

From Eyes in the Sky, Profitable Images

A Small Business Is Built On Satellite Photographs

By Terry Trucco

International Herald Tribune

LONDON — Seated in the tea lounge of the Hyde Park Hotel, Peter Fend thumbs through his photo collection. Like most pictures of Earth taken from satellites, his do not look like much to the unschooled eye. But Mr. Fend's explanations help put things in perspective.

The big irregular blur on the shot of the border between Iran and Iraq is a gigantic man-made water obstacle built by Iraq to repulse enemy attack. Air views of the Gulf of Sidra area reveal a Libyan air base with SA-5 Soviet anti-aircraft facilities. And other photos show the sites of Soviet SS-20 missiles.

The subjects may be sensitive, but Mr. Fend's pictures are neither secret nor stolen. Taken by Landsat, the U.S. civilian satellite that regularly scans the globe, they are part of the public domain. Most already have appeared in newspapers and on television in Europe and the United States.

It is unlikely, however, that they would have been seen at all without the involvement of Mr. Fend's company, the Ocean Earth Construction and Development Corp.

Since 1982, Ocean Earth has built a burgeoning business by retrieving land images from civilian satellites, analyzing them with the help of experts and selling them to research institutes and news organizations. The British Broadcasting Co., Antenne 2 in France and television networks in the United States are among the customers.

Some of the company's site-monitoring projects have been straightforward, such as research on weather patterns in the Amazon basin and a study showing how the African desert has spread into the Sahel region during the past three years.

But its civilian spy operations, as one observer called them, are what has kept Ocean Earth in business. Since the 1982 Falkland Islands war, the company has processed and analyzed satellite data from such trouble spots as Nicaragua, Lebanon and Chad. Industry sources say the tiny company is probably the only one of its kind.

"What we do is contract work, and military sites are where the interest is," said Mr. Fend. Most of the company's projects are now initiated by news organizations, though research institutes have helped underwrite some projects.

Some of Ocean Earth's activities have provoked controversy. Much of this centers on the company's analysis of satellite data, which has not always earned the highest marks.

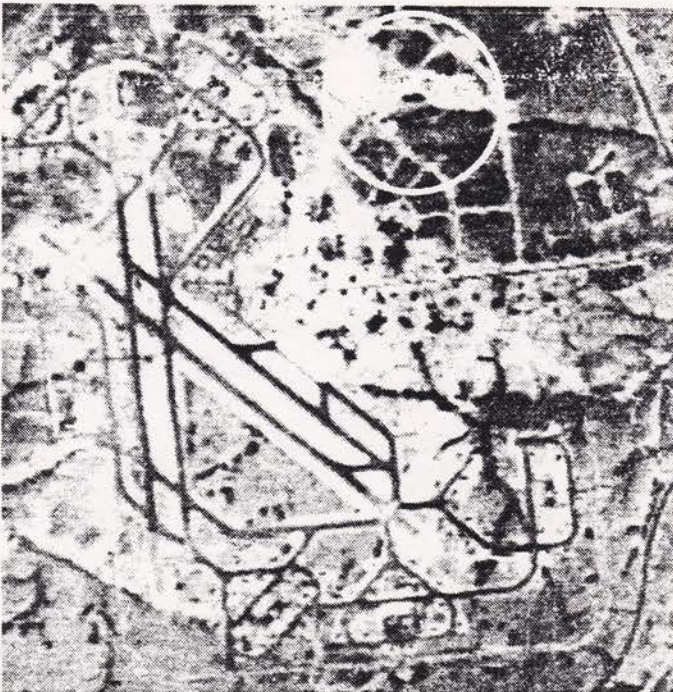
"They tend to be a bit hasty in publishing some of their findings," said one of Ocean Earth's North American strategic advisers. "But if they take enough time, they can be on target."

Others have criticized the clarity of the company's photos, which Mr. Fend admits needs improvement.

YET Ocean Earth's basic concept seems to have been accepted by at least parts of the Western intelligence community. Mr. Fend has managed to assemble a core of military and academic strategic experts in Europe and North America who are willing to study and analyze satellite data.

"Our feeling is that if the material does not compromise security and can be interpreted sensibly to provide better understanding, there is no reason not to make it available to the public," said a British military expert who has worked on several Ocean Earth projects.

The pictures are crude compared with the sophisticated U.S. Defense Department reconnaissance satellites that are said to be able to show people's faces or numbers on license



Ocean Earth identified this Libyan air base near the Gulf of Sidra as the site of an SA-5 installation. It said the missiles were being installed in the circled area.



Peter Fend

Elinor Verhies

quiring satellite data takes time, but thanks to the "open skies" policy then observed by the U.S. government, everything the company wanted from Landsat eventually became available.

The original idea was for the company to take on general projects related to conservation, ecology and land use throughout the world.

But when Mr. Fend wound up with satellite data on the Falklands in 1982, he decided his company could just as easily process something in much greater demand — pictures of war zones. "We knew we had the means to grow," he said.

Though it is headquartered in Düsseldorf and New York, Ocean Earth has done much of its work at the museums, galleries, universities and other institutions where its loosely assembled staff happen to be working.

"One of the American network people told me, 'You guys have put this thing together with baling wire and bubble gum,' which is true," Mr. Fend said. "But at least we're doing it." Last year the company made a \$100,000 profit.

The future, Mr. Fend hopes, will be less precarious. President Ronald Reagan's repeal of the "open skies" law will make it increasingly difficult for Ocean Earth to obtain all the Landsat data it wants. But the company has already contracted to get material from Spot-1, a French satellite launched Friday.

At the moment Ocean Earth seems to have the field to itself, partly because of the difficulty of data retrieval and processing. A typical Ocean Earth project, like its study last year of Soviet SS-20 bases for CBS television in the United States and for Dutch television, takes at least six months.

In addition to dealing with satellite images, the company must work on high-resolution display computers, which allow the data to be mixed and matched in a variety of ways. Aerial radar data can be combined with Landsat data. Where applicable, Magsat data, which reveals magnetic concentrations and mineral deposits, is added. The final pictures come from looking at dozens of images.

plates, all from an altitude of more than 150 miles (245 kilometers).

Yet nonmilitary satellites can provide a good overview when weather and other conditions are right, Mr. Fend said. "We can see enough to let the public know what various governments are doing and whether they are telling the truth," he added.

In many ways Mr. Fend and his company seem unlikely adjuncts to the spy business — as unlikely as Ocean Earth's origins. The company grew out of an art exhibition Mr. Fend held in the late 1970s at a New York gallery.

The show, entitled "Art of the State," explored the notion of artists as Earth monitors, using their visual skills to turn images beamed to Earth by satellite into art.

Mr. Fend founded Ocean Earth in 1980. Ac-

NEW YORK

NY DIARY BY DANIEL PINCHBECK

"Fend"ing off his detractors

Attention trendspotters: the Big Apple names its Young British Art equivalent

Art where no man has gone before

"I'm not sure what the spooks down in Langdale, Virginia, will let us show this time," says Peter Fend nervously. The "spooks" he refers to are not the ghosts of art critics past (Langdale is surprisingly deplete of these), but the ones who haunt the CIA headquarters in Virginia.

Years ago, Fend worked on projects with artists like Jenny Holzer and Dennis Oppenheim which straddled the realms of art and performance. But in the early 1980s, he decided to implement projects which further challenged what he saw as the narrow sphere of the art world, and founded his company, Ocean Earth. His ambitious idea was to take the concepts and ideals of late-1960s earth art and conceptual art—Fend found his inspiration in large-scale projects like De Maria's Lightning



An image from Peter Fend's Ocean Earth project

Field and Smithson's marshland considerations—and implement them in 'real-world' ventures. His Ocean Earth projects suggest a Don Quixote-like mixture of brilliance, mania, and paranoia. In an age where utopian visions no longer inspire much general enthusiasm, Fend has refused to relinquish his macroc cosmic scope. Beginning in 1982, Fend's company, Ocean Earth, was contracted by clients to use satellites to monitor environmentally sensitive areas such as the Amazon and military sites such as Iraq and the Falklands, and then present maps and other things as art. According to Fend, pressure from government agencies forced the end of that venture. His current project involves farming giant aquatic organisms called *Macrocystis* (a kind of ancient algae) and converting these algae into fuel, as well as processing them for other industrial uses. Fend has enticed a Yugoslavian research centre with his concept, and plans to use a show this month at American Fine Arts in SoHo, which will include maps and plans of the areas where they are cultivating this substance, to raise money for the venture.

"I believe art must be translated into functional reality, otherwise there is no way for art-making to continue," says Fend, who believes the government is eager to shut down his algae project as well. "We are the characters in the James Bond movie who work against James Bond. For us, James Bond is the enemy," he says. "Everything we try to do is criminalised or made illegal, and stopped by force or by the influence of the secret police." Considering Fend's level of paranoia, his show at American Fine Arts is suitably titled "Chase Scene."

C I T Y O F T H E D E A D

PROJECTION OF EFFORT TOWARDS THE
CONSTRUCTION OF A MASSIVE MARSH-
WORK AT THE HEAD OF THE PERSIAN/
ARABIAN GULF, AS AN ARCHITECTURAL
RESPONSE TO THE STRUGGLES OF THE
THREE WARS OF THE CENTURY: WW I,
WW II AND THE IRAN-IRAQ WAR, ALL
OF WHICH HAVE BEEN CENTERED AT END
AROUND THE GULF

DESIGN INCORPORATES EARTHWORKS AND
VIDEO/FILM WORK OF U.S. AND WESTERN
ARTISTS, NOTABLY OPPENHEIM & SHARITS

URGENT REASON FOR ACTION: IF WE
OF THE WEST DON'T INITIATE SUCH A
SCHEME, THE SOVIETS--WHO ALREADY
PLAN MOST OF THE GIANT-SCALE WORKS--
WILL END UP DOING SO. THEY ARE ON
SITE, AND WE OF THE WEST ARE NOT.

RIVER RIFLE

TO EFFECT A
TIME POCKET

BETWEEN THE
SHATT AL ARAB
& TIGRIS FROM
AMARA VIA THE
INTERNATIONAL
FRONTIER INTO
HADADIE HENCE
ALONG THE OLD
SHATT AL ARAB
TO THE KHOWHR
-E KOVAYRIN &
KHOWHR-E MELH
INTO THE GULF

BETWEEN THE
TWO NATIONS
IRAN & IRAQ

BUT ALONG A
NEW OUTFLOW
FROM DAMMED
MARSH LANDS

TO INCREASE
FRESH WATER
FLOW TO THE
SALINE GULF

CORRELATIVE
WITH IRAQ'S
THROUGHFLOW
WEST OF THE
SHATT FOR A
FRESH WATER
FLOW TO UUM
QASR ON THE
KUWAIT EDGE

WITHIN A TIME
POCKET NATURE
HAS FINAL SAY
AS THIS IS AN
ENVIRONMENTAL
RESEARCH PARK
VOID OF STATE

IRAN
BLOCKED

ancient irrigation canals

Karun

Tigris

Euphrates

Shatt al Arab

Basra

IRAN

IRAN

Abadan

Subsequent

EAST HELD BY IRAN

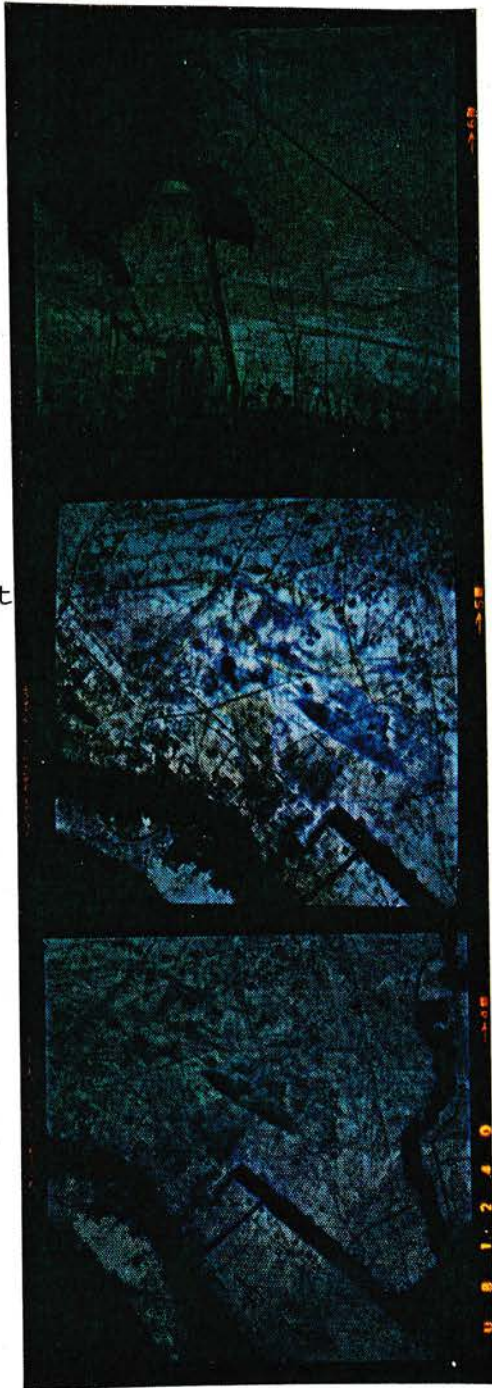
A hand-drawn map of the Persian Gulf region. The word 'IRAQ' is written on the left side, and 'IRAN' is written on the right side. A shaded area in the center represents the Persian Gulf. The drawing is simple and appears to be a sketch.

Subsequent
Extension
Spring, 1985

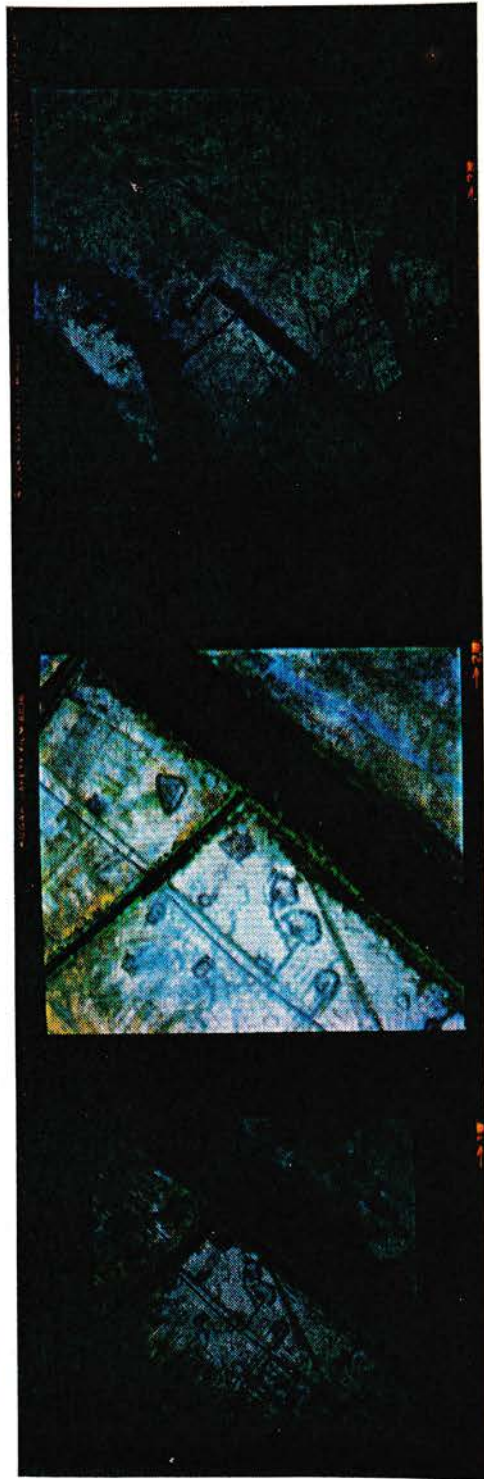
January 20, 1985 -
September, 1985

Some indication of resolution on the monitors.

forts amidst
dried lake
bed



gun and tank
emplacements

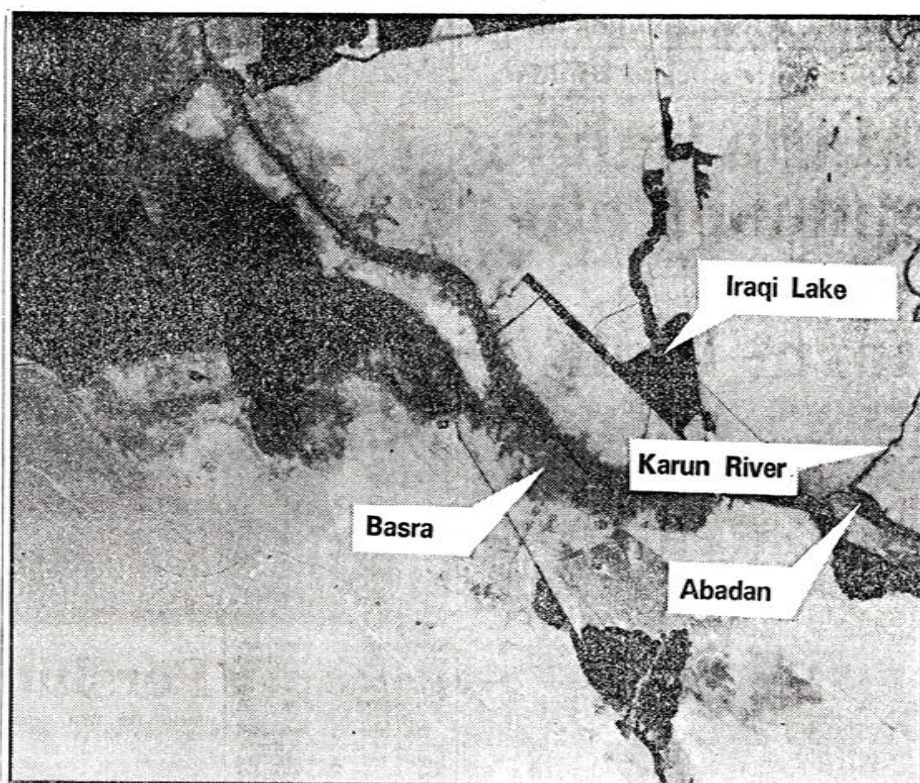




OVERSEAS NEWS

THE GUARDIAN Thursday January 17 1985

7



Mystery of Iraqi ditch

By David Fairhall

Is the vast artificial lake (left) excavated by the Iraqis from the desert salt flats east of Basra only an exceptionally large anti-tank ditch, or is it part of an ambitious scheme to drain the Iranian rivers flowing through Khuzestan?

Analysts working for a New York-based corporation who have watched the lake grow on a succession of US satellite pictures over the past four years believe that the Iraqis conceived the excavation before they attacked Iran, and have persisted with it because it is part of a strategic plan to recover what they regard as historic Arab lands.

They believe that the lake, and its long arms, may be the secret weapon of which President Hussein has boasted.

The project started as a simple flooded trench, about 30 kilometres long and just over a kilometre wide (about 18 miles by 1,000 yards), blocking the obvious path across the flat desert north-east of Basra that the Iranian infantry might be expected to take. But by January, 1983, it had been extended at its south-eastern end into a 10-kilometre-wide lake.

British military intelligence assessment is that the satellite pictures have merely disclosed a massive defence work.

Iraq's dam pushing back Iran's border

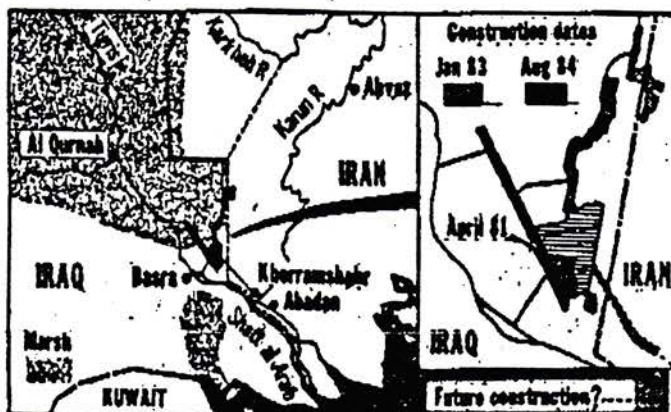
by James Adams
and Dillip Hiro

ANALYSIS of American satellite data suggests that Iraq is using a huge artificial lake to push its frontier into Iran, and enhance its ability to seize Abadan island in the strategic Shatt al Arab waterway. Until now, it had been thought that the only Iraqi waterworks were in the marshland around the Majnun Islands further north and that they were designed purely for defensive purposes.

The analysis of the data from a US Landsat remote-sensing satellite has been carried out by Peter Fend and Ingo Gunther, directors of Ocean Earth Corporation, an American company that analyses satellite data for economic and environmental purposes. Their findings will be published this week in the magazine *New Scientist*.

The existence of the lake, one of the largest man-made stretches of water in the middle east, has apparently been undetected for the past seven years. The construction necessary to create it first began in 1977, before President Saddam Hussein became leader of Iraq and while the Shah still ruled Iran. Work is still going on.

The lake is situated just north of Basra, Iraq's second largest city. It is seven miles long and eight miles wide. Running in a tongue to the north-west is a flooded trench 20 miles long and one mile wide. To the north, running alongside the border with Iran, is another 30-mile-long flooded trench. Water for the project is drawn from



Trench (far right) from lake breaches Iran's frontier

the Shatt al Arab, which marks the junction of the Tigris and Euphrates rivers.

Mystery surrounds the exact purpose of the project, which experts estimate has cost well in excess of \$1 billion.

Peter Fend of Ocean Earth believes the lake and the trench have defensive and offensive military applications. He says: "The trench is a very useful barrier defence in an area that has seen some very heavy fighting. And in the south-east, a new trench is being built that is already 10 miles long and has crossed the Iranian border." Fend argues that if this trench is extended five miles it will join up with the Karun river, which runs through Iran. He says that if the trench in the north is extended 40 miles it will join up with the Kharkeh river, which also flows through Iran.

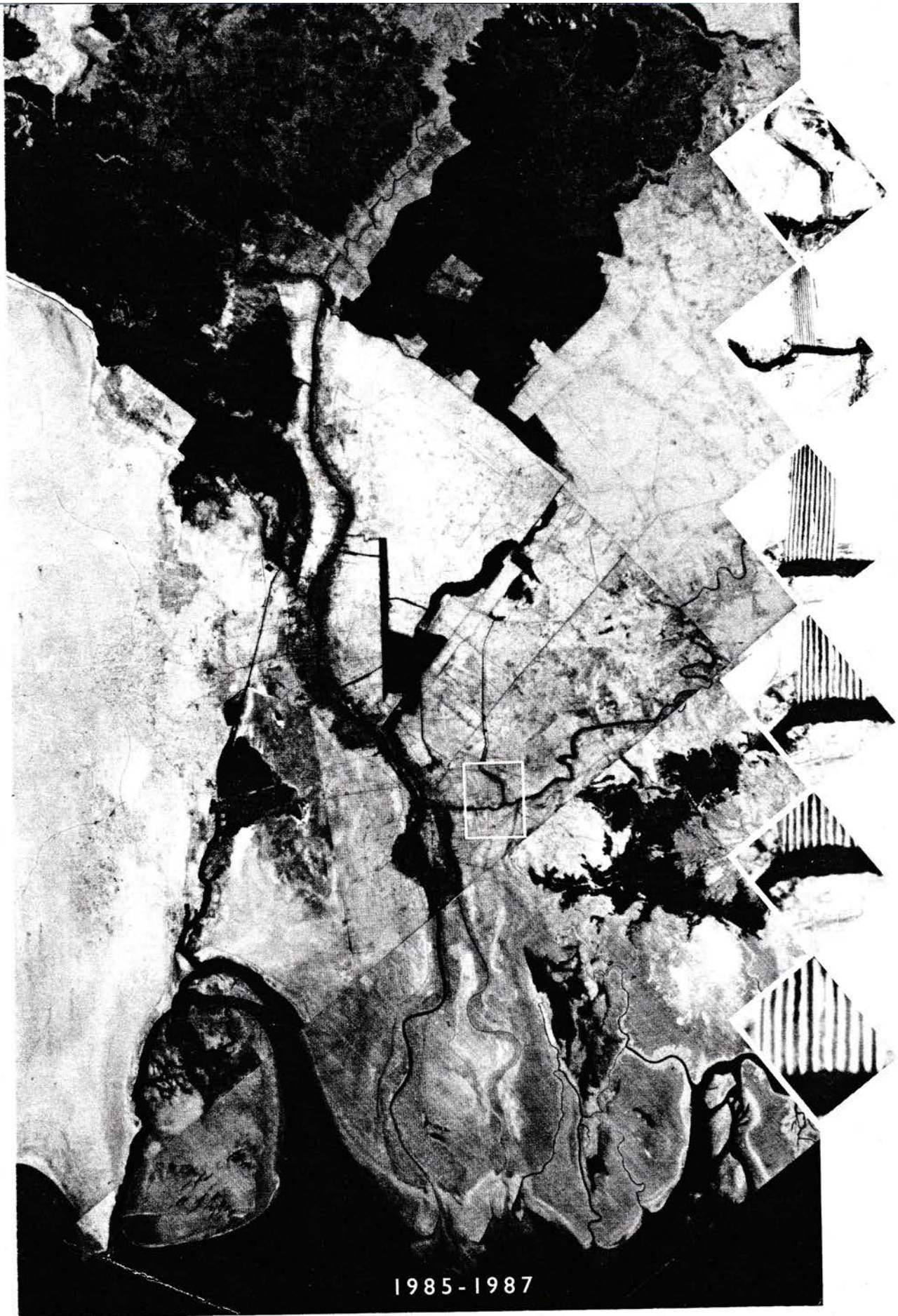
Fend says: "If the trenches to the north and south link up with Iranian rivers, then Iraq will be able to control large areas of Iran." Iraqis would not

only be able to control Iranian water supplies in this way, but they would also be in a position to flood Iranian land. Fend adds: "This would also give easy access to Abadan Island through a dry peninsula in the north."

Military strategists are not convinced by this argument, although they are unable to suggest a reasonable alternative explanation. However, it is pointed out that Iraq has ambitions to develop its agriculture in the south of the country, and the lake could be used for that purpose.

What may have happened is that an investment in agriculture has been used and expanded by the military to their advantage.

● IRAN is believed to be considering chartering two of the world's biggest oil tankers on a long-term basis to serve as floating oil stockpiles out of range of the Iraqi air force, Lloyd's list said this weekend.



1985-1987

نیمه سار

جاپ
لندن

صرافی پانچپور (لندن)

مشاور امور مالی

دوستان، باتوجه به مسائل گذشته و حال، هم اکنون در هر کجای دنیا که هستید مستقیماً و بی واسطه با ما تماس بگیرید و با اطمینان تلفن های ما را در اختیار دوستانان قرار دهید

ساعات اداری

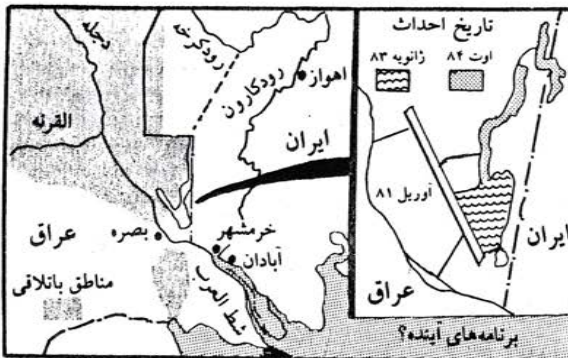
۰۱-۵۸۴۳۵۳۹ / ۰۱-۵۸۴۳۴۹۷

ایام تعطیل و شبها ۰۱-۹۰۲۴۶۱۰ / ۰۱-۹۰۳۳۷۱۷

بنیانگذار و مدیر مسئول: دکتر مصطفی مصباح زاده

شماره ۲۹. پنجشنبه ۲۷ دی ۱۳۶۳ خورشیدی - ۱۷ ژانویه ۱۹۸۵ م

توطئه عراق برای تغییر مرزهای ایران فاش شد



تصویر فوق دریچه مصنوعی شرق بصره را در ژانویه ۸۳، و وسعت گرفتن آن در اوت ۸۴ را نشان می دهد موقعیت دریچه در مرزهای دو کشور در نقشه مشاهده میشود.

ذخایر موجود در خاورمیانه به شمار میرود.

جمهوری اسلامی تا لحظه چاپ «کیهان» (دوشنبه بعد از ظهر) در این باره اظهار نظر نکرده بود.

(گزارش های ویژه را در صفحه ۱۴ بخوانید)

مستقیم نیروهای ایرانی را به جنوب عراق بمزاتب دشوارتر خواهد کرد.

هدف دوم رژیم بعشی به دستی آوردن کنترل منابع عظیم نفتی است که در مناطق مرزی ایران و عراق قرار دارد.

این منابع که میزان آن چند میلیارد بشکه است جزو غنی ترین

برخورد ناگهانی با این دریچه نتوانستند به هدف های نظامی خود دست یابند.

به گفته يك کارشناس نظامی این طرح - که در آغاز جهت مشروب کردن زمین های زراعی جنوب و ایجاد منطقه کشاورزی بوجود آمده بود - اینک وسیله ای در دست نظامیان عراقی است که از طریق آن در درازمدت مرزهای خود را با ایران به سود خود تغییر دهند و پس از آنکه نتوانستند از طریق تجاوز نظامی به خاک ایران هدف های خود را عمی کنند اینک با بهره برداری از دریچه های مصنوعی نیت خود را عملی می کنند.

عراق امیدوار است که با تغییر مرزهای ایران در چارچوب این توطئه تازه بتواند در مذاکرات آینده صلح به دو هدف مهم برسد: هدف اول ایجاد استحکامات نیمه طبیعی تازه برای دفاع از بصره و منطقه نفتی مهم رميله شمالي است. ایجاد دریچه های مصنوعی، هرگونه حـ

- قرار است در مجله «دانشمند جدید» به چاپ برسد.

در گذشته تصور میشد که عراق فقط منطقه نیزاهای مجنون و باتلاق های هویزه را برای جلوگیری از پیشروی ایران به آب انداخته است.

دریچه مصنوعی در مرز جنوبی ایران و عراق - که از هفت سال پیش ایجاد شده بود - تا کنون مورد توجه قرار نگرفته بود.

این دریچه در شمال بصره واقع است و ۱۱ کیلومتر عرض و ۱۳ کیلومتر طول دارد و به سوی شرق و جنوب شرقی بصره متمایل است. آب این دریچه از شط العرب گرفته میشود و از نقطه تلاقی دجله و فرات توسط کانالهای زیرزمینی بسوی منطقه ای که دریچه در آن واقع شده است، هدایت می شود.

این طرح که بیش از يك میلیارد دلار هزینه آن شده است از نظر جمهوری اسلامی نیز مخفی مانده بود. به همین دلیل در عملیات بصره، نیروهای جمهوری اسلامی بسبب

عراق توطئه تازه ای را برای تغییر مرزهای خود با ایران آغاز کرده است. هدف این توطئه بلعیدن بخش هایی از خاک ایران از طریق ایجاد دریچه های مصنوعی است.

گروهی از تحلیل گران امریکائی از روی عکس هائی که ماهواره های آمریکائی از مرزهای ایران و عراق برداشته اند، اعلام کردند که عراق با به آب انداختن اراضی وسیعی در مرزهای خود با ایران تلاش می کند مرزهای بین المللی خود را با ایران به داخل خاک ایران عقب زند.

به گفته این منابع دریچه های مصنوعی که در مرزهای جنوبی ایران و عراق بوجود آمده است، سرعت گسترش می یابند و ظرفیت آنها برای بلعیدن جزیره آبادان در دهانه شط العرب هر روز بالاتر می رود.

گزارش پیتروند و اینگواندر، مدیران شرکت «اقیانوس - خاک» - که مطالعات ماهواره ها را در زمینه انرژی و تغییرات جغرافیائی بررسی می کند





TOWARDS LIBYAN DEVELOPMENT

A few satellite photographs on television showing an alleged chemical-weapons factory near Tripoli in Libya may well do little more than deepen the popular worry about terrorists and covert actions.

The task is to broaden the inquiry--beyond the question of whether or not a factory is still working, or could make poison gas. The task is to broaden the inquiry to cover all the area that can be seen, that is, to cover the conditions of economic and ecological geography which would orient a government in Libya to little alternative but outlying acts. What garden is there, within Libya, to cultivate? We seek an answer... with satellites.

Meantime, we consider the larger forces at work regarding Libya as a location.

There may be some geopolitical reason for US naval enforcement of open passage across the Mediterranean, chiefly to secure the "Western world's" access to the world's chief concentration of oil & gas, in the Persian Gulf, but the long-term needs of peoples in Libya and the Mediterranean, including Italy, must ultimately take priority. When the oil & gas of the Gulf are depleted, or when other less dangerous sources of energy are developed to surrogate the Gulf's resource, then the geopolitical arguments now mustered by the US will lose force, and there will probably be little or no reason to maintain such an imposing presence in the Mediterranean. There certainly will be little reason for a Superpower from far away, with a colossal debt crisis in its own hemisphere, to spend large sums on diplomatic and military confrontations with a country so relatively weak.

For the peoples of the Mediterranean Sea, as well as of other nearby countries in Europe and Africa, the singular question is not whether Libya will be attacked by several US air strikes, as perhaps a dramatic gesture, but whether Libya will become even more part of an enormous Void in the biosphere of the planet.

The Sahara is expanding. It expands faster than ever in recorded history, and it expands faster throughout northern Africa faster than it had during the Roman Empire, which is allegedly responsible for much of Libya's current emptiness. Shall we humans in modern times now outpace the destructiveness of the allegedly careless Romans?

Required is a directing of public interest in Libya away from Reagan-style TV dramas, or Quadafi ones, away from the personalities now accidentally on stage, towards the long-term development requirements of Libya. Required is a shifting, then, towards the long-term development possibilities of what is now the world's largest desert, hence towards the long-term policies of restoration of the planet's biological powers. Required, we say, not only for North Africa and Libya, however defined by borders, but also for the entire Mediterranean Basin and other surrounding regions, directly affected by the lack of oxygen, lack of evapotranspired water, lack of gas exchanges, lack of economic resources, and lack of climate stability, all resulting from expansion of the Sahara.

It is not just desirable to restore the Sahara to the vast, animal-rich savannah it once was; it is vital to do so. It is critically vital to at least stop further degradation into desert, to stop further depletion of underground freshwaters, to stop further saltification and desiccation of the coast, to stop further deterioration of oases and wadis, the infrastructure of verdant landscape. The heat waves of recent Mediterranean summers confirm this necessity.



Die libysche Luft-
waffenbasis süd-
lich von Sirte. Von
hier aus ließ Gad-
dafi Luftabwehr-
raketen vom sowjet-
schen Typ SAM-5
und SAM-2 auf
amerikanische
Düsenjäger abschie-
ßen. SAM-5-Räke-
ten haben eine
Reichweite von
rund 300 Kilome-
tern und können
das gesamte Gebiet
der von Libyen
als Hoheitsgewäs-
ser beanspruchten
Großen Syrte ab-
decken. In der
Sowjetunion
hat Gaddafi zehn
weitere SAM-5-
Einheiten bestellt

Fotos: Gamma, Ocean Earth





Das Gebiet um die libysche Stadt Syrte zeigt diese Satellitenaufnahme aus etwa 700 Kilometer Höhe. Elektronisch verbesserte Bilder von amerikanischen Aufklärungs-Satelliten, die niedriger fliegen, zeichnen sich durch wesentlich größeres Auflösungsvermögen aus. Hier könnte man sogar erkennen, ob Soldaten Bärte tragen. Vierzehn Kilometer südlich von Syrte ist ein großer Flugplatz, der fast hundert Flugzeuge aufnehmen könnte. An dessen nordöstlichem Rand (Pfeil) befindet sich die Stellung mit Flugabwehr-Raketen des sowjetischen Typs SAM-5. Diese Stellung mit sechs Abschussanlagen, die einzige, die schon einsatzbereit war, ist von amerikanischen Flugzeugen jetzt angegriffen worden. Foto Ocean Earth



LIBIA/LE FOTO ESCLUSIVE DEI MISSILI DI GHEDDAFI

Tiro troppo corto, colonnello

Dice di esser pronto a far guerra alla più grande potenza militare del mondo, gli Stati Uniti. Arma il terrorismo antiebraico, eppure Israele rilutta a un confronto militare con lui. Adesso, l'ultima minaccia contro l'Italia: «Colpiremo le basi americane a Napoli e a Sigonella», ha detto sabato 25 gennaio. Rodomontate? Oppure il colonnello Muḥammad Gheddafi, leader libico, ha effettivamente in mezzi, oltre che la voglia, per impensierire seriamente i sistemi di difesa dei paesi della Nato?

L'aviazione e la marina libiche, pur dotate di mezzi sofisticati e moderni, secondo i servizi segreti non dovrebbero dare troppi problemi. Molti piloti libici hanno un addestramento insufficiente, per esempio, al volo notturno. E tra i marinai del colonnello lo spirito combattivo sarebbe spesso

Minaccia gli Stati Uniti,
Napoli e Sigonella. Ma
dove può arrivare la potenza di
fuoco del premier libico?
Ecco le prove che il pericolo
non tocca l'Italia. Ma può
impensierire la Sesta flotta

di Adriano Botta

fiaccato da diffusi attacchi di mal di mare.

Un pericolo più serio è comparso sulle televisioni delle famiglie americane, trasmesso dalla rete Abc, la settimana scorsa, proprio mentre due portaerei e 18 altre navi da guerra degli Stati Uniti avviavano la fase culminante delle manovre militari nel Golfo della Sirte: missili Sam 5.

Le eccezionali foto di queste pagine documentano che Gheddafi dispone almeno di una batteria di questi micidiali missili, installati con l'intenzione di proteggere il limite delle acque territoriali libiche, che secondo il colonnello si estendono ben oltre le 12 miglia dalla costa (come vogliono le consuetudini internazionali), fino al parallelo 32,5.

Le fotografie mostrano 12 rampe di lancio nell'area di Sirte, una località di 2500 abitanti che dà il nome al gol-

fo della discordia. Sono state scattate da un testimone... al di sopra delle parti, il satellite Landsat, normalmente usato per scopi civili e agricoli. L'installazione dei Sam 5 sul suo territorio non è stata tenuta segreta dalla Libia. «Sono armi difensive, non nucleari, hanno una gittata di 300 chilometri e quindi non minacciano il territorio dei nostri vicini. Non come i missili atomici Cruise che gli americani hanno installato a Comiso, e che hanno una portata di 2500 chilometri», accusa Gheddafi.

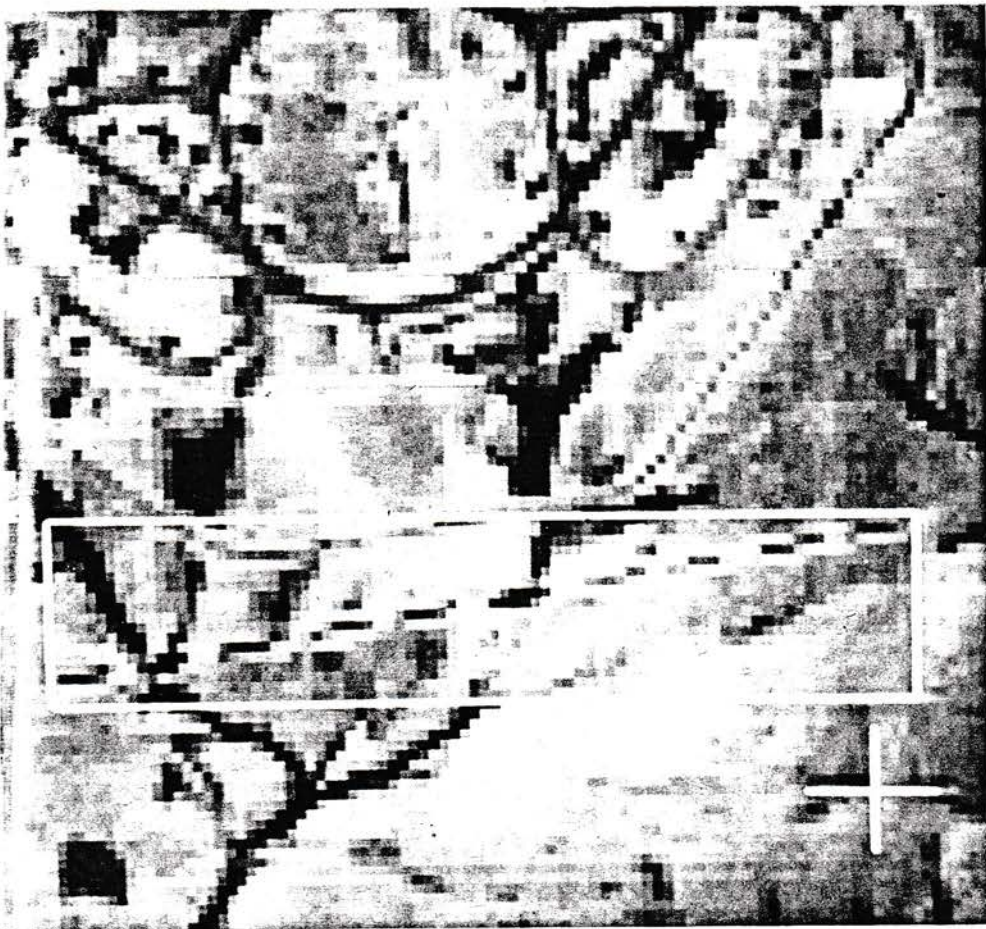
Di per sé i Sam 5 non trasformano il quadro strategico fra Usa e Libia, ma certamente accrescono i rischi per gli aerei della Sesta flotta che operano sulle acque del Golfo della Sirte: un colpo fortunato è sempre possibile. Infatti i Sam 5 sono missili antiaerei di media portata, e possono intercettare un velivolo fino all'altezza massima di 95 mila piedi (29 chilometri). Si inseriscono in un complesso sistema di difesa aerea elaborato dai sovietici, che comprende missili di vario tipo: dai più vecchi Sam 2 a quelli campali Sam 6, fino ai Sam 7 (piccoli missili individuali con cui un soldato può abbattere un aereo che attacca a bassa quota).

I Sam 5 sono fra i sistemi più sofisticati, destinati ad attaccare aerei che volano a quote relativamente basse, ma capaci di operare anche ad altezze maggiori. Coprono, insomma, la fascia mediana di intercettazione.



Gheddafi: «Un'astuta mossa politica».

E. BOUVET/GAMMA



Hanno un sistema semiautonomo di guida, che consente di dare la caccia a un aereo che compie manovre diversive. Non sono molto veloci, per cui possono avere difficoltà con aerei molto manovrabili, ma sono evidentemente più efficaci contro i lenti cacciabombardieri, gli aerei radar e quelli da pattugliamento.

Gli israeliani, che distrussero i Sam 6 siriani nella valle della Bekaa nel 1982, affermano che è possibile raderne al suolo anche le postazioni di Sam 5: ma evidentemente questo richiede un attacco preventivo, cosa che invece gli americani, per ragioni politiche, sembrano voler evitare. Però restare in volo in attesa di un attacco missilistico non è di per sé la migliore delle posizioni, anche se i missili sono solo parzialmente efficienti.

È possibile che i Sam 5 che l'Unione Sovietica ha fornito alla Libia (e che appartengono alla seconda generazione, mentre i russi hanno già in servizio la terza) non siano ancora operativi, o almeno non completamente.

Ma c'è di più: secondo molti esperti i libici hanno commesso un errore strategico nello scegliere proprio Sirte per installare i loro nuovi missili. Quel luogo infatti sarebbe inadatto allo scopo, almeno secondo le regole

elementari della scienza militare. Infatti, se Gheddafi volesse veramente difendere l'intera superficie del Golfo della Sirte avrebbe dovuto piazzare i Sam 5 alle due estremità del golfo. In questo modo avrebbe ottenuto un doppio cuscinetto di copertura, mentre adesso i Sam 5 non riescono neanche ad arrivare sulla costa di Bengasi. Sarebbe come se gli italiani, per proteggere il mare Adriatico, mettessero dei missili non alla sua imboccatura, ma sul delta del Po.

I libici, contrariamente a ogni logica bellica, hanno concentrato tutti i Sam 5 in un unico posto: la base di Sirte, appunto, che ospita anche 70 aerei e quattro chilometri di piste. Per di più, i radar che dovrebbero coprire i nuovi missili sono insufficienti, perché sono previsti per i Sam 2 e 3, che hanno una gittata molto inferiore. Insomma, più che una base quella di Sirte sembra essere una trappola, un bersaglio invitante che quasi invoca di essere colpito.

Ma davvero Gheddafi è così stupido? In realtà, la rapidissima costruzione delle rampe di lancio dei Sam 5 serve, più che a sollecitare uno scontro con gli americani, all'esatto contrario: a renderlo impossibile. Perché? Ma per il semplice motivo che la base di Sirte brulica di consiglieri militari sovietici, e che quindi assai difficilmente gli americani oseranno attaccarla. Anche se il colonnello libico riuscisse ad abbattere un relativamente innocente aereo da ricognizione degli Stati Uniti, Sirte sarà protetta da ogni rappresaglia.

Quindi l'installazione dei Sam 5, se è stato un errore dal punto di vista militare, da quello politico si è rivelata una mossa assai astuta, perché costringe l'avversario all'inazione. In realtà, a Gheddafi basta una cosa sola: far fare agli americani la figura degli aggressori.

Così, come ha scritto il settimanale americano *Newsweek*, il migliore amico del colonnello rischia di essere proprio Reagan. Prima del «gennaio di fuoco» seguito alla strage di Fiumicino, Gheddafi stava affrontando all'interno del suo paese uno dei periodi più difficili da quando si impadronì del potere 17 anni fa: il crollo dei prezzi del petrolio ha colpito pesantemente la Libia, che ha dovuto ridurre di un quinto le importazioni. Ora, di fronte al pericolo esterno, la popolazione si è bene o male unita, e la fronda contro il colonnello non trova più spazio. □

Nella sequenza in alto: le immagini trasmesse dal satellite Landsat delle rampe di missili Sam 5 installate nella base di Sirte in Libia: sono 12 (ingrandimento nel rettangolo). Qui a destra: l'illustrazione di Antonio Molino mostra dove sono installati i missili Sam 5, che possono intercettare cacciabombardieri, aerei radar e da pattugliamento.

