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# Japan Report

(FOUO 15/82)



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POLITICAL AND SOCIOLOGICAL

TANAKA'S INFLUENCE ON NEW CABINET FORMATION ANALYZED

Tokyo SHUKAN ASAHI in Japanese 11 Dec 81 pp 16-22

[Article by Bin Suzuki: "The Influence of the 106-Man 'Tanaka Corps' Shown in Suzukis Cabinet Reshuffle." The term "cabinet" in the original Japanese is meant to be a pun.]

[Text] Grey High Officials: The Eye of the Disturbance That Susumu Nikaido (the Party Secretary General) and Mutsuki Kato (Withdrew Himself From Appointment to a Cabinet Post) Have Left Behind

Former Prime Minister Tanaka said: "If you intend to be reelected (in the fall of next year), wouldn't it be best to appoint Mr Nikaido secretary general?"

Prime Minister Suzuki replied: "I understand. Don't worry."

This is said to be the dialogue exchanged between the two when they met during the Shichikendo Festival at the former residence of Shigeru Yoshida in Oiso on 18 October, more than a month before the reshuffle of the cabinet.

Prime Minister Suzuki has never mentioned "reelection" himself.

However, all agree that the prime minister's basic strategy in reshuffling the cabinet was to win reelection with the cooperation of the Tanaka faction--the largest faction, numbering 106 members--by appointing Mr Nikaido, its alternate leader, as secretary general, the key position in the Liberal Democratic Party.

Prime Minister Zenko Suzuki

(Fukuda Faction)

MITI, Shintaro Abe

Construction, Ihei Shiseki

Administrative Affairs in Prime Minister's Office, Kunio Tanabe

Environmental Protection, Bunbei Hara

Party's Administrative Affairs, Tatsuo Tanaka

(Nakagawa Group)

Science and Technology, Ichiro Nakagawa

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(Komoto Faction)  
Defense, Soichiro Ito  
Labor, Takiichiro Hatsumura  
Economic Planning, Toshio Komoto

(Suzuki Faction)  
Cabinet Secretariat, Kiichi Miyazawa  
Education, Heiji Ogawa  
Agriculture and Fisheries, Yoshiro Tazawa  
Party's Political Affairs Research Council, Rokusuke Tanaka

(Neutral)  
Justice, Michita Sakata  
Finance, Michio Watanabe

(Nakasone Faction)  
Foreign Affairs, Yoshio Sakurauchi  
Health and Welfare, Moroharu Morishita  
Administrative Management, Yasuhiro Nakasone

(Tanaka Faction)  
Transportation, Tokusaburo Kosaka  
Home Affairs, Masataka Seko  
Posts and Telecommunication, Noboru Minowa  
National Land, Yukiyasu Matsuno  
Party Secretary General, Susumu Nikaido

The Suzuki administration is often called "well-balanced government" that hinges upon the balance between Kakuei [Tanaka] and Fukuda.

While Prime Minister Suzuki has been called "Kakuei's shadow" at one time and "Fukuda's shadow" at another, he has come through the political situation by keeping under consideration the balance between Kakuei and Fukuda.

But....

A well-informed source explains: "When his reelection was at stake, Suzuki had to consider which of the two, Kakuei or Fukuda, would really be dependable. At the Oiso meeting Suzuki made his true intention clear to Tanaka, saying something like: 'I will go with Secretary General Nikaido. So, please remember me'."

Then, it can be said that the month-long rumors that Nikaido would become secretary general emanating chiefly from the Tanaka faction were clearly intended to probe the reaction of the Fukuda faction.

However, the opposition of the Fukuda faction was surprisingly mild, at least to the extent it appeared on the surface. Of course, Mr Fukuda himself often spiked the rumor of Nikaido becoming secretary general by saying: "Concentration of power should be avoided." But this did not lead to the opposition of the Fukuda faction as a whole.

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One reason why is said to be the following: "Because the Fukuda faction was pushing the appointment to a cabinet post of Vice Chairman of the Policy Affairs Research Council Mutsuki Kato, like Nikaido another grey high official in the Lockheed case, they could not openly oppose the appointment of Nikaido as secretary general."

As long as the Fukuda faction did not raise a disturbance, Nakasone, minister of the Administrative Management Agency, and Komoto, director of the Economic Planning Agency, who promptly decided to remain in the cabinet and took the attitude of being "cooperative with Prime Minister Suzuki," had no alternative but to go along with the general trend. Thus, "Secretary General Nikaido" seemed superficially to have been decided without any trouble. But....

A medium-standing member of the House of Representatives close to former Prime Minister Tanaka said that in fact there was bitter "veiled enmity" between Kakuei and Fukuda over the issue of backstage maneuvering to appoint Nikaido secretary general.

One example was efforts to persuade Shin Kanemaru, former director general of the Defense Agency, to stand for secretary general. Although Mr Kanemaru belongs to the same Tanaka faction as Mr Nikaido, it is well known that he has a close relationship with Mr Fukuda. It appeared that "Fukuda floated a trial balloon to Kanemaru by sending a certain man from the business world to ask if he would be interested in becoming secretary general. But Kanemaru refused."

Also, there was information that "Fukuda called Nakasone to form a 'war front to oppose the appointment of Nikaido as secretary general'."

Next, remarking that "although it sounds like a ghost story," the Diet member said that "it appeared as though Fukuda himself made motions indicating that he was aiming at the foreign minister's post."

"One person told me that quite recently a certain leader in the business world close to Fukuda met Suzuki and broached the subject of 'appointing Fukuda as foreign minister.' Hearing this story from a reliable source, I was surprised. If Fukuda had become foreign minister, actually a dual head system of Fukuda in the cabinet and Nikaido in the party would have been established. This would not have contradicted Fukuda's so-called elimination of the concentration of power.

"Of course, it was hard to believe that Fukuda was really after the foreign minister's post. But it must have been a declaration of Fukuda's intention that 'he would not let things go as Tanaka wanted' when the situation became such that Nikaido was sure to be appointed secretary general."

Former Prime Minister Tanaka also seemed to have heard such stories. Since Foreign Minister Ito resigned in May this year (1981), there have been rumors of Fukuda becoming foreign minister in certain political circles. And Mr Tanaka has been telling people close to him that "such a thing as Fukuda becoming foreign minister is absolutely impossible." However, when this rumor came up again in relation to the reshuffle of the cabinet, it must be supposed that Tanaka knew of Mr Fukuda's extraordinary rivalry.

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Now that Nikaido is in fact secretary general, it should be said that Kakuei has gained "half a point" for the moment in the veiled enmity between Kakuei and Fukuda.

The balance in the Kakuei-Fukuda rivalry that supports the Suzuki administration has clearly shifted its specific gravity toward "Kakuei." It can be said that the cabinet reshuffle was Prime Minister Suzuki's "interior angle" [In Japanese, naikaku--interior angle--is a homonym for naikaku--cabinet] personnel reshuffle, as he has taken Kakuei [the kaku in Kakuei literally means angle] further inside [nai means inside].

Prime Minister Suzuki must have clearly understood that the public would criticize him if he appointed Mr Nikaido--one of the grey high officials in the Lockheed case--secretary general, the "spokesman of the party." Nevertheless, he dared to do it because it was nothing other than "the logic of Nagata-cho" [the location of the Diet building and the Liberal Democratic Party headquarters].

According to a well-informed source, it meant the following. "In preparation for the worst when the prosecutor of the Marubeni route cases of the Lockheed trial makes his concluding speech and proposes punishments next spring and, furthermore, when a judgment of the first instance is expected to be handed down in the fall of next year, Tanaka's most important objective is to suppress the movement of anti-Tanaka members in the party and to suppress vacillation within the Tanaka faction. Since the secretary general has powerful authority over money and party endorsements at election time, he can keep members in fear of him within the party. The Tanaka faction succeeded in capturing leadership in the party. It was a measure to insure reelection for Suzuki and to control damage from the Lockheed trial for Tanaka. The interests of Zenko [Suzuki] and Tanaka coincided in the appointment of Secretary General Nikaido."

Using "Grey" Differently in the Party and the Cabinet

If Prime Minister Suzuki is reelected next fall, his term will last until the fall of 1984. A House of Councillors election is scheduled in the summer of 1983. Apart from the question of whether or not a lower house election will be held at the same time as the House of Councillors election, it is certain that the House of Representatives election will be held during Suzuki's term as prime minister.

Looking at this political calendar, the leading members of the Tanaka faction read the following: "In case the judgment of the first instance in the Lockheed trial holds that 'Tanaka is guilty,' minimizing the influence of the judgment on the national election will be the supreme task for both Zenko and Kakuei."

In other words, the functions of the Nikaido appointment are not limited merely to countermeasures for the judgment in the Lockheed trial, but extend further to "post-Lockheed election measures."

"At any rate, the political situation will be tinged with trial politics hereafter." This is the view shared by all members of the Liberal Democratic Party.

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A question that remained unsolved until the last minute on the day of the cabinet reshuffle of 30 November was whether or not another Lockheed grey high official, former Vice Minister of Transportation Mutsuki Kato, would be appointed to a cabinet post.

Former Minister of Transportation Seijuro Shiokawa and other members of medium standing, together with young members, had severely taken former Prime Minister Fukuda to task the previous day, saying: "The grey high official Nikaido becomes secretary general, but Mr Kato cannot be a cabinet member. It does not make sense."

Mr Fukuda and former Chairman of the Policy Affairs Research Council Shintaro Abe, a big brother of Mr Kato, strongly requested that Kato be appointed to a cabinet post in the negotiations with Prime Minister Suzuki's side. But the prime minister firmly rejected the proposal.

"When dealing with grey high officials, the weight is naturally different in the party and in the cabinet. Ministers represent the nation in international relations. On the other hand, within the party the grey officials will always be treated as members of the party. Even if the names of Nikaido and Kato come up in the Lockheed trial judgments next year and Mr Suzuki is questioned about them in the Diet, as long as they remain party officials, Prime Minister Suzuki can somehow manage to get by. But if they were ministers, that would not be the case. If the worst comes, it would damage the Suzuki cabinet itself. It would affect his political life. That is probably Suzuki's thinking." This was the reading of sources close to the prime minister.

Finally, after 1 pm on the day before the Cabinet Organization Headquarters was established, Mr Kato announced that he would withdraw himself from consideration for a cabinet post and brought the issue to an end.

There are several views about this settlement of the matter. "The Fukuda faction could not push the appointment of Kato to a cabinet post too hard, because it would look to the public as though 'the Fukuda faction was bulldozing the appointment of a grey high official to a cabinet post'." Or, "If Kato could be appointed to a cabinet post, the influence of Abe would increase within the faction. This would have been unpleasant to Fukuda and other senior members. Fukuda might not seriously have recommended Kato for a cabinet post. In addition, if the political situation becomes shaky due to the judgment in the Lockheed trial next year, it will be easier for Fukuda, who is looking for an opportunity to shake up Suzuki, to do so without Kato in the cabinet."

With Kato's Withdrawal the Fukuda Faction Turns to the Offensive

Of course, the Fukuda faction did not back down silently. Among cabinet posts, the post of foreign minister, which the Tanaka faction wanted, was given to former Secretary General Yoshio Sakurachi (Nakasone faction), who is said to be "also close to Fukuda." The construction minister's post, which has been considered the stronghold of the Tanaka faction, was passed from Mr Noboru Minowa (Tanaka faction) to Mr Ihei Shiseki (Fukuda faction) at the very last minute. The reason for this was persistently observed to be "a result of Zenko listening to Fukuda's claims."



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Since there remains something angular among Suzuki, Kakuei, and Fukuda, the S.S. Reshuffled Suzuki seems destined to sail through rougher and higher waves in the future.

First of all, Suzuki is concerned about the series of judgments in the Lockheed trial forthcoming in the near future and the movements of each faction within the party, especially the Fukuda faction.

The actual prison sentence given to Osano last November did not stir up any noticeable movement within the party. There was silence in "the whole party system." However, this silence may or may not continue in February when judgments are handed down to two more defendants, former Transportation Minister Tomisaburo Hashimoto (ex-Tanaka faction) and former Vice Transportation Minister Takayuki Sato (Nakasone faction), who are involved in the All Nippon Airways route portion of the Lockheed trials, and furthermore when the prosecutor delivers his concluding speech and proposes punishment and the judge announces his verdict to Tanaka, a defendant in the Marubeni route portion of the Lockheed trials.

Suzuki's reshuffled administration took considerable account of Fukuda's claims vis-a-vis cabinet personnel and maintained "the whole party system" in form. However, a well-informed source notes the following: "It is certain that the Fukuda faction was grumbling because Kato did not get a cabinet post and that the grumbling would become an unpleasant feeling persisting into the future. On the other hand, the Fukuda faction did not have to bear the burden of having a grey minister. If Nakaido and Tanaka are criticized by the public as a result of judgments in the Lockheed trials, the situation will become favorable for Fukuda to shake up Zenko and Tanaka."

Second, what will be the moves of Mr Nakasone and Mr Komoto, who have their eyes on the succession after Suzuki's reelection, and new leaders such as Shintaro Abe, Noboru Takeshita, Kiichi Miyazawa, Rokusuke Tanaka, Michio Wantanabe, and Ichiro Nakagawa?

Right now, assuming that "Suzuki will be reelected," there is a strong possibility that a real struggle for the Liberal Democratic Party presidency will not occur next year. But maneuvers aimed at the next, in other words, at the party presidential election in 1984, will start next year. Specifically, the factions will begin a race to acquire more party members.

"Although it is not predictable whether the post-Suzuki succession will be decided by negotiations or by election, it is inevitable that every faction formulates a strategy on the premise that a party presidential election will be held. Even though the new reshuffled Suzuki administration maintains the system of gathering all powerful leaders, the outcome of the next reshuffle cannot be predicated." Or, "If a rumor spreads that one of the powerful leaders has started to acquire party members in his faction, speculation about the succession will be mixed in the confusion of the undercurrent in the Suzuki administration and the instability is certain to gradually spread." Such observations have already been discussed.

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When the Exceptional Law for Administrative Reform was passed in the House of Representatives during the previous Diet session, Mr Komoto was said to be critical of the Suzuki-Nakasone administrative reform: "With this, a true administrative reform cannot be accomplished. This is only a saving of 20-30 billion yen."

A well-informed source says: "The reason why Komoto talks about administrative reform that makes an income tax cut possible is, in short, because he believes 'Nakasone's administrative reform is not good.' And he is appealing to Zenko for an economic policy of an expanded equilibrium through tax reduction."

If Komoto's economic policy is not accepted by the new Suzuki administration, the following view may prevail: "If his economic policy is not accepted, it may result in a diminution of his chances. That is why Komoto is desperately counterattacking."

"After the general session of the Diet next year, Komoto may resign from his cabinet post and prepare for the party presidential election." Such a rumor is also being whispered.

Although Prime Minister Suzuki appears to have strengthened his position for reelection by shifting to the side of Kakuei, there are still mountains and valleys ahead of him. It seems to be a road of penance for him.

Grey Secretary General Is a Challenge to the Separation of Three Powers--Comment by Takashi Tachibana, a political critic

The appointment of a grey high official, Mr Susumu Nikaido, as secretary general is a result of Prime Minister Suzuki's flattery of the numerical strength of the 106 Tanaka faction members. First of all, Kakuei Tanaka is not a member of the Liberal Democratic Party. So a man outside the party is controlling the party. That is an outrageous act turning the party politics upside down. The rules of the Liberal Democratic Party do not allow this sort of reckless act.

Prime Minister Suzuki explains that "the party is different from the cabinet." In reality, however, the secretary general of the Liberal Democratic Party goes to the Cabinet Organization Headquarters and plays a leading role in deciding cabinet personnel affairs. The power of the secretary general surpasses by far that of a minister.

Mr Nikaido says: "In criminal matters, there is only guilt (black) or innocence (white). Grey does not exist." This is a sophistry. The definition of "grey" --"although money was given and received, one was protected by the statute of limitations or one did not possess official jurisdiction"--"has been confirmed. And Mr Nikaido has been called "grey" on the basis of this definition.

Why has Tanaka had to go to so much trouble to make Mr Nikaido secretary general? One sure reason is to expand his power, to suppress wavering within the party that would come with the verdict of guilty, and to increase the number of Tanaka faction members in the next election in order to retain power.

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The secretary general has strong control over personnel matters and money. At the time of elections he holds immense power over the party's endorsement of candidates and distribution of funds. By manipulating the secretary general freely, Tanaka will campaign during the House of Councillors election in 1983 and the general election.

It is certain that he will try to influence the Lockheed trial both overtly and covertly. Mr Nikaido is the man who unashamedly went to see the public prosecutor general 3 days before an indictment in the Tanaka financial backing Shinsei enterprise trial in 1975. Because of loyalty to Tanaka and hatred of the public prosecutors, he will take any measures in order to save Tanaka.

He will seriously try to think of practical ways to invoke the ministry of justice's right of command over the prosecutors. Technically, it is possible for the minister of justice to request the Public Prosecutor's Office to report the content of the proposed punishment before the prosecutor delivers his concluding speech and proposes punishment in the trial, which is scheduled for next spring. Then, if the "commands" by offering the general observation that "it is questionable to propose such a punishment for a man who was once the country's representative," what is going to happen? When Justice Minister Sakata is forced into such a situation to do so, can he resist? Will not he fall into the same trap as Justice Minister Inukai at the time of the shipbuilding scandal? [In 1954 Justice Minister Inukai, in accordance with the policy of the fifth Yoshida cabinet, quashed the public prosecutor's request for permission to arrest Liberal Party Secretary General Eisaku Sato.] Undoubtedly a crisis is approaching for the separation of three powers. [end of Tachibana's comment]

New Justice Minister: Hot Looks of the Tanaka Faction Fall on Michita Sakata-- Checking the Angle of Previous Ministers' Gaze [The Japanese word for angle is the same as the "kaku" of Kakuei. The whole expression gyokakudo, meaning roughly the degree of worshipful gaze, is also a homonym for the degree of administrative reform.]

Along with the question of who would become secretary general in the cabinet reshuffle, attention was paid to who would become justice minister at this time of critical importance to the Tanaka faction. When the lid was lifted, it was Mr Michita Sakata. I would say it was a reasonable choice.

"People in the Miki and Nakasone factions (who occupied the center of power at the time of the Lockheed incident's revelation) were absolutely unacceptable. But we could not straightforwardly push one of our members from the Tanaka faction to be appointed justice minister" (a Diet member of medium standing in the Tanaka faction). For the post of justice minister, the label of "former Ishii faction" (a neutral faction), which for practical purposes involves no factional interests or strategies, was the most desirable. Moreover, a rarity among Liberal Democratic Party members, Mr Sakata "possesses an extremely gentle personality. Although he benefits from round eyeglasses, he is nevertheless fair and disinterested" (a political reporter). It was natural that a person such as Mr Sakata was "the most likely candidate" even before the start of the cabinet reshuffle race. Is Mr Sakata going to be "the fair and disinterested" justice minister his previous reputation suggests?

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Before discussing this, I would like the readers to look at the angle from which Kakuei Tanaka has been looked up to--in other words, "the degree of the angle of previous post-Lockheed justice ministers' gaze." The measurement has been made by consulting the opinions of political critics and reporters.

Many readers may still remember how Mr Inaba, who was justice minister when the first reports of the incident reached Japan from the United States, merrily bubbled over before Tanaka's arrest by saying: "(Those arrested) will not be only sardines and small mackerel."

He received severe criticism: "Although still under investigation, he kept talking and offering uninformed speculation, and interfered with the investigation. He disqualified himself as justice minister" (political critic Kotaro Tawara). However, in regard to Tanaka, the angle of his gaze was "zero degrees or even downward" (political critic Kiyoshi Iijima).

The Tanaka faction learned a lesson from this, and thereafter used its force to push for the appointment of people from "the pro-Tanaka faction" as justice minister one after another.

First was Mr Hajime Fukuda. He is a member of the Thursday Group stemming from the former Funada faction, but he also has another label as a secret Tanaka faction member. This Thursday Group consists of 17 veteran members calling themselves the Liberal Democratic Party's sensible faction. At one time the Tanaka faction tried to enroll all of them into the Tanaka faction by using Mr Hajime Fukuda as a lever, but this invited repulsion by other factions. Nowadays, "this group barely survives thanks to Tanaka's intention to support it as long as Fukupin (Hajime Fukuda) is in the group" (a well-informed source in the political world). This view is strongly supported.

Both the Fukuda Faction and the "Antiplutocrats" Are Pro-Tanaka for Some Reason

The next justice minister, Mr Setoyama, belongs to the Fukuda faction, but the truly knowledgeable know that he is pro-Tanaka. He surprised the political world by setting up "the Kakuei-Fukuda meeting" last fall. As a result he created the widespread impression that he was pro-Tanaka, and in the process buried the much discussed prereshuffle rumor that he would be appointed justice minister again.

Then, Mr Yoshimi Furui succeeded Mr Setoyama. While Mr Furui superficially declared that he was an "antiplutocrat" (an address commemorating his 25th year in the Diet), "he kept casting hot looks toward Tanaka" (a political reporter).

Although Mr Tadao Kuraishi belongs to the Fukuda faction, he became justice minister, much to the surprise of Mr Fukuda and his people. The same day he joined in a Tanaka yell. This seems to have been an unwanted favor even for the Tanaka faction.

The next justice minister was Mr Seisuke Okuno.

"He himself is a very sincere person. Perhaps he did not intend to interfere" (Mr Iijima). Such was the analysis of respected political critics. When the

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prosecutor called Mieko Enomoto, former wife of Tanaka's former secretary, as the witness who would decisively demolish Enomoto's alibi, Justice Minister Okuno severely criticized the prosecutor for "failing to follow the way of men." As a result he was labelled extremely pro-Tanaka. He made the following explanation: "It is good to protect the prosecutor's freedom. However, in case the prosecutor goes too far out of the way, I must pull him back into place. That is the role of the justice minister. In the same context, if it is for the people rather than a certain political party, invocation of ministerial authority is acceptable, isn't it?" As a result, however, he was inevitably considered antiprotection and pro-Tanaka.

Can Justice Minister Michita Sakata, who has to cope during his term as justice minister with the verdict on Wakasa (an All Nippon Airways route case scheduled for next January), the verdict on Hashimoto (an All Nippon Airways route case scheduled for next February or March), and the verdict on Tanaka that is expected to influence not only Japanese politics but also international politics thereafter, meet people's expectations or not?

The Past Record of Single-Minded Cooperation between Kakuei and Sakata That Cannot Be Ignored

"Whoever becomes justice minister, that justice minister cannot control the judiciary. (Even though the justice minister has authority over the prosecutor,) once a trial has started, he cannot exercise it," said Diet member Ryutaro Nemoto, who was one of the recent candidates for justice minister. Former Justice Minister Okuno also said: "The prosecutor is not powerless. If the prosecutor is interfered with, he will become tougher. That is the very thing the Liberal Democratic Party does not want. Since I am also a member of the Liberal Democratic Party, I have a relationship with Mr Tanaka. However, as justice minister I never contemplated what was favorable or unfavorable to Tanaka. Concerning the Lockheed incident, I never received any request. Even if I were asked, I would never have accepted it." On the other hand, there is the view that the justice minister can influence the court if he makes full use of the justice minister's power. "For example, there is a strong possibility that Hashimoto will be judged innocent. In such a case, it is theoretically possible for the justice minister to instruct the prosecutor not to appeal to a court of intermediate appeal" (Mr Tawara). In relation to elections, "It is possible for the justice minister to order delays of at least one or two months in the prosecutor's concluding speech and proposed punishment" (Mr Iijima). Even if the justice minister does not do that much, it is possible at least that he will dissuade the prosecutor from putting handcuffs on Tanaka right after the verdict is rendered, as he would with an ordinary convict, or from putting Tanaka in prison.

The true desire of the Tanaka faction is not for the justice minister simply to keep the prosecutor in fear of him as a symbol, but to exercise substantially his power as minister. Of what mind is Mr Sakata?

Mr Sakata's father, Mr Michio Sakata (a former Diet member) was a teacher of the late Prime Minister Eisaku Sato (the political boss of Tanaka) when he was attending the old Fifth High School. Because of this connection, the younger

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Sakata and Tanaka have known each other from an extremely early period. The younger Sakata was elected to the House of Representatives for the first time in 1946. The next year Tanaka became a Diet member. For 2 years starting in August 1961 the combination of Policy Affairs Research Council Chairman Tanaka and Vice Chairman Sakata supported the Ikeda administration. During the Sato administration, for 2 years starting in August 1965 Tanaka was secretary general and campaign headquarters director and Sakata was executive secretary of the campaign headquarters. Both worked cooperatively in the general election fight.

Furthermore, while Sakata was education minister, Sakata passed the University Law in single-minded cooperation with then Secretary General Tanaka. Peering in from the outfield bleachers, the relationship between the two somehow concerns us. But in relation to the Lockheed trial, Justice Minister Sakata can do nothing better than to carry out his duty with a level gaze.

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TANAKA POLITICS, LIBERAL DEMOCRATIC PARTY ANALYZED

Tokyo EKONOMISUTO in Japanese 5 Jan 82 pp 56-65

[Special Report: "Tanaka Politics and the Postwar Japanese Society: The Root of Tanaka's Political Power Assessed"; the participants in the discussion are: Kenzo Uchida, editor in chief, KYODO and Takao Iwami, commentator and editor of MAINICHI SHIMBUN; chaired by Michitoshi Takabatake, professor, Rikkyo University]

[Text] The Significance of 108 Members

Takabatake: On the basis of Mr Iwami's report, I would like to begin with an evaluation of the actual power of the Tanaka faction, or rather, the Tanaka "army corps."

The Tanaka faction has a present strength of 108 people in both houses of the Diet. And it has Nidaido as chief secretary of the LDP. Therefore, it is natural to think of the Tanaka faction as being at the peak of its power. A completely opposite view also exists. This is that this is a desperate last struggle before the trial. The faction has played all its potential cards, the "hidden Tanaka faction" members, and this is all they are capable of. The way the faction persisted in getting Nidaido installed as chief party secretary, even though it meant a reduction in cabinet posts for the faction, shows a weakening or a final struggle in the awareness that an era is ending. This is the interpretation. There is a jumble of different theories, and it is difficult for a person on the outside of political circles like myself to make a judgment.

Uchida: At present, there are 422 members of both houses of the Diet in the Liberal Democratic Party. And 108 is about one-fourth of that. It is amazing that the Tanaka corps has grown to more than 100 members, has reached three figures. But it is just one of the three major factions in the lower house. The reason it is such a large group is that it contains a very large number of members of the upper house.

This relates to the proposed subject, what the Tanaka faction is. Putting that aside for the time being, it is certain that, being in control of one-fourth of the LDP, it has great power. However, in judging whether it is an advancing army or, to put it in extreme fashion, is making a last desperate struggle, I am closer to the latter view. I believe they have gained as much power as they are going to.

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Looking at the matter from the Tanaka side, the new year will see the conclusion of the trial. There will be a decision. This is the year when Tanaka and the Tanaka faction will be in a life or death struggle. To gain as much strength as possible in preparation for this, they have assembled 108 LDP members and brought about the personnel changes that have occurred recently.

Iwami: Tanaka's arrest and indictment occurred more than 5 years ago. The character of the faction known as the Tanaka faction has changed a great deal. It was a rather strong group before the arrest and indictment, but since then it has made a display of many things. I believe that the boss, Kakuei Tanaka, certainly had the desire to show strength--greater than reality in many respects--to the world and to the party. Therefore, there are real aspects and false aspects mixed in together.

According to Tanaka himself, there are 130, or a maximum of 150 Tanaka faction members, if the "hidden Tanaka faction" members are taken into account. However, can all 150 be made into actual members? It is not that easy. We can see from watching one added here or two added there that they are not accumulating members without great effort. In November 1980, a group of seven led by Tokusaburo Kosaka entered the faction. This was big news. However, I understand that the faction met certain conditions to persuade each of these men to join. There was a rumor that Kosaka was granted freedom of action within the faction and allowed to have something like a Kosaka group. Therefore, just because the Tanaka faction has reached three figures, it does not mean that it is the same faction as that before the arrest and indictment expanded to three figures.

However, Tanaka himself certainly has the ability to manage things. This is demonstrated by the reference to the faction as the "Tanaka general trading company" or the "Tanaka general hospital." The faction has the most energy and ability of any in the LDP, not just the greatest numbers. In that sense, the faction moves at the command of the leader and gets things done. There is no other faction like it.

Why the Chief Party Secretary Position?

Takabatake: The expansion of the Tanaka faction has occurred both in spite of and because of the trial. With respect to this, why did it concentrate on the party secretary position even at the expense of losing cabinet posts? What influence does it gain by holding the chief secretary position? What is the strategy behind that?

Iwami: I believe there is no doubt that Tanaka intended to create a political environment that would make it as easy as possible to carry on the court battle in an advantageous way. However, at the stage of Nikaide's installation as party innocence. Rather, I believe the emphasis has been shifted to how the Tanaka faction will be managed after the court decision. That is why it insisted on the party secretary post.

The post of chief party secretary has much more authority than the public imagines. Therefore, the idea of making Nidaide party secretary had an element of gambling. It was uncertain whether it could actually be done, even though the rumor arose early in the process. In short, because this post is one of great authority,



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it should mean real control of the LDP or give the impression of such control, if it could be obtained. Either would be all right. However, the occurrence of the Nikaido problem was proof of its importance.

Takabatake: While facing trial, a strategy taking into account the trial of the secretary's position.

Uchida: More than the post, the moment of the court decision of first instance is very important. Therefore, the aim of the Tanaka group is to focus on that single event. In brief, how can it cope with the shock of that first decision? Furthermore, while it is questionable how much criticism of Tanaka exists in the party, those who are critical of Tanaka are beginning to set their sights on the moment of the first instance decision after watching the recent personnel reshuffle.

Iwami: That is so.

Uchida: Thinking over the previous problem of whether the Tanaka faction is successful in spite of or because of the trial, I would say that the two factors are inseparable.

Put another way, the great strength of the Tanaka faction is an expression of Tanaka's weakness as well as his strength. At any rate, the faction has to exert its influence and power as much as possible. There is always the danger of crumbling suddenly if it is not careful. It must be constantly vigilant and continue to demonstrate strength. It is powerful in the sense that it can exert influence, but weak in that it will crumble if it does not.

The Essence of the LDP

Uchida: So what is the strength of the Tanaka faction? Briefly, there is no political party that fits the present Japanese society as well as the LDP, and the Tanaka faction is the "essence" of the LDP. The Tanaka faction is the most representative of the character of the LDP, the party which has continued to dominate political power in Japan. Therefore, it can command one-fourth of the LDP Diet members.

Some observers think that this is because of the uncommon power and ability of Kakuei Tanaka, the individual. It becomes a hero theory. Another extreme theory is that Tanaka's power is nothing but money. Everything is due to the power of money, and if the money disappeared, it would fall apart. I believe that neither view is really true.

I acknowledge that Tanaka is a strongly individual and extraordinary person, and it is certainly true that the power of money was used to build the Tanaka faction and to obtain the position of prime minister. However, I do not believe that the present Tanaka faction has come together just because of money or that it has the money to make expansion possible. Also, I do not believe that Tanaka could continue to maintain this group in the face of adversity through personal magnetism alone.

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There are certain reasons why Japan can be equated with the LDP, and the LDP can be equated with the Tanaka faction. One is the inducement of political favors. There is a structure set up to give maximum satisfaction to the regional demands of the electorate. Another is the Japanese system of mutual obligation and compassion used in performing these functions. There are many faction members with great ability in this area just like Tanaka. Is this accidental or due to the magnetism of the leader?

Specifically, this refers to the assistance given in connection with ceremonial occasions such as weddings and funerals, and the performance of obligations and assistance on these occasions is scrupulous and thorough. This mechanism and the "software" that improves its image are quite efficient.

Takabatake: There are three special features of the Tanaka faction. They are the personal leadership of Tanaka, the structure of political power connected with money, and the structure for acting as intermediaries in providing favors. This is the "essence" of the LDP.

Iwami: That is a way to describe its characteristics.

Takabatake: The question is how this can be considered as something new in the LDP or in conservative politics. The Iwami Report says that all conservative parties have been structured to maintain political power on the basis of money ever since the war or even from before the war. The conservative parties have always had a favor-granting function on the grassroots level. Also, the leaders have not been ineffective.

In short, these kinds of things have been accelerated and have reached their apex with Tanaka. Is there anything in the Tanaka method of government that is different from any other in postwar or post-1960's Japan?

Iwami: In Tanaka's own words, there is the "prime minister engine theory." This is the concept that government is controlled by a machine just as a moon rocket is controlled by a computer center. There was probably no one before Tanaka who thought this way.

Therefore, he controlled very mechanically. His method of control was different from that of previous men of ability. For example, there is his approach to the law. According to the ordinary perception, laws should be obeyed. However, he figured out how to utilize the law or he combined two laws and did something new with them. His perception of the law was that it should be used rather than that it should be obeyed. This was new.

Also, we speak simply of political favors or graft, but Tanaka's method of running the government with money is also different from that of other factions. He manages things with great practicality, promptness, and effectiveness. I have never got a look at the internal situation so I do not know what really goes on, however.

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What Are the Special Characteristics of the Tanaka Corps?

Takabatake: From a wider perspective, I believe that what might be called the "Tanaka phenomenon" contained some new elements in postwar politics. First, although it is now largely forgotten, there is no other example in postwar Japanese politics or since Japan was established as a modern country of someone with hardly any academic background reaching the position of prime minister. Therefore, he developed a great following among the common people. That still exists potentially. Even though the Tanaka faction has taken on a villain's role, it is still popular.

Because the system of postwar Japanese politics has become more and more solidified on the surface as an elitist system for success based on academic background, Tanaka became a star to the common people who are at the bottom of the social ladder. There is emotional support for Tanaka, whether he is good or bad, which comes from the envy and grievances of the people on the bottom.

Second, the power of granting privileges has become concentrated in the state administration during the period of high growth under the administrative nation state and popular democracy which were established after the war. A system of pressure politics has grown up in the state administration through the distribution of benefits under the pressure of elections. This was particularly a phenomenon of the 1960's. Tanaka was the person who developed the most organized political methods for dealing with this situation.

Diet members who started as public officials are not able to act as intermediaries to distribute favors to local supporters with great care and thoroughness. And in turn regional Diet members are not able to control the public officials.

As Mr Iwami pointed out, Tanaka saw the law as something to use. In interviews, Tanaka boasts that there is no one who knows the law better than himself. With this knowledge he was able to control officials or get them entangled, organize the Echizankai, and go around taking orders from his constituents. The emergence of this kind of politician and political organization is a new development.

Third, the period of high growth provided opportunities for the emergence of economically powerful men who differed from the mainstream of the financial world, the establishment. Power was concentrated in the government bureaus because of the period of high growth, but there was a rapid expansion of subsidies for construction distributed out from the center. There was also a lot of money made from land due to political wirepulling. A new type of powerful man emerged as intermediary. This provided the route for the emergence of the present Taiko (ruler like Hideyoshi). As the Iwami Report states, Tanaka did not concentrate the power of conferring benefits in the organization but in himself as an individual. The problem is complicated by the emergence of a new style of individual dispensing of favors.

Therefore, the question remains of whether Tanaka's power can be maintained when the high growth stops, the Japanese economy is reorganized, and a new establishment takes its place.

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Fourth, there is a somewhat doubtful but interesting idea of a correspondence between the emergence of Nixon and Tanaka based on a new international situation. This was stated in the "Press Commentary" column of ASAHI SHIMBUN using the arguments of Akio Yamakawa.

According to this, the U.S. Democratic Party represented the Eastern establishment and the labor unions, and at that time a conservative mainstream had been established in Japan. The honeymoon period was ending for this system because of trade friction resulting from the emergence of Japan as a major economic power. America's policies were also running into trouble because of Vietnam. This was when Nixon emerged. He was backed by new capital and large corporations from the Western United States, and he used Kissinger to strike out in a new direction with a realism divorced from traditional ideologies and moralism. This was related to the changes in the cold war situation brought about by diversification of the world political structure.

At the same time, Sato (Eisaku) was in a dilemma over foreign relations with America and China. Then Tanaka emerged and accomplished such feats as following Nixon in establishing relations with China and cutting off the Japanese textile industry. The room for maneuvering required for these actions had developed in Japanese politics. The period of international and domestic change in the first half of the decade of the 1970's fit in with the emergence of Tanaka.

However, I would like to ask how we can interpret the position of these two men today. At present, Nixon has a successor in Reagan, and this creates the international conditions necessary for the reemergence of the Tanaka faction. However, Reagan is calling for a drastic return to the cold war. In contrast to this, Tanaka is generally regarded as a dove in Japan. Although he maintains a slight distance from the conservative mainstream, he represents the most dovish group of the conservative party. Because of this, some observers comment on the continuity between the Tanaka faction and the Komeito and the New Freedom Club.

However, in the international context, there is a correspondence between the emergence of Reagan and the expansion of the Tanaka faction. The Reagan group resembles the Tanaka faction in being dispensers of political favors. Would it be correct to see the true character of the Tanaka faction as being hawkish like Reagan?

The Lower Social Strata and Tanaka

Uchida: With respect to this fourth point, I have doubts about the Yamakawa thesis. However, I think the first three observations are right on target. Still, I doubt that these things are very new.

In short, these methods are old features of the LDP and they have long been used in Japan. In relation to this, we should note that Tanaka's popularity comes from the farming villages and rural regions. It is doubtful how effective these methods are with the urban populace and voters.

Takabatake: It is that much more interesting that his popularity lies in the countryside. The fact that Tanaka is popular in the countryside demonstrates

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the existence of a structural lower class envy unique to modern Japan. From this point of view, the rural area farmers continue to have the impression that the Socialist Party and the Communist Party are the parties connected with an academic background and are the parties of the city and that these are the establishment. If Tanaka is the representative of that feeling, there is a problem of whether the forces that are represented by Tanaka will cause a rift in the conservative leadership system. In other words, this is a point where the national interest as conceived by the bureaucrats does not match the distribution of benefits to the regions on the basis of political considerations. However, the Tanaka faction also takes care of providing for postretirement employment of high-level bureaucrats.

Therefore, just like the emperor system, the Tanaka faction provides a bridge between the upper and lower classes so that it becomes more and more secure.

Uchida: The Tokyo Metropolitan Assembly election is said not to have gone according to Tanaka's wishes. There are probably various reasons for this, but basically there is a limit to his power here.

Takabatake: In the city, right?

Uchida: In the city. Looking at the structure of the Tanaka faction, although Tokusaburo Kosaka did enter it, we see that Tanaka politics cannot get a hold on city people.

Iwami: Mr Takabatake touched on the inside story of the change from Sato to Tanaka. Looking back on that period, I recall that Tanaka ran for prime minister using more cash than anyone before him and got the reputation of reaching the top with the power of money. However, after that he gradually learned a number of things and did not always rely only on money. Tanaka was the only man who could handle the tough job of straightening out the trouble between Sato and Nixon.

It is true that the period of high growth provided fresh ground for a Tanaka-style new establishment different from the traditional establishment. In addition to the old personnel network and the traditional unity of government, bureaucracy, and business circles, there was an area opened up by virtue of Tanaka's personal qualities.

Takabatake: In that respect, Tanaka had some characteristics similar to Kissinger.

Iwami: I believe he did.

A Group With Noncommissioned Officer Leadership

Uchida: I believe that the Tanaka popularity was based on the first observation--that he was supported by the common people's religion of success--and the third observation--that his success was related to the period of high growth. He emerged at the high point, the peak of the high growth period, and he made use of political methods that rode on the crest of high economic growth. When he

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took office, it was the year after the "Nixon shock" and the year before the oil shock. That was the background that brought tragedy to the Tanaka government and gave it a short life.

Takabatake: I would like to ask something more about the third point. You say that there were many people in the Tanaka faction who were involved in the construction industry, which has an intermediary function in dispensing political favors, or were bureaucrats involved with staff work and then became members of the House of Councilors. In other words, the members of the Tanaka faction have in certain respects conducted campaigns just like Tanaka, taking care of constituents, dispensing favors, and organizing support organizations like the Echizankai.

Iwami: I believe they are trying to learn from him. However, the success of such methods depended greatly on the ability of Tanaka, the individual. So not just anyone can do the same thing as Tanaka. There are examples of both successes and failures, but they all definitely look toward Tanaka as a political model.

Uchida: The secretary of an influential Diet member who belongs to the Tanaka faction had this to say: "I was amazed when I entered. The unity of the Tanaka faction secretary's association, as well as the Diet members themselves, and their way of working are unimaginable from the outside." This is another special characteristic. Their organization greatly resembles the old Japanese army.

Takabatake: That is why they are referred to as an army corps. This is also a new feature.

Uchida: I do not know who began calling them an "army corps" or whether they did so with this in mind. However, it is run by a type of noncommissioned officer control system with quick response to commands. The organization makes an all-out effort to bring benefits to the electoral districts. It is reported that the organization has perfected its mechanism so that the entire corps works in concert to perform the things that each Diet member needs to do for his own electoral district.

Iwami: Therefore, the members are trained while they are in the corps.

Takabatake: Tanaka himself is from the most obscure district in Niigata Prefecture, the Niigata Third District, a deep snow region with one of the lowest rates of higher education in the country. Aren't there a lot of people in the Tanaka faction from obscure parts of the electoral districts, the third districts of the various prefectures? (laughter)

If that is the case, the Tanaka faction is a rather strange part of the conservative party, different from the conservative mainstream, which is made up chiefly of former high-ranking bureaucrats with connections to the financial world. In short, it represents the most regressive regions in Japan and has built a support base with thoroughgoing, well-organized techniques of dispensing favors and has directly linked the central bureaucracy with these regions by giving assistance to them. In addition, the faction itself has an internal educational function of

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disseminating new political methods to all members. In this respect, it is quite different from previous factions.

#### Going Beyond the Yoshida Mainstream

Uchida: Tanaka has recently claimed that he is a part of the Yoshida mainstream, a graduate of the Yoshida school. He may have had the last position among the 13 Yoshida men, but he keeps insisting that he was truly a part of it. In a way, that is exactly right. In other words, he could be described as the essence of the main line of Yoshida-style conservatism or perhaps the most straightforward expression of the last conservative school. This might apply to the fact that he emerged at the end of the period of high growth with the job of cleaning up U.S.-Japanese relations. However, Yoshida and Ikeda were more sophisticated in the area of technique. Tanaka has maneuvered in a much cruder fashion.

Iwami: However, at the same time, I believe Tanaka privately despised the Yoshida mainstream. I believe he thought he had gone beyond Yoshida, that he was different from the Yoshida mainstream. Taking the example of his theory of reconstruction of the Japanese archipelago or the recent Doshu system, [system under which the political sub-divisions of the Japanese Islands were made during the pre-modern period] I do not believe that these ideas could come out of the single line, the simple, straightforward thinking of the Yoshida mainstream. He says that he is in the mainstream because it is advantageous to do so in the party, but privately I believe he thinks that he is superior to it.

Takabatake: One reason for this is that the Yoshida period is far in the past, so everyone claims to be the successor to Yoshida; Yoshida is very popular now. However, I believe the Yoshida school was divided into two parts. One was the Sato faction, in which anticommunist ideology appeared clearly on the surface. It was made up chiefly of elite bureaucrats. In contrast to this was the Ikeda faction, where technocrats were the main bureaucratic component. It was mainly concerned with economics. However, in the 1960's, even though the Sato faction took power, it did not go beyond the limits of the Ikeda ideas when all was said and done. Its only achievement was economic progress. That was because of the age.

One generation younger, we have the present Fukuda and Suzuki factions. The Fukuda faction still has a strong element of the anticommunism of Yoshida. In contrast, the Suzuki faction is more concerned with building the country economically. However, the present age calls for a reappearance of Yoshida's anticommunism. If this happens, what will be Tanaka's role? This relates to the previously mentioned issue of international relations.

Uchida: With respect to the Yoshida mainstream--I do not want to use the words "conservative mainstream"--you spoke of Ikeda and Sato. Sato was indeed one part of the Yoshida mainstream, but he was also Kishi's actual younger brother.

Ikeda and Sato were definitely of Yoshida's school. At the Yoshida Symposium in the summer of 1981, Masaaki Kosaka (professor of Kyoto University) was asked: "Is Suzuki of the Yoshida school?" He replied: "No, the Yoshida school ends with Ikeda and Sato." I also felt that that was right.

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However, looking at the present five major factions, it is clear that the Miki-Komoto faction and the Nakasone faction are not Yoshida mainstream. Mr Takabatake says that the Fukuda faction carries on the line of Sato. But just as Sato was the "child" of Yoshida and Kishi, Fukuda is the "child" of Sato and Kishi. Therefore, it is hard to call this the Yoshida mainstream.

So the remnants of the Yoshida mainstream are the Ohira and Tanaka factions. However, as Mr Iwami mentioned, Tanaka claims he is the last of the Yoshida followers, but actually he looks down on the Yoshida mainstream. Perhaps only the Ohira-Suzuki faction is purely Yoshida mainstream. The Ohira faction is very bureaucratic, very sharp.

Takabatake: The elite bureaucrats.

Uchida: In that respect, the Tanaka faction is not such a sodden, simple group. I believe it matches Mr Iwami's description.

Takabatake: As far as that goes, just as the Fukuda faction has slipped from the Yoshida mainstream, the Tanaka faction has slipped from or gone beyond it. It has that aspect.

Uchida: I suppose that is correct.

Committed to Realism

Iwami: That is Mr Takabatake's fourth point. It comes to the issue of whether Tanaka takes the position of a hawk or a dove in the LDP. However, Tanaka does not insist on such a distinction. In other words, he is always prepared to push either the hawk button or the dove button depending on which is necessary to launch the rocket. It is a matter of realism. He is rather straightforward about it. There is some argument about his present position, but I think he has pushed the hawk button.

Takabatake: I see. The Ohira-Suzuki faction is connected to the Ministry of Finance bureaucrats in particular and believes in the economic rationalism of those bureaucrats. For example, it insists on a limit of 1 percent of the GNP for defense spending. From the point of view of economic rationalism, military industries should not be expanded. The Suzuki faction has consistently maintained this position. In contrast to this, the Tanaka faction does not take this sort of thing too seriously, does it? Or does this relate to the quality of bureaucrats who enter the Tanaka faction?

Iwami: I do not think so.

Takabatake: It doesn't?

Iwami: I must apologize for speculating but I think that if the brakes on military expansion set up by the Yoshida mainstream are to be removed in the future by constitutional revision, revision of the U.S.-Japan Mutual Security Treaty, or reinterpretation of the three antinuclear principles, I believe that Tanaka has the confidence or sense of mission to think, "I'm the only one who can do it."



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Takabatake: I also think that is possible for Tanaka himself. Would the Tanaka faction fall in line, saying, "if that's what the old man thinks, so do I?"

Iwami: I think it is possible.

Takabatake: Does such an understanding exist when one joins the Tanaka faction? Is this a difference between joining the Suzuki faction or the Tanaka faction?

Uchida: I believe this is a question of Tanaka's qualities as a politician. In other words, Fukuda has certain concepts and ideologies characteristic of Fukuda. So did Ohira. Tanaka is very spontaneous. Japanese-Soviet problems such as the northern territories and Siberian development were handled with this kind of approach. This goes beyond being a hawk or dove. That is the situation.

We have previously thought that the LDP had a rightwing tendency and Tanaka represented the tendency toward control of government through the use of money. Therefore, we have argued that we have to approve of Fukuda when it comes to political ethics, but we cannot go along with his tendency toward the right. But in terms of the use of money in politics, how much of an actual difference is there between Ikeda-Ohira, Fukuda, and Tanaka? It is simply that in the bureaucratic factions, these things are carried out with more refinement and do not appear on the outside. With Tanaka, it is done more openly. Recently, I think that our distinction between Fukuda on the one hand and Tanaka on the other does not really hold up.

Takabatake: I believe Japan's high-ranking bureaucrats and the Suzuki faction are economic nationalists and are not concerned with ideology. Their first concern is the prosperity of the nation's people because that is the foundation of their establishment. Because of this, they do not want to get drawn into the strong anticommunist position of Reagan. Therefore, on an international level, they have an iron determination to maintain this principle even if Japan is criticized for not fulfilling its obligations to the free world or is called commercialistic or irresponsible in its international relations.

Nixon and Kissinger are said to have been completely realistic but their realism was an anti-Soviet realism. It was not an ideology-free realism. The idea was to bring in China to reinforce America's declining position in the balance of power and surround the Soviets. This became more evident with Reagan. Therefore, Nixon ended the Vietnam war and normalized relations with China. Reagan, on the other hand, escalated the cold war. But their reasons were the same.

In this respect, Tanaka also has a stronger anticommunist attitude than the high-ranking bureaucrats. He is thought of as a dove because he made peace with China. However, I believe he just bought China because of one thing--its anti-Soviet line. Depending on changes in the international situation or in power relationships, he could take Japan in any direction.

The three antinuclear principles or rearmament would be no problem to him. If the time came when it was necessary to exceed the limits, they would be exceeded.

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Iwami: When Tanaka was in power, I believe Kissinger disliked him. He liked Ohira and disliked Tanaka. That is because Tanaka and Kissinger resemble each other in essential ways. However, Kissinger now makes visits to Tanaka's private home in Mejiro as Reagan's emissary. Now that American-Japanese relations have become so troublesome, Kissinger may think that "only Tanaka" can understand the problems quickly and take effective action.

Takabatake: That was true with China. Therefore, we cannot ignore the international situation in which China and Reagan have great expectations of Tanaka.

Iwami: That's probably true.

The Relationship of Personal Privilege and Democracy

Takabatake: Finally, how are we to evaluate the larger problem of the Tanaka faction and the system of parliamentary democracy in Japan? I do not think that it is just a problem of democracy being underdeveloped in Japan or of a leniency toward the use of money for political influence. Mr Iwami discussed this in comparison to the example of America.

Uchida: Theories about Tanaka are in abundance right now. I would like to discuss two problems in respect to them. One is the argument that what Tanaka did is representative of Japanese political customs so it is not right to punish Tanaka alone. At any rate, this is one reason for sympathizing with Tanaka. Mr Iwami referred to this point in terms of the problem of a crime committed by the prime minister. It is impossible to excuse what Tanaka did just because it is a common practice in Japanese politics. This distinction must be strictly made.

Another argument is that Tanaka was the victim of international politics. Tanaka had to resort to dirty methods to clean up the mess made in U.S.-Japanese relations by Nixon and Sato. So, in the end he was done in by America. That's how the theory goes. It is a kind of noble outlaw theory. The international context of the Tanaka problem has been discussed already so I will not go into it further here. However, there is no way to rationalize the acceptance of the 500 billion yen.

Takabatake: There is something that Mr Iwami did not mention that has bothered me from the start about the Tanaka problem. If this had happened before the war, there are two points of criticism that would have emerged. The first is that a bribe was taken in connection with the nation's military. There was the Siemens incident before the war. This would be a big problem from the point of view of militaristic nationalism.

Uchida: For example, the PC3 problem?

Takabatake: Yes. However, this aspect does not emerge. Nobody seems to think this is a particular problem. I think this is all right. It is fine that we no longer take a position that means we get upset just because something is connected with the military.

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On the other hand, the prime minister of the nation is accused of taking a bribe from a foreign country, from a multinational corporation. In the old days, he would have been considered a traitor. I do not like to use the word traitor, but I do not think we should overlook this dimension. It was different from an ordinary bribe. The only thing that comes up is whether he did or didn't take the 500 billion yen. If one goes to the Niigata Third District, they seem to think that the fact that he got it from a foreign country is proof of his greatness and that he contributed 500 billion yen to improving the trade balance. Even the opposition parties do not make a strict distinction about what was improper. This is proof that Japanese politics is not independent under the mutual security treaty system.

On the other hand, if it comes down to a problem of whether he took money or not, allowing for differences in scale, all of Japan is taking money.

However, in politics, money moves around and connects up with the distribution of favors. If a certain amount is paid, a certain profit will accrue. This has become general knowledge among the electorate. Before the war, there was no return. In this respect, the system is a result of democracy. Profits and benefits arise in proportion to the cost of campaigns and lobbying. This is a necessary historical step.

The problem is the next stage in which rules must be made for the methods of campaign and lobbying. Right now, money is number one and votes are number two.

#### General Lack of Attention to Politics

Takabatake: However, for the time being, it is mainly the intelligentsia and the press who expect to see a purifying effect on this behavior through the action of the courts. However, it should be possible to expect reform from within the parties and political circles. And there should be reform effected by the electorate. A three-part structure must be built up.

There are various problems involved in getting this done. The first problem is how much of a reforming function can be expected from the courts. Two problems of postwar Japanese democracy are the expectation that the courts will function as a last resort and the complaint that the higher a trial goes in the court system, the more the issue is obscured. (laughter) That is probably what the Tanaka faction is hoping for.

Uchida: At the time of the Hakkai trial, the watchword was: "There's still the Supreme Court." In the present case, the LDP and the Tanaka faction seem to be saying: "There's still the hearing of final appeal."

Takabatake: There is also the independence of the Public Prosecutor's Office. If we lay our hopes too much on this, we could be drawn into a police fascism. Sometimes the police are the leaders in justice, sometimes the instruments of oppression.

Uchida: Therefore, it is very dangerous to fall into thinking that the Public Prosecutors' Office is always on the side of justice or that the courts are a

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last refuge of appeal. However, who was responsible for bringing about that way of thinking? It is just as written in Mr Iwami's report.

Therefore, to put it boldly, although Tanaka is working hard for a comeback, after the decision of the court of first instance, even if it is a bit late, it would be very good for Tanaka himself and for Japanese politics if he would announce that he will continue to fight in court but that he will stop the activities of the Tanaka army corps or resign his post as a member of the Diet. This may be a vain wish though.

Also, recently a lot of private courts have been appearing in various magazines (laughter), giving verdicts of guilty or not guilty. That is very bad. Instead of these courtroom games, the media should, since Tanaka is a politician, make a comprehensive summary of Tanaka's political performance.

There would then be two other problems to cover in criticizing the politics of dispensing favors. One is to accurately reassess what Tanaka's political performance has been in terms of international politics. The other is the plan for reconstruction of the archipelago. I believe that Tanaka had failed politically before he resigned as a result of the controversy over his financial entanglements. This comprehensive assessment is lacking so there is the illusion that the financial network problem and the Lockheed incident were bad, but Japan would be better off if we let Tanaka have another try at it.

Takabatake: Judging from the sense of Mr Iwami's statement, this is the same as the "development dictatorship" of the countries of Southeast Asia. Development is carried out by a barrage of money from above, privileges are concentrated toward the top, and this results in internal corruption. But by this means the establishment prospers and this situation resembling a dictatorship can continue indefinitely.

Tanaka demonstrated the working of this kind of Third World dynamics in Japan during its high growth period. This is a special characteristic.

The Rules of Pressure Politics

Iwami: Close attention is being given only to the idea of Tanaka as a money worshipper, but the distinctions have not been made clearly between what in his politics should be rejected, what is a step in development, and what deserves a positive evaluation.

Also, Takabatake spoke of accepting the use of political favors and the return of benefits to the electorate as a historical step. This is very important. This is very important. This relates to the problem of self-discipline in the political world. If Tanaka were to tell the truth about the postwar history of Japan and U.S.-Japan relations and advocate the Tanaka idea of justice to the people of Japan, the people might bow their heads in agreement. Other politicians might sympathize, saying: "I'm a representative of the same thing. I also mix money and politics." And they might also make a clean bill concerning Tanaka and Japan's postwar development, Tanaka and U.S.-Japan relations, and the background of the Lockheed incident. How would that be?

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However, although there may be something to what Tanaka might have to say, democracy is the final standard, as Mr Iwami said. Therefore, the problem is Tanaka's own self-discipline, Tanaka's own ability to make important distinctions.

Takabatake: I said this could be accepted as a historical step in the sense that parliamentary democracy actually operates on the basis of profit through pressure politics even though it is supposed to arrive at rational conclusions through debate. Democracy has been realized only in this form. I believe that journalists as well as political scientists have lacked an awareness of this fact. If this is true, a debate to establish rules for power politics is urgently needed.

Iwami: They have pretended not to see.

Takabatake: These things were handled behind the scenes. And on the surface, there were sermons which pointed in a completely different direction, saying only idealistic things. Therefore, for example, Japan has arrived at the stage where it should establish something like the American political ethics law. This debate should be waged in earnest. Otherwise, pressure politics has become so generally practiced that it seems only natural to take a gift when granting a request, and a vulgar notion has gained ground that democracy means a flowing back of profit to the electorate.

If the LDP cannot be counted on to make an effort at self-purification within political circles, it would seem that all the opposition parties could. But they are not very impressive either. Therefore, the problem is not just in the LDP. Of course, there is the view that Tanaka polluted the party. But the problem for democracy from now on comes back to establishing rules for this. If they are not established, we will go back to a troubled period of internal confusion where the man with the most influence, the strongest connections, and the largest gifts will win.

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POLITICAL AND SOCIOLOGICAL

POWER OF LDP SECRETARY GENERAL POSITION ANALYZED

Tokyo GENDAI in Japanese Feb 82 pp 78-90

[Article by Asao Yamaguchi, political commentator: "LDP Secretary General's Super Power Disclosed"]

[Text] 20-Billion-Yen Party Fund at Disposal

The Liberal Democratic Party (LDP) Executive Board meets every Tuesday and Friday beginning at 10 am. The meeting is presided over by Secretary General Susumi Nikaido.

Nikaido shows up immediately before the meeting, puffing on his favorite cigar, and sits down in the center seat. The meeting is usually run by Noboru Takeshita, who is the acting secretary general. When the discussion gets under way, Nikaido seldom utters a word. He appears to enjoy the aroma of the cigar smoke which fills the room. The reason he doesn't say a word is the lack of any controversial issue during the meeting. Whenever any issue is anticipated, Takeshita usually has a compromise in hand before the meeting takes place.

"It is just like a Tanaka board meeting. Everyone observes the look on the secretary general's face as he speaks. With the principal posts secured by the Tanaka faction, there is no chance that an issue will be raised."

The middle-level cadres of the other factions on the board say they feel stifled by pressures from the Tanaka faction.

"There is an utter lack of balance regarding the top three party posts. Chairman Tatsuo Tanaka of the Executive Council and Chairman Rokusuke Tanaka of the Political Affairs Research Council are treated like children by the secretary general. The chairman of the Executive Council is kept at arm's length, while the chairman of the Political Affairs Research Council tries desperately to draw close to the secretary general. We cannot help seeing the clout carried by Secretary General Nikaido."

A veteran Diet member who was seated on the Executive Council by bloc recommendation described the atmosphere in the council.

The "Sonoda-Tanaka coalition" which has monopolized both the LDP and Diet operations with Secretary General Nikaido in the center has solid control over the most important

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posts and exerts its authority over politics in general. And the shrewd strategy displayed by the Tanaka faction during the cabinet reshuffle last November has been further sharpened and aimed toward the next goal.

Why was the Tanaka faction so persistent in its support of nominating Nikaido as secretary general? In a word, it was because it could gain control of the enormous power which accompanies the post of secretary general--approximately 19.011 billion yen (1980) in party funds as well as authority regarding personnel affairs (about 200 party posts).

The Tanaka faction is large, with 108 members in the Lower House (including Kakuei Tanaka himself), but it is extremely difficult to provide them all with adequate funds and posts.

Michio Watanabe, the incumbent finance minister who hopes to form a "Watanabe faction" in the near future, said: "From the standpoint of the distribution of funds and posts, 40 members is probably the optimum number in order to maintain a faction."

A faction is based on the three elements of funds, posts and conditions in its constituent districts, but the expansion of the Tanaka faction is clearly a violation of commonsense. Moreover, donation sources for the Tanaka faction such as the Etsuzankai, the Financial Research Society, the Political and Economic Research Society and the Political Friends Society (Seiji Doyukai) are definitely on the decline. Of course, if the donations from Noboru Takeshita and other cadres are included, the faction is far ahead of the other factions, but the Tanaka faction's "coffer" is not at all bountiful.

The fact that the secretary general's post is the key to ready funds totalling some 19 billion yen is in itself a great attraction.

#### Highest Authority in Charge of Party Affairs

How, then, is the position of LDP secretary general defined?

Article 8 of the party rules stipulates: "The secretary general shall assist the party president and discharge party affairs." The bureaus under the secretary general's jurisdiction include the General Affairs Bureau, the Personnel Bureau, the Accounting Bureau, the Research Bureau and the Registrar's Office. In other words, the secretary general has jurisdiction over the key organizations at the party's headquarters.

Regarding the party president, article 4, paragraph 2, of the party rules stipulates: "The party president has the highest responsibility in the party. He represents the party and presides over party affairs." However, the LDP president is also the prime minister of the cabinet. As a result, the secretary general, who assists the president, acts in behalf of the president and discharges party affairs as the person with the highest responsibility.

In case a party vice president is appointed, article 5, paragraph 2, states: "The party vice president shall assist the president and discharge the duties of the president if unforeseen circumstances should befall the president or if he should

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be absent." However, the vice president has no jurisdiction over any bureau or department as in the case of the secretary general.

When Hayato Ikeda contracted throat cancer in 1964 and resigned from his post, a fierce struggle took place regarding his successor involving Eisaku Sato, Ichiro Kono and Ichiro Fujiyama. The mediators in the struggle were party Vice President Shojiro Kawashima and Secretary General Takeo Miki.

Kono was unhappy that only Secretary General Miki among the party's three principal chairmen acted in a mediating role. He contended: "The three party chairmen manage party affairs as a trinity. Therefore, it is unfair for the secretary general alone to be appointed as a mediator."

Of course, in the background of the appointment of Kawashima and Miki as mediators was the fact that both men were called to Ikeda's sickbed and were asked to "sound out the opinions within the party (regarding a successor to the presidency) and to coordinate them." However, it is the rule that in a cabinet reshuffle it is the vice president, the three party chairmen and the president of the Upper House Members Association who take charge of the cabinet-forming headquarters at the prime minister's residence.

From this standpoint, Kono's contention that the three party chairmen should receive equal treatment regarding personnel affairs sounds plausible. But from the standpoint of party rules, there is a wide variation in the authority of the secretary general and that of the chairman of the Executive Council and the chairman of the Political Affairs Research Council.

It is stipulated (in article 39) that "the Executive Council shall deliberate and render decisions on important matters concerning party operations and Diet activities." It is literally a decision-making organ concerning party resolutions. The duty of the Executive Council chairman consists in "convening the Executive Council and managing its operations as its president." It is also stipulated that "a resolution by the Executive Council requires a majority quorum of its members, and in case of a deadlock the president (Executive Council chairman) casts the deciding vote." In effect, the Executive Council chairman is limited to managing the operations of the council and to exercising his authority in case of a vote deadlock.

As for the Political Affairs Research Council, "resolutions which the party adopts as policy must be deliberated by the council (article 43)" and the council chairman "shall manage the operations of the council." He also "shall convene deliberative sessions and manage them as president."

There is no reference to the Executive Council chairman or the Political Affairs Research Council chairman indicating their strong authority to "execute" operations as in the case of the secretary general.

"LDP-Jack" by the Tanaka Faction

Regarding criticism of Nikaido's appointment as secretary general, Prime Minister Suzuki said: "Mr Nikaido has made serious efforts in behalf of the party and the nation as chairman of the Executive Council. All three party posts are important



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and it makes no difference whether a person is secretary general or chairman of the Executive Council. I believe this is clear when people understand the party organization and operations." Nevertheless, it is undoubtedly a weak evasion on the part of the prime minister.

Takeshita, who assists Nikaido as acting secretary general, began by saying: "I intend to do my best under Mr Nikaido," and continued: "The title follows the man. As you know, Mr Nikaido was considered as a secretary general in substance even when he was Executive Council chairman." He thus emphasized that there has been no special change since Nikaido became secretary general.

Certainly, as Takeshita pointed out, a post is created by the person. The person's political capability can create an influence exceeding the authority given to him. It is said: "Takeshita has boasted that he will not relinquish the executive department until 1983, when the political battle is over" (reporter assigned to the Tanaka faction).

Speaking of 1983, the unified regional elections in April, the Upper House elections in June and the dissolution of the Lower House are expected in that year. Before that, the court decisions on the Lockheed scandal and the Marubeni pipeline (Kakuei Tanaka, et al) case this fall, in addition to the LDP presidential public election, are pending. Of course, prior to that, court decisions will be handed down on Tokuji Wakasa and others of the Lockheed affair and the All Japan Airways pipeline involvement on 26 January this year, followed by decisions on Tomisaburo Hashimoto and Takayuki Sato in February. At the same time the exchange of cash bribes among Nikaido and other "grey officials" will be clarified. During the next 2 years, serious political upheavals are expected in succession without respite.

With the Lockheed trials and the political schedule in mind, Secretary General Nikaido is a "strategic gem" produced by the Tanaka faction.

In addition to the secretary general, the Tanaka faction placed Takeshita as acting secretary general, Hajime Tamura as Diet Policy Committee chairman, Hideo Utsumi as chairman of the Lower House Steering Committee and Tokuro Adachi as president of the Diet Members Association. It has not only gained control of the party and Diet operations, but it also won the reappointment of Yoshiro Hayashi as chief of the Accounting Bureau--the watchdog of the party's coffer. Also, Motohiho Kanai is chairman of the party's Discipline Committee.

It is no wonder that the other factions complain: "It is like an 'LDP-jack' by the Tanaka faction" (Fukuda faction cadre).

Of course, regarding the appointment of the Accounting Bureau chief, "negotiations were held with the Tanaka faction to name Eisaku Sumi, but the talks failed" (Suzuki faction cadre).

At this rate, it is not clear which is the prime minister's faction. The LDP has ruled for a quarter century since the conservative coalition in 1955, but there has been no precedent where the prime minister's faction has relinquished the seats of not only the secretary general but also the acting secretary general, the Diet Policy Committee chairman and the Accounting Bureau chief, and where they have been monopolized by a single faction. It is a veritable control of the LDP by the Tanaka faction through numbers.

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Aggressive Building of a Pipeline to the Opposition

If, as Takeshita has stated publicly, the Tanaka faction continues to control the LDP for the next 2 years, what will happen to Japan's political direction?

This writer's hypothesis is that, first, there will probably be a dissolution of the Lower House and a general election prior to a court decision in the Tanaka trial.

The basic replies to questioning during the extraordinary investigation in July would provide grounds for a dissolution, including the issue of dividing up the National Railway Corporation, which would be unacceptable to the Japan Socialist Party (JSP) and others. Also, the Komeito, the Democratic Socialist Party (DSP) and the Japan Communist Party (JCP) would oppose a realignment of the national election districts (to a system proportionate to the memberships for the Upper House, and there would be no lack of issues during the extraordinary Diet session. Moreover, the chairman of the LDP's electoral system investigation committee is Masaharu Gotoda of the Tanaka faction.

If a general election is held before a decision in the Tanaka trial, the Tanaka faction, which controls the Executive Board, has a definite advantage and there would be no change for the next 4 years. If the party should receive a setback in the elections, it would be Prime Minister Suzuki who would be blamed. If the party should come out ahead, Suzuki's reelection to the party presidency would be a foregone conclusion, while any upheaval within the Tanaka faction in the event of a party defeat would be kept to a minimum.

Also, if the realignment of national districts for the Upper House should be carried out, the Tanaka faction would be favored in an Upper House election also next year.

The second possibility is an approach to the opposition.

"Even if the elements within the LDP critical of Tanaka were cut off, the administration could retain power by courting the opposition. The Nikaido-Takeshita-Tamura line could be interpreted as an arrangement toward such a purpose" (Suzuki faction cadre).

Even the Suzuki faction cadres are apprehensive about the maneuvers of the Nikaido Executive Board.

Speaking of the opposition, not only the DSP, which is said to be farther right than the LDP, but also the Komeito at its party convention last December, recognized the existence of the Self Defense Force (SDF) in connection with the defense power build-up issue. The Komeito went on to emphasize the constitutionality of the SDF and evidently declared its intention to study the possibility of collaboration with the LDP.

The close relationship between the Tanaka faction and the Komeito has been well known in political circles as an established fact since the free speech and publication issue of the Sokagakkai and Komeito in 1970. The Nikaido-Takeiiri meeting held in Beijing last September attracted attention from the standpoint of underscoring the relations between the two parties.

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Regarding such speculation, Takeshita stated: "Mr Nikaido's pet goal is to cultivate the sound parties, excluding the JCP and the JSP leftwing, as part of our system. From this standpoint we welcome the clarification by the Komeito at its convention last year regarding its position on the constitutionality of the SDF, which establishes its position as a party within our system." He also declared: "In fact, we are maintaining cooperative contacts with opposition party cadres."

The Nikaido Executive Board not only controls the LDP, but also is aggressively building a pipeline to the opposition.

The common view in political circles is that "LDP funds are probably being used for moves toward the opposition parties" (LDP Diet member who is a former member of the Diet Steering Committee).

Rob Peter To Pay Paul at the Expense of Financial Circles

In order to write this article, the writer requested a large number of prominent Diet members of the LDP to comment and offer their opinions of the secretary general. However, the moment the secretary general was mentioned, they either begged off or asked for "anonymity." This is the first time the writer has had such an experience. The impression gained was that the LDP members were completely intimidated regarding Secretary General Nikaido and his "Sonoda-Tanaka coalition."

The Diet members who agreed to be interviewed unanimously pointed out that "the secretary general can do as he pleases with party funds and posts."

How much funds, then, does the LDP have?

As mentioned before, the party revenue totalled about 19.011 billion yen in 1980, approximately 15.224 billion yen in 1979, and about 11.293 billion yen in 1978.

Practically all of the revenue comes from donations by financial and economic organizations channeled through the National Political Association, as legislative investigation funds for members of the Upper and Lower Houses (presently 600,000 yen per member per month) defrayed by the national treasury or as party costs and revenue from its organ publications (JIYU SHIMPO and the monthly JIYU MINSHU).

However, in the case of the LDP, whenever special funds are needed such as for elections, it can request increased donations from financial circles or borrow a lump sum from the Banking Association. This is another prerogative as a government party, and its revenue (including loans) could be said to be unlimited. In this case, also, it is up to the discretion of the secretary general.

Of course, like a nation's deficit bond issues, the LDP carries an annual deficit of 5-10 billion yen. Deficit financing stays in a certain condition of paralysis. Since most of the deficit is paid by donations, the repayment of debts must inevitably depend on donations. Peter in the form of financial circles is robbed to pay Paul and there is no need to worry over trivials.

In fact, a typical case of debt financing was reportedly carried out by Secretary General Tomisaburo Hashimoto during the Tanaka regime. When Hashimoto succeeded

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Secretary General Shigeru Hori of the Sato government in July 1972, the deficit was about 6.4 billion yen. And 2 years and 4 months later, Hashimoto had increased the deficit to about 11.3 billion yen.

According to testimony by a cadre Diet member of the Nakasone faction, when he visited Hashimoto at the secretary general's office during the 1972 general elections and requested support funds, Hashimoto immediately asked: "One or two?" When the Diet member looked confused, two packs of 1 million yen each in cash were brought from the safe and he was told: "Do your best with these." One pack ("hitotsu") contains 1 million yen while one bundle ("ippon") contains 10 million yen.

During the 1974 Upper House elections, the Tanaka cabinet staked its life on the election campaign. Hashimoto, who was at the helm, joined hands with the business world and eagerly sought out "talented candidates" from the media and entertainment world. At the time, it was already rumored that 100 million yen would be needed for the candidates in the national districts alone.

One "talented candidate" (a professional sportsman) who was persuaded by Hashimoto to run said: "He told me he would take care of all expenses and provide campaign supporters. All I had to do was to run. I had heard that I would need at least 100 million yen, but I didn't know how far I could rely on his promise."

Hashimoto did not set any limit on election spending. Even the LDP campaign workers confided: "Those were the good days. We didn't have to worry about money when travelling to the regional areas."

However, the LDP took a beating in that Upper House election, narrowing the gap between the ruling party and the opposition in the Upper House to a mere seven seats. In the aftermath there was increased criticism regarding the money connections and a demand for Tanaka's resignation.

Signature Opens Door to Unlimited Spending

Yoshio Sakurauchi switched from secretary general to foreign minister as a result of the cabinet reshuffle last November. At his last press conference as secretary general, he boasted: "I was told by my predecessor (Kunikichi Saito) that managing party debts was a big headache, but I was able to tell my successor, Mr Nikaido, to rest assured because all the debts had been repaid."

Sakurauchi's tenure as secretary general was exactly 2 years. During that time, the joint Upper and Lower House elections were held in June 1980, resulting in an overwhelming party victory. Moreover, about 5 billion yen worth of debts were paid, which marks him as an outstanding secretary general. However, no one within the party has rated him as such. If he were in the private sector, he would probably been called an excellent manager.

On the contrary, cadres of the Komoto faction have advanced the view that "with the post of guardian of the coffer (Accounting Bureau chief) secured by the Tanaka faction (Yoshiro Hayashi), even the secretary general did not have free access to party funds." Although the debts were paid, it was not because of the secretary general's prowess.

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When Accounting Bureau Chief Hayashi was asked about the circumstances resulting in the payment of debts, he replied: "Party finances cannot be considered in the same light as the balancesheet of a business concern. The revenue reports submitted to the Home Affairs Ministry are nothing but annual progress reports."

Of course, to be without debts is certainly desirable, but there is no sense of scruples against borrowing money from business concerns and banks when necessary.

The LDP bank vault is placed in the Accounting Bureau on the second floor of LDP headquarters. Donations from the National Political Association are generally deposited in a bank. The Accounting Bureau withdraws the money as necessary. Except for special cases such as elections, not much cash is kept in the vault.

"Leaving cash in the vault means it accrues no interest. An LDP accounting chief who does such a stupid thing should be fired."

Yoshio Sakurauchi spoke with a confident laugh.

However, according to LDP revenue reports submitted to the Home Affairs Ministry, Secretary General Kunikichi Saito of the Ohira cabinet received funds for organizational activity 48 times in approximately a year, from 7 December 1978 to 16 November 1979, totalling 472 million yen.

In December 1978, when he had just assumed the post of secretary general, he made 10 withdrawals totalling 142 million yen during a 1-month period.

"December 1978 means it was just after the party president preliminary election. The money was probably spent to fix up things in the aftermath, although this is just my guess" (Fukuda faction cadre).

The reason such a possibility occurs to him is because the system permits the secretary general to draw money out as he sees fit.

During the general elections of October 1979, the money withdrawn in September alone reached 167.3 million yen in 10 withdrawals. Of course, they were undoubtedly distributed as election campaign funds, but the breakdown of amounts received remains unclear.

Masayoshi Ito (former foreign minister) has served as both Accounting Bureau chief and Party Finance Committee chairman, and according to him: "During the elections, I was told I would be given special treatment and I was grateful, but I looked into an old ledger and discovered my treatment was no different from that of others." It would still not be so bad if they were recorded, but when the distributions are made on the secretary general's signature alone, there is no way to ascertain the accounts.

Yet in 1979, 4.655 billion yen was spent as election-related expenses. Actually, election-related expenses entail various kinds of expenses.

Diet Policy Expenses Include Mahjong Costs

Approximately 100 million yen was spent annually in the final period of the Sato cabinet and during the Tanaka government as Diet policy implementation expenses. The

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LDP Diet Policy Committee chairman reportedly filled his wallet with yen bills, played mahjong with opposition Diet members at his favorite "geisha" restaurant and deliberately lost the games.

Especially at the Diet session in October 1967 to ratify the Japan-South Korea treaty, it was rumored that money in eight digits was distributed to Diet policy cadres of opposition parties.

Secretary General Yano of the Komeito, who was elected to the Lower House for the first time in the January 1967 general elections, in making his initial speech before the budget committee, lashed out at the LDP for its ties to opposition Diet members through the use of Diet policy funds, but he met a concerted counterattack from both government and opposition party Diet members and failed in his disclosure effort.

Nonetheless, the item "Diet policy funds" has recently been omitted in the LDP revenue reports submitted to the Home Affairs Ministry.

Only six items of expenditure under "political activity expenses" are listed: organizational activity expenses, election-related expenses, organ publications expenses, research expenses, donations and grants, and other expenses.

The reason is that the custom of entertaining opposition Diet members in restaurants and at mahjong games is still an effective weapon of Diet policy for the LDP today. However, a perusal of the revenue reports reveals a curious fact. Secretary General Sakurauchi's organizational activity expenses paid out in only two handouts during his approximately 2-year tenure beginning in November 1979 was, surprisingly, a mere 3 million yen.

Although Sakurauchi was in charge of the joint Upper and Lower House elections, he apparently engaged in hardly any organizational activity.

Accounting Bureau Chief Hayashi was asked about this.

"I was not bureau chief when Mr Kunikichi Saito was secretary general, so I wouldn't know, but the key issue is essentially the matter of receipts. Should the secretary general write the receipts himself and just hand over the money, or should he, as in Mr Sakurauchi's case, have the recipient write the receipt? I think there was this difference in handling."

It does sound reasonable. However, actually there was a considerable difference.

In Saito's case he was spending money for the maintenance and stability of the Ohira government as secretary general, representing the Ohira faction of the government party. It is more effective for the secretary general to pass the money to Diet members at his own discretion rather than to have them submit receipts directly.

On the other hand, Sakurauchi was as it were a "hired madam." If he were to spend money for his own faction (Nakasone faction), the Accounting Bureau chief would report it to the party president and he would be severely criticized by the other factions. Sakurauchi virtually relinquished his discretionary power as secretary general. That is probably why he was able to pay up the party debts.

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The secretary general's power is not limited to dispensing funds. As the real power in party affairs, he has enormous clout in extraparty affairs.

During the shipbuilding industry scandal in 1954, it became evident that Eisaku Sato, then secretary general of the Yoshida government's Liberal Party (Jiyuto), received 2 million yen from four shipbuilding companies in connection with the enactment of the shipbuilding interest and subsidy law, and Justice Minister Inukai exercised his command authority prior to Mr Sato's arrest. It is a well-known incident, but the secretary general has the most clout in bringing legislative bills and policies to fruition.

Jurisdiction Over All Personnel Affairs Except the Cabinet's

On 9 December last year, the three top party chairmen, including Nikaido, paid a courtesy visit to the heads of four financial organizations and held discussions with them. At the time, the financial leaders displayed fierce opposition to the proposal to increase corporate taxes (including a review of special tax measures, lowering of mortgage funds for bad debts and transfer rates of funds for retirement wages, and an increase of taxes on entertainment costs).

Nikaido responded: "The party will consider this issue independently," and he adopted a different posture from that of the government, which attracted attention at the time. Subsequent events showed that the government, which had originally expected increased revenue of about 450 billion yen from corporate taxes, eventually took in about 350 billion yen. It was a compromise of 100 billion yen, which was the result of opposition from Nikaido and others.

To give an ordinary example, it is not an overstatement to say that if the secretary general is against it, no bill or policy has a chance of being passed. Especially the Nikaido coalition, which has placed its people in posts ranging from Diet Policy Committee chairman to Diet Steering Committee chairman, has nothing to fear. The Suzuki cabinet is like a puppet regime of the Tanaka faction, and Nikaido's power surpasses that of Suzuki. In the 26-year history of the LDP, there has never been such a powerful secretary general. It is the first time a secretary general has outranked a party president (prime minister).

The official schedule of the LDP secretary general is as follows: Monday--meeting with leaders of the government party (noon); Tuesday--board meeting (10 am), Executive Council meeting (11 am); Wednesday--government party liaison meeting (noon); Thursday--various duties; Friday--board meeting (10 am), Executive Council meeting (11 am); Saturday and Sunday--trips to outlying regions (political, economic and cultural parties sponsored by prefectural liaison committees, etc).

In addition, a daily press conference is held at noon (at the Hirakawa Club) and a discussion meeting with the press once a week. The number of unofficial meetings is limitless.

"The secretary general's job is a tough one. Even I am extremely busy with my schedule. In any case, not a day passes without the secretary general's office being busy all day with visitors," Takeshita explained as he displayed a schedule pad full of appointments.

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Nonetheless, the most important task of a secretary general is, after all, decisions on personnel appointments other than those of cabinet members. There are intraparty appointments including parliamentary vice ministers, chairmen and vice chairmen of the subcommittees in the Political Affairs Research Council, the chairman of the Research Committee and the chairman of the Special Committee. There is also the selection of the chairmen of the Diet standing committees and the directors. There are more than 200 posts, and the secretary general is responsible for the designation of all LDP members of the Upper and Lower Houses, except for a few including the cabinet posts and the top three party chairmen.

Of course, like the appointment of cabinet posts, the selection of these posts becomes the center of factional differences and fierce competition.

Last year a fierce struggle evolved as usual between the factions over appointments to parliamentary vice ministerial posts.

"The first plan (on the distribution of posts) that was presented was simply unacceptable. The Tanaka faction had monopolized virtually all of the important positions" (Fukuda faction cadre).

Final talks on the selection of parliamentary vice ministers are held among the deputy secretary generals representing the various factions. In the case of the Lower House, a candidate for parliamentary vice minister must have been elected three times. In the case of the Upper House, a candidate who has been elected once but is qualified for reelection 2 years later is considered.

The most popular parliamentary vice ministerial posts are those which belong to class A, including the chief and deputy chief of the Secretariat, followed by the vice ministers of finance, international trade and industry, and agriculture and forestry. Those in class B are the vice ministers of construction, welfare, foreign affairs, and postal and telecommunications. Class C includes the vice ministers of education, transportation, defense (agency) and general affairs. Last year the parliamentary vice ministerial posts were allocated to the powerful factions in order and in accordance with the popularity of the posts.

"It appears that Mr. Nakaido had practically no involvement in the appointment of the parliamentary vice ministers. Even though Takeshita ostensibly had a hand, they were actually decided by Tatsuo Ozawa" (Nakasone faction cadre).

This was possible because the Tanaka faction controls the secretary general. Nonetheless, Messrs. Nakasone and Komoto are unhappy that the appointments went predominantly to the Tanaka, Suzuki and Fukuda factions.

#### Secretary Generals Have High Rate of Promotion

Although the Tanaka faction did make some compromises, the appointments to the directorships of the Political Affairs Research Council subcommittees were conducted under the leadership of the Tanaka faction. None of the subcommittee chairs were gained by the Nakasone faction.

It is stipulated in party rules that "the chairmen and vice chairmen of the council subcommittees are decided by the chairman of the Political Affairs Research Council



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with the approval of the Executive Council." However, Tatsuo Tanaka, the Executive Council chairman, was not consulted at all. The Fukuda faction protested to the prime minister's office, but it was too late to do anything.

Another important task of the secretary general is election policy. The General Affairs Bureau chief is the person who gathers data and information on a daily basis. The present bureau chief is Eisaku Sumi, but he is under the secretary general's jurisdiction.

The person who held the position of General Affairs Bureau chief in the LDP longest was Seisuke Okuno. He served for 4 years and was part of a famous pair, with Kakuei Tanaka. Okuno is said to have utilized his connections among former Home Affairs Ministry bureaucrats and he had an ear into trends in regional political circles. He not only fielded Shunichi Suzuki as governor of Tokyo Prefecture, but the recent appointment of former Home Affairs Ministry bureaucrats as heads of regional self-governing bodies is said to be due to Okuno's intercession. He is responsible for the collapse of reformist self-governing bodies.

Sumi is a former bureaucrat who served in the Labor Ministry but has connections among former Home Affairs Ministry bureaucrats. It will bear watching how he performs.

Relations with other parties are handled by the Research Bureau, which is also under the secretary general's jurisdiction. Gentaro Nakajima of the Fukuda faction is the new Research Bureau chief. His predecessor, Hiroshi Mitsuka, received a complaint from the "Society to Correct the Social Evils of the Sokagakkai" and he earnestly tried to summon Daisaku Ikeda to the Diet to investigate the Komeito's use of dummy votes. He eventually ran up against the Executive Board and failed. However, Mitsuka reportedly mobilized the Research Bureau employees in charge of the Komeito and collected "testimony" from 100 former members of the Sokagakkai who had actually used dummy votes.

The Research Bureau, which is comprised of groups of two or three members each from the various political parties, collects data and information in close cooperation with the mass media as well as with data-gathering government organs such as the Cabinet Research Office.

"When I was chief of the Research Bureau, I thoroughly investigated the election tactics of the Japan Communist Party. The LDP Research Bureau was inadequate, so I used data from the National Police Agency and the Public Safety Research Agency as reference. The Research Bureau's information must have contributed significantly to measures for coping with the opposition and to election measures" (cadre Diet member and former Research Bureau member).

Various kinds of information are thus forwarded to the secretary general.

The LDP's election measures and the selection of candidates are carefully considered on the basis of such information. In particular, new and promising candidates are grabbed up by the secretary general's faction.

This is made clear when one analyzes the winners from the most powerful factions. The Tanaka faction has the most five-time winners, with 14. Of these, two (Tokujiro Kosaka and Eiji Nonaka) are "outsiders" who recently joined the Tanaka faction, but

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the remaining 12 were elected during the 1969 general elections when Kakuei Tanaka was secretary general.

The Nakasone faction has the most three-time winners, with 10 who were elected during the 1976 general elections. Nakasone served as secretary general until the eve of the elections.

The Suzuki faction (Ohira faction) has the most two-time repeaters, with 12 who were elected during the 1979 general elections, at the time Ohira was prime minister. He had himself served as secretary general for 2 years in the Fukuda cabinet, but after taking over the government and appointing his henchman Kunikichi Saito as secretary general, he took charge of the general elections himself. This resulted in the elections being run by the party president and the secretary general together.

Meanwhile, problems sometimes arise out of petitions for public endorsement from factions other than the secretary general's faction. For example, if the secretary general's faction fields a newcomer candidate and there is a profusion of candidates from the other factions, a situation arises where coordination becomes impossible. "In a case where it is disadvantageous to the secretary general's faction, no amount of effort can convince him to convene the Election Policy Committee. In the meantime, an unofficial announcement is made. In my case, I was unable to coordinate the situation because of the profusion of conservative candidates, but after the start of the election campaign, only candidates of the secretary general's faction received party certification. It was a great handicap and I had a most difficult time. It is my dream to become secretary general some day and pick candidates for public endorsement" (young Diet member).

Secretary General Steppingstone to Party President

The secretary general is truly almighty as far as party operations are concerned. The feelings of the LDP Diet members in wishing to "become secretary general some day" is understandable.

A look at the list of secretary generals since the conservative merger in 1955 reveals that there has been a considerable change in accordance with the conditions of the times.

The 10 prime ministers under the LDP aegis are: Ichiro Hatoyama, Tanzan Ishibashi, Nobusuke Kishi, Hayato Ikeda, Eisaku Sato, Kakuei Tanaka, Takeo Miki, Takeo Fukuda, Masayoshi Ohira and Zenko Suzuki. Among them, only Ishibashi and Suzuki never had experience as secretary general. It is no wonder that the secretary general is considered a stepping stone to party president.

However, during the 26-year history of the LDP there have been 15 secretary generals. They are: Nobusuke Kishi, Takeo Miki, Shojiro Kawashima, Takeo Fukuda, Shuji Masutani, Shigezaburo Maeo, Kakuei Tanaka, Shigeru Hori, Tomisaburo Hashimoto, Susumu Nikaido, Yasuhiro Nakasone, Tsuneo Uchida, Masayoshi Ohira, Kunikichi Saito and Yoshio Sakurachi. Among them, five went on to become prime ministers and party presidents. They were Kishi, Miki, Fukuda, Tanaka and Ohira. Their tenures vary, but their experiences as secretary general did not automatically open the way to the post of prime minister.

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I would classify the 15 secretary generals into five groups.

The first group would be categorized as the prewar or "party man type." Shuji Masutani, Shojiro Kawashima and Shigeru Hori belong to this category. They considered being secretary general the highest honor as a party politician, did not entertain any ambitions to become prime minister and party president, and merely endeavored to use their political abilities to the fullest.

The second group would be called the "ruler type." By becoming secretary general they cut their paths to the post of prime minister and party president. Nobusuke Kishi, Kakuei Tanaka and Takeo Fukuda belong to this category. Although they were all different, Kishi and Tanaka used their authority as secretary general to the hilt in cultivating their own factional power and could be called the "self-cultivating type." Fukuda could be said to have used service as secretary general under Kishi and Sato as a "period of learning" in order to become prime minister.

The third group gave priority consideration to intraparty affairs of the LDP and would be called the "guardian deity type." Takeo Miki, Yasuhiro Nakasone and Masayoshi Ohira belong to this category. Miki was secretary general during the Ishibashi and Ikeda regimes. During the Ikeda administration, when a bogged-down factional strife occurred in the party president public election prior to Ikeda's election to a third term, Miki, who was chairman of the Organization Research Council, drafted the "Miki reply" on party modernization centering on the dissolution of factions and was appointed secretary general to implement party modernization. He was probably a secretary general who was born not by the will of the party president (Ikeda), but from factional strife.

Nakasone served as secretary in the Miki cabinet, which was born as a bolt from the blue when Tanaka resigned because of money politics. Like party president Miki, he was nominated by Deputy President Etsuzaburo Shiina, but he really owed his appointment to Tanaka's money politics.

Ohira was secretary general in the Fukuda cabinet. Since the advent of the "Fukuda-Ohira coalition" was instrumental in forcing the resignation of the Miki cabinet, a formula of divided rule was agreed upon with Fukuda regarding the cabinet and the party. It was the most stable period since the Sato administration in terms of a balance of power.

However, in the preliminaries of the November 1978 party president public election, Ohira turned the tables on Fukuda to win by gaining the full support of the Tanaka faction. Nonetheless, he is a good example of the power held by a secretary general.

Incidentally, during his tenure as secretary general Ohira appointed Kunikichi Saito as the senior deputy secretary general and Masayoshi Ito as the Finance Bureau chief, thus garnering the top party posts for the Ohira faction.

Maeo and Hashimoto Were Selfless and Dedicated

The fourth group are classified as the "head clerk type." Shigezaburo Maeo, Tomisaburo Hashimoto and Kunikichi Saito belong to this category. Although he served only for a short period, Nikaido was in this category toward the end of the Tanaka government.

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Each member of this group served with selfless dedication as the righthand man to the party president. From the standpoint of the principle of the party cabinet system, this type is probably the ideal secretary general.

Maeo, who was secretary general in the Ikeda cabinet, had a relationship of highest trust with Ikeda. His actions were deemed by not only the Ikeda faction but also by the entire party to represent Ikeda's will, and there was not an inch of cleavage between the two. No other party president and secretary general have been so closely united.

In comparison to Maeo, Hashimoto was also in unison with the party president (Tanaka), but in many respects he was under Tanaka's command and acted more like a puppet. There is doubt as to how much he exercised his authority as secretary general and acted under his own volition. Of course, it probably stemmed from Tanaka's strong personality as party president and, at the same time, no one except Hashimoto might have been able to serve under Tanaka.

Nikaido was secretary general for less than a month and his tenure ended without any achievements as secretary general. However, if his tenure had been longer, he might have demonstrated his ability as a "head clerk type" of secretary general like Maeo in the Ikeda cabinet.

Kunikichi Saito became secretary general with the advent of the Ohira government. He was the only secretary general to ignore the rule of "separation of the party president and the secretary general" (to avoid the appointment of a secretary general from the party president's faction), which had been an understanding within the party since the start of the Miki cabinet.

Ohira's view was that "the understanding on the separation is applicable when the party president is chosen by mutual consent, but it is not when he is picked in an election (in this case, a preliminary election)." He advocated the unity of the party president and the secretary general. At first, Zenko Suzuki was proposed as the candidate for secretary general, but there was fierce resistance from the Fukuda, Nakasone and Miki factions, and the less controversial Saito was appointed. Of course, later developments indicated that Saito was probably Ohira's real choice.

Saito had served as the ranking deputy secretary general under Secretary General Ohira in the Fukuda cabinet, and Ohira had been impressed with Saito's capability.

Is Nikaido the "Fruitless Flower" of the Lockheed Scandal?

Finally, the fifth group would be classified as the "practical type." Tsuneo Uchida and Yoshio Sakurachi belong to this group. Both served as secretary general since the Miki government and were products of the understanding on the separation between the party president and the secretary general.

Of course, Ohira and Nakasone were both secretary general under the separation understanding also, but in their cases the party president was not particularly enthusiastic about their appointment and was more or less obliged to select them because of intraparty circumstances.

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In this respect Uchida and Sakurauchi were picked by the party president under similar circumstances as alternatives under the separation understanding. These two did not have any strong factional attachment and were chosen for their dependability rather than their political acumen.

On the other hand, when intraparty struggles occur, they tend to lack powers of coordination and arbitration because of an inadequate factional base. Therefore, the "practical type" cannot avoid the fate of being a "lightweight secretary general."

Meanwhile, to which group does the present Secretary General Nikaido belong? As a matter of form, the principle of separation between the party president and the secretary general undoubtedly applies, but he is different from the "guardian diety type" represented by Ohira and Nakasone. The reason is that there is no intraparty factor which makes Nikaido an inevitable choice as secretary general. On the other hand, neither is he a practical type like Uchida and Sakurauchi.

Based on the circumstances surrounding his appointment, Nikaido could be said to be a new type of secretary general. Of course, it may sound paradoxical, but it would be a different story if one thought that party President Suzuki had sold himself to the Tanaka faction. Considering the circumstances when he turned the party completely over to the Tanaka faction, this theory makes sense. However, since Nikaido does not consider himself as Suzuki's clerk or follower, he does not belong to the "head clerk type."

Although Secretary General Nikaido can only be analyzed on the basis of results, he certainly has extremely "drastic" attributes worthy of being described as an "LDP-jack breed" of secretary general.

Is Secretary General Nikaido a "fruitless flower" who has appeared on the scene as a last resort amid critical circumstances pointing to a certain Tanaka conviction in the Lockheed trials? It must have been a desperate chance taken by party President Suzuki. There is no telling but that he might overcome the Lockheed affair, succeed in reelecting Suzuki and become a "secretary general with a contract for the party presidency." The political direction by the end of the year should clarify this point.

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SCIENCE AND TECHNOLOGY

EXTENT OF COOPERATIVE VENTURES WITH FOREIGN COMPANIES NOTED

Tokyo SHUKAN TOYO KEIZAI in Japanese 26 Dec 81-2 Jan 82 p 108-119

[Text] Japanese industry has been criticized for not having originality and for importing all its basic technology. But the level of its technology and managerial capability has reached top world rank. There have been repeated efforts to change the humiliating unequal contracts common a short time ago, and a correct evaluation of Japanese industry is being established. At the same time, Japan has advanced further, and the world is amazed at the high technology and the high level of production and of production control technology in Japan. On the basis of this technology, Japanese industry is now in a position to take the initiative, and new international collaborative relationships are being established. This situation is examined below.

--Fujitsu-ICL: Era of U.S.-Japanese Confrontation Heralded by Technological Assistance to Europe

On 7 December, a technological assistance agreement was signed in London between Fujitsu and the British firm ICL (International Computer Limited). It contained the following provisions. 1) The use of Fujitsu technology will be allowed in the large computer to be developed by ICL, and Fujitsu will build the main computer. 2) Fujitsu will develop and supply the LSI's to be used in the small computer being developed by ICL. 3) ICL will market Fujitsu's newest ultra-large-size computers, the M380 and M382, and sell them under its own brand. 4) Fujitsu will continue to offer technological cooperation to ICL in the future.

ICL is the national British computer manufacturer. It expanded on the basis of government financial assistance and a government "buy British" policy and kept IBM's market share under 50 percent.

However, ICL has been unable to keep up with the rapid tide of technological innovation. With the added problems of a rising pound and inflation, its profits decreased in 1980. Then, beginning in January 1981, the government abandoned its policy of preferential purchasing and orders fell off. More than 5,000 employees were laid off in May 1981, and the company was in the red by 40 billion yen at the end of the accounting period ending in September 1981.

In order to cope with these difficult circumstances, ICL began to look for a tieup with a foreign manufacturer, and sought a partner. Initially it negotiated

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with Sperry Univac and CDC of the United States, but it was unable to reach agreement on terms and the negotiations were broken off. Then the nod went to Fujitsu. There was an inquiry from the British Government when former Minister of International Trade and Industry Tanaka visited Britain in June, and that led to the signing of an agreement.

#### The Influence of Fujitsu's Track Record

As is well known, the computer industry giant, IBM, dominates 60 percent of the world market. Its great power has forced even huge corporations like RCA and GE to retreat.

Among IBM's competitors, only the Japanese manufacturers have been able to put up a good fight. Of these, Fujitsu has pursued a policy of building IBM-compatible equipment and has developed high-performance equipment which surpasses that of IBM. It beat IBM Japan in domestic sales in 1979.

It has also begun to expand substantially abroad. It confronted IBM head-on over an order from the Australian Statistics Bureau in 1979 and succeeded in getting the contract. It also succeeded in OEM exports of large machines to Siemens of West Germany beginning in 1978, and it has replaced IBM in many parts of West Germany. It is gradually breaking down the fortress of IBM in other areas of the world by such means as strengthening a tieup with the Amdahl corporation of the United States and concluding a market agreement with TRW.

ICL took note of these achievements of Fujitsu. The advantages of the tieup for ICL include a reduction in the huge amount of development expenses and the development time period that would be necessary for developing a large computer. ICL's operations have been going badly, and the advanced technology which will be provided by Fujitsu will make it possible to avoid the risks of development and facing immediate competition directly with IBM.

For Fujitsu, there are "intangible merits" (according to President Yamamoto). It will be able to move into a new market, that of Great Britain, and this fits in with the strategy of building a net around IBM.

Also, we should not overlook the fact that the export of technology rather than products alone is a way of overcoming trade friction.

The problem is whether the rebuilding of ICL itself will get on track. Failure in computer development means elimination from the industry. It can be very serious. Therefore, Fujitsu is not providing any financial assistance. It is avoiding any risk as much as possible. British Minister of Industry Jenkin says: "We welcome the tieup with Fujitsu and will support ICL." However, the development of this tieup is being watched to see how things will actually come out.

In any case, the fact that a Japanese manufacturer is supplying technology to ICL, the largest computer manufacturer outside of Japan and the United States, means that a period of U.S. and Japanese dominance and confrontation has begun in the advanced technological field of computers.

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--Honda Motor Industry-BL: A Compressed View of the Turnaround in Power Relationships Between the United States, Europe, and Japan in the Automobile War

A technological collaboration agreement was concluded in January 1979 between Honda Motor Co (Kiyoshi Kawashima, president) and BL (the old British Leyland; Michael Edwards, president) of Great Britain.

The initial provisions of the collaboration were that Honda would provide BL with a manufacturing license for a type of passenger car being developed by Honda, and BL would pay royalties to Honda on a yen basis.

Subsequently, the Ballad (called the Triumph Acclaim in Britain) was decided on as the model to be produced. In the spring of 1981, Honda began to supply the engine, transmission, and instrument panel of the Acclaim (1.3 liter) to BL, and BL began production in June at the Cowrie plant in Oxford, England.

For several years now, the European market share and production volume of BL have been dwindling. It sustained net losses of 55.1 billion yen in 1979 and 206.1 billion yen in 1980. The survival of the company was in danger. Because of this, it was attempting to find a way out by producing the Minimetro (1 liter class), developed by BL, and the Acclaim, with technological assistance from Honda Motor Co, backed by several hundred million dollars in assistance from the British Government.

From Honda's point of view, the underlying reason for this technological assistance was to smooth the path for marketing activities in Europe, the next largest market after the United States, since Honda has a high rate of export (a little less than 74 percent for the accounting period ending in September 1981). But the most prominent aspect of the tieup was the rescue of BL.

The Second Step: Joint Development

However, the tieup between the two companies is about to enter a new phase.

The Acclaim went on sale on 7 October and has begun selling favorably. With sales of 3,279 cars in October, it was the fourth best-selling car in Britain. In November, 2,684 were sold, putting it in seventh place. Beginning in the middle of November, the production system at the Cowrie plant was expanded to two direct lines, and there are plans to begin exporting the car to the European market early in 1982 and to expand production to 85,000 vehicles annually by 1983.

With this as a basis, Honda and BL agreed to jointly develop a luxury passenger car to go on sale in 1985. A memorandum was signed on 2 November.

Public announcements so far have only stated that the production model will be a higher class car than the Honda Accord and lower than BL's best model, the Jaguar. It is likely to be a 2-liter class executive car (the West German BMW is a representative model of this type).



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Project teams have started working in both companies. A joint conference will be held as early as 1982 to begin examining specific details of development, production, and sales. A formal agreement will probably be made in early fall.

This expansion of the collaborative relationship will compensate, in the form of joint development, for BL's lack of development funding and technology. For Honda, it spreads out the high investment risk in its four-wheeled vehicle section over that which would be incurred with independent development and makes it possible to expand the product lineup. The initial tieup was tipped toward the rescue of BL, but in the second step it has moved up to a more businesslike relationship.

However, even in the present collaboration, Honda has not agreed to a capital relationship. This is based on the judgment that "a corporation is moved by people more than by a ruling relationship and being ruled through capital" (President Kawashima). We should probably see here the operation of Honda's first-class rationalism and cautious calculation. It will not have to get deeply involved in case difficulties arise.

Previously, Nissan received technological assistance from BL for a passenger car (the Austin). When we consider how the technological foundation of today's automobile production was built up, the tieup between Honda and BL is truly a miniaturized picture of a reversal of the power relationship between Japan and the advanced countries of Europe and the United States. Also, while the Japanese, U.S., and European auto industries are expected to continue to have a relationship of closely following each other, the working out of the Honda strategy is being watched as one direction of development.

--Nippon Kokan-Ford: A Symbolic Example of Assistance in the "Resuscitation" of the U.S. Steel Industry

The Japanese steel production technology is now labeled the best in the world. The steel manufacturers of the United States and the countries of Europe, which are advanced steel countries, are actively importing Japanese technology, trying hard to find a way to resuscitate their steel industries. A typical example of this is the technological cooperation agreement between Nippon Kokan and Ford unofficially concluded at the beginning of February.

Ford is the only company among the U.S. auto industry's big three which has a steel plant and maintains a complete production system beginning with steel. This steel plant is located in its Dearborn, Michigan automobile plant and is called the River Rouge Steel Plant.

With three blast furnaces, an annual capacity of 3.6 million tons of crude steel, and 6,000 employees, it is the ninth largest steel plant in the United States. Its main product has been sheet steel for car bodies. However, it has lagged behind in development of high-tensile strength sheet and surface treated sheet, which are keys to the lightening of auto bodies. Inhouse consumption is less than 30 percent and the rest is sold outside in such forms as hot coils. At present, Ford is purchasing much of the sheet used for its auto bodies from other steel manufacturers.

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Therefore, Ford decided to rationalize its unprofitable group of plants by separating and building up its steel division. In order to do this, it decided to make the steel plant independent and to begin operating it as "Rouge Steel" on 1 January 1982. It has reportedly already reached agreement with the UAW concerning a reduction in the capital level of the steel division.

It plans to improve its facilities and strengthen its sheet steel for use in automobiles, such as surface treated sheet, through technological assistance from Nippon Kokan and to raise the inhouse consumption rate for sheet steel to more than 50 percent. The official signing of the technological cooperation agreement between Nippon Kokan and Rouge Steel will take place in January 1982. Under this agreement Nippon Kokan will export both the hardware and the software for continuous casting and will construct the facilities. Hitachi Shipbuilding and Engineering Co will deliver the equipment and instruments. Nippon Kokan will take care of engineering and provide guidance for operation.

Funding of 100 billion yen will be necessary to modernize the steel plant, and Ford does not have the capacity right now to make that much of an investment. It will cost 35 billion yen for continuous casting facilities alone. Mitsubishi Shoji and Moran Guaranty Trust will apply loans from the Export-Import Bank of Japan to this, and Ford will lease the facilities. There is speculation concerning capital participation by Nippon Kokan, but this has not yet been determined.

This kind of technological assistance, equipment export, and licensing provided to American and European manufacturers has increased greatly during the last several years. Taking only the conspicuous examples in the United States, we find that Nippon Kokan has participated in technological collaboration or technological exchanges with Kaiser Steel, National Steel, and Inland Steel and has provided a license for the continuous casting process to Bethlehem Steel.

Japan Steel Corp has participated in technological exchanges with U.S. Steel, Armco, and Bethlehem Steel, and Nippon Kokan and Armco have small holdings of each other's stock. In addition to this, Kawasaki Steel is providing comprehensive technological cooperation to Republic Steel, and Sumitomo Metals and Kobe Steel are also exporting equipment.

The Japanese steel industry achieved its present position by importing technology and the latest facilities from Europe and America in the years from the late 1940's to the early 1960's. Now it is providing technological guidance and helping to rebuild the industry in the United States. It is like a modern version of a folk tale about returning favors, but this is one aspect of the new era of U.S.-Japanese collaboration.

--Toray-UCC: Strongest U.S.-Japan Alliance Dominates the Carbon Fiber Market

The world's civilian aircraft entered a period of renewal in the 1980's. A demand for over 5,000 planes is expected over a 10-year period. Therefore, the demand for carbon fibers as a structural material for aircraft is also very likely to increase dramatically.

The B 767, which will go into service in 1982, uses about 1.5 tons of carbon fiber reinforced parts (CFRP) per aircraft. Also, the YXX (next-period civilian

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cargo aircraft) is expected to use nine tons of carbon fiber reinforced parts per aircraft.

Because over 1,000 of the B 767's alone will be produced, the demand for carbon fiber reinforced parts will expand tremendously. Therefore, facilities for high quality PAN (polyacrylonitrile) type carbon fibers are being continuously expanded. But for the time being, the world fiber market is being led by the Toray-Union Carbide (UCC) alliance.

In 1969, Toray commercialized the PAN-type carbon fibers under a patent of the Agency of Industrial Science and Technology, and since then, it has led the world. UCC was first in the world to commercialize carbon fibers from rayon and has a great deal of interest in carbon fibers.

The history of collaboration between Toray and UCC goes back a long time, to April 1970. Initially, there was a cross-licensing of Toray's technology for making the raw thread of carbon fiber and UCC's heating process technology. At the same time, UCC began marketing Toray's carbon fibers under the brand, "Sonel."

In January 1979, Toray provided its production technology (for a fee) to UCC for PAN-type carbon fibers (complete technology from synthesis to spinning and heating). Based on this, UCC built a plant (with a monthly capacity of 30 tons) in Greenville, South Carolina which was completed in December 1981.

Toray produces 45 tons of carbon fibers per month and exports two-thirds of that, or about 30 tons, to the United States. Even when UCC's new plant goes into operation, there will soon be a shortage of capacity because of the expanding use of carbon fibers in civilian aircraft.

Therefore, Toray is building a very large-scale line capable of producing 60 tons monthly in its Ehime plant (with an investment of 6 billion yen). This is scheduled for completion in June 1982. UCC is also watching the movement of demand and showing intentions of expanding facilities for PAN-type carbon fibers.

That is not all. The Toray-UCC alliance is carrying out a plan to join with the El Factice [Phonetic] company of France and build a PAN-type carbon fiber plant with a monthly production capacity of 25 to 30 tons in southwestern France. This plan is expected to take shape by the spring of 1982, and operations should begin by 1983.

By this means, a beachhead will be established in France to supply the aerospace industry of France, which is second only to that of the United States.

As a result, the Toray-UCC group will have a carbon fiber supply system with a capacity of at least 160 tons per month by 1983, which will be solidly in first place in the world.

This is a skillful combination of Toray's PAN-type carbon fiber technological strength and Union Carbide's marketing strength in the U.S. aerospace industry. It is undeniable that Toray seems to be in a superior position.

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On the other hand, Toray can import production technology from UCC for pitch-type carbon fiber (poorer in quality than the PAN-type but much cheaper) at any time, so it is in a position to work with the automobile industry which is seen as the next most promising demand source after the aerospace industry.

For some time, it is certain that the market for both PAN- and pitch-type carbon fibers will develop around an axis of Toray and Union Carbide.

--Toshiba, Hitachi-GE and Mitsubishi Heavy Industries-Westinghouse: Stronger Japanese Position in Agreement on Improved Atomic Reactors

"The ease of concluding the present agreement is the best proof that the old agreement produced good results over the last 15 years and functioned smoothly and well." This statement of extreme satisfaction was made by GE Vice President Betram Wolf when he visited Japan to conclude a new technological agreement with Hitachi and Toshiba on 10 January for boiling water reactor technology.

The old agreement between GE and Hitachi and Toshiba was a one-way licensor-licensee agreement. The new agreement has progressed to a cooperative arrangement in which information is to be exchanged in all areas, including design, parts, and manufacturing, from the development stage on. The methods of information exchange have been limited in the past to documents and telexes. Now it will become possible for the personnel involved in technology to exchange opinions over the telephone.

Up until a few years ago, GE often responded to Japanese inquiries by saying: "That comes under GE patent rights, so we cannot give an answer." Then it would be necessary to call in GE's technicians for analysis of ultimate causes of accidents and corrective action. When we recall this situation, the change in GE's attitude is amazing.

According to Vice President Wolf: "We are now equal partners with Hitachi and Toshiba." The royalties paid to GE by Hitachi and Toshiba have been "greatly" reduced.

This new agreement actually took effect with 1 month of the effective term of the old agreement remaining. The reason the three companies rushed to put it into effect was that they wanted to proceed with the development of an ABWR (advanced boiling water reactor) as soon as possible under a new agreement.

The world's largest user of the BWR, Tokyo Electric, took the lead in mobilizing GE, Toshiba, and Hitachi to develop an ABWR which would be a Japanese version of the BWR. The aim is to improve operability, reliability, and resistance to earthquake tremors by: 1) improvements in the core and fuel design, 2) incorporation of the recycling pump inside the pressure container, 3) electrification of the control rod drive mechanism, and 4) use of a concrete container. The development period is 5 years. The development costs of 15 billion yen will be split equally between the electric company and the manufacturers. GE will bear one-fourth of the manufacturers' share of the costs, and the remainder will be borne by Hitachi and Toshiba. The percentage of development costs borne by a company ordinarily relates directly to its share

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of the development, so in this case Toshiba and Hitachi are in a slightly superior position in relation to GE.

At the same time, development of an APWR (advanced pressurized water reactor) has been started by an international consortium made up of Mitsubishi Heavy Industries, which has monopolized supply of the PWR in the Japanese market; Westinghouse, the PWR licensor; and Bechtel, the world's largest engineering company. The selling points of the APWR are: 1) improved large core, 2) high performance fuel development, and 3) improved vapor emitting mechanism. Mitsubishi's basic policy in the past has been: "It may be dangerous to play around with imported technology. Until all the bugs are worked out, we will follow (Westinghouse's) design faithfully." So the present arrangement is a 180-degree turnabout.

Furthermore, according to Mitsubishi Heavy Industries Executive Managing Director Jutaro Iida: "The basic policy is that Mitsubishi Heavy Industries will make decisions based on the needs of the electric company and use Westinghouse as a 'teacher'." It will do more than just "use" Westinghouse. Mitsubishi Heavy Industries was planning to undertake the entire development itself as of the end of 1980. This high spiritedness is formidable. The turnabout in the power relationship between Japan and the United States for both the BWR and the PWR is due partly to the maturation of the nuclear production technology of Japanese industry. But it also results from the fact that the market for nuclear power in the United States has been "destroyed," so the American licensors are forced to rely on the Japanese market. The 1980's will certainly be "the Japanese age" as far as nuclear power is concerned.

--Yasukawa Electric-Torstechnique: More Active Exporting of Arc-Welding Robots with Technological Collaboration as a Weapon

Japanese robot manufacturers are actively moving overseas through technological collaboration with foreign corporations. Robots were originally developed in the United States and the technology was imported. They were first introduced in Japan around 1967. At that time, foreign manufacturers such as Barsatran [phonetic] and Unimation had absolute technological superiority. Kawasaki Heavy Industries, for example, formed a technological collaboration with Unimation and began domestic production of robots, but there were many manufacturers who continued development with domestic technology and did not rely on foreign technology. One of these was the number one manufacturer of arc-welding robots, Yasukawa Electric Manufacturing Company.

Yasukawa Electric has world-class motor technology. Most robots rely on hydraulic pressure as a drive source. The hydraulic pressure system has high speed, but it is inferior to an electrical system in accuracy of positioning. Due to progress in servo motor technology, it became possible to develop a new multijointed type of arc-welding robot, and Yasukawa now holds 70 percent of the market in this field.

Yasukawa Electric has been very active in overseas activity because of its overwhelming strength in the field of arc-welding robots. Yasukawa's arc-welding robot, which utilizes servo motor technology, gives high accuracy in positioning

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and excellent reliability. It does not break down even after long periods of operation. In these areas, foreign manufacturers simply cannot compete.

Recently, foreign manufacturers, especially in the automobile industry, have been increasingly interested in introducing robots, and Yasukawa Electric has also received many tieup offers from foreign manufacturers.

The special feature of Yasukawa's tieups with foreign manufacturers is that the other parties are mostly welding machine manufacturers. Robots are imported from Yasukawa, fitted with the other companies' own welding equipment, and then sold to auto makers.

The most successful of these cooperative ventures is the technological tieup formed in 1978 with the Torstechnique company of Sweden. This company is an engineering company, but Messergrishelm [phonetic] of West Germany (tieup formed in 1979), Alcos [phonetic] of Italy (tieup formed in 1980), and Hobart of the United States (tieup formed in 1980) are all welding equipment manufacturers.

Technological cooperation has also been carried out actively in 1981. A tieup was made in June with Feado [phonetic] Robot Systems. Two others were made in August with Barrows Engineering of South Africa and A.N.I. Perkins of Australia. These tieups are for the most part made with companies having strong engineering capabilities.

There have also been inquiries from India where there is a shortage of skilled welders, and there will probably be increased cooperation with Australian companies related to the auto industry.

Exports in 1981 will probably grow from the 60 units initially planned to 140 units. Over the long term, the company is aiming at a 2:1 ratio of domestic to export business (now about 20 percent), so the movement toward foreign tieups is likely to continue. In the future, the company plans to broaden the range of its foreign tieups beyond the arc-welding robot field on the basis of its success in this area.

--Asahi Glass-Dow Chemical: A Dynamic Strategy for Cooperative Ventures in Ion-Exchange Membrane

Asahi Glass is making repeated exports of technology for its ion-exchange membrane, "Flemion," which is used in the electrolysis of soda. Beginning with PPG of the United States in 1977, it exported technology to Olin in 1978, ICI of Great Britain in 1979, Uhde G.m.b.H. of West Germany (an engineering company affiliated to the Bayer, Hoechst and BASF group). And in 1981, it exported technology to the largest chemical company in the world, Dow.

Then in September 1981, it concluded a cross-licensing agreement for film with the membrane manufacturer Du Pont. This required a very large technology fee, referred to as a "conciliation fee," and was in reality a technology export arrangement.

There are also cooperative ventures with many other companies now under negotiation or at the inquiry state.

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Methods for electrolysis of sodium hydroxide include the mercury method, the asbestos dissolving membrane method, and the ion-exchange membrane method. The mercury method can no longer be used because of pollution problems, and some manufacturers have switched to the dissolving membrane method, but there are many problems in quality (contamination of table salt) and yield of soda. So finally, the only resort is the ion-exchange membrane method which produces good quality and is energy-efficient.

A central concern is the membrane. The special features of the Asahi Glass "Flemion" are: 1) 35-40 percent high-density soda can be obtained. 2) It is energy efficient with low electrical resistance. 3) It is mechanically strong with high resistance to heat and chemicals. These merits have led to frequent export of this technology.

#### System Orders

The strong point of Asahi Glass is not just the membrane but a high-efficiency soda electrolysis system, "AZEC." This system employs a new electrode and special electrolytic tank construction along with the "Flemion" membrane. It requires only 2,000 kilowatts of electrical power to produce 1 ton of soda (when the volume of steam heat required to raise the soda density is also converted to electricity). This is close to the minimum limit. This is a great savings when compared to the 3,000 kilowatts required by both the mercury method and the dissolving membrane method. It even beats the 2,500 kilowatts generally used in the ion-exchange membrane method and the 2,300 kilowatts attained with the SPE method by Denola [phonetic] of Italy which was once the subject of worldwide attention. We can say that the possibility of exporting ion-exchange membrane technology arose on the basis of the AZEC system.

Why was Asahi Glass able to develop this system? According to Osamu Shirogami, the director of the technological development office: "Our accumulated experience of 50 years in table salt electrolysis, 20 years with ion-exchange membranes, and 17 years with fluorine is very important." The "Flemion" membrane uses fluorine resin as a base material combined with carboxylic acid. It is given a special surface treatment so that chlorine and hydrogen produced during electrolysis will not adhere to it. This knowhow is not simple. Dow does not have much experience with fluorine chemistry, and while Du Pont has expertise with fluorine, it does not have the electrolysis technology. ICI and Hoechst have the fluorine and electrolysis knowhow, but not the exchange membrane technology. The key to Asahi Glass's success was that it was the only company that met all three requirements.

According to Yasuo Nakaide, general manager of the chemical products division: "In the future, technical assistance ventures involving the entire AZEC system will increase, including use of the system in chemical projects in Canada and Indonesia.

In addition, Asahi Glass is increasing its international activity in both technology and capital investments in other areas. Between 1977 and 1979, it exported technology for combination glass to be used in automobiles to several European companies, and in 1981 it bought two European glass companies. Together

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with the electrolysis system exports, these developments suggest the beginning of a new era.

--Victor Japan-Telefunken: Aggressive Joint Ventures in Europe and the United States Using the Weapon of Superior Video Technology

The Victor Company of Japan has built up two large-scale international cooperative relationships using its video development methods in an attempt to restore its flagging overseas strategy at one stroke.

One is a joint venture for production of VTR equipment, video cameras, and video displays formed with Telefunken of West Germany, Thomson-Brandt of France, and Thorn [phonetic] EMI of Great Britain. The other is a joint venture for production of video disks formed with GE of the United States, Thorn [phonetic] EMI of Great Britain, and Matsushita Electric Industrial.

These two ventures are being undertaken with the important video manufacturers of several countries. What they have in common is the technological superiority of Victor Japan as the developer and manufacturer of the VHS type VTR system and the VHD video disk. Victor has already carried out OEM supply of VTR equipment to Thorn, Telefunken, and Thomson, and Matsushita has had a similar relationship with GE. Therefore, these ventures are partly the product of an international family using Victor's systems created on the basis of unified international standards.

The world VTR market is split between the VHS system and Sony's Beta system. The VHD system has also been established as one of three major video disk systems along with Phillips-MCA's optical system and RCA's CED system.

VHD Programs was set up as a joint venture with Matsushita, GE, and Thorn (with Thorn taking managerial responsibility) to produce and sell software. VHD Disk Manufacturing was set up with the same arrangement to manufacture the disks. VHD Electronics, (a three-company joint venture, excluding Thorn) was set up to manufacture players. These companies were established with the aim of simultaneous expansion in Japan, Europe, and the United States beginning in the latter half of 1981. However, because of delays in software production and mass production of disks, the start of sales will be postponed until April 1982 in Japan, June in the United States, and June or July in Europe. So VHD is falling behind the optical system and the CED system.

Furthermore, these two systems already on the market are having difficulties. The building up of a video disk market will not be easy. How well Victor Japan can make up for the delay in software and disk production will have a great effect on the success of the international collaboration and the formation of this business family.

Uncertainty Over Thompson Nationalization

Although the video disk venture is a Japanese-European-American cooperative venture, including Matsushita Electric, the four-country joint venture can be described as a Japanese-European video alliance under the leadership of Victor



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Japan. The Europeans were behind in development of the growth product, VTR, and were having difficulty in coping with a soft market in consumer electrical products and the assault of Japanese exports. Victor Japan wanted to internationalize its production bases and avoid trade troubles. These factors came together in producing this cooperative venture.

In addition, Victor, which is providing technological assistance and supplying parts, and the Europeans will carry out joint production and mutual supply of products on a three-country basis. This is almost unprecedented and is one reason that MITI, which is promoting the avoidance of trade friction and urging internationalization in Japanese trade, is supporting this venture.

First, the four companies will set up a joint venture company in a third European country with equal investment. Telefunken will be in charge of VTR, Thorn will take care of video display equipment, and Thompson will direct video camera production. It has been agreed that subsidiaries of the joint venture company will be created for each of these functions.

However, Thompson has been targeted for nationalization under the policies of the Mitterand government, so the start of operations has been delayed far beyond the original date of July 1981. In addition, Phillips and Sony have reportedly approached France about joint VTR production and are checking the operation of the four-company joint venture. Therefore, Thompson's participation is still uncertain. However, the basic policy remains unchanged and it is likely that the solution will be to begin production of VTR equipment in Berlin in the fall of 1982.

--Makino Milling Machines-Le Bronde [phonetic]: A Symbol of the Turnabout in the U.S.-Japan Technological Gap in Connection with the Automation Revolution

Makino Milling Machines was successful in acquiring management rights in the Le Bronde Company (Cincinnati, Ohio, United States). This company, established in 1887, is an old and well-known company in the American machine tool industry. It is a large company which specializes in manufacturing lathes, such as numerically controlled and multiple-use lathes, and is the third or fourth largest company in the industry in the United States.

Its yearly trade volume is estimated at about 100 million dollars. There are 1,000 employees in the main company in the United States, and it has a subsidiary in Singapore with 500 employees. In number of employees it is larger than Makino. (Makino has 730 employees in its main company.)

Until 4 or 5 years ago, it would have been "unthinkable even as a dream" (company official) for a Japanese machine tool company to swallow up an old, large American company.

The Le Bronde Co was unable to keep up with the steadily advancing technological revolution from numerical control (NC) to machining centers (MC) and other types of numerically controlled machines. In particular, it is said to have been unable to stand up against the new types of Japanese machine tools. Therefore, it began looking for a Japanese partner.

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Makino, on the other hand, had begun serious expansion into overseas markets just after the first oil shock with the goal of a 30-percent export rate. It sought to join together with a local company to create an overseas base, and its first such venture was a 25.1-percent capital participation in H and H (Heidenreich and Habeck).

As a second venture, it began to seek a partner in America. It had already established a local corporation, Makino USA, as a base for sales and service, but it lacked strength for substantial expansion in the United States. However, there were too many risks involved in making an investment large enough to create a full-scale production and marketing system.

So the two companies had compatible interests and Masatoshi Shimizu, president of Makino, and Mr Le Bronde, the owner of the U.S. company were already acquainted, so the negotiations moved quickly and the main lines of an agreement were formed by the end of 1980.

Advantages in Sales and Service Network

The beginning of operations was delayed slightly because of procedural problems, but the "Le Bronde-Makino Machine Tools Company" was formally established in September 1981. Makino will hold 51 percent of the shares and Masatoshi Shimizu will take the chairmanship. Mr Le Bronde will continue to serve as president. There will be no essential changes in executive management, and the arrangement shows respect for the American side. However, Makino will send in three of its people as directors.

In addition, the work force of Makino USA will be absorbed in the new company. And this company will perform all of the marketing and servicing of Makino products in the United States. Production will start in February 1982 with a few knockdown vertical MC's per month. In the future, it will probably progress to full-scale production of Makino's milling machines, all types of MC's and electric spark machines. However, this will require some time. For the time being, the actual significance of production will not be very great.

The utilization of the already existing sales and service network throughout the United States will have the greatest significance for Makino.

In any case, this is a good example of a once inferior company reversing its position because of another company's inability to keep up with the technological revolution.

--Toyoda Machine Works-Erno Somur [phonetic]: Reversal of Position After 10 Years; Deployment of Forces in Europe with MC Technology

The technological tieup between Toyoda Machine Works and H. Erno Somur is expected to be a model case of international technological cooperation, although it will be on a small scale for the time being. Toyoda Machine Works is a strong manufacturer which, as a part of the Toyota group, makes both automobile parts, such as power steering mechanisms, and machine tools. In addition to making special machines related to automobiles, it is the top manufacturer of cylindrical grinding machines. It is a financially sound company with no debts.

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Somur is affiliated with the French-Belgian conglomerate Anpan [phonetic] and it is the third largest manufacturer of machine tools in France. It has been making NC lathes but it has fallen far behind in the MC (machining center) which is expected to be the next great growth product. Therefore, in the spring of 1980, it proposed an "international tieup" with Toyoda Machine Works, which was planning to expand the export of its products to France. An agreement was formally concluded in June of the same year.

As a "testimony" of this collaboration, a joint venture company, H.E.S. Toyoda (capital, 36,290,000 francs; 65 percent held by Somur, 35 percent held by Toyoda Machine Works), has already been established. This new company has inherited the entire machine tool division of the old Somur company. Beginning in the spring of 1981, a total of 14 French technical personnel entered the main plant of Toyoda Machine Works in Kariya City, Aichi Prefecture to undergo technical training.

In December 1975 Toyoda Machine Works concluded a technological assistance agreement with Danobat [phonetic] of Spain for cylindrical grinding machines, but this is the first time it has gone as far as making a capital investment in a cooperative venture. Toyoda's rival, Okuma Machinery Works, was discussing a "technological collaboration" for MC's with Fuhre [phonetic] of France but final agreement could not be reached on the fee for technology and other terms, and negotiations were broken off. Toyoda's example showed an effective contrast to this.

The cooperative venture is set up in two stages. The "first stage" is import and sales of MC's in the finished product stage. Under the agreement, Somur's exclusive sales territory is the EC and its periphery. Eastern Europe, the Middle East, and Africa are nonexclusive. Somur will be able to pass along a new product, the MC, to its old customers, and Toyoda will be able to utilize Somur's sales routes and service network.

The second stage of the collaboration is assembly production of the products by a joint venture company using Toyoda's technology. However, in order to reach this stage, at least 5 years will be required to make up for the gap in technology.

Therefore, Toyoda Machine Works is making an effort to train technicians right now. It selected one person from the technical area and one from the office management area and sent them to H.E.S. Toyoda to provide management guidance.

From this point of view, company operations are entirely under the leadership of Toyoda Machine Works even though the French company has a majority of the shares.

Another interesting thing is that Toyoda Machine Works previously received technological assistance for production of milling machines from Somur for 10 years, beginning in 1961, and used it for domestic production. Now, 10 years later, the positions are exactly reversed.

This joint venture is aimed at local production of MC's for the immediate future, but if things go well, the collaboration may extend to tapeless numerically

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controlled machine tools (DNC), FMS, and robots. However, this will depend on the recovery of the French economy and the degree to which the French company is willing to learn submissively.

--Matsushita Electric-Bosch: Contemplating Joint Production of VTR; Impetus to Conquering the World Market

The rise of Japanese electrical equipment makers in the world has been shown by the expansion of their overseas market share in color television. It was even more decisively impressed upon the world by the home VTR. The Japanese were ahead of European and American manufacturers at each stage from development to commercialization and the mass production. And even now, they have not allowed any new entries into the market.

Home video has grown at a rapid pace in a few years. Around 9 million sets are expected to be produced in 1981. It has taken over from the color television as the locomotive of the household electronics industry.

Matsushita Electric has the top position in home VTR. It was beaten out in development and commercialization by a subsidiary, Victor Company of Japan, and by Sony, but it vividly demonstrated its power as the world's top household electronics manufacturer in its speed in moving from commercialization to mass production and its dominance in the market.

Matsushita is now set up to produce a total of 250,000 sets a month in its Okayama and Kadoma plants, and in its subsidiary, Matsushita Kotobuki Electronics Industry, and it maintains a domestic market share of 30 percent. It has made OEM deliveries to RCA, GE, Magnavox, GTE Sylvania, J.C. Penney, and Montgomery Ward in the United States, and to Braupuncht Belche [phonetic] and Teledent [phonetic] in West Germany. In the United States, in particular, it has over a 50-percent market share, if OEM supply is included.

Not only the top world electrical equipment manufacturers like RCA and GE, but even subsidiaries, like Magnavox and GTE Sylvania, of Holland's Phillips, which has developed and commercialized its own home VTR, are receiving deliveries from Matsushita. This shows how highly Matsushita is evaluated in Europe and the United States

Matsushita is presently conducting negotiations with the world's largest auto parts manufacturer, Bosch of West Germany. This joint venture plan began when Bosch took notice of the growth potential of VTR and Matsushita's cooperation for production in West Germany.

The contents of the plan are as follows: 1) The two companies will form a joint venture company to produce a VHS type VTR. 2) Matsushita will supply design specifications, production technology, and other knowhow. 3) Both companies will receive products produced by the joint venture company and market them throughout Europe using their respective sales networks.

Home VTR has about three times the number of parts color television has. Also, it requires precision processing technology. Therefore, it is generally doubted

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whether local production is possible, and Matsushita is being very cautious in these negotiations. "It would be a serious problem if there were a difference between locally produced products and export products. Therefore, we must watch the arrangement of management authority, parts procurement, the scale of production in relation to cost, and the attainment of approval from the West German Government. At present, it is clear only that Matsushita and Bosch have reached the stage of agreeing to cooperate in local production, but the details, including the ratio of investment will be determined soon, by spring 1982, and local production is expected to begin in 1983.

Matsushita has the problem of trade friction with Europe so it is approaching this venture positively. If it comes about, together with the joint venture local production by Victor Japan in Europe, the VHS system will be in a superior position. And it will also demonstrate the great strength of the Matsushita group.

--Toyo Rubber-Continental: Strategy To Survive in Period of Violent Change by Forming a "Japanese-German-American Alliance"

The tire industry is in a period of reorganization throughout the world. The only companies that are certain to survive in the future world market are Goodyear of the United States, Michelin of France, and Bridgestone of Japan.

The coming business collaboration between the number four tire company in Japan, Toyo Rubber, and the largest in West Germany, Continental Gumi Werk [phonetic] is closely connected with a strategy for international survival.

Toyo Rubber cancelled its technological collaboration agreement with General of the United States 4 years ago. Then for 2 or 3 years it showed its technology and plants to Continental and carried out a process of examination and evaluation with the intention of forming a tieup with Continental. It carried out mutual exchanges and discussions on the factory level concerning technology and design, formed a consensus in both companies, and now has proceeded to a comprehensive collaboration.

The relationship of the two companies is built around equal and mutual provision of technological assistance. Toyo Rubber will carry out OEM production under the Continental brand of a tire for the small car model, Santana, jointly produced by Nissan Motor Co and Volkswagen. It will also undertake consignment production and sales of Continental brand tires for Southeast Asia. President Okazaki of Toyo Rubber says confidently: "In the future, we expect an annual production of 1 million tires on consignment per year."

Continental is the next largest tire maker to Michelin in Europe. However, it has been slow in advancing into the markets of advanced countries like the United States and Japan, and it has little marketing strength in Asia. Technically, its strength has traditionally been in tires which perform well at high speed. However, it is weak in the areas of fuel saving tires, radial tires for trucks and buses, and very large tires. It is also behind in polyesterization of tire cords and production control technology. It plans to eliminate these weaknesses through the tieup with Toyo Rubber.

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Will American Industry Be Involved Too?

Now the companies' policy will be to make active exchanges of special technology between their technical departments and carry out international divisions of responsibility in most fields, including technological development, production, production control, and sales. President Okazaki says: "At present, a single technological development program costs the huge sum of 10 billion yen. We have great expectations of advantages in speeding up technological development while reducing the cost. Continental will provide Toyo Rubber with specifications, compounds, and all basic technology for the tires of the Santana, the car to be jointly produced by Nissan and Volkswagen.

By this means, the union of Continental and Toyo Rubber has lined up its forces for a joint strategy in Europe, the Far East, and Southeast Asia. The next aim of this union is a tieup with a manufacturer that can assist them in America. It is expected that negotiations are underway, and it is very likely that a "Japanese-German-American alliance" will be formed by Continental (West Germany), Toyo Rubber (Japan), and some American company in the near future.

The big two of the world tire industry are Goodyear and Michelin. Next is Bridgestone. Will this "Japanese-German-American alliance" be able to build a company that will take fourth place? President Okazaki has a broad vision. "Through this, we will become a major world company in the technology of radial tires for passenger cars, trucks, and buses and extra large tires."

Cooperative Ventures Under Japanese Leadership Proliferate

There are many other examples besides the 12 companies discussed in this article in which the technical strength of Japanese industry was recognized and tieups were formed under Japanese leadership. Some of these are introduced below.

The advertising industry has been slow in internationalizing, but a step in that direction was taken when Dentsu established Dentsu, Young, and Rubicam (a 50-50 joint venture) in November 1981. The short-term aim of establishing the new company was to establish battle lines for Young and Rubicam, which had entered Japan with 100 percent foreign capitalization. However, from the point of view of Dentsu, this is the first time it has driven a wedge into a foreign-capitalized company. The long term aim is to use the network of bases established by Young and Rubicam throughout the world, make separate subsidiaries, and carry out a multinational expansion.

Even though Young and Rubicam was first to enter the world market, it judged that it would be a wise policy to combine with Dentsu and use Dentsu's power to get a foothold in Japanese industry, which is rapidly expanding throughout the world.

At any rate, there are few cases of using the network of an existing international company for multinational activity. This is noteworthy as an example which clearly demonstrates the amazing growth of Japanese industry.

Last November, Japan Air Lines made its first comprehensive maintenance contract with Garuda Airlines of Indonesia for its large jets. JAL has already made

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aircraft maintenance agreements with 45 domestic and foreign airlines, but this will create opportunities for comprehensive contracts with other airlines. The direct contribution of this contract with Garuda will be 3 billion yen a year, but it is very interesting as a testimony to the growing internationalization of Japanese industry in the field of high technology service.

Sharp is now providing semiconductor technology to the company from which it begged to learn about semiconductor technology 10 years ago. The company is Rockwell International. When Sharp began moving into semiconductors, Rockwell provided a wide range of technological assistance for products such as semiconductors which are low in power consumption and ideally suited for microcomputers and memories. It is a case which clearly shows that Japanese industry has completely passed up American industry, the original source, in applied and mass production semiconductor technology.

A different sort of case is the cooperative business venture between Mitsui Real Estate Development and Coldwell-Banker. They will exchange information and extend their brokerage and consulting business in order to deal with the tendency of Japanese life insurance and damage insurance companies to increasingly invest in foreign real estate and the increased investment in Japanese real estate by American pension funds.

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SCIENCE AND TECHNOLOGY

YASUKAWA'S ALL-ELECTRIC ARC-WELDING ROBOT DESCRIBED

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[Article by Keiji Yasukawa, president; Itsuro Matsumoto, director, and Takeo Suzuki, researcher, both of Automation Technology Research Laboratory, R&D Department; Toshiya Matsuhara, chief in charge of mechanical products, Office of Technology, and Fumiaki Kawai, mechanical product designer, both of Yahata plant; and Kenji Hara, electronic product developer, Tokyo plant--all of Yasukawa Electric Manufacturing Co, Ltd: "Development of All-Electric Jointed-Type Arc-Welding Robot"]

[Text] Foreword

Efforts to rationalize the production process and to save labor have been themes of long standing in industrial circles, and during a period of steady growth, more diversified products and improved quality are demanded by the customer.

Therefore, the production method must be flexible enough to be able to cope with the changing times, and the introduction of FMS or popularization of industrial robots in recent years clearly shows the trend of the future.

Industrial robots, in particular, have already contributed significantly to the improvement of work environment, safety, and product quality. To be able to cope with a future society whose constituents are expected to be higher in level of education and in age, popularization of robots possessing even higher performance is expected to increase, supported in part by the enthusiasm of the user and the advancement of the technological development.

The industrial robots described in this article belong to a group of all-electric robots which were developed in 1977 to replace the hydraulically operated robots which formerly occupied the mainstreams and were the newsmakers of the time.

Background of Development

This company has conducted R&D of all-electric playback-type industrial robots on the basis of electric servodrive technology and NC control technology unique to this company since 1973.

In the beginning, popularization of robots could not be realized in spite of the strong need for automation experienced by industrial circles due to the restrictions imposed by economy and the limited robot performance.



However, with the appearance of the microprocessor as a turning point, playback-type industrial robots with jointed construction were successfully developed and commercialized in 1977. During the course of product development, work accuracy and light weight were pursued to the limit, to say nothing of the efforts spent to improve the economic aspects, and in the end, highly accurate robots with a greatly improved operability which could not be achieved in the conventional model were developed.

Therefore, the application of robots to the arc-welding operation, which previously had been difficult to realize, became a reality and this company was able to take the initiative in popularizing robots for this particular application.

Subsequently, the operability of robots was further improved significantly through the addition of a number of control functions such as shift and various types of interpolations using coordinates transformation, and new models of industrial robots characterized by high speed, high degree of accuracy, compactness, and low cost were developed for the purpose of mass production and popularization.

The fact that the industrial robots of this company, backed by its rich store of application technology, received a surge of orders is proof that its robots are able to satisfy the needs of industrial circles to automate and save labor.

#### Basic Construction

The Motoman-L series industrial robot of this company is an all-electric jointed-type playback robot designed on the basis of a combination of lightweight structural design technology, numerical control technology, and application technology in the field of arc-welding and a goal of economy.

Table 1 gives the specifications of these robots and Photographs 1 and 2 show their external appearance.

These robots, as shown in Photographs 1 and 2, consist of three major parts: a robot body, a control device (YASNAC-6000 RG) containing a CPU, and a teach box. In addition, they contain auxiliary equipment, including welding work attachment jigs, a welding power source, a welding torch, and a welding wire feed mechanism.

#### 1. Robot Body

The robot body has five degrees of freedom and consists of a revolving part, a lower arm, an upper arm, and a wrist part having two degrees of freedom attached to the end of the upper arm. This construction affords a large range of movement in comparison to the floor space it occupies. The working end of the robot can be made to move at high speed by choosing an appropriate lever ratio between the driving part and the working part. The driving power source of these robots is a DC servomotor unit consisting of a pulse generator for position detection and a DC tachogenerator for speed detection which is manufactured by this company. To insure accuracy of positioning, speed reduction of each shaft is accomplished through the use of a harmonic drive unit free from backlash and the use of a precision ball screw in order to keep lost motion to a minimum. Care is also taken to lower the center of gravity and to reduce the weight and radius of inertia in order to realize rapid, smooth movement.

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## 2. Control Device

Figure 1 illustrates the construction of the control device, Photograph 3 shows the operation panel of the control device and Photograph 4 shows the teach box.

The reliability of hardware is significantly improved through the use of custom LSI, large-scale multiwire type of printed baseboard, and flat keyboard switches. The functions necessary to the playback-type robot, such as track control, operational conditions and sequences, are provided by a software system which is flexible and easy to program. Furthermore, the operability is significantly improved through realization of a number of functions, including linear and arc interpolations, three-dimensional shift and scaling enabled by the high-speed three-dimensional interpolating computer developed independently by this company.

### Technical Features

The Motoman-L10 which was developed by this company in 1977 already possessed a number of features different from those of the conventional robots in the range of movement and driving power source, and superior in such aspects as compactness, high speed, high accuracy, and low cost.

The further improvement of the control device and further miniaturization in pursuit of even higher performance resulted in the birth of the Motoman-L3 with improved performance.

The technical features, mainly of the Motoman-L3, having the highest functions are listed below.

### 1. High-Speed Movement

The speed was raised 30 percent over that of the L10 model through a number of improvements, including lightweight high-rigidity construction with a 50-percent higher natural frequency and improved attenuation characteristics, and through achieving optimum acceleration/deceleration control by means of software treatment.

### 2. High Accuracy in Repeated Positioning

The accuracy of repeated positioning was raised from  $\pm 0.2$  mm for the L10 model to  $\pm 0.1$  mm for the L3 model, the highest accuracy achievable by any robots existing today, through improved accuracy in the machining of its parts, standardization of its parts, and strict quality control together with a 50-percent increase in control resolution.

### 3. Compactness and Light Weight

It was designed to occupy approximately the same space as occupied by a person so as to minimize the alien attitude toward robots felt by people who work among them. The frame of the L3 model is made of thin walled aluminum casting. Special design technology was introduced to insure uniform flow of molten metal and to prevent strain. As a result, a lightweight robot having a body weight of 93 kg and a wrist load capacity of 3 kg was created. This greatly facilitates the installation or relocation of the robot.

#### 4. Improved Operability

The memory capacity was expanded to 1,000 points and its operability was doubled through the introduction of additional features, including a call capability, various types of interpolations carried out by high-speed computer, and a shift function.

#### 5. Better Economy

A price reduction of approximately 15 percent was achieved through the use of a compact, lightweight structure, and standardized and interchangeable parts. The total number of parts in the L3 model was reduced 20 percent from that of the L10 model.

#### 6. Increased Productivity

The arc rate was increased from an average of 50 percent achieved by the conventional operation to approximately 60 percent, thanks to the high-speed performance. Productivity can be effectively increased through a reduction in the tact time of operation.

#### 7. Better Reliability and Maintainability

The reliability was doubled through the adaptation of various time-tested technologies and special custom LSI together with a reduction in the number of parts used. Moreover, the number of functions related to self-diagnosis and abnormality surveillance was increased from 6 in the old model to 31 in order to improve the maintainability.

#### Utilizational Features

The economic effects of introducing the Motoman-L are as follows.

##### 1. Improvement in Productivity and Labor Saving

Before robots were introduced, the welding of a certain item of construction machinery having 13.7 m of welding line required 70 minutes per piece by manual operation. After robots were introduced, the same welding required only 25 minutes per piece, with an approximately threefold increase in productivity. The operations were shifted to handle those work processes preceding and following the welding operation with a labor saving of one human.

In the case of welding an automobile part, after four robots were introduced, four workers were able to achieve the same amount of production which used to require 10 workers.

In the case of welding a construction machinery part, a total of 12 workers--two for temporary welding, eight for main welding, and two for inspection and repair--were required before robots were introduced. After four robots were introduced, a total of four workers--two for temporary welding and two for inspection and repair--were required to do the same job.

## 2. Countermeasure for Shortage of Skilled Labor

Welding by robot can be carried out repeatedly once the robot is taught by a skilled worker in the beginning, so an extremely large volume of work can be handled by a very small number of skilled workers. Moreover, welding work requiring human labor is reduced to transporting work pieces to and from the welding jigs, so that part-time or aged laborer can be employed, thus effectively alleviating the shortage of skilled labor.

## 3. Reduction in Rejection Rate as a Result of Improvement in Work Quality

Work welded by robots, in comparison with work welded by manual operation, is better in quality and lower in rejection rate.

Welding omissions occurred frequently with manual operation, but none occur with a robot.

## 4. Countermeasure for Production System Handling Small Number of Products With Great Variety

In the case of automobile parts, there is a great variety of parts depending on the model, for domestic consumption or for export. On occasion more than 20 different types of work may pass through the same work line. Moreover, the demand for production of a required amount of product at a required time has become stronger as a result of the introduction of a "Kanban system" (e.n. Toyota developed this system in which only needed parts are manufactured). A production system employing robots, under such circumstances, can cope with the situation easily and quickly by simply changing the memory through a cassette tape.

An analysis of the robots in operation today shows that more than half of them are used in the production of a small number of products with a large variety. This is an indication that more robots are entering the high production system.

Furthermore, the introduction of robots by small and medium enterprises has increased tremendously in recent years. This is another proof that the use of robots in the welding operation is highly effective.

## 5. Improvement of Environment

Robots have contributed significantly to the improvement of work environment by freeing workers from heavy labor as well as from the fumes, heat, and spatter of the welding operation.

## 6. Accumulation of Knowhow Related to Welding Operation and Automation

When the Motoman-L was first introduced to the worksite, a sample test was often requested by the user. The knowhow thus accumulated, including the instruction data related to automatic welding of various types of products, constitutes a huge technological property. The voluminous data accumulated thus far will contribute significantly to the automation of welding operations in the future.

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#### Industrial Ownership

During the course of developing an all-electric jointed-type arc-welding robot, the following patents (including those pending) were obtained.

##### 1. Robot Structure

Utility model No 1338046: Wrist mechanism for industrial robot  
Patent application No 76-135625: Arm drive mechanism for industrial robot  
Utility model application No 81-115798: Tool attachment device for industrial robot  
Plus 12 other patents and 7 other utility models.

##### 2. Robot Control Device

Patent application No 75-137039: Robot control device  
" " No 79-718805: Robot shaft control device  
" " No 81-92155: Control format for electric machinery  
Plus 22 other patents.

##### 3. Servodrive

Patent No 745379: DC motor speed control device  
Patent application No 73-45724: Automatic backlash correction device  
Plus 43 other patents and 3 other utility models.

##### 4. Numerical Control Device

Patent No 844032: Function generation format  
Patent application No 78-8028: Numerical control device with automatically variable pause capability  
Plus 14 other patents and 1 utility model.

A total of 90 patents and 11 utility models.

#### Conclusion

It has been 4 years since the Motoman-L was first introduced to industrial circles. During this period, the number of units supplied annually has grown at a tremendous rate, two-three times the previous ratio. Today, there are more than 1,000 robots of this series engaged mainly in arc welding here as well as abroad, contributing positively to the economic effect as described above.

However, robots, which are truly useful in a production system handling a small number of products with large variety must possess intelligent elements such as sensing functions, self-control, and decisionmaking capability. We will continue to follow the path of developing more improved functions steadfastly with the aim of leaping into the next era.

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Table 1. Robot specifications.

## Main Body

Name			Motoman-L3	Motoman-L10
Degrees of freedom			5, jointed type	ditto
Range of movement and maximum speed	Arm	S axis	rotation, 240°, 120°/sec	240°, 90°/sec
		L axis	lower arm movement $\pm 40^\circ$ , 840 mm/sec	$\pm 40^\circ$ , 800 mm/sec
		U axis	upper arm movement $+20^\circ$ , $-40^\circ$ , 1180 mm/sec	$+20^\circ$ , $-40^\circ$ , 1100 mm/sec
	Wrist	T axis	twist 360°, 225°/sec	360°, 150°/sec
		B axis	swing 180°, 150°/sec	180°, 100°/sec
Load carrying capacity			3 kg maximum	10 kg maximum
Accuracy of repeated positioning			$\pm 0.1$ mm	$\pm 0.2$ mm
Weight			93 kg	400 kg
Environmental temperature			0-45° C	0-45° C

## Control Device

Name	YASNAC-6000 RG
Positioning format	Broken-line path control (P.T.P.)
Number of control axes	5 axes simultaneously (6 axes maximum)
Instruction format	Teaching-playback
Position control format	Incremental mode digital position control
Position-sequence memory format	IC memory
Memory capacity	1,000 steps; 600 instructions
External synchronous signal	Input: 22 contacts; Output: 21 contacts
Welding current-voltage designation	0-127 steps

[Table continued on following page]

Change in welding current-voltage during welding		Possible
Speed change		TRT function (0.1 second unit); designation of absolute value of velocity
Job copy		Possible
Step forward-backward		Possible with teach box
Addition-elimination-correction of teach point		Possible
Search function		Possible to search position, program, job, and instruction
Dry run (track recognition at safe speed)		Possible
Machine lock		Possible
Automatic return to origin		Possible
Instruction functions	Timer function	A code designation, 0-25.5 sec (0.1 sec unit)
	External synchronous signal	A code designation, 5 kinds
	Counter function	H code designation, 3 kinds
	Branch-call function	J code designation, 7 kinds
	Welder control	F code designation, 6 kinds
Error function		32 kinds
Parameter indication/designation		19 kinds
Alarm function		PG, TG abnormality, CPU abnormality, overrun, overload, servo error, panel interior temperature abnormality, sequence error, RPG hard error, etc--a total of 31 kinds
Cassette interface		Contained internally
Computer interface		Addition possible
Three-dimensional linear interpolation function		Designation of absolute value of velocity (1 mm/min unit) Five-axis simultaneous interpolation Automatic acceleration/deceleration

[Table continued on following page]

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Three-dimensional shift function (3-D translation and rotation)	Possible to designate arbitrary shift range Designation of shift from 3-point teaching
Three-dimensional mirror image (3-D left-right symmetric translation)	Same as above
Cylindrical coordinate movement	Cylindrical coordinate movement possible during teaching
Three-dimensional arc interpolation function	Designation of spatial arc by 3-point teaching
Three-dimensional scaling (3-D track enlargement/reduction)	Possible to enlarge/reduce spatial shape by 1-point teaching
Six axes simultaneous control	Possible
Soft weaving	Amplitude Max $\pm 12.5$ mm, Frequency Max 1.0 Hz
Environmental temperature	0-45° C
Electric power source	AC 200/220 V $\pm 10\%$ , 50/60 Hz $\pm 1$ Hz, 5 kVA (3 kVA for L3)

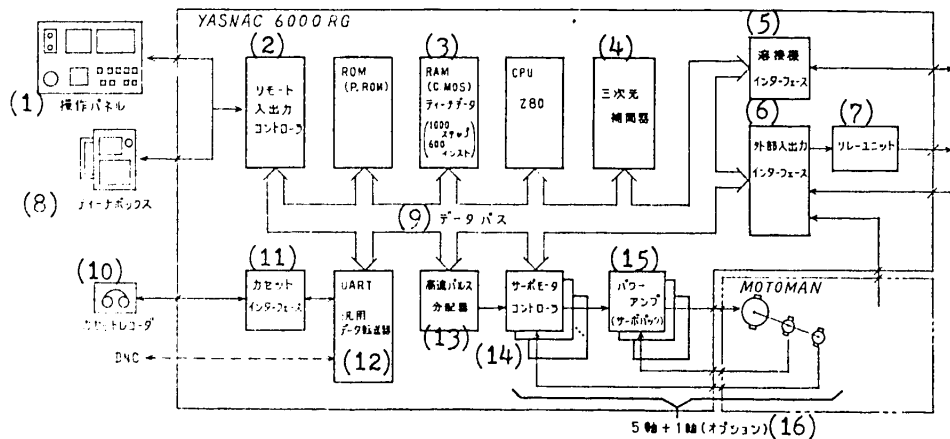


図-1 制御部の構成

Figure 1. Construction of control device.

[Key on following page]



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Key:

- |   |                                      |
|---|--------------------------------------|
| 1. Operation panel                            | 9. Data paths                        |
| 2. Remote input/output controller             | 10. Cassette recorder                |
| 3. Teach data (1,000 steps; 600 instructions) | 11. Cassette interface               |
| 4. Three-dimensional interpolator             | 12. General purpose data transmitter |
| 5. Welder interface                           | 13. High-speed pulse distributor     |
| 6. External input/output interface            | 14. Servomotor controller            |
| 7. Relay unit                                 | 15. Power amplifier (Servopack)      |
| 8. Teach box                                  | 16. 5-axis + 1-axis (option)         |

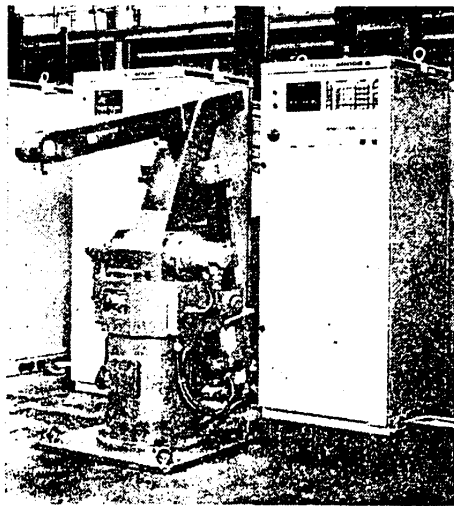


写真-1 Motoman®-L10

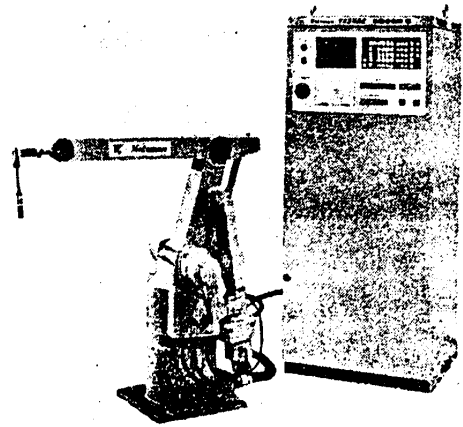


写真-2 Motoman®-L3

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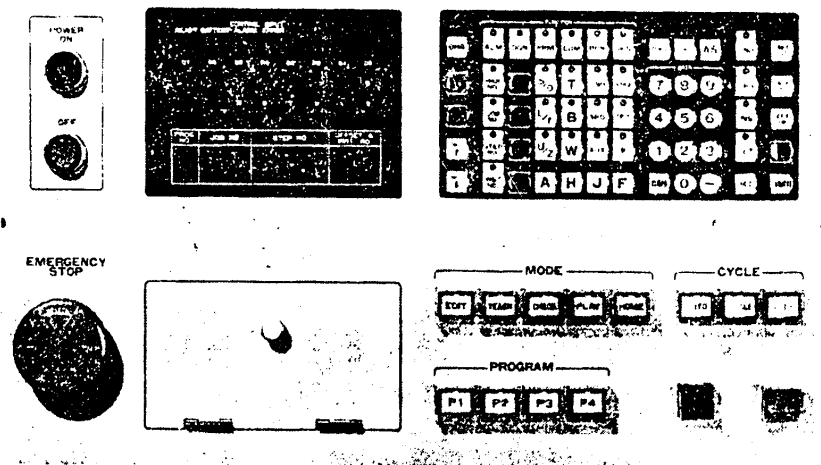


写真-3 YASNAC®-6000RG 操作パネル

Operation panel

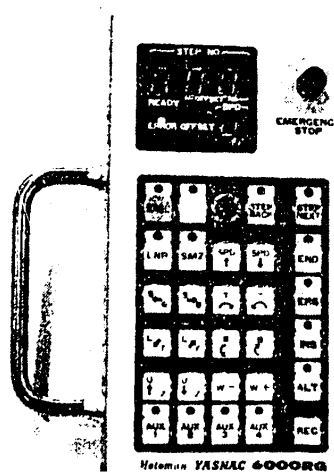


写真-4 ティーチボックス

Teach box

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Table 2. Examples of economic effects resulting from introduction of Motoman.

(1) 表-2 モトマン導入による経済効果例 (8)

(1) 工種名	(2) 部品種類	(3) 溶接位置	(4) 溶接線長	(5) 溶接時間 (分)	(6) エアカット 時間 (分)	(7) アーク率 (%)	(8) モトマン導入の経済効果
A	自動車部品	27	1425	114	32	78	2台導入し、作業員4人を省くことが出来た。熟練工不足が解消された。
B	同上	12	545	47	26	65	3台導入し、熟練作業員6-8人が出来た。
C	同上	9	360	41	21	66	4台導入し、熟練作業員14人が出来た。
D	同上	34	445	43	33	54	1台導入、作業員4人が1人で出来た。
E	同上	16	1430	150	40	79	1台導入、熟練作業員4人が非熟練作業員1人で出来た。
F	同上	32	690	76	59	56	2台導入、熟練作業員4人が非熟練作業員1人で出来た。
G	工業機械部品	18	1800	684	61	92	2台導入、熟練作業員4人であったが非熟練作業員1人で出来た。
H	特殊部品	100	7900	775	210	79	1台導入、3人の作業員1人で出来た。
I	建設機械部品	59	-	1260	180	84	1台導入、人手で70分/個であったがロボットでは25分/個で作業が出来る。

Key:

(1) Customer (2) Type of parts (3) Welding positions (4) Welding line length (5) Welding time (6) Air cut time (7) Arc rate (8) Economic effects

(A): (2) Automobile parts (8) 4 workers saved from introduction of 2 robots; shortage of skilled labor solved.

(B): (2) Automobile parts (8) After 3 robots were introduced, 2 workers were able to do the job of 6-8 workers.

(C): (2) Automobile parts (8) After 4 robots were introduced, 4 workers were able to do the job of 14 workers.

(D): (2) Automobile parts (8) After 1 robot was introduced, 1 worker was able to do the job of 4 workers.

(E): (2) Automobile parts (8) After 1 robot was introduced, 1 unskilled worker was able to do the job of 4 skilled workers.

(F): (2) Automobile parts (8) After 2 robots were introduced, 1 unskilled worker was able to do the job of 4 skilled workers.

(G): (2) Industrial machinery parts (8) After 2 robots were introduced, 1 unskilled worker was able to do the job of 4 skilled workers.

(H): (2) Special rolling stock parts (8) After 1 robot was introduced, 1 worker was able to do the job of 3 workers.

(I): (2) Construction machinery parts (8) After 1 robot was introduced, productivity increased from 70 minutes per piece by manual operation to 25 minutes per piece by robot.

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END

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