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Photo by Jennifer Jecklin

Prof. Vera von Wiren-Graczynski in her Glen Cove home

Two True American Stories

By Joan Kelly

For one it was rags to riches, and for the other, for a time, it was riches to rags. For both, it was a road to American citizenship and, today, to remembrance at Ellis Island.

Domenick Scaglione of Dix Hills, who rose from garment worker to international banker, and Vera von Wiren-Graczynski of Glen Cove, the stateless child of Russian aristocrats who worked her way through college as a fashion model, will be among the 80 recipients of Ellis Island Medals of Honor as part of a two-day celebration of the actual 100th anniversary of the dedication of the Statue of Liberty.

Both were teenagers when they arrived in New York by boat, von Wiren-Graczynski in 1950 and Scaglione in 1951. And while their stories are as typically different as those of the many immigrants whose diversity today's events are intended to celebrate, they share a humility at having been singled out.

"This award can never belong to a single individual," said von Wiren-Graczynski, a professor of Russian and Slavic studies at City University of New York. "It belongs to all those Russian Americans who have worked to promote the Russian culture . . . in the United States. They have made it possible for me to do what I am doing."

Scaglione said the award was a tribute to the "strength of the people who paved the way."



Von Wiren-Graczynski, 15, in 1955

"They came with a hat and a sack on their shoulder, all they had," he said. "They came with such courage and paved the way for future generations."

Scaglione and von Wiren-Graczynski were selected out of 15,000 nominations by the National Ethnic Coalition of Organizations, a group formed following protests that some ethnic groups had been ignored in the selection of a dozen immigrants honored at July 4th celebrations this summer. The 80 medal winners, who include celebrities like Muhammad Ali and Zbigniew Brzezinski, were chosen for their distinguished ca-

reers, and for preserving the values of their ethnic heritage.

Von Wiren-Graczynski, 45, was born in Paris of aristocrats who had fled Russia after the 1917 revolution. "I had nothing when we came here, nothing except memories," she said. Working as a showroom and photographer's model, she put herself through Brooklyn College, the beginning of an academic career that includes a master's degree in English from Columbia University and a doctorate in Russian studies from New York University. She is the founder of Russian American Heritage Association and the Slavic American Cultural Association.

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THE WHITE HOUSE
WASHINGTON

June 14, 1988

MEMORANDUM FOR LINDA WATSON

FROM: RITA BUREIKA

SUBJECT: Presidential Message Request

ⁿ
Please provide a Millennium of Christianity
in Kievan Rus' message for the attached Russian
American event.

Thank you.

Rita / SA -

*Please get me
copy of message.*

— will be sent up.



CONGRESS OF RUSSIAN-AMERICANS

WASHINGTON OFFICE

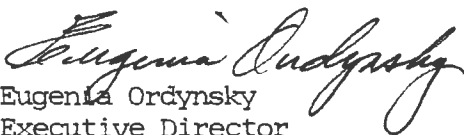
June 9, 1988

Rita Bureika
Office of the Public Liaison
Room 196
The White House
Washington, DC 20500

Dear Rita,

The Congress of Russian-Americans Southern California Chapter would like a written Presidential Millennium message sent to them by June 15th or as soon as possible so that they can include it in their program book for the concert they will be having July 31, 1988. The annual concert is called "A Day of Russian Culture" and this year it will be dedicated to the Millennium. The Concert will be at the Russian Hall of the Protection of the Holy Virgin Mary Russian Orthodox Church in Los Angeles. They are expecting at least 250 people at this event. Thank you for all your help. The message can be sent to: Mr. Igor Awtomonow, 234 S. Kingsley Dr. Los Angeles, CA 90004.

Sincerely,


Eugenia Ordynsky
Executive Director

cc: I. Awtomonow

THE WHITE HOUSE
WASHINGTON

June 14, 1988

MEMORANDUM FOR LINDA WATSON

FROM: RITA BUREIKA

SUBJECT: Presidential Message Request

Please provide a Millenium of Christianity
in Kievan Rus' message for the attached Russian
American event.

Thank you.

*Was not
sent -
regretted*



CONGRESS OF RUSSIAN-AMERICANS

WASHINGTON OFFICE

June 9, 1988

Rita Bureika
Office of the Public Liaison
Room 196
The White House
Washington, DC 20500

Dear Rita,

The Piano Studio of Viacheslav L. Ordynsky would like a written Presidential Millennium message sent to them by June 20th or as soon as possible. The students will be performing the music of Tchaikowsky on June 26, 1988 at a concert dedicated to the Millennium. The studio would like to make copies and frame a message for each of the 10 students performing and Mr. Ordynsky himself. The Concert will be at the Russian Hall of the Protection of the Holy Virgin Mary Russian Orthodox Church in Los Angeles. They are expecting at least 250 people at this event. Thank you for all your help. The message can be sent to: The V. L. Ordynsky Piano Studio, 1186 Sunset Blvd. Los Angeles, CA 90012.

Sincerely,

Eugenia Ordynsky
Executive Director

HUNDREDS MOURN RELIGIOUS LEADER

By ALEXANDER REID

Metropolitan Philaret Praised
as the 'Spiritual Father' to
80,000-Member Sect



The New York Times/Chester Higgins Jr.

Acolytes standing by coffin of Metropolitan Philaret at funeral at Cathedral of Our Lady of the Sign.

More than 700 people from across the nation attended a four-hour funeral service yesterday in Manhattan for Metropolitan Philaret, Archbishop of New York and Eastern America and Primate of the Russian Orthodox Church Outside of Russia.

The Metropolitan — spiritual leader of the 80,000-member church — died Thursday after a long illness.

Describing the Metropolitan as "very kind and soft-tempered," the Rev. Alexander Kiselev of St. Seraphim Russian Orthodox Church in Manhattan said the religious leader had been burdened by his spiritual devotion to the church.

"All of us are responsible for his difficulties because we laid so much of our problems on him and he tried to help us as our spiritual father," Father Kiselev said in a eulogy delivered in Russian.

Mourners Fill Church

The service, at the Russian Orthodox Cathedral of Our Lady of the Sign at 93d Street and Park Avenue, was preceded by a Divine Liturgy that began at 10:30 A.M.

Mourners filled the small church by 11:30 for the traditional Russian Orthodox funeral in which the congregation, following religious custom, remained standing throughout the service. Eight deacons, 31 priests and eight bishops from dioceses throughout the country assembled at the church's altar to take part in the service.

The Metropolitan's body lay facing the altar and the icon screen in an open, dark brown coffin. In his folded hands he held a crucifix. Between the coffin and the altar was a stand of white flowers arranged in the form of a cross.

The Russian Orthodox Church Outside of Russia developed from the Russian Revolution of 1917. It came into existence in 1920, uniting parishes and missions of the Russian Orthodox

The church refuses to recognize the authority of the church leaders who have presided under the Soviet regime. In 1950, the church moved its governing body from Munich to the United States. Its headquarters are in Manhattan.

Metropolitan Philaret was born in Kursk, Russia, in 1903. After completing theological studies in Manchuria, he was ordained a deacon and priest and eventually a bishop. In 1964, after the retirement of Metropolitan Anastasy, he was appointed Primate.

"God made him the pilot of the boat, and he led the church to the very end," Bishop Vitaly, interim head of the church's Synod of Bishops, told the congregation. "God, in seeing the physical difficulties the Metropolitan was having, sent an angel to take him peacefully from us to cease his suffering."

Interment will be today at noon at Holy Trinity Monastery in Jordanville, N.Y.

OVER 2,000,000

Primate of 80,000-Member Russian Church Dies

By GEORGE JAMES

Metropolitan Philaret, Archbishop of New York and Eastern America and Primate of the Russian Orthodox Church Outside of Russia, died Thursday at his home in Manhattan after a long illness. He was 82 years old.

The Primate served as spiritual leader for 21 years of a church that evolved from the turmoil of the Russian Revolution in 1917 and today has 80,000 members worldwide. With world headquarters in Manhattan, the church, which is strongly anti-Communist, considers itself the one true Russian Church.

It is separate from the Russian Orthodox Church, with 10,000 members who follow a presiding patriarch in Moscow, and the Orthodox Church in America, with one million members.

Born in Russia

In 1981, Metropolitan Philaret presided over the canonization as saints of Czar Nicholas II, his family and tens of thousands of people killed by Communists since the outbreak of the Russian Revolution. Neither of the other two Russian Orthodox churches recognize the canonization.

During his tenure, the Metropolitan opposed participation by the Eastern

Orthodox Churches, which split from Rome around 1050, in the ecumenical movement, stating that doctrinal differences between the Roman Catholic Church and Protestant churches could not be overlooked in the name of unity.

Metropolitan Philaret was born George Nikolaevich Voznesensky in the city of Kursk, Russia, in 1903. In 1920, to escape the Revolution, his parents moved the family to Harbin, China.

He completed theological studies in Manchuria in 1931 and was ordained a deacon and priest, taking the name Philaret.

He was raised to the rank of abbot in 1934 and archimandrite in 1937, and served in Harbin until 1950, when he was retired for his anti-Soviet views and opposition to the Moscow church.

In 1950 the governing body of the Russian Orthodox Church Outside of Russia moved to the United States. It had been established in Turkey in 1920 and had subsequently had its base in Yugoslavia and then Munich.

Became Primate in 1964

Once in New York City, the church's Synod of Bishops worked to get him an exit visa. Finally, in 1962, he was permitted to travel to Hong Kong. From there, he went to Brisbane, Australia, where he was consecrated a bishop in 1963, caring for many of his former parishioners who had fled Manchuria.

In 1964, Metropolitan Anastasy announced his retirement as primate at a conclave of the Council of Bishops. Bishop Philaret, then in his early 60's, attended the meeting as a junior bishop and was named the church's Primate.

The funeral will be Sunday at 12:30 P.M. at the Russian Orthodox Cathedral of Our Lady of the Sign, 75 East 93d Street, at Park Avenue. Interment will be Monday at noon at Holy Trinity Monastery in Jordanville, N.Y.

The Metropolitan is survived by a brother, Sergius, and two sisters, Elena Vinogradov and Mother Eugenia, a nun, all of San Francisco.



Metropolitan Philaret

**Summary of Events in the Middle East
Affecting the Interests of the
Russian Orthodox Church Outside of Russia**

The Synod of Bishops ("the Synod") of the Russian Orthodox Church Outside of Russia ("the Church" or "the Church Abroad") is concerned about the position of the Church and its properties in the Holy Land. The recent short-lived talks between Israel and the Soviet Union, held in Helsinki, and the accompanying world-wide news reports of a possible "return" of "Russian Orthodox Church properties" in Israel to the Soviet government, heightened and underlined these concerns. The historical experience of the Church Abroad in the Holy Land has been such that it must carefully protect its position and interests in the Holy Land, and must view any reference to a possible takeover of Church property by the Soviet Union with the utmost seriousness. This memorandum begins with a history of the Church and its history in the Holy Land, and then discusses the joint American-Israeli interest in preventing any Soviet expansion in the Holy Land. The memorandum concludes with a summary of the actions needed to protect the Church's status quo position in Israel, and the need for Israeli recognition of the Church.

I. Historical Background

A. Establishment of the Russian
Orthodox Church Outside of Russia

The Church was established in 1920, following the instructions of the Russian Patriarch Tikhon of Moscow and all of Russia and of the Synod of the Russian Orthodox Church.^{1/} Patriarch Tikhon was faced with a difficult and constantly worsening situation. He headed a Church that was formally independent of the government. However, the government of the U.S.S.R., professing and promoting atheism, used its increasing authoritarian powers to persecute clergy and laity of the Russian Orthodox Church and to seize control of it. Patriarch Tikhon sensed that the Russian Orthodox Church would not remain free from government interference. Accordingly, he issued an irrevocable directive to bishops located outside of the U.S.S.R. to establish an autonomous Russian Church abroad. They followed his instructions and established the Russian Orthodox Church Outside of Russia in 1920, initially headquartered in Europe.

Patriarch Tikhon's forebodings were, unfortunately, justified. Soon after his directive to the bishops abroad, he

^{1/}These instructions were issued in Ukaz (which means "order") No. 362, dated November 20, 1920.

was imprisoned. A number of orders issued in his name at that time were either fraudulent or coerced. The imprisonment and persecution led to his untimely death in 1921. There were no Patriarchs of Moscow from 1921 to 1942, only clergy appointed as locum tenentes. Successor Moscow Patriarchs have been selected by the Soviet regime, with flagrant disregard for canonical Orthodox rules for patriarchal election. Accordingly, the Church Abroad does not recognize the current Moscow Patriarch as its legitimate head and considers him as an official of the Soviet regime. Pursuant to the spirit and the letter of Patriarch Tikhon's 1920 directive, the Church Abroad cannot be in religious communion with the Russian Orthodox Church in Russia until such time as the government there ceases both official and actual persecution of religion.

After World War II, the Synod of the Church Abroad moved to New York. The Church Abroad has been incorporated as a religious organization in America since 1952. Its parishes are spread throughout the non-communist countries of the world. It is governed by a Council of Bishops. Between meetings of the Council, the Church Abroad is governed by a Synod of Bishops. The President of both the Synod and the Council of Bishops is Metropolitan Vitaly.

B. Russian Orthodox Presence in the Holy Land

In the nineteenth century, the Russian Orthodox Church, with the agreement and cooperation of the Russian government,^{2/} established two organizations in the Holy Land. The Russian Ecclesiastical Mission in Jerusalem ("Mission") was established as the official representative of the Church. The Orthodox Palestine Society ("Society") was established as a lay organization. Both organizations were intended to assist and protect the numerous Russian Orthodox pilgrims who had been, for centuries, coming to worship in Jerusalem and in the Holy Land. Considerable amounts of property were acquired by the Mission and the Society through funds raised from private sources in Russia. In fact, the Mission and the Society combined were the single largest landowner in Jerusalem.

After World War I, during the British Mandate, Jerusalem and Palestine were administered by a British High Commissioner. The Society and the Mission continued to control their properties in cooperation with the British District Commissioner of the

^{2/}It is important to note that there was no formal separation of Church and State in pre-revolutionary Russia. In fact, a government agency was established to facilitate Church administration. Consequently, many actions of the Church were coordinated with the government. However, Church property was always viewed as legally separate from the government's property.

Jerusalem District. The Society and the Mission took administrative and religious directives from the Church Abroad since its establishment in 1920. In so doing they obeyed Patriarch Tikhon's instruction that Russian Orthodox people in exile form an autonomous Church and became agencies of that Church.

C. Transfer of Certain Mission and Society Properties to the Moscow Patriarchate

In 1948, after the termination of the British Mandate, the properties of the Mission and the Society came partly under Israeli sovereignty and partly under Jordanian sovereignty. Jordan recognized the Mission and the Society as religious agencies in the Holy Land and recognized their property rights. Properties in Jordan continued under their control.

On May 15, 1948, the State of Israel was created as a sovereign nation. The U.S.S.R. was one of the first countries to recognize Israel. When the Moscow Patriarchate and the Soviet Government asserted that Mission and Society property must belong to Soviet authorities, the Israeli government acquiesced.

During the period of military hostilities, clergy and other personnel of the Mission and the Society were forced to leave their properties. After their return, the Israeli Military Governor in Jerusalem placed them under house arrest. On December 1, 1948, the Military Governor ordered that all property of the Mission and the Society on territory under Israeli control be turned over to Soviet representatives. In so doing, the Israeli government violated the property rights of the Mission, the Society, and the Church Abroad. The properties seized were not the property of the pre-revolutionary Russian government, as alleged.^{3/} Rather, they were Church properties, subject since 1920 to the jurisdiction of the Church Abroad pursuant to the directive of Patriarch Tikhon.

In March or April of 1949 the Attorney General of Israel ordered the Director of Land Registration to change the registration status of Mission and Society properties to reflect the physical transfer of property to the Moscow Patriarchate.

Meanwhile, the Soviet government took possession of the properties of the Mission and of the Society and offered to give material assistance to monks and nuns of the Mission who would remain in Israel. Not many accepted. The majority, not

^{3/}Indeed, some of the buildings thus turned over to the Soviets had been actually built in the 1930s through the efforts and funds of members of the Church Abroad.

wishing to remain under Soviet jurisdiction, left Israel for East Jerusalem and the Church holdings in Jordan. Representatives of the Mission and Society who challenged the takeover were threatened and forcibly expelled from Israel. Some of the property transferred to the Soviet government was sold back to Israel while other property remained in Soviet hands and is used for purposes unrelated to religious activities (such as intelligence gathering) up to this day.

D. Status of the Mission and the Society
After the Six Days' War of 1967

After the Six Days' War, Israel united Jerusalem. Israel recognized the de facto status of Mission and Society properties located on the West Bank, beyond the Green Line. This occurred because Israel recognized the de facto status of all property ownership rights beyond the Green Line previously recognized by Jordan. Thus, since 1967, the Mission and the Society, as agencies of the Church Abroad, have successfully and peacefully operated under Israeli jurisdiction.

The U.S.S.R. did not recognize Israel's annexation of territory after the 1967 War. Thus, according to the Soviet position, neither the Mission nor the Society currently exist in Israel.

In 1972, the Mission and the Society filed suit against the State of Israel, challenging the 1948 seizure of property. In 1984, after lengthy proceedings, the litigation was settled. Israel agreed to make a series of payments to the two agencies of the Church Abroad. The Church Abroad agreed to a complete waiver of its rights with respect to property located within the pre-1967 borders of the State of Israel.

II. American-Israeli Interests Affected by
Potential Soviet Expansion in the Holy Land

A. Soviet Activities in Israel

Israel and the U.S.S.R. do not have diplomatic relations since the 1967 War. However, since Israel has consistently recognized the Moscow Patriarchate as an independent religious organization, the Moscow Patriarchate's Mission in Israel has continued its existence. It serves as the only quasi-diplomatic link between Israel and the U.S.S.R.

In addition, Israel is a very advantageous base for Soviet influence, propaganda and espionage in the Middle East. For this reason alone, it would be a mistake to underestimate the enormous significance of Jerusalem and of Israel to the political designs of the U.S.S.R. Upon acquiring the property in Israel, the Soviet Union promptly organized its own center -- the

Ecclesiastical Mission -- which became, in fact, the "eyes and ears" of the Soviet Union in the Holy Land. The Israeli police, which has been alert to the espionage activities of the Moscow Patriarchate, has documented such activity.^{4/}

Such Soviet exploitation of religious observance for political purposes in the international arena is quite common. The role of clergymen in the Soviet Union is determined first and foremost by their loyalty and allegiance to the State. Those who are deemed "unreliable" are persecuted, while those who wish to survive must often compromise themselves to the State.^{5/}

Properties currently in Soviet possession that are used for political purposes, including intelligence gathering, include:

1. a Cathedral, a plot of land, housing, and underground tunnels, used by the Soviet Government for practical purposes in place of an embassy,
2. two buildings and land in Haifa; and
3. a Church and three buildings, on Mount Carmel, Haifa.

Soviet propaganda is conducted very energetically and efficiently. Arab youth are a special target. In this connection, the Soviet strategists skillfully capitalize on the

^{4/}One example of such activities was Vladimir Rybakov, a special KGB agent acting under the guise of administrator of the Soviet-based Russian Orthodox Mission in Jerusalem. His cover was blown in a newspaper article appearing in the Hebrew paper Ma'ariv (15.2.78) entitled "Rybakov is not the only Russian Spy who is acting against Israel."

^{5/}The "Furov Report," a collection of secret documents compiled by the Council for Religious Affairs and intended for the members of the Central Committee of the Communist Party describes the "reliable" clergyman as one who does not attempt to resist or circumvent the State's policies concerning the church and is not zealous in propagating the faith. "...the Council's [Council for Religious Affairs] foremost concern is the political aspect; the attitude of the higher clergy toward the Soviet State; towards it domestic and foreign policy..." The Report goes on to say, "It should be remembered that in recent years bishops are ordained for work abroad and, eventually, for work in the country. This requires special qualifications," consequently, "...no appointment is carried out without a thorough check of the candidates by the responsible officials of the Council which is done in close collaboration with its representatives, local organs and the relevant organizations."

traditional feelings of gratitude and attachment existing among the Orthodox and even Moslem Arabs toward pre-revolutionary Russia and Russian Orthodox clergy, from the time of the Ottoman Empire. For instance, in recent years the Soviet Mission gave the local communist party in Nazareth a piece of real estate, which had been previously transferred to the Soviets by Israel in 1948. The local communist party built a movie house and recreation center on the site to attract the young.

B. Efforts to Expand the Holdings of the Moscow Patriarchate in the Holy Land

Since the Moscow Patriarchate serves as the U.S.S.R.'s representative in Israel, it is in Soviet interests to expand, as much as possible, the territorial holdings of the Moscow Patriarchate. Certain sites presently held by the Russian Orthodox Church Outside of Russia which may be especially attractive to the Soviets for political purposes, such as espionage and propaganda, include:

1. Mount of Olives Convent, which has military as well as religious significance because it is the highest point in Jerusalem and in Israel as well, and is thus useful for intelligence equipment installation.

2. St. Alexander Nevsky Hospice (Russian Excavations), 25 Dabbagha Quarter, Old City, Jerusalem, would also be useful for intelligence purposes because of its rooftop access to the escape route and dome of the Holy Sepulchre.

3. Church holdings in key areas of the West bank: Hebron, Bethany, Bethlehem, Jericho and Chariton in the Judean Desert.

C. Soviet-Israeli Consular Talks in Helsinki

In August 1986 Soviet-Israeli consular talks were announced in Helsinki. The Russian language radio broadcast of the Israeli government announced that the transfer of Russian church properties to the Soviet Union would be discussed at the consular talks. Specific Soviet plans for the takeover of properties were mentioned. Other media repeated the news story. The Church Abroad was besieged by requests for information from the media and from its own concerned members.

The Synod of the Church Abroad made a formal request to the government of Israel for assurances that its property rights in the Holy Land would not be violated. To date, no formal response has been received. However, Church representatives learned from Mr. Hanon Bar-on, Deputy to the Director-General of the Ministry of Foreign Affairs, that the issue of Russian Church property had never been raised between Israel and the

U.S.S.R. (neither in the actual talks in Helsinki nor in the prior contacts). The talks themselves broke off with no results.

D. American and Israeli Interests

It is clearly not in the interest of the United States or of any other democratic nation to further Soviet acquisition of more property in Jerusalem and the West Bank. Further Soviet incursions into the area will subsequently endanger the status quo and the balance of power in that region. The Mission and Society were once the largest single landholder in Jerusalem and in the Holy Land. Surely, it is not in either American or Israeli interests to permit the Soviet government to inherit this role and to use its holdings for surveillance and influence.

Although the recent Helsinki talks did not address the issue of Russian Church property, the Soviet Union will, no doubt, continue to press Israel in the future to transfer the property owned by the Church Abroad to the Moscow Patriarchate. Thus, protection of the property belonging to the Church Abroad will require continuous attention.

III. Actions Needed to Protect the Interests of the Church Abroad in the Holy Land

The Church Abroad is seeking two steps from the Israeli government in order to secure its position in the Holy Land.

A. Assurances from the State of Israel

First, the Church Abroad needs a formal assurance from the government of Israel to the effect that Israel recognizes the property rights of the Church Abroad and of its agencies and that there can be no question of any negotiation to transfer property belonging to the Church Abroad to any Soviet entity. In light of the Church's history in the Holy Land, such an assurance is critically necessary.

The Church Abroad is confident that Israel recognizes that its claim to properties in Israel is not only legal but also stems from a long-standing historical connection between the Church Abroad and the Holy sites, and in that respect resembles the claim of Israel itself to its territory. The government of Israel has, on many occasions, assured the Church Abroad that the status quo will not be altered. The Church believes that any action to prejudice its rights in negotiations with the Soviet Union would be unlawful and that Israel is a country ruled by law. Thus, the Church Abroad believes that no government in Israel will breach its undertakings to the Church by expropriating property to placate the Soviet Union. The Church Abroad believes that Israel will not act contrary to law even if the Soviet Union were to offer the establishment of diplomatic

relations or the release of Jews from the Soviet Union. The Church Abroad is concerned about all human rights violations in the Soviet Union, including the restrictions against the emigration of Soviet Jews, but the Church does not believe that a violation of its rights can secure anyone's freedom. However, the Church Abroad is nonetheless anxious that Israel issue a formal, unequivocal statement to discourage any speculation that a transfer of property to the Soviet Union is possible. The government of Israel's silence in this respect after an urgent request for assurances from the Church Abroad is incomprehensible and causes concern.

B. Formal Recognition of the Church Abroad by Israel

The Church's second need in its relations with the State of Israel is for formal recognition as a Christian Church in the Holy Land. As mentioned above, Israel recognizes the de facto ownership rights of two Church agencies. However, Israel does not recognize the Church's de jure ownership rights or the Church's status as a Christian organization in Israel.

Given the Church's long history in the Holy Land and its ownership of historical and religious sites, such recognition is essential. Various justifications have been advanced to explain Israel's failure to recognize the Church Abroad. None of them are accurate.

Initially, the recognition by Israel of the Moscow Patriarchate was viewed as a barrier. However, that is simply not the case. While the Moscow Patriarchate claims the Church's property, the recognition of the Church Abroad by Israel will not in any way constitute a non-recognition of the Moscow Patriarchate. Israel need not adjudicate any dispute as to status between the Church Abroad and the Moscow Patriarchate in order to recognize the Church Abroad. The jurisdictional and spiritual incompatibilities of the Church Abroad and the Moscow Patriarchate are no more of a barrier to the recognition of both than are the other religious disputes between Christian faiths barriers to the recognition of all of them. Israel recognizes many Christian religions and churches and its recognition of the Church Abroad would be consistent with that tradition.

Church representatives have also been told that the United States must recognize the Church Abroad before recognition in Israel is possible. In this regard, it is important to note that there is no official recognition of churches in the United States. The U.S. government is entirely secular and does not in any formal way confer recognition upon any religious groups. The Church Abroad has been an American religious corporation, registered in the State of New York, since 1952. There can thus be no doubt that the Church is an American entity, entitled to

all legal rights that are available to religious corporations
in the United States.

December 12, 1986

Lena S. Zezulin
THOMAS HART & ASSOCIATES
1625 Massachusetts Avenue, N.W.,
Suite 402
Washington, D.C. 20036
(202) 797-8700

Attorneys for the Russian
Orthodox Church Outside of Russia



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Washington, D.C. 20002
(202) 546-2706

Joint Resolution providing for the designation of each November 7th as "THE MEMORIAL DAY FOR VICTIMS OF COMMUNISM"

WHEREAS, November the 7th marks the day on which in 1917 international communists seized control of the Russian nation and its people who became the first victims of the communist system in the world; and

WHEREAS, this victory of international communism signaled the beginning of a process aimed at the destruction of all religions and associated moral values accrued by the civilized world; and

WHEREAS, the forces of international communism destroyed Russian religion, culture, and much of their spiritual heritage, as well as thousands of churches and monasteries; and

WHEREAS, an estimated 60 million Soviet citizens lost their lives in the struggle for freedom and basic human rights; and

WHEREAS, since 1917, the Soviet government has continuously perpetrated crimes that are an affront to humanity, including forced confiscation of land from the farmers, which resulted in death by starvation of 10 million people; and

WHEREAS, the list of individuals and nations enslaved by the international communism is steadily growing; and

WHEREAS, neither a nuclear war nor the continuation of "peaceful" coexistence are a viable policy option for the U.S. in our stand against international communism; and

WHEREAS, we can overcome the international communism only by joining forces with the Russian people, other ethnic groups within the Soviet Union, and the people of all other enslaved nations; and

WHEREAS, we must clearly show the Russian people and all other enslaved ethnic groups and nations that we understand their predicament and are in full sympathy with them; and

WHEREAS, our indifference and inactivity on the day when victorious communism celebrates another anniversary of unimpeded expansion, is equivalent to moral capitulation and betrayal of all those who had the courage to defend their and our freedom: Now, therefor, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That: The President of the United States is authorized and requested to issue a proclamation designating each November 7th as the "MEMORIAL DAY FOR VICTIMS OF COMMUNISM" and invite the people of the United States to observe such day with appropriate ceremonies and activities. The President is further authorized and requested to issue a similar proclamation each year until such time as freedom and independence from international communism shall have been achieved for all the captive nations of the world.

Approved by President Xxxxxxxx X. XXXXXXXXX, Xxxx XX, 198_.

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- South-East
Very Rev. B. Vlasenko
- North-West
G. Avisov
- South-West
I. Awtamonow
- Indiana
I. Korolenko
- Illinois
A. Bazkorovainy
- N. Carolina
G. Fesenko
- Wyoming
S. Kasakow
- Oregon
A. Kennedy
- Alabama
V. Logvinov
- Tennessee
H. Logvinov
- Colorado
A. Malyshev

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School in City Remains Faithful to Russia of Old



The New York Times / Ruby Washi

The Right Rev. Anthony Grabbe, founder and principal of St. Sergius High School in Manhattan, stands near an icon of Mary and Jesus. Eugene Koltunov, an émigré from Kiev in the Ukraine, writes in Russian. Olga Nekvasova teaches geography to Camille Brown and Eugene Kulik; Oleg Chernobrodsky watches.

By JAMES BROOKE

Camille Brown intently studied "The Atlas of Our Motherland." Then, leaning over her exercise map, she wrote in Cyrillic letters, "Cher-noye More."

Few ninth-grade students in New York high schools are asked in geography class to identify the Black Sea in Russian. But for Camille and the 46 other students enrolled at St. Sergius High School in Manhattan, one of a handful of bilingual Russian-English schools in the United States, such an assignment is commonplace.

St. Sergius, situated in a neo-Georgian mansion at Park Avenue and 93d Street, is celebrating its 25th anniversary of teaching students Russian history, language, literature, geography, music and art, along with other subjects.

Since 1959, the school's founder and principal, the Right Rev. Anthony Grabbe, has struggled to maintain this corner of Russian culture in Manhattan. He says he believes that American ignorance of Russian language and culture has changed little since the days of the Sputniks.

Study of Russian Declined

"In the Soviet Union, there are more teachers of English than there are students of Russian in the United States," he said.

Indeed, the number of American public high school students studying Russian fell from a high of 26,716 in 1965 to 5,702 in 1982, according to the American Council on the Teaching of Foreign Languages, a private organization of foreign-language teachers.

"In the late 60's, when college language requirements were dropped, enrollments fell and Russian took it on the chin," said C. Edward Seeboldt, executive director of the council.

Like the elite English-language schools in the Soviet Union, St. Sergius teaches some classes in Russian and some in English. But St. Sergius offers a curriculum approved by the New York State Board of Regents in a learning atmosphere redolent of turn-of-the-century St. Petersburg.

The students, two-thirds of whom are Soviet emigrants or of Russian



descent, wear brown uniforms, the color of school uniforms in czarist Russia. On one wall is a photograph of Czar Nicholas II, and on another is a family tree tracing Russian nobility back to Rurik, who founded the Russian state in 862 A.D.

In Father Grabbe's office, icons

and illuminated manuscripts decorate the walls and sweet-smelling incense diffuses in an amber light. Father Grabbe, a robust man whose thick beard flows over the front of his podryasnik, or cassock, holds the title of Archimandrite in his church, the Russian Orthodox Church Outside

School Stays Faithful to Russia of Old

Russia. As Archimandrite, he oversees Orthodox congregations in Addis Ababa, Teheran, Beirut, Jerusalem and Istanbul.

The Archimandrite recalled how "a miracle" 25 years ago helped him expand his Russian school from a Saturday school for children to a full-curriculum, 10-grade school.

"One day," he said, "two elderly women came into my church with a centuries-old icon of Saint Thekla," the patron saint of builders. "Within one month a benefactor gave us this building."

School's 2 Benefactors

There were actually two benefactors — Edith Baker, the widow of George F. Baker Jr., who had been president of what is now Citibank, and Serge Semenenko, a vice president of the bank.

Leaving the interior of the Park Avenue mansion virtually intact, Father Grabbe converted the ballroom into a chapel, the laundry room into a laboratory, the walk-in safe into a library and the servants' quarters into classrooms. The building is shared with the Synod of Bishops of Father Grabbe's Orthodox Church.

Father Grabbe said his school welcomed students regardless of religion or race, and he estimated that a third of the students are Jewish or of mixed Jewish-Russian marriages. One year, he said, a black student won the award for the best student of Russian language.

On two occasions, Father Grabbe said, he gave a "a definite no" to feelers from the Soviet mission to admit Soviet children to his school. He sees

the 67-year-old Soviet Government as "a passing moment in Russian history." To protect his students from Soviet influence, he says, he tears all references to Marx and Lenin out of Russian-language textbooks imported from the Soviet Union.

With the school emblem inscribed in Old Church Slavonic lettering, St. Sergius may seem imbued with the spirit of czarist Russia. But Father Grabbe and former students agree that several hours of homework a night and a 3-to-1 student-teacher ratio succeed in the modern world. All St. Sergius graduates have gone to college, Father Grabbe said.

On a recent night, about 50 St. Sergius graduates gathered in a Greek restaurant in Queens to celebrate the school's anniversary. As a Russian baritone sang, they reflected on how a Russian schooling had affected their adult lives in America.

"If it weren't for St. Sergius, I would never have developed my literary Russian," said Antonina W. Bouis. "All I had before was what we call 'kitchen Russian' — 'pass the salt' and that sort of thing."

Reinforced Traditions

After graduation, she became a Russian-English translator, translating the poems of Yevgeny Yevtushenko and the memoirs of the composer Dmitri Shostakovich.

Her cheeks flushed from dancing the polka, Olga Mimeyev-Nedelt-scheff, a law student, said: "St. Sergius reinforced a lot of traditions I value. My son, Misha, is 5, and he only started English last year."

At another table sat a patron of the school, Michel G. Stcherbinine, resplendent with his silver hair and black tie. He kissed Father Grabbe's ring and then explained why he had supported the school from the beginning.

"While the coming generations become more and more assimilated," he said, "it is important that they know about their rich cultural heritage."

As times change, however, benefactors such as Mr. Stcherbinine are increasingly rare. Tuition at St. Sergius — \$1,700 for grades 3 to 6, and \$4,000 for grades 7 to 12 — will account for only 15 percent of this school year's budget. On this year's balance sheet, 74 percent is marked "anticipated contributions."

Twenty-five years ago, Father Grabbe started his school with a bank account of \$92. Today, as then, he likes to joke that his major account is held in "the Bank of Faith and Hope."

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June 18, 1991

Mr. Jack Burgess
Deputy Director
Office of Public Liaison
Room 128
The White House
Washington, D. C. 20500

RE: Conversation of 6/8/81 regarding A. Andreyewsky

Dear Jack:

At the recent national convention of the Heritage Groups Council I discussed with Dr. Alexander Andreyewsky his work on automating foreign-language information processing and translation. It is my understanding that a consensus is being developed in the Government about the urgency of this leading edge of technology.

I have read with care the materials which I am sending to your office with the belief that the White House will review the questions raised.

Dr. Andreyewsky has contacted several Washington offices, including that of Admiral Inman and members of Congress concerned with the alarming developments in this field. He has also contacted the Department of Commerce, the President's Export Council, Office of Technology and Assessment, GAO, and others.

The work done by Dr. Andreyewsky at Carnegie-Mellon University came to the attention of the State Committee for Science and Technology of the Council of Ministers of the USSR. He received unprecedented feelers to establish cooperation in the area of terminology exchanges, which the previous administration met with demurral.

All sensationalism aside, Dr. Andreyewsky has had extensive discussions with high-ranking Canadian and West German government officials as well as with the officials of the European Economic Communities. The Europeans, and particularly the

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PETER R. BERESKIN

Letter to Mr. Jack Burgess, page 2

Japanese, are investing considerable effort to develop many of the areas Andreyewsky's proposals address.

The White House will readily appreciate the significant advances Dr. Andreyewsky has made. Your personal intermediacy will be important in the process of evaluation which, unquestionably, will require discussion between Dr. Andreyewsky and computer professionals.

On a separate sheet I have set down observations which I made during my conversations with Dr. Andreyewsky and other informed parties.

I have the privilege to recommend Dr. Andreyewsky to the White House. I am sure that the President will be able to see that his Administration will support innovation consonant with his policies and the national interest.

Thank you for your continued assistance.

~~Very truly yours,~~



Peter R. Bereskin

PRB/npb
cc: A. Andreyewsky
V. de Grave

Enclosures

PETER R. BERESKIN

The broader implications of Andreyewsky's proposals:

1. The probable extent of the information overload suggested by Andreyewsky's data is disturbing. The examples of our neglect of just the Soviet advances in polymer chemistry are indicative of the shape of things to come. We must act to deal with the information overload and learn how to control its effects in the future.
2. Andreyewsky's concerns with terminology go far beyond conventional dictionaries. Yet, the dangers of relying on Soviet produced dictionaries in almost all our dealings with the USSR leave room for concerns regarding Soviet ability to manipulate our knowledge and direct it toward the areas they want us to see. We must ask ourselves why is dictionary work under KGB control in the Soviet Union?
3. Proposals to develop natural-language interfaces with computers, implement database access in many languages, and explore spin-off applications have an obvious commercial potential. However, one must bear in mind many defense and intelligence applications in need of immediate attention. These applications differ appreciably from business needs in many cases.
4. Andreyewsky's approach to dealing with the information overload is based on years of experience, careful research, and intimate knowledge of what computers can and cannot do. We must guard against technologically obsolete solutions like machine translation: the cure proposed may turn out to be much worse than the disease itself.
5. The Soviet Union is years ahead of us in terminology work, dictionaries production, and related work. We can and must capitalize on the Soviet experience. While most people think that all there is to producing dictionaries is developing lists of words and their equivalents, the main cost is testing the meanings out. Using Soviet materials for groundwork, we can reduce the \$10 per entry cost considerably. Since we have to deal with millions of entries per language in as many as 65 languages and their combinations, Andreyewsky's work addresses a billion dollar challenge. The dollar savings aside, this may be the only way we can overcome in a short time the **cumulative** effect of years of neglect.
6. We must recognize mind control for what it is and understand its workings in highly computerized environments. We must do that to protect our freedoms and in order to learn to use it in legitimate ways to protect our interests and advance them.
7. English is a major language. Yet, we must examine calmly what

PETER R. BERESKIN

English-only policies are doing to us: we are in danger of losing markets, and our military assistance programs suffer from this, too. Ultimately, we must realize that it is at least as important to make the world think American as it is to have them speak English. The first step may well be to make the world think U.S. goods and services.

8. We must recognize the importance of information for our future survival in the Post-Industrial Age. Yet, we are letting international conglomerates buy up our databases, and control them. The shape of things to come may well be foreshadowed by the recent efforts to sell a Soviet four-ruble dictionary (\$1 in real costs) for \$113 in American markets.

9. Dealing with conventional computers will require specific ways of communication in a grossly oversimplified English. The same kind of English is useful in making human communication clearer. Communicating with enemies is as important as communicating with friends. Just as we need the "hot line" between Moscow and Washington, we need to develop for Russian and English what we have for Chinese and English, a Russian-English Translation Assistance Project. The objective of clear, efficient communication is as important for us as it is for the Soviets.

10. The proposals have many possible spin-off applications. In the final analysis, however, their greatest contribution is in improving communication and providing the U.S. with the kinds of tools and resources it needs to get the message across in any language.

guage. Most importantly, concepts grow at annual rate of about 1 million.

WHAT ARE SOME OF THE IMPLICATIONS OF FAILURE TO SEE THE CHALLENGES AS THEY ARE?

A False Sense of Security: Working under the assumption that the problem is up to 10,000 times smaller than what it may actually be (0.0005 billion words in a world of 5.0 billion concepts) offers a false sense of security and distorts priorities. It is unimportant, in a way, what the actual number of concepts may turn out to be. However, there is a tremendous turnover of active vocabulary seriously affecting any automated solution in the area of language and information processing. All the devices are not worth very much, if the cost of making them work is many times the cost of developing them. It is alarming when human information gathering operations find themselves with "no problems" when it comes to new vocabulary.

The Economics of Current Approaches: Attempts to cover all of at least 300 disciplines in 64 languages in science and technology alone would require over 1,200,000 unique dictionaries. Filling these dictionaries with just the actively used vocabulary may well cost close to \$400 billion. Yet, the approach to terminology proposed in the attached can cut this cost to under 1.5 per cent of this figure and eventually turn terminology development into a minimally self-supporting operation. No breakthroughs in software or hardware can solve this problem and eliminate this obstacle.

What Price Loss of Information?: What we do not know does hurt us. As the result of our refusal to face the challenges, we suffer from the loss of information. We ignore not only the news of new kinds of conductivity, improved Kevlar, or better ways to powder-spray plastic but also we open ourselves to being manipulated in what we know in the first place.

THE DARKER SIDE OF THE COMPUTER MILLENIUM?

Thought control is an emotionally charged, negative term. Yet, we must ask ourselves candidly what are the implications of "99 per cent" of everything we learn about the Soviet Union from the printed word filtering through Soviet-produced dictionaries? Semantic infiltration, the fact that we know very well what the other side means by "democracy" or "socialism," is the least of the problems. Manipulative uses of concepts are much less obvious and more dangerous.

However, thought control is much more pervasive and closer to home than we like to think. It is nice to think of paperless offices and computer terminals in every living room. At the same time, many of the measures proposed in the attached offer ideal tools for developing precisely that. We can open ourselves to abuses or learn to control them and put the same mechanisms to legitimate and constructive uses.

IS ENGLISH REALLY THE NEW "ESPERANTO?"

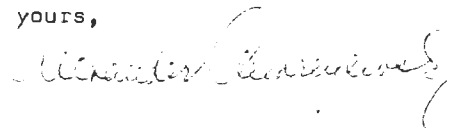
We have gotten along in English. The question to ask is at what price? There are matters as simple as how well our equipment is utilized with English-only manuals and matters as complex as the possibility that unwittingly we may be setting up Saudi Arabia to be the next Iran.

While we can be heard around the world, can we hear what is being said? We are proverbially uninformed, and, as has been pointed out by many observers, at the mercy of compradors in our business dealings in foreign countries. Do we fare any better in diplomacy and intelligence gathering? What do we gain by ignoring foreign-language information as a matter of policy or belief that anything that is any good will be available in English?

The ultimate question the measures proposed seek to address is what do we gain by insisting that the world learn to speak English? Is there a lesson to be learned from the Soviet experience, which is, unfortunately, not unsuccessfull, of making the world think Communist in many tongues? Minimally, there is a practical payoff of making the world think U.S. goods and services. Is it rational to promote a tactic that has served us well in the past into a major article of strategy that is leading us on the road to stagnation, alienation, and decline as a world power?

The preceding offers some of the background materials one may wish to keep in mind when examining the measures proposed. Perhaps, too, what has been said can help gain a sense of perspective on the full potential, business and otherwise, of what the measures proposed can help to achieve.

Sincerely yours,



Enclosures

A LETTER TO U.S. LEADERS

Alexander Andreyewsky
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Telephone: (914) 628-4506

WHY THIS LETTER?

The attached SUMMARY OF PROPOSALS outlines the business potential of new products, services, and applications designed to deal with the information overload in many languages and to develop advanced spin-off applications which have a direct bearing on the global interests of the United States. The immediate payoff is seen in terms of greatly improved conventional office automation, information processing, and related technologies with various options to enhance U.S. competitive position in international markets. However, the full potential of what is proposed requires taking into account the broader implications of challenges addressed.

SO WHAT IF THERE IS A NEW KIND OF CONDUCTIVITY?

We all know from elementary physics that there are only conductors, semiconductors, and dielectrics. What are the implications of a dielectric (a polymer, or "plastic" insulator on an electric cable) becoming a conductor (acting as if it were copper, for instance)? Published scientific evidence notwithstanding, we know it cannot be done... Can an overtightened clamp on a perfectly insulated cable lead to an accident?

Are there other things we know equally well? Unfortunately, the litany can be continued. Can one pulverize plastics? Are the Soviets capable of improving on Kevlar, which we use not only in bulletproof vests but also in a lot of our military hardware? These are facts up to two years old from off-the-shelf literature our scientists, it seems, were surprised to learn.

IS THERE A SELF-IMPOSED IGNORANCE INDEX?

- (1) An average-length book (ALB) is generally assumed to contain 75,000 words.
- (2) Technical documentation for a single project or a single piece of equipment increasingly appears in multiples of 100 million words of text, or over 1,300 ALB-equivalents.
- (3) Estimated U.S. Government translation efforts (no official figures available) amount to no more than 4,000 ALB-equivalents annually.
- (4) Soviet science and technology news abstracts (mid-1970s data) culled from information collected from 117 countries in 64 languages amount to what may be close to 1 billion words annually, or over 13,000 ALB-equivalents.
- (5) Soviet publishing efforts (new titles, same period) account for easily 130,000 ALB-equivalents annually.
- (6) Soviet bureaucracy output (same period, Soviet data) amounts to some 4 billion documents annually, or at least 6,500,000 ALB-equivalents.

With all due adjustments, the Soviet data suggests something about the comparable outputs of the other 116 countries Soviets are concerned with. Yet, U.S. Government claims competence in 130 languages and dialects, which suggests more ambitious coverage. The basic question is how much do we really know about what is going on in the world?

COMPUTERS THAT CAN'T

As a matter of policy, we have ignored for the last 15 years all but the most future-oriented research in information and language processing by computers. As in the case of our superweapons, we have some of the most advanced research in artificial intelligence looking beyond the year 2000 and try to make do with technologically obsolete solutions of the 1950s. While mechanical translation fails in test after test, we have an unending succession of better mousetraps, and have developed "tunnel vision" regarding the realities we have to deal with.

HOW BIG IS THE WORLD WE LIVE IN?

When asked about the number of words in a language, most people usually come up with an estimate of about 500,000 words. Yet, there is published evidence, dating back to 1966, that the number of "vocables" in language like English can be at least 10 million.

If instead of counting words, one turns to the things, or concepts, the words refer to, the 10 million figure may well account only for the actively used vocabulary. This is only 0.2 per cent of the nearly 5 billion possible terminology in any lan-

A PROFILE OF MEASURES PROPOSED

Primary areas addressed include U.S. markets for (1) improvements in text and information processing technologies, (2) multilingual information processing capabilities, and (3) related spin-off applications. Secondary areas addressed include international markets for (a) improved U.S. text and information processing technologies with multilingual capabilities, (b) multilingual information processing, and (c) selected spin-off applications.

1. IMPROVEMENTS IN U.S. TEXT AND INFORMATION PROCESSING TECHNOLOGY

With over \$5 billion expected to be spent annually by 1984 for word processing and office automation in the U.S. alone, technology improvements can be expected to yield high payoffs. This is especially true, if such improvements can enhance the marketability of U.S. equipment worldwide.

With ordinary computers expected to be the rule for at least the next decade, major attainable improvements are possible in the area of simulating computer-understanding of natural languages. There are two major applications possible:

a. Input-Text Controls: Insuring that grammatically well-formed input in any language is unambiguously analyzed by a given computer--implemented algorithm, and, therefore, "understood" requires controlling the vocabulary and sentence structure of input texts. This function is important in many applications, ranging from more sophisticated spelling verification to information processing, contents analysis, automatic translation, and so on.

There are many extensions of this basic function and several variations possible. For example, part of "understanding" may involve different character sets for multilingual applications. Other possibilities may include text-editing aimed at improved human understanding in whatever language, training in effective communication in English or foreign languages, and, even, applications designed to prevent unwanted "communication" of document contents in classified or similar environments.

b. Document Design: If input-text controls can make the communication understandable, the task of document design is to make it as stereotyped, economical, and effective as possible. Various options need to be additionally discussed.

Possible products include, for example, input-text controls, its extensions, and variants packaged in a large number of ways. These need to be discussed in detail separately. One commercially attractive possibility would be the development of an interface or stand-alone device, which can be tentatively named PARSEWRITER. The PARSEWRITER, for example, can be designed to compete with current word processors, with every user of a present-day typewriter being a po-

tential customer. The PARSEWRITER can have interchangeable modules for different languages, vocabularies, dictionaries, grammars, and whatever other things that may be devised or necessary. Such modules can be supplied through mass-markets, customized, or self-generated by the user.

2. DIRECT ACCESS TO INFORMATION IN MANY LANGUAGES

Dealing with unprecedented volumes of information in many languages will require developing multilingual information processing to avoid waste and delays associated with currently prevalent methods for coping with the problem. Much of what is required by way of technology and hardware is even now in place. For this reason, developing the multilingual database access (MDA) package should pose no major problems, especially if a PARSEWRITER-like device is available. The key ingredient, in the long run, is special terminology, which has to be based on the things words refer to, or the concepts, and systems of such concepts.

To be sure, in limited applications, the task of developing concepts-based terminology is not a major undertaking and it ties in with applications like document design. More ambitious and systematic efforts can benefit greatly from some of the measures noted below.

Possible products include expansion of existing U.S. information marketing efforts or development of directly competing efforts to specialize in foreign-language databases only. The MDA package can be used for special applications on U.S. or foreign-government projects, or it can be an option included with improved U.S. text and information processing technologies intended for international markets.

3. SOME RELATED APPLICATIONS, SPIN-OFFS, AND NEW PRODUCTS

All of what follows next is intended by way of illustration only.

- With mushrooming numbers of do-it-yourself programmers, a PARSEWRITER-like device can be used to control input and well-formedness of instructions in programming languages or to help train future programmers.
- Document design, terminology development, and other applications of this nature belong to the class of automatic classification problems and can be increasingly automated.
- Terminologies and systems of concepts they refer to can be produced gradually and semi-automatically. However, since Soviet dictionaries are not protected by copyright until mid-1970s, their superior technical know-how in this area is available for the cost of input. The spin-off in this case involves new kinds of dictionaries for human and automated uses not only for Russian and English but also for many other languages.
- Systems of concepts have many applications in the area of information analysis and control. Thus, one can look forward to forecasting trends and developments in science and technology, to controlling the information overload, or to developing more sensitive applications in business and government.

ADDITIONAL INFORMATION IS CHEERFULLY SUPPLIED ON REQUEST.

SUMMARY OF PROPOSALS

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Telephone: (914) 628-4506

New products, services, and applications are proposed to produce the following payoffs:

- (1) Major improvements in existing conventional office automation, information processing, and related technologies requiring natural language processing by computers.
- (2) New capabilities for multilingual information processing designed to provide direct access to information in foreign languages and increase the effective automation of associated language and information processing tasks.
- (3) Advanced spin-off applications to develop new forms of information analysis and control.

All of what is proposed addresses the needs of a potential billion-dollar market worldwide and can increase the effectiveness of U.S. involvements in international markets. There are obvious defense and intelligence applications and other uses products, services, and resources proposed can be put to in order to further U.S. global interests.

1. NATURAL-LANGUAGE COMPUTER INTERFACE: Improvements in Existing Conventional Technologies

- 1.1 The Problem: Information and language processing applications require natural-language understanding by computers. Until such time, decades from now, as artificial intelligence is in widespread use in the areas being considered, one can look forward to dealing only with "unintelligent" conventional computers. The task of interfacing and communicating with such conventional computers is central to all applications considered next and requires developing special tools.
- 1.2 The Solution: The special tools required are those necessary to achieve input vocabulary and sentence structure control to make natural-language communication conform to the requirements of a given computer system or any number of such systems. Initially, the task is to develop input text pre-editing to be followed by work on document design.
- 1.3 Applications: Input text pre-editing is currently done, for the most part, manually and is geared to the requirements of specific applications. Inasmuch as such pre-editing is useful in improving human communication as well, the task of input text pre-editing can have many applications involving variations on a basic theme: making the language and the information "understandable." Thus, the task of communicating with computers can be broadened to include humans; the task of facilitating communication can be turned around to hinder it in order to protect the security of information; and, finally, for all the applications there are training functions. All of these permutations can be spelled out, but the most awesome implication of measures proposed is that they provide the vehicle for "thought control," which can be put to both positive and negative ends.
- 1.4 Possible Products: The basic applications noted preceding can be variously packaged. The following examples are provided by way of illustration only:
 - Special devices or software to go beyond the current spelling verification and text formatting programs and include gradually more sophisticated features such as grammar analysis, punctuation checks, and many other options.
 - Limited-input "fully automatic" mechanical translation (LIFAMT) to deal with the task of translating various sublanguages of the same or different natural languages.
 - Training aids which can be application-related or may involve instruction in the language of the country or foreign languages.
 - Coding devices in classified and unclassified environments to protect document security.

2. MULTILINGUAL INFORMATION PROCESSING: Direct Access to Foreign-Language Information

- 2.1 The Problem: The currently prevalent assumption that the way deal with foreign-language information is to translate it into one of the 65 languages spoken in any one of at least 120 countries is an increasingly unworkable proposition which can be statistically demonstrated, given current volumes of information. The situation is further aggravated by false hopes pinned on current conventional machine translation (CMT) efforts and as yet limited potential of LIFAMT (because of the lack of input text pre-editing and document design aids).
- 2.2 The Solution: The key multilingual information processing capability is direct multi-

lingual database access. This capability would make it possible, for instance, to access foreign-language databases in English, search them for relevant information, and eliminate unnecessary translation and with it the expenses, delays, and the waste of human and technological resources. Much of what is required by way of hardware and software to implement multilingual database access is even now in place. The chief concern is to develop special terminology which takes into account the things, or concepts, terminology refers to. Such concepts-based terminology and respective systems of concepts it refers to have many applications in areas other than multilingual information processing and involve advanced spin-off applications discussed below.

- 2.3 Applications: There are many applications possible to expand the multilingual information processing package, all of which can be discussed in case of interest. However, the core is formed by multilingual database access and concepts-based terminology.
- 2.4 Possible Products and Services: As in the case of natural-language computer interfaces, there are many ways the basic applications in the area of multilingual information processing can be packaged. The next few examples are provided for illustration purposes.
- . Expanding existing information marketing facilities of individual U.S. corporations or developing new ventures to specialize on foreign-language information only either to compete with such efforts or to develop a pool of resources to be shared by U.S. business and government alike. Whatever the "packaging," we can no longer ignore the existence of such databases and the value of direct access to foreign language information.
 - . Special projects applications require some of the same facilities as do the commercial applications, but on a smaller scale. One can envision in-house applications for continued use or even one-time projects where the volumes of information are such that it is impossible to deal with them by any other means. Specific examples of such "gargantuan" projects can be supplied on request.
 - . Concepts-based terminology can be developed at a fraction of the cost and expenses involved by following specific strategies which can be discussed in detail. In fact, the task of terminology development can be turned minimally into a self-supporting venture financially. One example is the development of new kinds of dictionaries for both human and automated applications.
3. INFORMATION ANALYSIS AND CONTROL: The Need to Control Information Overload and Go Beyond
- 3.1 The Problem: The current information overload in the areas of science and technology alone has reached unprecedented proportions and can be expected to become only worse. Along with the ways designed to deal with the information overload and mentioned in the preceding, it is necessary to consider ways in which this essentially sensory overload can be controlled. The task of controlling the information overload will be seen to require developing some new and sophisticated applications which can now be only considered as being in experimental stages.
- 3.2 The Solution: As currently proposed, concepts-based terminology provides the means for interpreting information in many languages in terms of an essentially unique set of concepts, their various combinations, and systems. This can be used to deal with the effects of the information overload and to control it in the future by a number of means to be discussed, if interest exists.
- 3.3 Applications: Systems of concepts can be compared to what has been developed in chemistry: a set of elements, which can be combined in accordance with specific rules to account for some 5.5 million known substances. Stated differently, there is a chemical model of the world. To be sure, models of the world in other disciplines and other areas are not likely to be as rigorous and systematic as they are in chemistry, but the approach is of critical importance and empirically useful models can be developed as a virtual spin-off of the applications described in 1. and 2.
- 3.4 Possible Products and Services: At this stage in the development of applications proposed in this area, it is difficult to speak of specific packaging. Examples of possible products and services include the use of various models of the world in well-defined applications to monitor developments, forecast major trends, and search for new knowledge. There are other applications of such capabilities to promote legitimate objectives of advancing commercial interests, or further applications which may be easily misunderstood and require a measure of discretion in their presentation. Ultimately, if the U.S. tended to be concerned with making the world speak English, the Soviet Union showed an even greater concern for making the world think Communist; there is, perhaps, a lesson to be learned from this in making the world think U.S. goods and services.

2.4.3 Rounding Out and Expanding Dictionary Holdings: The job of developing second-order bibliographies can be highly automated. Initially, the efforts must concentrate on open-shelf literature. As these holdings are covered, one can begin to dip into classified holdings to (a) rid them of unnecessary contents, and (b) to increase the effectiveness of classified operations. Once such facilities are on-line, centralized acquisition of data and other benefits can greatly improve the cost-effectiveness of operations involved.

2.4.4 Automating Dictionary Development: Concentrating initially on previously translated materials, the task of developing new dictionary entries can be gradually and increasingly automated. As systems of concepts are developed, this can include even automatic classification of entries.

2.4.5 Developing Systems of Concepts: There are several complementing methods for developing systems of concepts with varying degrees of automation possible. Raw data includes dictionary entries, translated materials, and other information. Specifics can be discussed in detail, if necessary.

2.4.6 Creating Market Mechanisms to Accelerate Dictionary Development: The author has developed and previously proposed a number of methods to reduce costs and accelerate development of terminology in ways which can be discussed in detail, if needed.

2.4.7 Implementing Multilingual Database Access: The task of developing pilot operations can begin almost independently of any of the measures described in 2.4.1 - 2.4.6. However, almost all of what was mentioned so far must be ready for such pilot operations to be expanded, even in limited areas such as Soviet rocket manufacture or whatever else is of interest.

3. DEVELOPING INFORMATION ANALYSIS AND CONTROL

There are two distinct but interrelated applications involved, as outlined in 3.1 and 3.2 next.

3.1 The Long-Range Goal of Using Systems of Concepts: There are fairly obvious military and intelligence applications of systems of concepts along the lines suggested in author's SUMMARY OF PROPOSALS and A LETTER TO U.S. LEADERS. Additional elaboration of specific applications may prove self-defeating in the present context. A detailed discussion with qualified individuals is invited.

3.2 The Immediate Payoff of Computer Interface Facilities: The classified applications of computer interface facilities described in 1. of SUMMARY OF PROPOSALS can be likewise discussed with qualified individuals.

4. SOME SPECIAL CONSIDERATIONS

Although U.S. business community can benefit greatly from developing the measures proposed, its interests diverge significantly from those of the military and intelligence community. Thus, while Russian-English capability can be the trailblazing activity for all concerned, the interest of the business community may be limited to publishing new kinds of dictionaries that can emerge from activities proposed in 2.4. Similarly, while the business community is concerned with the sale of U.S. goods and services, the concern of the military and intelligence communities is with peaks of information overload that may develop as a result of capturing, for example, documentation for a Soviet MIG, all of some 100 million words of it, and processing it in the shortest possible time.

Minimally, it seems, therefore, some in-house capabilities must be developed for classified applications in the areas examined so far. These would involve not only hardware and software but also involvement of other governments, which requires some discretion. However, such dealings, perfectly legitimate under any circumstances, can greatly benefit U.S. governmental operations while not being readily available to the general public.

5. CONCLUSIONS

As in the case of business applications, the defense and intelligence applications require taking into consideration not only the specific measures proposed but also the possible uses resultant products, services, and resources can be put to. More than ever, the question of how we are going to do it must be asked only after we are clearly aware of the answer to why we are going to do it in the first place. It is in attempting to answer the why, in setting the goals, that the measures proposed call for a new sense of perspective on what the U.S. can do: respond to the challenges rather than just react to them; try to control the situation, and in so doing seek ways we can deal with it best.

DEFENSE AND INTELLIGENCE APPLICATIONS
OF AUTHOR'S PROPOSALS

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0. BACKGROUND

The essence of author's proposals is reported in the attached SUMMARY OF PROPOSALS. Additional information is provided in A LETTER TO U.S. LEADERS, which is also attached. The following concentrates on defense and intelligence applications only.

1. THE CHALLENGE

The immediate challenge is to deal with unprecedented volumes of information in many languages. Ultimately, the goal is to develop increased information analysis and control.

2. DEALING WITH MULTILINGUAL INFORMATION OVERLOAD

2.1 The Problem: The currently prevalent assumption that the way to deal with foreign-language information is to translate it into English and then process it for contents is unworkable. There is just too much information, we lack the necessary combinations of linguistic talent and technical skills, and machine translation is a proven non-solution.

2.2 The Strategy: The proposal is to develop direct access to information in many languages and eliminate all unnecessary translation. Much of what is required to implement this approach is even now in place. The key element is concepts-based terminology which takes into account not so much the terminology itself, but the things, or concepts, terminology refers to. This kind of terminology and the systems of concepts it refers to will be seen to have many applications, especially in the area of information analysis and control.

2.3 Tactics: While working on the development and implementation of multilingual database access described in 2.2, one should optimize the effectiveness of existing manpower and technical resources. This objective is best accomplished by developing dictionaries usable by humans, which can eventually provide the raw material for producing both the concepts-based terminology and systems of concepts.

2.4 Proposals: In considering the possible benefits of what is proposed next, it is important to bear in mind the following:

- a. Comprehensive coverage of any n languages requires $n(n-1)$ bilingual correspondences. Therefore, dealing with 64 languages one must have over 4,000 conventional general-purpose dictionaries. The concepts-based approach can provide equivalent coverage with only $n-1$, or 63 general-purpose dictionaries. This is the same as the number of dictionaries one would need anyway to have minimal coverage of n languages into English (Russian-English, German-English, Spanish-English, and so on).
- b. Costs of developing, updating, and maintaining terminology are a function of manpower requirements. Thus, cost-effectiveness is a measure of possible manpower savings.
- c. Thoroughness of coverage in any one language pair is a matter of managerial discretion. However, if it turns out that the Russian-English dictionary file will contain 10 million words, the same can be expected for Spanish-English, and so on. Given potential dictionary sizes of several billion per language, missing words are a healthy sign (one is dealing with new information) and the number of such words increases dramatically with any effort to automate.

2.4.1 Concentrating on Russian and English: Inasmuch as Russian-English dictionaries reflect our military and intelligence priorities, this is a logical starting point. In addition, technically speaking, Soviets have one of the best efforts going in this area, and anything developed for Russian and English can be used as a prototype for all other languages.

2.4.2 Consolidating Dictionary Holdings: Starting with Russian-English dictionaries, then turning to English-Russian dictionaries, then any language and Russian, then any attested language pair, and so on, the task is to develop second-order bibliographies of dictionary holdings. Thus, assuming for the moment that Russian sobachka = English drop pawl is a "book," such bibliographies should be able to tell us what dictionary ("library") this "book" can be found in. This approach has enormous practical implications and completely eliminates copyright problems. In the course of developing such second-order bibliographies, it will be necessary to keep future uses in mind and pick up specific information required.

RESUME

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RECENT EXPERIENCE (1970 to present, or 1981)

1975 - 1981 Technical Translation Systems, Ltd., Baldwin Place, NY

- . Currently developing multilingual information processing, expected to result in expanded markets for improved office automation, information processing, and related technologies, new products, and advanced applications.
- . Established and managed a successful international translation and consulting business with corporate clients including Fortune 500 and foreign firms.
- . On adjunct status with State University of New York at Albany, Albany, NY

1979 - 1980 Carnegie-Mellon University, Pittsburgh, PA

- . Adjunct Associate Professor, Co-Director of the Center for the Study of Translation.
- . Helped to develop the Center with cooperation from Computer Science Department, took part in the development of a first-of-its kind operational proto-system of computer aids for translators, and initiated other projects.
- . Managed the Center's staff, developed funding opportunities, and achieved working relations with U.S. and foreign government agencies, universities, and businesses.

1970 - 1975 State University of New York at Albany, Albany, NY

- . Taught graduate and undergraduate subjects in Slavic linguistics.
- . Worked on projects to develop terminology and translation aids.

PREVIOUS EXPERIENCE (1960 - 1970)

1962 - 1970 IBM Watson Research Center, Yorktown Heights, NY

- . Research Staff Member. Involved in language processing, machine translation, and basic research projects.
- . Led technical team efforts on government contracts, maintained liaison with subcontractors (Library of Congress and New York University), and monitored their performance.

1960 - 1962 Colgate University, Hamilton, NY

- . Instructor of Russian language and literature, Associate Director of the Summer Institute on the Soviet Union.
- . Consulted on IBM Russian-English machine translation dictionary project.

EARLY EXPERIENCE (pre-1960)

1959 - 1960 Syracuse University, Syracuse, NY

- . Initially translated Soviet aviation periodicals.
- . Managed team effort to develop the first 120,000 entries for IBM Russian-English machine translation dictionary.

Prior to 1959 worked in Austria (U.N. International Refugee Organization) and in the United States. Served in the U.S. Army (honorably discharged).

EDUCATION: Ph.D. in Slavic Linguistics from New York University (1973); Graduate Studies in Linguistics at the Massachusetts Institute of Technology (1969); M.A. in Slavic Linguistics from New York University (1966); M.A. course requirements in Economics at Syracuse University (1960); and B.A. in Russian Studies from Syracuse University (1958).

LANGUAGES: Russian, German, Serbo-Croatian, French; working knowledge of several Slavic and Romance languages.

Translators and Machines — Can they Cooperate ?

ALAN K. MELBY

Despite early fears and thirty years of work on machine translation, very few human translators have been replaced by computers. The METEO system (Chandioux, 1976), one of the most successful machine translation efforts, still uses humans to translate problem sentences. The computer translates only the straightforward portions of daily weather forecasts, which become extremely boring work for human translators.

The time has finally come when translators and machines can call a truce and begin an era of significant cooperation. Machines can become servants rather than enemies.

This article is divided into five sections : 1) Some fundamental questions about the nature of machine translation, 2) a brief history of machine translation, 3) a description of an experiment in cooperative translation called ITS (Interactive Translation System), 4) a prediction of the future of ITS, and 5) a few suggestions to translators who want to prepare for the future.

1. SOME FUNDAMENTAL QUESTIONS

There are three fundamental questions that need to be considered by anyone working in machine translation.

Question one : Is there an essential difference between humans and machines ? This may not seem to be an issue to some because the answer is so obvious. The trouble is that to some there is obviously an essential difference and to some there is obviously not. The author assumes that most linguists and translators, being basically humanists, believe humans and machines to be fundamentally different and that computers cannot think and will never do so. The following two quotations from respected scientists reveal a viewpoint which does not clearly distinguish humans and machines.

George Miller, a psychologist, has written :

Many psychologists have come to take for granted in recent years... that men and computers are merely two different species of a more abstract genus called 'information processing systems'. The concepts that describe abstract information processing systems must, perforce, describe any particular examples of such systems (Miller, 1972).

Simon and Newell, researchers in Artificial Intelligence, claimed over twenty years ago :

There are now in the world machines that think, that learn and that create. Moreover, their ability to do these things is going to increase rapidly

Perhaps, one of the most important results of work on machine aids to translation will be an increased respect for the complexity and difficulty of creative human translation.

It is unclear how soon machine aids will be used by a significant number of translators, but movement in that direction is certain. Translators and machines can and will cooperate.

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APPENDIX

INTERACTIVE TRANSLATION SYSTEM DEMONSTRATION

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Text Preparation

Before a text can be processed by the computer, it must be in a form that the computer can read: punched cards, magnetic tape, etc. It is a necessary step in the processing, but it is essentially a straightforward clerical task, so it will not be discussed here.

Interactive Analysis

In the analysis step, the text is analyzed, sentence by sentence, and a meaning representation is produced for each sentence. This meaning representation contains all the information explicitly present in the sentence, plus contextual information which must be calculated from the explicit information, either in the particular sentence being processed or elsewhere in the text. The computer can handle most of the explicit information by itself, but contextual information is at present most efficiently provided by a human. So, the human operator and the computer work together in this step, the computer asking questions of the human by means of a video display terminal when something is not clear. To show how this happens, some example sentences will be presented, which illustrate some of the problems which must be handled in an interactive system.

The first thing the computer does to a sentence to be analyzed is to divide it into words and to look up each word in its dictionary. From the dictionary comes information

Traduction et informatique : perspectives pour les années 80

WALLACE SCHWAB

La présence croissante de l'informatique dans toutes les sphères d'activités humaines crée un besoin de réévaluer à la lumière de cette nouvelle technique les démarches cognitives et les moyens physiques utilisés dans de nombreuses professions libérales. Dans la présente étude¹, nous tentons de démontrer les mutations que la traduction sera appelée à subir comme conséquence de la révolution télématique.

Il s'agit donc de voir quels outils la médiatique peut offrir à la traduction, comment l'informatique s'implante partout et de quelle manière le milieu du travail en traduction n'échappera pas aux bouleversements provoqués par ces nouvelles techniques.

Notre préoccupation en la matière rejoint, entre autres, la pensée des chercheurs de l'Université Carnegie-Mellon :

Il serait souhaitable que des efforts fussent entrepris pour élaborer un système de traduction assistée par ordinateur qui permettrait à un homme de dialoguer, en accès direct (...), avec un dictionnaire et d'autres aides à la recherche telles que la visualisation et la mise en forme, pour produire des traductions de haute qualité avec une réduction importante de temps et d'efforts par rapport aux méthodes traditionnelles des traductions humaines².

Les contributions de l'informatique à la traduction sont déjà impressionnantes et pour recenser dans leur ensemble les avantages qu'elle procure à la traduction, il convient de les regrouper en deux catégories générales : les réalisations existantes dont on tire profit actuellement et celles qui verront le jour au cours de la prochaine décennie.

La terminologie automatisée constitue, sans contredit, une des percées les plus marquantes des aides informatisées à la traduction. À l'Université du Québec, les traducteurs bénéficient déjà depuis plus d'un an des ressources multiples de la banque de terminologie PLATERM du système PLATON³. Au

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1. Le présent article résume certaines idées exprimées par l'auteur dans un document intitulé *Projet visant la création d'un laboratoire de traduction et d'adaptation de logiciel*, coll. : Communications, Rapports de Recherche, n° 21, Sainte-Foy, Université du Québec, 1980.
2. Carestia-Greenfield, Concetta et Daniel Serain, *la Traduction assistée par ordinateur: des banques de terminologie aux systèmes interactifs de traduction*, Paris, AFTERM, août 1979, p. 80.
3. Schwab, Wallace et Richard St-Denis, « PLATERM : la banque de terminologie du système PLATON », in *META, Journal des traducteurs*, vol. 25, n° 3, septembre 1980.

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Translation : Aids, Robots, and Automation

ALEXANDER ANDREYEWski

...Man becomes all things by understanding them (*homo intelligendo fit omnia*)... (or)... man becomes all things by not understanding them (*homo non intelligendo fit omnia*)... When man understands he extends his mind and takes in the things, but when he does not understand he makes the things out of himself into them... Man in his ignorance makes himself the rule of the universe... he has made of himself an entire world.
G. Vico, *Scienza Nuova* (1744)¹

INTRODUCTION

This paper examines electronic aids to translation, or computerized services and facilities, both as ways and means to automate translation, and as an approach to finding a solution to the problems resulting from the shortage of qualified translators in the face of a growing information overload. At present, electronic aids to translation can include *tools*, like word processors, *systems* for *machine translation* (MT), and MT-less systems for *machine-aided translation* (MAT). While tools are effective in automating translation, MAT systems are additionally useful in meeting many of the other challenges. The ability of MT systems to be an aid in meeting either of the two objectives is unclear. The proposal advanced in this paper is that MT is by its very nature *robotic*, and ideally suited for limited applications with a finite number of clearly defined states or situations. Since new situations (relative to the system) cause robotic MT systems to fail, in applications with a sufficiently large number of new situations MT systems cease to be aids, or even tools, and may *impede* translation. This has far-reaching implications examined below.

The proposal advanced in this paper is to view a spectrum of MT systems ranging from *robotic* MT to non-robotic traditional MT. An important new development in MT are various efforts limited to sub-languages of the type currently being developed at the University of Montreal. Although such efforts are not necessarily considered robotic, they approach the goals of robotic MT and can be called *semi-robotic*. Historically, MT is the "oedipal mother" of all efforts to automate translation. Yet, logically, the MT-less MAT must precede MT in the development cycle and continue to serve as a back-up and feeder system for all MT efforts.

1. G. Vico, *The New Science of Giambattista Vico*, Anchor Books edition cited, p. 88, paragraph 405.

ROBOTIC TRANSLATION

Robotic MT, or Bar Hillel's "Fully Automatic High Quality Translation" (FAHQT), is possible in environments otherwise conducive to robotization. The applications must be clearly defined, well-worked out, and otherwise designed to involve a finite number of states or situations. For robotic MT to become fully developed, one would need in many cases an *artificial intelligence* (AI) component. At the present time, lacking AI components, *applied* robotic MT can be a possibility in all applications which admit non-MT automation, for example devising a menu-selection network program. The closest to a working MT program resembling robotic MT is Canadian METEO, which translates weather reports. One can think of applications much more limited than that but with a higher frequency of usage, for instance ticket sales, or other more ambitious with lower frequency of usage but greater volume and precision of results required: translation of manuals for the Volkswagen "Bug" may have been, in retrospect, one such example. The purpose at this time is to establish the notion of robotic MT which will require further study at some future date.

Taking some hypothetical robotic MT system, it is important to recognize that one must expect it to be *reliable* and produce some output for a given input. For every output, it is important to know how *accurate* it is. If *reliability* can be measured on a hypothetical scale of zero to 100 per cent, the *accuracy* of each output can be measured on a scale of zero to 100 per cent or it may be additionally weighted to account for the possibility of machine-introduced errors and have even negative values. The accuracy index multiplied by the reliability index (using decimal equivalents) results in the system's *performance evaluation index* (PEI).

For a true robotic MT system, the *hypothetical* value of the PEI indicator must be 100% in the ideal case and can be somewhat lower in practice. If the system's performance justifies this, the PEI number can drop to zero, with possible negative values disregarded. In this connection, it is important to note several likely thresholds. For example, at PEI = 80%, for the system to continue to perform (this being the *sine qua non* of robotic system) considerable human intervention will be required. At PEI = 50%, it may prove *cheaper* to ignore the MT system output and let the human backup team take over entirely. At PEI = 20%, except in experimental situations, it may turn out that continued reliance on system-produced output will actually result in an instance of *machine-impeded translation*.

Although the PEI numbers *are* hypothetical, the difficulty of calling an MT system of the sort just illustrated an instance of MAT is quite real. If one considers the role played by the human backup team in the PEI = 100% case and the PEI = 20% case, the change in Marxist terms is one of quantity becoming quality. More plainly put, the two situations are no longer commensurable. While *semi-robotic* MT research may help establish the actual boundary

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between robotic and non-robotic MT, the interim criteria must come from a PEI or a measure like it².

MACHINE TRANSLATION AS AN AID

There is an obvious way in which robotic MT can be helpful in *replacing* translators and reducing volumes of translation and, therefore, become an *aid* in some sense of the term. However, it aims at the complete automation of the translation process and is the *total solution*. The possibility to consider is the extent to which non-robotic MT can be of help in obtaining a *partial* solution by having *human-assisted machine translation* (HAMT)³ or a combined operation involving humans and robots. Inasmuch as the second possibility seems to be emerging as an alternative to the first, it will be dealt with next briefly.

Man-Robot Interaction?

The use of tools to automate *tasks*⁴ such as using a rolodex file to help find telephone numbers or having a telephone answering device that activates a tape recorder, is not the same as having a robot which performs a certain *function*, even if the robot requires only what C. Evans⁵ describes as the "intelligence of an earwig". *Robots are intelligent machines*. In this sense, much of the robotic MT without an AI component is really not even robotic. Building an MT system to automate foreign-language exchanges in conjunction with ticket sales at a box office (leaving the incongruity of the task aside) when one can have alternate solutions is a case of using elephant guns to shoot mice. Adding a "grammar" component may well be the beginning of AI. This, however, is a matter that requires further study. The usefulness of an MT system depends not only on the *level* of reliability, but also on the ways in which it can fail. The situation can be compared with the case of a bank employee equipped with an electronic calculator which does not accept any sequences of "4" and "9" and which sometimes mysteriously fails to work at all and, when it does, requires checking the results by hand, anyway. If there are no other devices around with a high enough PEI, the odd calculator may serve to double-check the results obtained by an employee, provided s(he) is constantly on guard. The minute manual calculations become careless or undue reliance is placed on the calculator because it is "almost" always right. In order to be able to judge whether or not this is cost-effective one would have to develop a PEI

2. A forthcoming paper, not released for circulation at the time this paper was written, deals in some detail with the subject of MT performance evaluation and a comprehensive discussion of the subject should be deferred until the paper is published.
3. The HAMT acronym is technically correct, but it never caught on and is generally replaced in this paper with references to *traditional* MT.
4. The present writer's understanding of automation as it applies to translation has greatly benefited from the ideas M. Zisman of MIT, President of Integrated Technologies. His interest is sincerely appreciated; however the present writer is solely responsible for any errors. See, for example, his "Office Automation in a Machine Translation Environment", *Computer Support to Translation* (seminar proceedings), Foreign Broadcast Information Service (May 1978).
5. C. Evans, *The Micro Millenium*, New York, The Viking Press, 1980.

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which would make it possible to compare operations so equipped with all-manual operations and weigh the risks involved. The standard response of MT advocates is that the translation field is fast running out of "bank employees", the translators. In this case, the hypothetical bank may well be concerned with its *data* processing methods, if a perfect balance at the end of the day is the kind of *information* it needs.

The devices just mentioned suggest that robotic MT is *not* fail-soft. The human backup is not interacting with the machine in any real sense of the word and there are other problems to be mentioned only briefly for lack of space. Currently, robotic MT can hope to target on a specific application or a class of such applications. As soon as one attempts to shift a given application-specific *model* to a new application, there is an obvious way in which new situations may arise in the special sense used above. However, a shift to a different environment may involve subtler changes quite probably not reflected in the linguistic analysis, which in the case of robotic MT needs to be examined carefully at some future time. The key point is that a given model must be viewed in the *environment*, the "world", in which it operates. Thus, geographic factors and time-period differences alone can affect a robotic MT model in obvious ways⁶.

Man-Computer Interaction

The main objection to man-robot interaction is that a robot which fails is not a tool in the sense a word processor is a tool. This raises questions regarding the feasibility of semi-robotic MT: Can it be an aid? The answer, basically, is one involving the outcome of work being conducted at the University of Montreal and elsewhere. Although it would be easier to prove empirically, it seems that it would be extremely hard to overcome the obstacles mentioned. There are several ways the situation can be dealt with, including text pre-processing and significantly more advanced grammars. In many respects, the key consideration is the extent to which such grammars can move in the direction of AI. The economics of the situation is very hard to discuss, lacking specific data.

It should be clear that the purely "engineering" solution of reducing the scope of areas covered is not an answer. The problems inherent in what has just been noted are a matter of the *design* of MT systems and the underlying model of the *translation* process adopted by MT developers. The effort to solve the translation problem by eliminating translators overlooks many alternative solutions and uniquely duplicates the problems of a single translator working in a vacuum and engaged in little more than vocabulary substitution using a dictionary.

6. The first who failed to see this among the economists seems to have been none other than Adam Smith, who while writing about the Invisible Hand failed to notice one of the biggest monopolies of the day prospering a few miles away. In addition to the fact that the "same" thing can be done differently at different historical times or different geographic locations, robotic MT may suffer from such relatively recent ills as rapid obsolescence of terminology.

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The consequences of the oversimplified approach to the *model* of the translation process inherent in MT are well known and do not require elaboration. It should be emphasized that robotic MT is not a viable possibility, at least for the next several decades. In addition to everything that has been brought up so far, an evaluation of the MT potential should take into account the facts considered next.

MACHINE-AIDED TRANSLATION

MT-less MAT is important as a system of integrated tools or equivalent capacities and as a model of the translation process which can be developed around it. While offering practical solutions and serving as an aid to translators, MAT can open new opportunities for increased automation, if desired or necessary. Although it can be argued quite validly that MAT does not help to alleviate the shortages of qualified translators, it opens the way to looking for alternative solutions to the translation problem in a changing environment. The need, it will be seen, is to move from the "microeconomic" view of translation within the context of a single operation to the "macroeconomic" environments of the translation field and related areas of language — and information processing. Much of what follows has been discussed in other sources and is given here only by way of update and elaboration of topics relevant to the present discussion⁷.

A Model of the Translation Process

Taking a black box approach, the distinction must be made between the translation *process* or processes going on in the black box and the resultant product. The facility with the black box at its core is a *translation operation*, which generates, in addition to *translations*, an important by-product, i.e., *terminology*. Since only the production of translations is of interest here, it is assumed that each operation has other functions relating to administration, sales, and so on. For the purposes of what follows, the concern is with only one other operation, the *terminology data bank* (TDB)⁸ which is involved in transactions relating to terminology on a quasi-commercial basis.

a) *Translation*

Ideally, the black box involves a team effort of at least one translator, one terminologist, one editor, and one graphics expert all of whom are backed by appropriate computer facilities. Although graphics operations, which include all of the word processing operations as well, are not directly related to the ques-

7. A. Andreyewsky and D. McCracken, "Automating Translation of Languages in the 1980's." (technical report), Center for the Study of Translation, Carnegie-Mellon University (August 1979), (to appear) and other publications of the Center. The prototype model for MAT below is the Center's system of Computer Aids for Human Translators (CAHT), which represents a class of such systems.
8. In the sense CAHT is a model for MAT, a possible model for a TDB is the Carnegie-Mellon University TDB. The most recent description is in Andreyewsky and McCracken, "The Carnegie-Mellon University Terminology Data Bank" (paper presented at the Summer 1979 Dartmouth Conference on Computers in the Humanities).

tion of computer aids, they do account for a sizeable share of the costs, and any economies in this regard can go toward solving the translation problems.

The terminologist-translator-editor triangle represents schematically the process of translation and the tasks involved in it. Even this oversimplified view suggests the need to break down aids by categories. While an MAT system insures access to word processing capabilities and a terminology database optionally supported by a TDB, providing for an improved communication capability between all concerned, there are special considerations in each case.

Improvements in the work of a translator can be accomplished by an improved terminology and reference service⁹, access to specialists more generally, and access to previously translated materials. The productivity of a translator can be improved by changing his work patterns and training in the use of dictating equipment, among other things. Most importantly, the right kind of translations can be given to the right person, taking into account his or her training, past experience, and language skills.

The aids to terminologist and editors, who are typically expert translators themselves, include much of what was just mentioned but may involve other aids. This is a generally neglected area which requires further study.

The facilities of an MAT system provide a model of a translation operation designed to improve the *efficiency* and *effectiveness* of the operation and of the people involved through automation. The MAT system provides the vehicle and a "second-order" tool to monitor the results achieved in this regard, and to direct future efforts¹⁰.

b) Terminology

Terminology is important not only as a by-product of translation activities (and thus as a valuable form of feedback) but also as a resource with a considerable potential exchange value. Although, it seems that most translation operations do not single out the value of terminology, treating it a by-product, it is likely that the replacement cost of each entry, consisting of a word or a phrase and its equivalent, is currently about \$10 each, on the average.

9. The need to develop such a service in the United States, patterned after several successful efforts in other countries, has been argued in detail in sources cited in the two preceding notes. The most recent effort to develop a TDB in the United States after the Carnegie-Mellon University's TARGET project, which dates back to 1975, is the recently announced Weidner Communications effort. While all such efforts should be encouraged, the ultimate solution must involve public support and international cooperation between friendly and unfriendly nations alike, notwithstanding Marguerite de Valoi's advice (In love, as in war, a fortress that parleys is half taken) which gave rise to the Italian *castello che dà orecchia si vuol rendere*, reliable and accurate communication is a matter of survival. An insight into the magnitude of the problem involved is provided in the section on terminology in this paper.
10. By putting "clocks" on each operation, an MAT model can help to establish the best way of doing a particular job (a matter of tactics and efficiency). It can also suggest ways of best using the time (a matter of strategy and effectiveness). Putting the *what* before the *how*, efficiency before effectiveness, is not the optimal way. The same applies to efforts to improve translation before exploring the ways that one can solve the problem by eliminating translation.

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The \$10 cost is estimated on the basis of an average 5,000 entries per man-year productivity over protracted periods of time. The resultant entries are the "best effort" but are not necessarily of publishable quality, because the quality and accuracy of an equivalent rises in direct proportion to the attested instances of usage, which takes time. The substitute for this is extensive and costly research which cannot be accomplished in the 24 minutes average allocated per entry. Anything produced in less time is likely to border on the marginal¹¹.

In addition to being a potentially considerable expense, the accumulation of terminology requires a great deal of lead time, which is a very important consideration in the case of MT efforts. The need to add system-specific coding and to process the entry to suit a given system increases the expense, which is not a retrievable cost. Moreover, most current MT entries are severely restricted in their meanings and are for all intents and purposes unusable by humans and not exchangeable with other systems. Because of this, any MT system must have a humans-usable dictionary and other facilities required for human backup, which rapidly becomes an equivalent of an MAT system as one moves away from robotic applications.

The prospects for the future are quite disquieting in this regard. Although it is almost impossible to predict required dictionary sizes with any degree of precision in each particular case, non-MT translation efforts are known to have reached the one million entry mark per language and are likely to rise even higher. If one considers that each entry refers to an underlying *concept*, the estimated number of concepts per culture, the *inventory* of that culture, has been put at 10 million. The inventory of the world, not counting most geographical and personal names may reach several billion by the year 2000¹². Much of this rapid terminology growth is a function of the information explosion and the resultant information overload discussed elsewhere. However, given the existence of such rapid rates of growth, it is to be expected that dictionary coverage in most areas will never be adequate. Unless one is able to develop dynamic databases, which are impossible without a TDB with a broad base of support, the costs per entry in all translation operations will climb to multiples of the \$10 price tag suggested above¹³.

11. Per-entry costs are, obviously, not discussed. The \$10 figure at current wages in a Fortune 500 company is likely to be closer to \$15. One should not be surprised at multiples of \$15 in MT operations. The additional factors to consider include: (a) the cheapest is not always the best, and poor entries will cost many times this amount to correct and remedy in the output, human or machine, and (b) the number of times a given entry is utilized, because most entries are used very infrequently, especially if frequency of use is plotted over the effective lifetime of the entry, which is probably about five years, on the average. For this reason, a \$100 entry in robotic MT can be cheaper than a \$1 entry in non-robotic MT.
12. All the figures and sources are given in Andreyewsky, "Terminology, Automation, and the Information Overload" (to appear).
13. All of the figures given for terminology apply to averages. The newer the concept, the harder the search, and the ultimate cost. Cooperation on matters of terminology may not appeal to a single firm. However, if the translation problem is as severe as it is portrayed, economies of scale on a national level can make quite a dent in this area alone, especially in the United States, where terminologists may have to be put on the endangered species list.

A MODEL FOR THE FUTURE

The broad base support required for a TDB, which in itself is not an unknown aid, introduces the need to consider the potentials of telecommunications networking and pooling of resources. The ability of an MAT system to put translation operations on-line and the prospects of having access to networks requires looking at some of the components outside the immediate concerns of translation tasks as these have emerged historically.

By its very nature, translation cannot be an end in itself and is done for some specific application. In this sense, there are as many kinds of translation as there are applications. If one looks at an estimated 300 fields of specialization and the need to work in as many as 60 languages, or 3 540 language pairs, one has over a million possible language-specialty combinations¹⁴.

The translation jobs themselves vary a great deal. Translating from sources that one has no control over is quite different from translations from sources that can be controlled. Ultimately, each channel of communication tends to develop its own shorthand for the most regularly and frequently used concepts, expressions, and other data. The "periphery" must be regularized as much as possible and made unambiguous and "understandable" even to computers. This can be accomplished by pre-processing texts or working toward a standardization of usage. With increased automation, the otherwise unenforceable requirements can become a reality, which can go a long way toward improving the cost-effectiveness of translation activities¹⁵.

Not all translation jobs can be treated in the same way; custom-made solutions must be sought. Yet, one of the fundamental problems remains the attitude toward translation and the lack of familiarity with what is involved in obtaining quality results. Like medical assistance, translation can be made available "right away" at the *scheduled* time or on an emergency basis. No matter what facilities are built, one must have *reserve* capacity but no *idle* capacity. Networking can go a long way in providing some of the solutions in this area as well. One can expect an increasing number of greater and greater overloads to develop. It is a managerial decision and duty to decide whether such overloads are the result of poor planning or developing trends. Inevitably, it is a combination of the two that is responsible for overloads, with a fair share of attested instances due to lack of planning.

14. The idea to train specialists as translators is neither new nor unique. For example, it is easier to train an electronics engineer to be a patent attorney than to train an attorney in the field of electronics. Pity, there is no machine proposed for this application yet, but C. Evans (see Note 5) seems to be optimistic that it may yet come to that.
15. Standardization of usage in various technical areas is being worked on nationally and internationally, because of the enormous costs resulting from the lack of standardization. There have been many efforts to develop a World Language, starting with Galen. Presently, large companies are taking the lead in trying to develop at least the same "dialect" within a single firm (a fine example of such an effort is the *NCR Fundamental English Dictionary* published in 1978). Such normalized usage, whatever the way it is instituted, is an important aid to translators and can save a great deal of money, both in translation and in other areas, if taken as a matter of national concern.

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As translation jobs numbering in the scores of millions of words emerge worldwide¹⁶, it is essential to think about the future and develop the necessary arsenal of electronic aids. However, "translation only" solutions are not economical and one must view them in the broader context of the emerging technological environment and the requirements in other areas of language — and information processing. Although one can build systems, networks, and networks of networks, it is important to look at the challenges involved as these were sketched, in part, in this paper. One of the serious challenges is terminology. Although in any one instance it is likely to account for about five per cent of the total effort in terms of manpower requirements, the lead time required to develop the terminology and the results of poorly prepared terminology can cause problems far in excess of anything comparable to that proportion. Besides, much of the work required to develop multilingual terminology will also be required to produce monolingual terminology and vice versa. This raises the matter of the need to do something about automating terminology development and aids to terminologists.

CONCLUSIONS

Robotic MT is an aid to translation to the extent that it can *replace* translators with machines. MAT is an aid to translators and *displaces* them with machines, which is what is done by various tools as well¹⁷. All MT relies on human backup and the critical need for it increases to its maximum point in the case of traditional MT. Unless there is a conscious effort to move into the direction of robotic MT, the belief that traditional MT is in any sense an MAT can seriously backfire.

The chicken and the egg argument must be settled in favor of MAT. MAT is the first step toward automation; robotic MT is one of the possible spinoffs. However, without AI components or functional equivalents, robotic MT applications also allow non-MT automation. The robotic objective is a worth-while experimental goal, but not a practical solution, except in very limited applications. Beyond that, MAT must remain the vehicle for further automation.

16. Published data regarding the size of any one specifically identified project is hard to come by. Like the cost of heavy equipment, which used to be estimable in dollars per pound, translation volumes were estimable from the dollar amounts of a given transaction. However, with the rising costs and computerization it is difficult to offer such estimates. 100 million words per translation job or a company's annual output are not uncommon. Such overloads are important not only as a technological challenge, but also as a matter of national concern, especially if the total translation output of a country is not much higher than that on an annual basis.
17. The present writer owes this distinction to B. Teague, President-Elect of the American Translators Association. While translators do not seem to object to being displaced by tools and having machines do the hard work, the same does not hold for the feelings about being replaced, or, one may add, *replaceable* by machines. The subject of translators and automation requires study, for it is much more complex than stereotypes tend to suggest. Opinions may differ, but it is the present writer's view that the impact of aids can be quite negative if automation is viewed as leading to translation factories with translators playing the role of production-line mechanics. Yet, such seems to be the trend and this a possible nemesis that needs to be analyzed carefully.

Although the distinctions between MT and MAT are important, the future will bring other challenges with translation no longer a special case, but a part of the broader goal of language-encoded information processing. Terminology development and dictionary production is one of the areas where this is becoming quite apparent.

Existing aids to translation do not exhaust all of the computerized services and facilities possible that can help. However, along with this awareness, there must be a clear recognition that just as there are aids, there are also impediments, electronic and otherwise. A thorough understanding of what is involved in translation can make the critical difference.

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THE WHITE HOUSE

WASHINGTON

July 2, 1981

Mr. Peter R. Bereskin
1835 K Street, N.W.
Suite 600
Washington, D.C. 20006

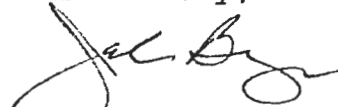
Dear Peter,

Thank you for your letter of June 18 and the materials pertaining to Dr. Andreyewsky and his work.

I have forwarded the information to Mr. Michael Berta of the National Security Council staff. He has agreed to bring it to the attention of the appropriate office in the Administration for their review. Hopefully someone will be in contact with Dr. Andreyewsky thereafter.

Thank you again for bringing this matter to our attention.

Sincerely,



Jack Burgess
Special Assistant to
the President

cc: Michael Berta