention.

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Suzuki, Tanaka Factions

Tokyo YOMIURI SHIMBUN in Japanese 25 Sep 81 p 3

[Excerpt] Suzuki Faction Wary of Tanaka Faction's Pace: Liberal Democratic Party (LDP)

The LDP has already decided unofficially to name its new "star" candidates for the two chairmanships of the special committee on administrative reform: Shin Kanemaru of the Lower House and Kazuo Tamachi of the Upper House. Shin Kanemaru is a senior veteran on Diet policy who has served as secretary general of the Defense Agency and party Diet policy chairman. As a cadre of the Tanaka faction, he commands great respect among the various LDP factions and has wide connections among the opposition parties. On the other hand, Tamachi is a man of a different stripe, who has boasted that he would "never become a cabinet member or serve on a Diet committee." But as president of a religious and political study group of some 100 members, he holds considerable latent influence. Moreover, the two men have a close mutual relationship.

For the director of the committee to assist the chairman, Kanemaru is seeking a man of his own feather from among such talents as Keizo Kobuchi (Tanaka faction), Hiroshi Mizuka (Fukuda faction), Mitsuharu Amano (Nakasone faction) and Toshiki Kaibe (Komoto faction). His posture is like that of a party whip who takes the initiative in pushing the reform bill. The choices for the "executive staff" thus appear to be solid ones.

However, there is strong resentment within the LDP concerning the manner in which the "Kanemaru-Tamachi team" was picked chiefly by the Tanaka faction.

One day in late July, the top echelon of the Tanaka faction, including former Prime Minister Tanaka, General Affairs Council Chairman Nikaido, Noboru Takeshita and Shin Kanemaru, invited the chairman of the extraordinary investigating committee Toshio Doko, and committee member Sejima, who had just ended their interpellations, to a party in appreciation of their services. The Kanemaru candidacy concept was born at this time. Nikaido talked to LDP party members and buttonholed Prime Minister Suzuki and Secretary General Sakurauchi to push the idea. After a general consensus was reached, former Prime Minister Tanaka remarked at a Tanaka faction cadre meeting early this month (September): "The Suzuki and Nakasone factions don't have a likely candidate. If the prime minister comes begging, I might lend him Kanemaru."

The moves by the Tanaka forces to form a party consensus resulted so quickly in a "de facto decision" that the cadres of the Suzuki faction were infuriated. In the Upper House, such names as Tokutaro Higaki, Yuichi Ogori, Juichiro Tsukada and Takenori Kato were suggested, but it was decided to field Tamachi solely on the basis of Kanemaru's recommendation.

The intention of the Tanaka faction probably was to offer continued support to the Suzuki administration and to obligate the prime minister by helping him with administrative reform, on which he vows to stake his political life, and thus to build a solid advantage vis-a-vis the cabinet reshuffle and party presidential election. The forceful persuasion by the Tanaka faction is said to have "caused Secretary General Sakurauchi to feel bitterness in his heart." (A Suzuki faction cadre)

Despite the fact that the moves by the Tanaka faction were made at an early stage, it was only on 18 September that the secretary general unofficially accepted the "Kanemaru-Tamachi slate," which underscores the foregoing circumstances.

Prime Minister Suzuki's repeated emphasis of his basic approach, denying any linkage between the administrative reform bill and the PA recommendation, is construed as a constraint on any "runaway monopoly" by the Kanemaru-Tamachi team.

There is some concern within the party that "the two might take over the party" (a Suzuki faction cadre), but on the opening day of the Diet (24 September), there were quite openly expressed views that "things will go smoothly, no matter who become the chairmen."

Centrist Parties Cannot Afford Slow-Paced Consolidation

The situation is also complex within the opposition camp. Regarding the establishment of a special committee on reform, three of the centrist association factions are ready to approve it, but the JSP and JCP are opposing it. However, when the JSP says, "when we are against forming the committee, how can we select any candidates?", it is merely expressing a principle. It could very well find itself in a situation where it would rush forward with the banner of opposition held high, but find on looking back that there was no one following behind. Therefore, it must sometimes resort to more flexible tactics. For example, it was the JSP which made "early preparations for battle" vis-a-vis the special committee. JSP political deliberation chairman Muto says: "We will send Yoshinori Yasui and our experts on security and defense." Apparently, its main forces will ostensibly have nothing to so with administrative reform. This could be interpreted as a tactic for setting its sights on a "comprehensive deliberation" schedule for the opening of the special committee, with the aim of linking the reform bill to next year's fiscal budget.

In other words, as seen from the JSP's perspective, the government is saying it will push only for administrative reform, but it exempts the defense budget as "sacrosanct" and intends to transfer the money saved through administrative reform to the defense budget. The JSP takes the view that "administrative reform is tantamount to arms expansion," and it plans to link the debate on reform to the issues of security and defense.

Meanwhile, compared to the JSP, the three centrist association parties are taking their time in selecting candidates for the special committee. Thinking that "after all, the special committee will be formed next month," the Komeito says: "We are

not ready to pick." (Komeito Diet policy chairman Okubo) The DSP says: "Perhaps the members of the education and social/labor committees will provide the chief candidates." (DSP Diet policy chairman Nagamatsu) Also, in the case of the NLC and United SDP, which recently formed a united faction, only one committee seat will be allocated. Soon after its conslidation, some confusion occurred due to Koji Kakizawa's withdrawal from membership and Toshio Yamaguchi, the faction's chief delegate, stated: "Since the full deliberation is ahead of us, we may let the United SDP have our committee seat." Apparently bound by a spirit of mutual accommodation, the unity of the faction seems to be quite secure.

Because of the lack of cohesiveness within the opposition camp and speculation concerning a united association faction of the centrist parties, there does not seem to be smooth sailing for the formation of a solid opposition front. How will this affect the deliberation on administrative reform? It is a question which bears close attention.

Prime Minister

On the morning of 24 September, when the extraordinary Diet was convened, Prime Minister Suzuki spoke of his expectations in the Diet: "The national opinion regarding administrative reform has risen to a level never seen before. There will be further answers forthcoming from the extraordinary investigating committee, but as a breakthrough I am determined to see the reform bill pass." His strong stand in declaring that the special bill is "a project which must be implemented for the future of the country and the people" was apparently in his own view not at all exaggerated.

Stimulated by the prime minister's "fervor," Administrative Management Agency Director Nakasone's campaign of persuasion in various quarters took on an unusual dimension. He not only repeatedly made secret contacts with Shin Kanemaru and Kazuo Tamachi, the candidates for special committee chairmen, but he also went personally to the opposition and asked for cooperation. Perhaps bolstered by such efforts, he is full of confidence, saying: "We will show you the kind of politics on which we will stake our political life."

The prime minister has already issued an unusual directive stipulating that "all government agencies not directly associated with the reform bill should also make preparations to cope with any kind of situation." The government side thus appears to be ready for the final countdown before the main event.

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Committee Chairmen LDP Nominations

Tokyo YOMIURI SHIMBUN in Japanese 21 Sep 81 p 2

[Text] Shin Kanemaru (former Defense Agency secretary general; Tanka faction) of the Lower House and Kazuo Tamachi (LDP general affairs council of chairman; nonfactional) of the Upper House have been nominated for the posts of "chairmen of the special committee" which will handle the comprehensive bill on administrative reform, the focal issue of the extraordinary Diet session, and an announcement will be made

on 24 September. Mr Kanemaru, who is a cadre of the Tanaka faction and yet is close to former Prime Minister Fukuda and the new leaders, and also has "personal connections" among the opposition parties, has been picked in a team with Mr Tamachi, who was once a young Turk member of the hawkish SEIRANKAI (Blue Storm Society). This fact has a bearing not only on the direction of the extraordinary Diet which may decide the fate of the Suzuki regime, but also on the general political situation. As a result, the LDP is undergoing a mixture of anticipation and uncertainty.

Speaking of Mr Kanemaru, he is at loggerheads with Administrative Management Agency Director Nakasone, who is responsible for administrative reform and a powerful candidate for the post-Suzuki premiership. In last year's contest to pick a successor following the prime minister's death, he said caustically to former Prime Minister Tanaka: "If you recommend Nakasone, I will withdraw from the Tanaka faction, even if I am alone." Nonetheless, Kanemaru and Nakasone suddenly met for top secret talks on 12 September, inviting speculation within the LDP. In summarizing the conversation among tight-lipped insiders, the apparent truth is that Nakasone sought to approach Kanemaru, the leader of the anti-Nakasone elements within the Tanaka faction, to express appreciation in advance for his pending efforts in the reform Diet.

It was Director Nakasone who publicly boasted that he would "take over the government with the cooperation of the Tanaka faction" and who has been meeting regularly with former Prime Minister Tanaka, General Affairs Council Chairman Nikaido and Masaharu Gotoda. However, it is safe to assume that his ambition of "conquering the Kanemaru castle of Kai Province" changed to thoughts of "carrying the imperial standard of administrative reform" resulting in the secret talks.

Meanwhile, Tamachi will jump ahead of Diet operations committee chairman Higaki and other candidates to grab the chairmanship candidacy. Behind the scenes was reportedly a strong recommendation by Kanemaru, who ignored the warning that "with Tamachi, there's no telling what he might do." (A Prime Minister Suzuki follower) Early this summer a flash rumor of a "November crisis" concerning Prime Minister Suzuki spread through the LDP. Among the new leaders, some talked of an "uprising" in November, possibly in anticipation of a change in the government. Tamachi is in charge of the new leaders group, and there is one view that the selection of Tamachi was a typical Suzuki personnel tactic to tie him down. One new leader said: "People are saying many things, but since both Mr Kanemaru and Mr Tamachi are highly responsible men, the reform bill will pass despite the confusion." With each player holding his secret thoughts close to his chest, the "Kanemaru-Tamachi theater" is about to raise the curtain.

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Interview With Kanemaru

Tokyo YOMIURI SHIMBUN in Japanese 25 Sep 81 p 2

[Interview with Shin Kanemaru, former Defense Agency secretary general, who is the LDP candidate as one of the two chairmen of the special Diet committee on administrative reform--date and place not given]

[Text] Steamroller Tactics Not Excluded If Opposition Resists

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Reporter: It is a difficult test, isn't it? What are your aspirations?

Kanemaru: I am still just a candidate. When it is decided to form the committee, the party in power and the opposition will have a full discussion. I do not intend to swallow a bill in its original form and push it through. That would make the Diet unnecessary. I believe that regardless of whether it is the party in power or the opposition, what should be amended must be amended for the sake of the nation.

Reporter: In that case, would you listen to the demands for amendment submitted by the four centrist parties?

Kanemaru: Of course. There is no sense in refusing to listen to other opinions.

Reporter: Following the extraordinary Diet, a cabinet change is planned. Would that mean a speedup in the Diet deliberation?

Kanemaru: I have my own schedule in mind. The opposition may think otherwise, saying the time period would be too short. I don't intend to steamroller the bill toward adoption, but will take a moderate stance. (He grins knowingly)

Reporter: There are strong opinions within the government/LDP for a forceful solution.

Kanemaru: If the opposition takes a sensible attitude, it would be nonsensical to force the bill through. However, the fact that the LDP was given such a large number of seats in the previous election means we have the mandate to do it our way. If the opposition ignores this and becomes unmanageable, we might refuse to listen to them. But using sheer force is tantamount to dictatorship politics. (He changes at will-now hinting a possible change in his psotion, now indicating a possible use of force.)

Reporter: What about the important point of Mr Nakasone's posture on administrative reform?

Kanemaru: The other day I talked with him over lunch. He seemed intent on staking his life on it.

Reporter: It seems there is still a strong anti-Nakasone sentiment in the Tanaka faction. Among them you, Mr Kanemaru, are reported to have told former Prime Minister Tanaka last year: "If Nakasone is recommended as party presidential candidate, succeeding Mr Ohira, I will leave the Tanaka faction, even if I am alone." Do you think you can get along with him?

Kanemaru: Any politician who switches from left to right at his convenience (to find a square meal) is not a man of taste. With that in mind, I did point him out, saying : "How about Mr Nakasone?" But I never said I would leave the Tanaka faction. One morning, I went to the Tanaka residence and asked: "Is Nakasone really being set up as the successor?" The reply was: "In the present circumstances, I don't think he stands a chance." It was that simple.

Reporter: The handling of the PA recommendation and the wage arbitration case are both focal. Are you for full implementation of both issues?

Kanemaru: I don't have any opinion one way or the other, but as a politician I do think the handling of these issues is very important. (A very significant reply in view of Prime Minister Suzuki's statement that "I will not compromise in an unprincipled way.")

Reporter: In other words, you think it would be a big tradeoff point between the opposition in connection with the reform bill?

Kanemaru: I will leave that to your interpretation.

Report: As for the Kanemaru-Tamachi (Upper House Candidate for the special committee) team, there are some who are concerned that you might be taken advantage of.

Kanemaru: Nothing of the sort. A basic line of approach will be established in the Upper House, so there is no possibility of Mr Tamachi running ahead alone with talk of amendments.

Reporter: How do you see the post-Suzuki era?

Kanemaru: If the reform bill is passed, the Suzuki government will naturally be stabilized. Since Mr Suzuki is staking his political life, we should also stake our political lives on passage of the bill. That is the right thing to do.

Reporter: There are some in the Tanaka faction who say General Affairs Council Chairman Nikaido should be fielded in the party presidential election in November next year. If you serve as special committee chairman and succeed in passing the reform bill, which would help to solidify the foundation of the Suzuki regime, wouldn't it put you at a disadvantage?

Kanemaru: In politics, you can never tell what will happen until the time comes. Gathering from what you have heard, Mr Tanaka believes that it is better at this time for the nation to go along with the Suzuki government, and that it is inadvisable for the LDP to fall into turmoil. (He is a veteran of Diet policy affairs and a cadre of the Tanaka faction, who has wide connections with the opposition parties. Despite his acknowledgement that he is "open-handed," he is pretty shrewd. He is mischievous enough to deliberately drop a copy of the Diet dissolution schedule in the hall of the Diet. If he should be appointed with Mr Tamachi of the Upper House as a team of chairmen for the special committee, he will probably handle both the party in power and the opposition adroitly.)

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POLITICAL AND SOCIOLOGICAL

LDP'S KANEMARU BACK STEERING DIET

Tokyo ASAHI EVENING NEWS in English 7 Oct 81 p 3

[Article from "Politics & Politicians" column by Michisada Hirose]

[Text]

Shin Kanemaru was named to head the Lower House special committee on administrative reform when it was inaugurated Tuesday. This ranking member of the Liberal-Democratic Party faction led by former Prime Minister Kakuei Tanaka has held such ministerial posts as director - general of the Defense Agency, Construction Minister, and director-general of the National Land Agency, but for the past year, he has held no key posts on account of his incurring Tanaka's wrath. There are two reasons for Kanemaru's appointment as the chairman of the special committee. The Government

There are two reasons for Kanemaru's appointment as the chairman of the special committee. The Government and the ruling party need his Diet steering ability as difficulties are expected in the current extraordinary Diet session. And Tanaka's anger has waned.

Kanemaru's Diet steering method is unique. He says he operates on the basis of trust and friendship among the steering specialists of the Govzenment and Opposition parties. The professionals he refers to as "kokutai zoku" steering tribe—are the ranking members of the parties' Diet steering committees. He served as the LDP's chief Diet steering official for the first time 10 years ago, and he has since been appointed to the same post several times. "There must be trust among the steering officials of the Government and Opposition parties," Kanemaru says, "if the Diet is to be run smoothly." Human relations are important in fostering trust," he adds, "so I have come to associate with not only Opposition steering officials but their families."

"The Japan Communist Par-'y is an exception," he says. 'JCP Diet members keep to hemselves. Since they seem to consider private association with kawmakers of other parties a bad thing, I don't make overtures to them."

Will a personal modus operandi like this really guarantee smooth Diet proceedings? There have often been clashes between the Government and Opposition parties in the Diet sessions for which Kanemaru was chairman of the LDP steering committee.

"Making compromises is different from being trustful," Kanemaru says. "We do our best to explore the points we can agree on. But there are often bills on which the Government and Opposition parties can't compromise. Sharp clashes occur at such times. But there are no hard feelings involved in 'calculated clashes."

Kanemaru says there are

two kinds of LDP-Opposition clashes. Last spring, the ruling party railroaded the fiscal 1981 national budget through the Lower House Budget Committee, and, in the face of a public outry, entrusted the resolution of the dispute to Lower House Speaker Hajime Fukuda. Kanemaru, who was removed from responsibility for Diet steering at that time, categorizes the row as one "lacking in wisdom."

The other kind of clashes, "calculated clashes," are disputes that follow a scenario worked out beforehand by the steering officials of the Government and Opposition parties.

The Opposition parties sometimes have to boycott proceedings to demonstrate their opposition to a Government proposal in the eyes of the people. There are also cases where it is to their advantage to give the impression that they have lost to the LDP's overwhelming numerical strength than to get meager concessions from the ruling party. Kanemaru seems to feel that, given these circumstances, even sharp clashes can be orchestrated if there is a bond of trust among the steering professionals of the Government and Opposition parties.

Kanemaru is optimistic that he will be able to get through the Government's focal bill, the legislation on administrative reform, with almost no confusion by using the question of implementing the National Personnel Authority's pay raise recommendation for public servants as a card to bargain with the Japan Socialist Party.

Kanemaru incurred Tanaka's wrath for advocating leadership changes in the LDP factions during the campaigns for last year's double Diet elections. He asserted that the factional bosses should hand over power to the next generation as the successive intraparty disputes were largely due to the personal conflicts among them.

If the ruling party had lost the elections, the factional bosses might well have been supplanted by junior leaders, as called for by Kanemaru. But things developed entirely to the contrary, and Kanemaru and his closest associate, former Finance Minister Noboru Takeshita, came in for cold treatment within the Tanaka faction.

Why has the Tanaka group approved Kanemaru's nomination as the chairman of the administrative reform panel? For one thing, it reflects

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the faction's desire to strengthen its unity before the reshuffle of the Cabinet and party executives—a reshuffle is the thing that most excites LDP members—which will take place after the current Diet session draws to a close.

For another, the intra-factional influence of Kanemaru and Takeshita has declined as a result of an increase in the faction's membership during the past year, and the need to be on guard against them has diminished.

Kanemaru and Foreign Minister Sunao Sonoda are being mentioned in some LDP quarters as men who may be given the coveted post of party secretary-general in the coming reshuffle. Apparently conscious of this, Kanemaru often says these days, "If I am to say anything about the reshuffle, it is that I believe a person who does not command international trust should not be appointed to a key post."

Kanemaru believes that Sonoda's controversial statement about the Suzuki-Reagan joint communique—that it had no binding power — greatly harmed international trust in Japan, But if Kanemaru thinks that Sonoda is his only rival in his bid for the secretary-generalship, he is being overly optimistic.

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FOLITICAL AND SOCIOLOGICAL

DISCUSSION OF WHY LDP MEMBERSHIP DECLINES

Tokyo THE JAPAN TIMES in English 8 Oct 81 p 10

[Article from "Politics Today and Tomorrow" column by Minoru Shimizu]

[Text]

There is a matter that is causing a great deal of worry to several leaders of the Liberal Democratic Party (LDP) and especially to Hajime Tamura, chairman of the party's National Organization Committee. This is the question of what will be the final tally of the LDP membership for this year when the registration lists are closed at the end of this month.

In view of the situation prevailing to date. Tamura and other LDP officials concerned fear that this year's membership may turn out to be only about 400,000. or one-quarter of last year's figure.

According to the LDP headquarters office, membership as of the end of September stood at about 300,000. (LDP members who have paid their annual dues - ¥3,000 for 1981 - by the end of October each year are registered at party branches in cities, towns and villages.)

Thus, Tamura and other party leaders are prodding the office staff to do their utmost during the remaining month to ensure that total membership will reach at least a million.

In normal years it is customary for large numbers of registrations to be reported to party headquarters just before the closing of registration. This year, however, the party as a whole is not showing its usual strong interest in recruiting members, and so the efforts of Tamura and his cohorts seem unlikely to bear fruit.

Ironically, Tamura himself is one of the persons responsible for causing LDP membership this year to shrink like a punctured balloon.

Regulation Revision

This spring the LDP revised the party regulations governing the election of the party's president, and the man who drafted the amendments was none other than Tamura.

Because of this revision there was little likelihood of a primary being held in the LDP presidential election scheduled for November next year and this resulted in a loss of moti-, vation to register among the rank-and-file party members.

In 1977 the LDP decided on a new system for electing the party president as one of the party reforms aimed at remedying the decline of the party's strength, which was apparent at that time.

The new formula adopted a primary system enabling rank-and-file party members to take part in the presidential election. The election was to be a two-stage affair in which the top two candidates elected in the primary would run in a final election by Diet members belonging to the LDP.

Catchphrase

The catchphrase "Even you can choose the prime minister and party president" apparently had the right effect, for in the following year (1978) membership showed a tremendous increase, exceeding 1,300,000. Up to the previous year the LDP had claimed a membership of about 450,000.

This huge increase in membership was said to be due to the efforts of presidential candidates to secure as many supporters as possible so as to ensure victory in the primary, rather than to any spontaneous participation by the man in the street. One gimmick was for the presidential candidate to pay the party dues of would-be members (¥1,500 a year at that time) out of his own pocket.

In the first primary held in November 1978, Masayoshi Ohira, then party secretary-general, defeated Takeo Fukuda, the party president of the time, by a wide margin. After this crushing defeat in the primary, Fukuda declined to run in the final election with the result that Ohira was elected president. Ohira's victory was put down to his having secretly recruited a large number of party members to support him.

As a result, there developed under the Ohira administration

Main Points of Revision

a competition among hopefuls with an eye on the next presidential election to secure as many supporting party members as possible. In particular, Toshio Komoto (present director general of the Economic Planning Agency) made tremendous efforts to recruit party members in order to make up for his lack of faction strength based on Diet members only.

Consequently LDP membership for 1979 shot up to 3.100,000. Of this number Komoto is said to have recruited about 1 million. It was thus expected in the LDP that if a primary were to be held under such circumstances, the topplace winner would be Komoto even though his faction was numerically inferior to the others.

This gave rise to moves by the factions of former prime ministers Takeo Fukuda and Kakuei Tanaka as well as that of Prime Minister Zenko Suzuki to carry out a revision of party regulations concerning the presidential election for the ostensible purpose of preventing an overheating of party member recruitment. And this spring these factions carried out a very arbitrary revision of these regulations under the name of promoting party reform.

The main points of the revision were that presidential candidates must have the recom-

mendation of 50 or more Diet members belonging to the LDP (previously the number had been 20); that when the number of candidates did not exceed three, the primary involving all party members would be dispensed with; and that party dues would be raised from ¥2,000 to ¥3,000.

From a practical point of view, it is inconceivable that there could be four candidates with 50 recommendations or more. Thus, this revision can be said to have been aimed at virtually abolishing the primary.

The Komoto faction, for instance, has a strength of 42 members, which means it would be impossible for Komoto to run for the presidency with the support of his faction alone. Accordingly, the opinion has been expressed that this revision was aimed at preventing new leaders from emerging as a result of election by party members and maintaining the existing bigparty setup.

It is only natural, therefore, that the party members who had rallied under the slogan "Even you can choose the prime minister and party president" should have all turned away in disappointment. Moreover, presidential candidates like Komoto feel there is no longer any need to go out of their way to recruit party members since there is virtually no possibility of a primary being held.

Sharp Decline

Such is the background to the recent sharp decline in LDP membership. And it can be said that, under the circumstances, this decrease was only to be expected.

At the same time, it seems strange that there should be a political party whose membership has increased to 3 million and then dropped to a mere 300,000 in the space of only a few years.

And the big problem is that neither Prime Minister Suzuki, the party president, nor most of the other LDP leaders are taking this sharp decrease in party membership at all seriously.

According to observers, this is because, since gaining a stable majority in the Diet in last summer's double election, they have lost all motivation to tackle improvement of the party structure.

In this matter of recruiting party members, the LDP appears as a collection of people who arbitrarily tune their words and actions to suit the occasion and their own convenience.

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MILITARY

MSA'S PROJECTED PATROL BOAT WOULD BE SENT TO MIDDLE EAST

Tokyo ASAHI SHIMBUN in Japanese 2 Oct 81 p 1

[Excerpt] The Maritime Safety Agency (MSA) announced on 1 October that the plans for a 6,600-ton patrol boat, which MSA intends to order in fiscal 1982, include sending the boat to distant areas of conflict such as the Persian Gulf, to protect Japanese merchant ships and rescue Japanese nationals.

The planned patrol boat will carry 2 type-212 Bell helicopters (15-person capacity), and will be equipped with 35 mm and 20 mm cannon each. It will also have a sonar system. This patrol boat will be larger than Maritime Self-Defense Force's (MSDF) largest escort boat 'Shirane' (5,200-ton). It will have a range of 14,500 nautical miles which is long enough for the boat to make a round trip to any point in the Pacific and the Indian Ocean without making a stop to refuel.

The MSA plan is most likely to trigger a barrage of criticism over whether the sending of an armed patrol boat to areas like the Persian Gulf will be interpreted as the dispatch "sending of troops abroad," which is naturally considered by the government "unconstitutional." However, the sending of the planned MSA patrol boat to an area of conflict is bound to be taken as a "troop dispatch." Also it is possible that while being engaged in the rescue of Japanese nationals and the protection of Japanese merchant ships, the men on the patrol boat will be forced to fire in self-defense. The MSA boat will be about the size of the cruiser of the defunct Imperial Japanese Navy. No other country owns such a large patrol boat. Even the largest ships the U.S. Coast Guard have are the 3.500-ton "Hamilton class" vessels.

During the past 3 years, the MSA fleet has grown by nearly 60 percent in tonnage, particularly since the 200-mile Japanese economic waters was established. The MSA has 36 ships of more than 1,000 tons in operation or under construction while MSDF possesses only 48 such vessels.

The MSA's 7-year project will begin in FY 1982 and the project calls for construction of two (2) 6,600-ton boats and five (5) 3,800-ton boats. By the time the plan is completed, the MSA fleet will, more or less, equal the present MSDF strength. The task of the patrol boat will include "securing the safety of oil routes, which is similar to the MSDF's task of "protecting the sealanes." For this reason the Agency decided to equip its patrol boats with sonar surveillance system.

The Cabinet Legislation Bureau commented that "the use of a patrol boat, whose mission (duty, task) is not to use offensive force, is constitutionally possible. However, the "sending of troops abroad" would mean for men to go into foreign countries and territorial waters for the use of force."

MSA Director General Hiroto Senoo said that sending a patrol boat to the Persian Gulf is not what the Agency has particularly in mind. However, he said that having a helicopter aboard will be useful when the government decides to send a rescue helicopter to a Japanese Embassy in a foreign country, and also having patrol boats capable of protecting merchant ships and rescuing Japanese nationals will widen the range of options for Japan in times of emergency.



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I.

SCIENCE AND TECHNOLOGY

SOCIETY TO STUDY THORIUM NUCLEAR REACTOR TO BE FORMED

Tokyo NIKKAN KOGYO SHIMBUN in Japanese 24 Aug 81 p 1

[Text] A movement is growing to develop a thorium system nuclear reactor by strictly Japanese efforts to replace the uranium and plutonium reactors. The movement is centered on Eastern and Western financial circles and on academia, and preparations are underway to form a "Thorium Energy Research Association" (provisional name) as an incorporated body this fall, centered on the Sumitomo group, with the hope of initiating activity next spring.

Toshio Doko, former president of the Federation of Economic Organizations; President Saikan Himukaigata of the Federation of Economic Organizations; and Seishi Kaya, former president of the University of Tokyo, are expected to be sponsors, and the initial funding is expected to be 500 million yen. Compared to the classical nuclear reactor, the thorium nuclear ractor: 1) is safer, 2) has four times as many resources as uranium, and 3) cannot be used to produce atomic bombs. With these features, it is sometimes referred to as the "dream reactor." Because of the escalating cost of uranium and the Three Mile Island nuclear incident, a move to reassess the thorium reactor has swelled within government, financial, and academic circles because of the safety, assurance of stable sources, and the prevention of nuclear proliferation. One hundred members of the Liberal Democratic Party banded together to form an "independent energy group," which then formed a "thorium energy development promotional representatives group" to which people interested in basic research on thorium applications are being attracted, mostly from the University of Tokyo, Kyoto University, and the Tokyo Institute of Technology.

In the industrial area, Sumitomo Shoji Kaisha is the window which is expected to introduce the basic technology for the molten salt reactor (researched at the Oak Ridge National Laboratory in the United States) from the Ebasco Company of the United States. This is a sharp contrast to previous attitudes. The reason here is that the great majority of the world's nuclear reactors are light water reactors using uranium, and future plans envision the use of fast breeder reactors to provide the uranium-plutonium cycle which will be the mainstream according to the plans of the Ministry of International Trade and Industry and the Science and Technology Agency. The actual situation is that research on thorium family reactors has been suspended in the United States, and there is a lengthy time gap between this type reactor and the already perfected light water reactor.

In the midst of such a background, the Sumitomo group, comprised of companies such as Sumitomo Shoji, Sumitomo Metal Industries, and Sumitomo Electric Industries, made a proposal that research be carried out on thorium family reactors, based on the development of an independent technology and the assurance of stable resources, which was presented to the Kwansai Combined Meeting of Economic Organizations. The meeting judged this subject to be one for the national Council of Economic Organizations and made informal inquiries of former President Doko, as a result of which it was decided to form a corporation with the participation of Eastern and Western financial circles and academic members, and tentative approval of the Science and Technology Agency was obtained. This association will play a promotional role to make this a national project as well as to promote research on conceptual design and on materials for use as the container, in particular, Hastalloy N (nickel base alloy to which molybdenum and chromium are alloyed).

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SCIENCE AND TECHNOLOGY

SHINETSU CHEMICAL TO EXPAND SILICONE PRODUCTION

Tokyo NIHON KOGYO SHIMBUN in Japanese 28 Jul 81 p 14

[Excerpt] Shinetsu Chemical (president, Shintaro Odagiri) announced on the 27th that it will construct a large silicone monomer plant at its Naoezu plant (Joetsushi, Niigata-ken) in order to reinforce its silicone (silica resin) industry; effect a 40-percent increase in the monomer capacity of its Isobe plant (Yasunaka-shi, Gunma-ken); and construct a plant for RTV (room temperature vulcanizing) rubber, which is a derivative of silicone, at the Gohara plant located within the Yasunaka industrial park, and thereby triple its monthly production to 600 tons per month. These are part of the series of expansions to be carried out up to the end of 1983. The company has a 50-percent share of this country's silicone production, which makes it tops in this country, and these expansions will place this company in third rank in the world, following the Dow Corning Company and General Electric (GE) of the United States.

To Assure Itself Third Rank in the World

Silicones are in demand in Japan for insulation and coatings of electrically insulated materials and moldings for electrical and electronic equipment, packing and sealings for automobile related applications, and sealing materials for engineering and construction projects, where the demand keeps increasing. It has an annual market on the scale of 50-60 billion yen, double the volume of 5 years ago.

It is expected that there will be further increase in demand in the automobile and construction areas, and an annual growth of about 25 percent is anticipated. This is why this company considers silicones to have a promising future and decided to expand its production foundation.

According to the expansion plans drawn up by the company, the first item is the construction of an integrated plant to produce silicone monomer at the Naoetsu plant (annual production 14,000 tons of siloxane), which it hopes to start operating by the end of 1983. This is a large plant pursuing the scale merit concept, and the first-phase construction is expected to cost about 20 billion yen.

At the same time, silicone monomer production at the Isobe plant will be increased from the present annual production of 10,000 tons (siloxane equivalent) to 14,000 tons or a 40-percent increase. Expanded operation at this plant is expected to start next summer. This new production combined with the Naoetsu plant production will complete this system.

In addition, there is the production of the derived product. Following the doubling in capacity of the thermally vulcanized rubber facility at the Takefu plant (Takefushi, Fukui-ken) this March, the new plant to produce RTV rubber (Gohara plant) is expected to be completed by the end of the year, and this will increase monthly production from 400 tons to 600 tons according to the plan. The increased monomer capacity of the Isobe plant and the new construction of the RTV rubber plant are expected to require an investment of about 6 billion yen.

Parallel with this plan to reinforce production capacity, the company is establishing a developmental survey department in order to enhance its new applications development capability and thereby place more emphasis on market development.

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SCIENCE AND TECHNOLOGY

STOCKPILING OF MOLYBDENUM ORE, OXIDE TO START IN OCTOBER

Tokyo NIKKEI SANGYO SHIMBUN in Japanese 8 Aug 81 p 3

[Article by reporter Makiuchi]

[Text] The stockpiling of molybdenum ore and molybdenum oxide produced in the United States will be formally initiated in October by the nine ferroalloy maker companies such as the Japan Metals and Chemicals Co Ltd, and this move is attracting the attention of parties interested in steel raw materials. This is a new system set up by the Japan Molybdenum Roundtable (chairman, Shigeo Takeyama, consultant to Nippon Metals and Chemicals) and the Climax Molybdenum Company of the United States, and "this is a method in which no one is the loser" (Chairman Takeyama).

Painful Interest and Storage Charges

Molybdenum is an alloy component used in stainless steels, high-speed steels, heat-resistant steels, and structural steels. Ferroalloy makers refine imported ore to produce ferromolybdenum, which they sell to the steel makers. In some cases the steel makers import molybdenum oxide, which they use directly. There are only a few producing sources, and price fluctuations are severe.

This is why the steel and ferroalloy industries voiced the need for stockpiling in the past, but interest and storage charges presented a major obstacle. According to the present plan, the nine companies will stockpile a 3-month supply of material imported from Climax at designated storage sites at the ports of Yokohama, Nagoya, and Kobe, and the expenses in the interim will be borne by Climax, so this is a "good deal" for the buyer.

Climax is the world's largest supplier of molybdenum, and its share of the Japanese market was about 50 percent in the past, but this has recently dropped to about 30 percent because of the emergence of newly developed mines. The development of new mines and the increase in demand have become a worldwide problem, and an oversupply of ore has resulted. This is the reason for a new trade strategy aimed at obtaining a greater share of the Japanese market.

As far as Climax is concerned: 1) interest charges will accrue even when the material is stored in the United States, and 2) spot export to steel makers is not a stable approach. As a result, it appears that the strategy of this company is to assist the stockpiling by the Japanese ferroalloy makers and even route molybdenum oxide through the ferroalloy makers to the steel makers and thereby expand its share.

Aim at 45 Percent Share

The ferroalloy makers see the advantages of a stabilized source of molybdenum raw material as well as the reduction in the direct import of molybdenum oxide by the steel makers. At the same time, the steel makers realize that the acquisition time by this new approach will be much quicker than direct import, and since Climax will bear the storage charges, the cost to them may actually be less.

If this comes to pass, it may truly be a situation in which no one suffers.... Climax hopes by this new sales strategy to increase its share of the Japanese market up to 45 percent by next year. This means that the share of other mines would decrease. The other mines cannot stand idly by. The Canadian Endago Company is now conducting a similar series of talks with the Japanese Molybdenum Roundtable. Even a Climax official commented that "the sales competition on the Japanese front will become much more fierce."

Possibility of Price War

It is clear that a stockpiling system is itself desirable, but there is some concern that this might be a prelude to a price war. The steel industry said at an early stage that "a price war in the long run would lessen the will to develop new mines and might result in an insufficient supply and trigger sudden price increases, thereby repeating patterns experienced in the past" as one way of viewing the present situation. There may be a need to establish a well-defined stockpiling system and a system of operation based on reliable demand and supply predictions in order to realize the objective of stabilized demand and supply.

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SCIENCE AND TECHNOLOGY

NEW DEVELOPMENTS IN ROBOT INDUSTRY DISCUSSED

Color Sensor

Tokyo NIKKEI SANGYO SHIMBUN in Japanese 17 Jul 81 p 14

[Text] The Nagoya City Technological Research Laboratory and the Nagoya University Department of Technology, Professor Minoru Ueda's Group, have developed a color sensor that can easily differentiate 10 colors. This sensor is composed of three photodiodes, which are sensitive to components of the three primary colors, mounted on a small semiconductor chip. Although small, it is unique in that it can differentiate many colors. The research laboratory claims that its potential application--in painting, checking commodities, as "eyes" for industrial robots and so on--is extensive. The laboratory hopes to promote industrial utilization of this technology and at the same time to involve itself directly in its application.

It Is Small and Its Industrial Use Is Being Promoted

This sensor is made up of three photodiodes on a 7-millimeter-square silicone semiconductor chip. Each photodiode is topped with red, green and blue filters. The color differentiation is processed as follows: The three primary color signals from this sensor are put through a signal processing unit, and by comparing the color component ratio, a given object's pigment is determined.

The laboratory and Nagoya University emphasized the functional validation in sensor development and they did not pay much attention to the size of the semiconductor chip, but in actual application, a very small--3-millimeter-square-chip may be used as an accumulator base. Moreover, while the test sample uses a commercially available three primary color filter that is pasted onto the semiconductor baseboard, at a mass production stage, photoetching technology can be employed as a labor^{--saving} manufacturing process.

• This sensor has been successful in distinguishing a maximum of 12 colors. If a slight modification is made in the signal processing format, it could differentiate a greater number of colors. It is said that its differentiation capability could equal that of the human eye.

The laboratory claims that possible application of this sensor covers a wide range of fields--for example, sorting of color differentiated manufactured goods, checking painting jobs or painting error, differentiation and grading of vegetables, and color coding the bar code (differentiation of merchandisc relying on widths of black and white lines) used in POS (processing on sale). In addition, it is possible to substitute sound for color data to enable sight-impaired or color-blind persons to perform color checks on products. In other words, the ripple effect from this development may take surprising turns.

Since the fields of application of this invention are so extensive, the laboratory and Nagoya University are prepared to transfer this technology to direct commercial operations should there be such requests from businesses. They also intend to tackle several industrial applications on their own to promote utilization of the technology they have developed.

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Solenoid Finger

Tokyo NIKKAN KOGYO SHIMBUN in Japanese 22 Jul 81 p 10

[Text] Nagoa--Maruha Electric Company (12-33 Fujimi-cho, Naka-ku, Nagoya; president: Kanae Bando; Telephone: 052--331--1231) has commercialized three types of solenoid finger ("embracer") for industrial robots. Each is composed of a round hand section which can grasp soft goods without breaking. They will be marketed starting in August.

The implement functions as follows. An item is placed within the belt arc and when an electrical message is sent, a belt connected to the mobile steel core is drawn to the right around the item's diameter (outer shape), tightening gently until the item is held firmly. When the electrical source is cut off, the coil spring within the mobile steel core pushes the core to the left and the belt opens along the guide ring and releases the item (solenoid operates the running gear).

The instrument's characteristics are: 1) grasping is performed gently so there is little danger of damaging the object grasped; 2) odd shaped objects can be handled; and 3) it is structurally simple and so it is easy to operate and maintain. Deformation of the shape of items such as canned goods, paper containers, toothpaste tubes which are pliable and easily deformed, can be avoided by lowering the input electric voltage. Likewise, when the weight of the object grasped is lighter than the specified value, it is possible to enlarge the belt diameter.

There are three machine types: SF-1600A, which can accommodate the grasped object diameter range of 35 to 45 millimeters with 1 kilogram optimum weight; SF-1800A, which can handle a diameter range of 35 to 50 millimeters and 3 kilogram optimum weight; and SF-1800B, which can accommodate a 50 to 60 millimeter diameter range and 3 kilogram optimum weight.

(SF-1600A specifications): voltage rating--DC 24 volts; electric current rating--2.6 amperes; length--264 millimeters; diameter--42 millimeters; volume--1.7 kilogram.

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Location Sensor

Tokyo NIKKEI SANGYO SHIMBUN in Japanese 7 Aug 81 p 15

[Text] The Agency for Industrial Science and Technology, Mechanical Technology Research Laboratory, has developed a loading type location/direction measurement device which can measure the mobile robot's location and direction in terms of real time. This facility--called "MELODI"--uses a supersonic wave transmitter situated at a predetermined location to pinpoint the spot. It has yielded good test results and it would appear that it can be used as the "eyes" for the unmanned conveyor vehicle used in factories and hospitals.

The newly developed location/direction measurement device is made up of an antenna which has a sensor for receiving supersonic waves, a supersonic wave detector device and an operation control facility. For each attachment to mobile robots, its size is small. The antenna's height is approximately 20 centimeters, and three pairs of supersonic wave sensors (six in all) are affixed.

These three pairs of sensors can independently revolve on their respective axes via a motor. While rotating, it seeks out the supersonic wave transmitter. The transmitters are situated at three prefixed locations and they emit 20 kilohertz, 32 kilohertz and 40 kilohertz frequency waves. The three pairs of sensors receive these signals and the supersonic wave transmitter's direction is determined therefrom. The rest is a matter of measurement fundamentals and the exact position can be calculated accurately.

One kilohertz low-frequency signal is emitted from the source of supersonic wave in addition to the supersonic wave. This is caught by the left/right pair of sensors and through frequency demodulation and a comparison of the two low-frequency signal's phases, the sensor is able to pursue the supersonic wave transmitter accurately even when the mobile robot is moving. Using this as the case, the direction can be tabulated.

The Mechanical Technology Research Laboratory has mounted this loading type location/direction measurement device onto a multidirectional mobile vehicle

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and is in the process of testing its capability. It is said that in the indoor experiment, the sensor was able to pinpoint the supersonic wave transmitter's location with accuracy; and though there was some blurring [bure?], it was able to track the transmitter while moving.

There is a demand for unmanned transport systems in factories, warehouses and hospitals. Moreover, when assembly line robots are able to move freely, the operational efficiency will be increased tremendously. Practical utilization of such robots requires a technology which will guide the transport vehicle and/or robot accurately to the intended spot. This new method using a supersonic wave presents possibilities for application in this sector.



Key:

- (1) Signal transmitter
- (2) Signal receiver
- (3) Amplifier
- (4) Ultrasonic wave transmission
- device
- (5) Supersonic wave sensor
- (6) Zonal wave filter
- (7) Amplified vibration discrimination circuit

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- (8) Frequency demodulator
- (9) Tabulation/control unit
- (10) Phase differentiation detector
- (11) Motor
- (12) Supersonic wave signal generator
- (13) Frequency modulator
- (14) Low-frequency signal generator

Nursing Robots

Tokyo TOKYO SHIMBUN in Japanese 24 Aug 81 p 1

[Text] On 23 August the Ministry of International Trade and Industry Agency for Industrial Science and Technology, Mechanical Technology Research Laboratory (director; Sanetoku Kanai), announced the successful development of a nursing/helper robot which can lift bedridden old people and otherwise immobile patients and take them to bathing and toilet facilities. A report on this new development will be presented at the 11th International Industrial Robot Symposium to be held in Tokyo in early October. The successful development of a robot with a built-in system for handling the human body directly is the world's first. Lifting of nursing and retirement home patients to care for them is quite a hard task, and many cases of lower back pain are reported as an occupational ailment among attendants who work in such facilities. It is one reason for the shortage of nurse attendants. The new discovery is good news for both patients and nursing home operators.

World's First: Bright News To Ease Shortage of Nurse Attendants

This helper robot was developed by a staff of six, led by section chief Eizo Nakano of the laboratory's Production Engineering Division, Robot Technology Section. The robot is 1.8 meters long, 1 meter wide and 1.5 meters high. It weighs 400 kilograms.

During the afternoon hours when there is an attending nurse, he or she operates this robot to perform such strength-requiring chores as lifting the patient and transporting him to a bath and bathing him. But its real utility as an intelligent robot is fully demonstrated at night when there is a shortage of attendants. Its greatest feature is the fact that the patient may direct the robot from his bed. The robot is taught bathroom and toilet routes and when the patient wishes to go to the toilet, he may be taken there without a human attendant.

The difficulty in this helper robot development had been the element of danger accompanying the operation because human beings are the object to be handled and the fact that the robot size was cumbersome because a dozen or so ordinary automobile batteries were required for lifting and transporting a human being.

The Robot Technology Section, first of all, made the leg wheels multidirectional-unlike automobile wheels. That is, the leg wheels can be turned in every conceivable direction. Not only can the robot make small turns, but it can also stop right beside the patient as instructed. The section also implemented energy-saving features in the oil pressure system, and only two batteries were used, thereby eliminating the size problem. Section chief Nakano and others are currently working on finishing off the test commodity. "Consideration has

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been given to safety features within the range of practicability--such as preventing the robot from hitting the wall while moving."

The unit cost of constructing this robot at the test production stage is approximately 10,000 yen. When the mass production phase is well underway, its manufacture is expected to be managed at a relatively low cost.

The section began this development 7 years ago when the difficulty in lifting bedridden patients and handicapped in nursing homes and the attendant's lower back problems as an occupational disease were given a close look. The situation was causing a shortage of nurse attendants and it had become a grave social problem. Section chief Nakano states that, "utilization of this robot will come quite quickly as soon as hospital corridors and so on are modified to receive the new invention. By using this, we can get rid of adverse working conditions such as lower backaches and so forth, and the nurse-patient contact will be less harried, so as to allow for more conversation between the two."

High Evaluation

Comments by Assistant Professor Shigeo Hirose, Tokyo College of Engineering: "Indeed, this is the first robot that has a system for handling humans. I think we can give this invention a very high rating. The robot's undercarriage can go any direction and it is energy efficient."



Key:

(1) Nurse(2) Helper robot

(3) Patient

(4) Antenna
(5) Bed

(6) Command button

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SCIENCE AND TECHNOLOGY

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DIGITAL COMMUNICATION SYSTEM SOON TO REPLACE ANALOG SYSTEM

Tokyo MIKKEI SANGYO SHIMBUN in Japanese 5, 7 Aug 81

[Article by reporter Kitamura]

[5 Aug 81 p 5]

[Text] "Digital innovation" is taking place in the field of electrical communications. During the hundred or so years since Graham Bell invented the telephone in 1867, analog communication made up the mainstream of electrical communication, but with the emergence of a new method of communication in the form of data communication, representing a marriage of electrical communication and information handling, the introduction of digital communication is seeing rapid movement. As information oriented companies reach high levels of sophistication and various forms of information are handled through the medium of electrical communication, it is believed that electrical communication will become entirely digital. Related industries such as the communication equipment makers are putting forth their best efforts to grasp the business opportunities offered by the "innovations" which are being produced.

Japan Tel and Tel Has Role of Promoting Domestic Efforts

Japan, which is the world's second biggest user of telephones, is doing its best to speed along the digitalization of electrical communications. The organ to promote this movement is the Japan Telegraph and Telephone Public Corporation. This corporation dubbed FY-81 as the "first year of digitalization," and initiated an all-out effort to digitalize its communication network.

Specific actions include the introduction of digital electronic exchanges in the suburbs and the initiation of commercial tests for actual introduction. In addition, the optical fiber cable transmission network, which is considered to be the "ace" of communication pathways, has already been extended for more than 110 kilometers, encompassing 12 sectors throughout the country, and will go into actual use for the first time.

The actual introduction of commercial digital electronic exchanges is expected to begin in FY-83. It is expected that introduction of digital exchanges for intraurban use will come 2 years later, about 1985. The public corporation presently has 5,800 urban exchanges and 840 suburban units, along with 400 joint urban and

suburban units, for a total of 7,040 units. Considerable time will be required for all of these units to be replaced by digital electronic exchange units, but the introduction of digital electronic exchanges starting about 1985 is being promoted at a feverish pitch.

Optical fiber cables which will be installed starting this year will have transmission speeds of 32 million bits (a bit is the smallest information unit) per second and a 100-million-bit intermediate capacity cable. In addition, tests will be initiated in FY-85 on high-capacity optical fiber cables which can handle 400 million bits per second.

By the end of 1980, the public corporation had installed 90,000 kilometers of coaxial cables (wires) in its transmission pathway and 150,000 kilometers of microwave lines (wireless), for a total of 240,000 kilometers. Within this total, the two digital transmission networks account for 3,000 kilometers, or 1.3 percent of the total. Hereafter digital transmission through wires will be by the optical fiber route, and great activity is underway to introduce optical fiber cables into the transmission network.

In order to respond to this digitalization trend in the communication network, the industry is engaged in all-out research in this area of technology. Among the 18 items listed in the FY-81 technology survey research practical application plan which were considered important were: studies on a comprehensive digital service network, digital exchange mode, digital terminal mode, high-efficiency digital radio mode, and optical fiber cable transmission modes--for a total of five digitalization-related subjects. This should be evidence of the importance the public corporation is placing on digital communication.

Large Volume Orders From Developing Countries

The public corporation is not alone. Awareness of the usefulness of digital communication is growing throughout the world. The developing countries, which unlike the advanced countries have no accumulation of electrical communication networks of the past, do not have to worry about compatibility with existing systems and can enter directly into the introduction of digital networks. The reason this country is receiving a series of orders for digital communication systems from developing countries stems from this background.

Director Etsutoshi Hosokawa of Nippon Electric, which is said to lead the world in the volume of orders received for electronic exchange equipment, said: "At present there is no instrument except digital electronic exchanges where exchanges are considered on an international level. It may be safe to say that a 100-percent digitalized unit is the ticket."

It was starting about 1978 that digital electronic exchanges became the international ticket for exchanges. Before that time, the close bar exchange or the analog electronic exchange was the main line. Digitalization exceeded the expectations of the exchange industrial group during 1979 and 1980, and it was said that "the international ticket for 1980 was 90 percent digital electronic exchanges" (Director Hosokawa).

According to the Dietburner Ansheit [phonetic] Company of the United States, which has a reputation for market analysis in the electronic communication area, the cumulative orders for digital electronic exchanges as of the end of March totaled 27 million circuits. This is equivalent to about 10 percent of the exchanges already installed in this world. This is what has transpired in the 3 years since 1978.

Large Advance to an Information Oriented Soviety

When construction costs are compared at this point, the cost of a digital communication network is roughly 10 or more percent higher than an analog communication network. Specialists estimate that it will be at least 2 years before the costs of digital and analog communication networks are on the same level. Despite the present situation, the world is looking toward digital communication, and this is because many believe that digital communication is going to bring about the second electrical communication revolution.

This revolution cannot be realized unless a digital mode, which has a capacity far beyond that attainable by an analog system, is adopted. It is only after large volume information communication becomes possible that the realization of an information oriented society can be expected. The fate of communication equipment makers greatly depends on whether it will be possible to cope with the electrical communication revolution brought about by digital communication.

> Orders Received for Digital Communication Equipment During the Last 6 Months

Maker, Product	Customer	Monetary Value
Nippon Electric Digital electronic exchange system	Malasia Communication Ministry	about 1 billion dollars
Digital pocket bell system	Singapore Communication Co	about 600 million yen
Optical communication system for digital telephone network	Argentina Communication Public Corp	about 8 billion yen
Optical communication system	ARAMCO	about 300 million yen
Fujitsu		
Digital electronic exchange	Chinese Ministry of Welfare, Electrical Mail Bureau	not released
Digital electronic equipment	Hong Kong Telephone Co	about 10 million

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Digital electronic equipment	Singapore Communication Co	not released
Digital communication system	Dominica	about 3 billion yen

[7 Aug 81 p 5]

[Text] Will the wave from analog to digital revolution develop in the electrical communication area? It is not overstating the case to say that the future of the communication equipment makers depends on this trend. This is why the different makers are engaged in do-or-die efforts to develop their digitalizing strategy.

It was the Canadian Northern Telecom Co which first commercialized digital electronic exchanges. That was back in 1976. This new product elicited explosive interest in the market and expanded its share in the North American market in no time. This feat left this company firmly fixed at the top of the world's communication equipment makers. It succeeded in breaking the ice and riding the wave of digitalization.

Nippon Electric Gets into the Game Early

Nippon Electric is also one of the industries which rode this digitalization wave. The cumulative orders for digital electronic exchanges received by this company were more than 32.6 million circuits as of the end of this March. This total exceeds those of Sweden's LM Ericson Co and the Northern Telecom Co, making this the largest in the world.

This company started sales of its digital electronic exchanges to the North American sector in October 1977. It was about a year behind Northern Telecom, but it timed its entry just at the moment the independent telephone networks in the United Stated switched over to digital electronic exchanges, and this company became the third largest supplier in the United States. This performance was the background for participation in trade talks on digital electronic exchanges with the developing countries, and this was the route which made this company the top in the world.

The reason Nippon Electric was able to assume this dominant position in the digital communication area was that it had realized early that the time would come when information handling and electrical communications would merge, and this is why it promoted development of digital technology to the utmost. At the same time, it made all-out efforts to develop its overseas business activities. It is in the enviable position of being the second largest semiconductor maker in the world as well as being among the world's top-level developers of optical communication technology, and it is thought that its all-out assault in the digital communication area will continue in the future.

Continuous Orders Are Key to Fujitsu

Fujitsu is a company which is trying its best to overtake Nippon Electric. As a result of this company's business efforts during the past 2-3 years, it received an order this year from the Electrical Postal Bureau of the Chinese Ministry of

Health and Welfare for digital electronic exchanges, the first of its kind. Since then it has received a total of four orders, and the statement was made that "we have finally broken the ice in the digital electronic equipment area" (Director Tsunehiko Hashimoto).

Since softward development cost for digital electronic equipment is tremendous, it does not pay unless a considerable number of orders is received. Thus the statement: "We would like to see a few more orders come in succession" (Director Hashimoto). This company is also involved in optical communication systems, and it is introducing digital electronic exchanges, PCM, and an optical communication system to the Hong Kong Telephone Co. Following up on this sale, it is developing sales activity with Singapore for digital communication systems.

President Takuma Yamamoto of this company set out to reinforce the communications area as soon as he took office. What he was aiming at naturally was digital communications, and his policy is reflected in the statement: "We will reinforce our business activities in foreign markets and try to expand our share of orders for digital communication systems" (Director Hashimoto).

Hitachi Limited, which is one of the four large makers in the communication equipment field, is also using digital communication as the lever with which it hopes to make spectacular advances in the communication area. Similar to Nippon Electric and Fujitsu, this company is engaged in all-out participation in digital communication systems trade talks throughout the world, but it has yet to chalk up any real record of sales. In this sense if is following the same pattern as associated with Fujitsu up through last year.

On the other hand, it says: "We will develop the most advanced completely digitalized electronic exchanges on the technology front, and we will never fall behind the other makers" (chief Koichi Sato of the Communications Equipment Department), and it believes that once it has made a sale, things will quickly fall into place.

This company's strength lies in the depth of its technology staff because of its role as an integrated electric equipment maker, its semiconductor production technology, and the optical communication systems technology which has been accujulated within the company, and this is an area in which it need not play second fiddle to Nippon Electric or Fujitsu. "We are aiming for a completely digitalized age as the standard within our plants." (Sato)

Oki Electric Specializes in Small Devices

Compared to the aforementioned three companies, Oki Electric Industry is somewhat behind in its activities on digitalization. This is because this company was behind in its engagement with semiconductor technology and optical communication system technology, which are considered the backbone of digital technology. This is why this company says: "If we fall behind in this semiconductor technology revolution, it will be difficult for us to survive as a communication equipment maker" (President Masao Miyake), indicating his will to put an all-out effort into expansion and strengthening of the semiconductor area.

On the other hand, at present this company has no thoughts of participating in trade talks on digital communication systems with other countries. If we receive orders for digital exchanges from foreign countries, we will have to send a large number of software personnel and maintenance personnel overseas" (President Miyake). It has decided to forgo seeking orders for large-scale systems directed at joint use situations where optical communication systems are concerned, and plans to specialize in small-scale systems to be used in plants and buildings.

What this company is expecting in the way of spectacular development is the actual introduction of digital electronic exchanges by the public corporation. It is reinforcing its software personnel in anticipation of this event.

At present, advances in digitalization of the communication field centered on exchange systems and transmission pathways. It will be a few years before digitalization of terminals takes place. This is why the communication equipment makers which account for most of the terminal equipment other than the four large integrated communication equipment makers have accepted the fact that digitalization of terminals lies somewhere in the future.

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SCIENCE AND TECHNOLOGY

GOVERNMENT TO PROMOTE OPTO ELECTRONIC INDUSTRY

Tokyo DENKI SHIMBUN in Japanese 16 Sep 81 p 5

[Text] Promotion of Development, Stimulation of Demand; Joint Research Organization Combining Government, Academia, and Industry

MITI has affirmed new basic measures to be carried out to promote the optoelectronic industry. This industry is based on optoelectronics technology which is expected to play an important role in information-related fields. The optoelectronics industry is expected to develop into a completely new industrial form and NITI's basic policy is to direct it with government guidance. Spceifically: 1) because there is a great risk for companies in carrying out technological development alone, the government will formulate measures to promote technological development; 2) necessary measures will be taken to stimulate demand so that this industry can quickly grow into a major industry; and 3) the necessary environment will be prepared to encourage the healthy growth of the industry. With respect to technological development, the share of responsibility to be taken by government, academia, and industry will be clearly delineated and a close association will be formed for overall advancement. In particular, consideration is being given to the establishment of a joint research organization made up of representatives from government, academia, and industry for basic technological development. These ideas are expected to be used in measures to be put into effect from 1983 on.

Included in Measures Effective in 1983

MITI is rushing to take measures to promote the growth of a new industry (the optoelectronics/industry) based on optoelectronics/technology such as lasers and optic fibers. This is because optoelectronics technology is expected to spread into many different fields, bring about a large demand, and grow into a major Japanese industry. Also, as a systems industry and a technology-intensive industry, it has a great deal of potential.

In spite of such expectations, we are presently behind the United States in everything from the basics of optoelectronics technology itself to overall strength in development and application. MITI believes that in consideration of the future progress of optoelectronics technology, such as optical IC's and optical energy transmission, we must make more progress in technological development.

In short, MITI has great expectations for the optoelectronics industry, but it believes that it is necessary for the government, and MITI in particular, to provide backing through the promotion of technological development in order to establish optoelectronics as an industry.

On the basis of this view, MITI organized an optoelectronics discussion group as a private discussion group under the director of the Machinery and Information Industries Bureau. Through this, it has heard the views of companies and men of learning and experience related to optoelectronics and has set the direction of needed measures.

The essential aim is to raise Japanese optoelectronics technology to the highest world level and cultivate an optoelectronics industry based on the very best technology. For this purpose, the government will take the lead and provide direction for the optoelectronics industry.

The following measures will be taken in accordance with this basic policy: 1) Optoelectronics/technology contains many revolutionary elements, so there are great risks for industry in developing it alone. Therefore, the government will carry out measures to promote technological development. 2) The necessary demand will be stimulated to enable the industry to take off as soon as possible. 3) Other necessary preparation of the environment will be made to promote and cultivate the optoelectronics industry.

On this occasion, additions will be made to the equipment (communications equipment using optoelectronics technology, measuring instruments using lasers, industrial processing equipment, information processing equipment, materials using light-emitting photoelectronic cells and optoelectronic devices) listed as related to the present optoelectronics industry in the Special Machinery and Information Industries Promotion Temporary Measures Act (Information Act), in which the optoelectronics industry is specified as a major industry. Also, preparations are being made to review the specific provisions of the act.

The measures to promote technological development are a major part of the policy, and MITI would like to combine the technological development efforts being made by each sector.

For this purpose, it intends to delineate the share of responsibility of government, academia, and industry with respect to the purpose, content, and development level of each kind of technology to be developed and cooperate closely to reach the ultimate goals of practical application.

For example, basic research with a long-range orientation will be carried out at the Electrotechnical Laboratory. Practical application development of important elements of technology will be carried out by private industry. Overall verification and development of all types of applied systems will be carried out by private

Technological Subject Chart (Optoelectronics Industry Discussion Group)

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	Subject	Content (Examples)	Remarks
Research and Develop- ment	Measurement control systems using light	Optic semiconductor materials, opto- electronic hybrid IC's, sensors, ultra- high-performance optic information systems	180 billion yen in large projects for the period 1979-1986
	Composite produc- tion systems using ultra-high-perfor- mance lasers	High output lasers	
	New devices, materials	Optic IC's, visible and ultraviolet, ultra-precise light sensors	130 billion yen in large projects for the period 1977-1983
	Processing tech- nology	Manufacturing equipment for opto- electronic devices, measurement and testing equipment	
·	Optoelectronic computers	Optoelectronic digital computers (optoelectronic logic, memory), optoelectronic analog computers (graphic parallel processing), input and output devices	
	Optoelectronic energy trans- mission	Optoelectronic energy transmission via low-loss optic fibers (infrared), aerial propagation system; opto- electronic energy conversion	· .
	Optic information transmission	Optoelectronic image communication, undersea cable	
	Optoelectronic synthetic chemical plants	Laser chemistry, isotope separation	
Applied Develop- ment	Image information systems	High precision CATV broadcasting networks, school education	
	Systems for places of business	Lighting for buildings and underground shopping areas, energy control, disaster prevention, crime prevention, etc	
	Traffic control systems	Communications control for railroads, highways, and city streets	
	Means of trans- portation	Optoelectronics for cars, tankers, and aircraft	
	Power plants and substations	Power plant facilities measurement control, inspection of nuclear reactors, radiation measurement	
	Medical systems	Optic diagnosis, hospital automation	
	Plant systems	Steel (shaft furnace, converter, rolling) petrochemicals, mining, machinery	,
	Consumer equipment	Display, lighting 47 FOR OFFICIAL USE ONLY	

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utilities. Also, a joint research organization combining government, academia, and industry could be established to carry out basic technological development for optoelectronics technology.

These measures to promote technological development are a major part of the policy, and MITI would like to combine the technological development efforts being made by each sector.

For this purpose, it intends to delineate the share of responsibility of government, academia, and industry with respect to the purpose, content, and development level of each kind of technology to be developed and cooperate closely to reach the ultimate goals of practical application.

For example, basic research with a long-range orientation will be carried out at the Electrotechnical Laboratory. Practical application development of important elements of technology will be carried out by private industry. Overall verification and development of all types of applied systems will be carried out by private utilities. Also, a joint research organization combining government, academia, and industry could be established to carry out basic technological development for optoelectronics technology.

These measures are concerned with the following areas where technological development is especially needed: 1) information transmission (communications); 2) information processing (computers); 3) measurement control; 4) pattern recognition; and 5) energy transmission.

The following seeds of development are also matters of concern: 1) light-emitting and receiving cells and their materials for a wide range of light, including visible light and ultraviolet light; 2) optic IC technology centering on super-fine processing up to 1 micron; 3) light transmission route technology including infrared fibers, high-performance image fibers, and functional fibers; 4) optical sensor technology for such items as measurement fibers and functional sensors; 5) photoactuator technology; and 6) technology for optical energy transmission devices.

Necessary measures will be taken, in addition to technological development measures, to stimulate public investment demand (government and public corporation demand) and promote exports (external demand). Also, in the area of stimulating demand, it is necessary to stimulate public and private inventiveness in developing inexpensive optical fibers, light-emitting and receiving cells, and light sensors in order to increase private demand.

In addition, it will be necessary to make basic preparations for the industry, such as seeking international cooperation, training human resources, conducting surveys through the related government ministries and agencies, carrying out standardization, and compiling statistics.

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