

Chapter 3

INTERNATIONAL OPEN SOURCES AND SERVICES

3001. Purpose of the Chapter

The purpose of this chapter is to provide an orientation to international open sources and services which are available to the all-source analyst. Although much of the open source world is not yet easily accessible to analysts because of security and procurement constraints, the Commission on Intelligence report of 1 March 1996 has defined such access as "critical", and recommended that dramatically improved analyst access to open sources be a top priority for the Director of Central Intelligence and a top priority for funding.

This orientation will discuss electronic access, the identification and acquisition of "grey literature", the identification and exploitation of international experts, and several examples of world-class international open source capabilities including Jane's Information Group and SPOT Image Corporation.

Appendix D provides a concise directory (including complete contact information) for all international open sources & services discussed in this chapter. There are many, many more international sources available to the analyst which can be readily identified either through traditional library research, or through direct contact with international experts who can tell the analyst what sources they have found most useful for specific topics. The References are good starting points for additional direction.

3002. American Online Services

Most people unfamiliar with the world of open sources think of America Online and COMPUSERVE when they think of "online services".

In fact, "real" commercial online services, the kinds used by professional information brokers and specialists world-wide to do serious research, are completely different in nature and operation.

LEXIS-NEXIS and DIALOG are the two premier U.S. commercial online services. They each offer, for specific subscription and access fees, a wide range of electronic libraries. Access can be as cheap as \$20 for a quick search, or \$70-100 an hour for a complex search. It is best to work with an expert searcher to save money.

It is very important to understand that these two services are complementary and that searching one of them by themselves will not produce the best possible online search results. In the early 1990's a survey was conducted of all analysts in the Central Intelligence Agency, and each was asked to list journals of importance to them. The survey found that one fifth of the journals were available through LEXIS-NEXIS, one fifth through DIALOG, one fifth in

CD-ROM or electronic form, and two fifths were not available online.

American online services, although they have shown significant improvement in the past few years, are still primarily a source of English-language materials from the mainstream of the Western hemisphere, and specifically the United States and the United Kingdom.

America Online and COMPUSERVE are the equivalent of the corner drugstore when compared to the far more robust and extensive holdings of LEXIS-NEXIS and DIALOG "libraries". They do, however, offer very fine interfaces to the world of newsgroups as available on the Internet, and they also offer a number of organized conferences (such as the Military Forum in COMPUSERVE). Most people think of these services, available for around \$25 a month, as cheap, but in fact that is only the basic access cost--once the per hour online charges are added, those who spend a lot of time browsing can find themselves spending \$200 a month. Direct access to the Internet, including free NEWSNET services, is available for \$20 a month from numerous services such as UUNET, Capital Area Internet Services, and DIGEX.

3003. Foreign Online Services

The world of foreign online services is more complex, and for the analyst concerned with international matters, often more rewarding. Unfortunately, these services are not routinely available to the U.S. intelligence analyst today. They are, with the increased emphasis on open sources brought about by the Commission on Intelligence, likely to be made available if requested by the analysts. Their fees are comparable to US services.

The Derwent World Patents Index (DWPI) is the most comprehensive database of inventions published worldwide. Every week more than 20,000 patent documents from 40 countries are processed into patent families, that is, groupings of patent documents from different countries covering the same invention. Each record has an English language abstract, is fully indexed, and is online. Selected technical drawings are included in the online holdings. Generally comprehensive coverage of all technology dates from 1974.

Questel/Orbit is an international online service specializing in patent, trademark, scientific, chemical, business, and news information. It was the first company world-wide to provide access to patent drawings online. Its holdings include materials from the European Patent Office, Japan Patent Information Organization, and the U.S. Patent Office. This service also focuses on international trademarks, and on scientific & technical research, breakthroughs, and products.

STN International, standing for (the Scientific and Technical Information Network) is an online search service providing direct access to over 190 scientific, technical, business, and patent databases. STN is operated jointly by the Japan Information Center of Science and Technology in Asia, by FIZ-Karlsruhe in Germany, and by CAS in North America.

GaleNet is the new online service from one of the most prominent and reliable publishers of international directories such as the *Encyclopedia of Associations*, the *Guide to Internet Databases*, the *Gale Directory of Databases*, and the *Research Centers and Services Directory*.

International Thomson Publishing does not offer its basic references online, but it does offer a free online search service which is useful, allowing simple searches by author, title, or other user-defined search criteria. Among the titles they publish are *Geographic Information Systems: A Guide to the Technology* (1991).

3004. Information Brokers

What is an information broker? The short answer is: the information broker is and can be an analyst's best friend. This is an individual who specializes in discovering, evaluating, and distilling information available from public sources, in order to answer a specific question from a customer. They generally charge between \$70 and \$120 an hour inclusive of search fees (they are expert at keeping the online cost down, but their offline expertise is valuable), plus between \$15 and \$60 for individual document delivery. Generally online searches identify the existence of specific documents, which must then be located in a library, copied, and faxed to the buyer.

Perhaps most importantly to the analyst, information brokers tend to specialize in specific scientific and technical, or industrial areas, and so over time they build up an in-depth knowledge of open sources and methods which can be of invaluable assistance to the analyst working a short-fused problem set. This is important: a good information broker can save the analysts days if not weeks of preliminary research.

The *Burwell World Directory of Information Brokers* is available in both hard and soft copy, and is indexed by subject matter as well as by foreign language expertise. Ordering information is provided in the hand-out.

Information brokers differ from all-source analysts in two important ways:

First, they specialize in discovering, evaluating, and distilling information for a client, but they do not conduct the kind of analysis and estimative forecasting that a typical intelligence community analyst is expected to perform; and

Second, they deal only with unclassified public sources which are legally and ethically available.

Having said that, there is much that analysts can learn from information brokers. Two books, for which complete ordering information is provided in Appendix D, are especially recommended:

Reva Basch, *Secrets of the Super Searchers: The Accumulated Wisdom of 23 of the World's Top Online Searchers*; and

Sue Ruge and Alfred Glossbrenner, *The Information Broker's Handbook*.

3005. Grey Literature

A major obstacle to U.S. understanding of foreign events, foreign cultures, and foreign plans and intentions is the fact that most of what is published about these foreign targets is in a foreign language and generally published in limited editions which are not readily identifiable, translatable, and reportable by existing U.S. intelligence capabilities.

"Grey Literature" is a growing field of interest, as experts worldwide begin to focus on the importance of "niche" information. Because grey literature is not "mainstream" and is often not electronic, the challenge of identifying and obtaining just the right piece of information requires the employment of expert intermediaries.

Examples of grey literature include trade show information, conference proceedings, unpublished "pre-prints" or works in progress, local area telephone directories, university yearbooks, and mailing lists for specific industries or countries.

Information brokers remain one of the best paths to grey literature because these information brokers specialize in selected areas and by virtue of their constant focus, are aware of new publications as they emerge, and are also in contact with key people in foreign industries and governments who can help them obtain selected materials not on the public market but still legally available in limited numbers. The *Burwell World Directory of Information Brokers* is unique for having an index identifying individual brokers based on their foreign language, foreign database, and foreign residence knowledge.

Professional associations, including U.S. associations, are a very rich source of leads and often will provide original source materials at no cost. At a minimum, professional associations can help analysts quickly identify authoritative individuals in specific countries who can be approached with a question or request.

Finally, international experts who are not information brokers and may not be associated with any professional association, are key players in linking analysts to exactly the right information. Two means of identifying such experts will be discussed momentarily.

3006. Document Acquisition

Before looking at international experts, it is useful to examine several services which specialize in document acquisition. The most prominent of these, with offices world-wide, is FIND/SVP, where SVP stands for the French-language phrase "if you please". FIND/SVP

has a major office in New York, and operates both a "quick find" service that will locate two or three relevant articles upon telephone request, and a more in-depth strategic research arm.

CISTI is the Canada Institute for Scientific and Technical Information; it provides world-wide scientific, technical, and medical information services, and also provides at no cost online, the CISTI Online Catalogue. One of the special features of CISTI is its collection of conference proceedings and serial reports.

Disclosure, Inc. has teamed up with American Business Information to provide access to high quality mailing lists and company financial and credit reports. Although publicly traded companies have the most information available, privately owned companies also have financial statements and credit reports, and primary research through industry experts (such as the editors of trade newsletters) can uncover more information. They also have a world-wide presence and can respond to document acquisition requests in their area of expertise.

Genuine Article is the document delivery service offered by the Institute of Scientific Information, which is unique for having a global citation analysis database in both science and social science. Citation analysis is a uniquely valuable analytical tool. The references tell the analyst who has cited or is cited by any major article in academic, scientific & technical, and international business literature. This allows the analyst to determine several things: taking a known relevant work, to determine who has done the latest work in this area, identifying them through their citation of the relevant work; taking a known author, rapidly establish the author's peer standing and influence through citations by others; or taking a specific area of inquiry, quickly cluster the different expert groups through their citations of one another.

Uncover Reveal is an online periodical article delivery service and a current awareness alerting service. It indexes nearly 17,000 English language periodicals in its database. There is no charge for searching the database; articles ordered can be delivered by fax, often within one hour.

3007. International Experts I

Analysts forced to rely on "umbrella" support contracts with a few specific intelligence industrial base companies will often find that these companies are simply one bureaucracy removed from the government, and do not have the flexible access to international experts that is needed.

One solution for analysts is to use in-house access to commercial online services such as LEXIS-NEXIS and DIALOG, to identify international experts.

In two different exercises, one on Somalia for the Marine Corps and one on Burundi for the Commission on Intelligence, LEXIS-NEXIS proved superb at identifying the top twenty-five journalists whose by-lines suggested they were expert on the country on which

they were reporting. Such individuals could be easily contacted for background information and insights on emerging trends. It is worth noting that journalists publish less than ten percent of what they know, and often have an understanding of personalities and motivations that they can share off-line but could never publish.

At the same time, using commercial online sources to search for quoted experts is a fast means of locating key individuals whose expertise has already been evaluated and is now relied on by journalists. Their knowledge will be different from that of the journalists.

Finally, since both LEXIS-NEXIS and DIALOG carry the transcripts of Cable News Network and other major international broadcast media such as the British Broadcasting Network, it is also possible to identify the "world-class" experts that are routinely called upon to comment on air.

3008. International Experts II

A second and deeper means of identifying experts is to work through the capabilities provided by the Institute of Scientific Information, and its unique proprietary publications and databases.

Both the *Social Science Citation Index* and the *Science Citation Index* were created to perform a unique service which is not available from any other source: they identify who has cited whom up to date (generally up to within three months). This allows an analyst to take a known work that is directly pertinent, and by examining who has quoted that work, to quickly identify those who are publishing in the field today.

Perhaps even more importantly, the Institute of Scientific Information is able to perform bibliometric analysis on all of this data, and cluster papers according to their influence. "Bibliometric" refers to the study of citation patterns and their meaning, rather than to content analysis. In effect, individual papers can be evaluated based on the degree to which they were considered relevant by others, and at the same time the relationships between different authors and schools of knowledge can be plotted using clustering techniques.

Finally, complete addresses and contact information are available for each author, enabling an analyst to quickly establish direct contact with an individual whose publications and peer citation establishes them as a high-value subject matter expert.

3009. International Directories

There are many international directories, but a few stand out. Ordering information for all of these are contained in Appendix D.

The *Encyclopedia of Associations* is a unique tool for it identifies key professionals in

every scientific and technical endeavor, and often permits direct contact with individuals who would otherwise be constrained by corporate non-disclosure terms.

The *Worldwide Directory of Government Officials*, updated frequently, is a comprehensive source for complete names, titles, telephone numbers, and even fax numbers for government officials from defense, intelligence, and all other government departments.

The *Research Centers Directory* and the *Directory of Publications and Broadcast Media* are examples of useful tools for getting in touch with key people.

A number of excellent references, all listed in the hand-out, are published by The Reference Press, Inc., and these include directories of key contacts in the various geographical regions of the world.

Finally, the International Supplement to The National Directory of Addresses and Telephone Numbers.

It merits comment that even without any directories at all, an analyst willing to use directory assistance, including international directory assistance, should, in the space of four telephone calls, be able to identify somebody with knowledge useful to the problem at hand. An example: an analyst interested in environmental conditions in an area not covered by any directory, could call directory assistance in that country, ask for any listing beginning with the word "environment" in the local language, and within four telephone calls probably identify someone who is moderately familiar with exactly the information desired.

The bottom line: if you are persistent, the telephone really can help you reach out and touch someone.

3010. Jane's Information Group

Jane's Information Group has long been a primary source for many military intelligence analysts. In his thesis on *Open Source Intelligence: An Examination of Its Exploitation in the Defense Intelligence Community*, then Major (now LtCol) Robert M. Simmons found that many analysts relied on Jane's for tip-offs about new weapons developments and technology transfers.

Among the more obvious benefits from Jane's Information Group are its widely admired publications, *International Defense Review*, *Jane's Intelligence Review*, and of course its entire series of handbooks on different weapons and mobility systems, now available in both hard and soft copy, including a CD-ROM version with illustrations.

Less well known, but still popular, are the Sentinel Country Series, which very few people realize is based on the original analysis model developed by the Marine Corps Intelligence Activity in association with Marine Corps warfighters, and provided to Jane's as

an incentive to meet the demand for an unclassified country study. Jane's also publishes a series of extremely detailed reports on defense budgets world-wide.

Not-so-obvious capabilities which every analyst needs to understand are the following:

First, under special arrangements, the full range of information available through Jane's can be obtained online; this can include information on training and maintenance which has not been published and will not be published.

Second, Jane's can undertake special studies on demand, and utilize its special access as well as its in-house store of knowledge to produce useful "proprietary" reports which can serve as the foundation for follow-on all-source studies.

Finally, Jane's has a global network of experts who have spent years studying specific countries and are intimately familiar with specific defense personalities including field commanders. Under appropriate conditions, analysts can arrange to be put in touch with the pertinent Jane's expert, who can then become the analyst's "running buddy" for a specific analysis project.

3011. Oxford Analytica

Oxford Analytica, whose complete range of products is now available to the analyst through the Open Source Information System (OSIS), is believed by many to be the world's best private intelligence agency in the purest sense of the word.

Founded by an American, Dr. David Young, Oxford Analytica was inspired by Dr. Young's experience as the private secretary to Dr. Henry Kissinger when both served on the National Security Staff under President Richard Nixon.

The organization combines a fifteen person "watch team" which is organized by region and reads all the wires each day, with the Dons of Oxford who are rotated through a morning meeting each day, always asking three questions:

- What's right in the news that needs to be expanded for our clients?
- What's wrong in the news that needs to be correct for our clients?
- What "weak signals" are emerging which require a forecast for our clients?

Upon concluding that a special report is required, Oxford Analytica then commissions either a resident Don from Oxford, or one of over 1,000 experts world-wide. In most cases, the experts have direct access to key decision makers and can obtain authoritative insights through a telephone call.

The final unique element of the Oxford Analytica program, strongly influenced by Dr. Young's experience in serving the President of the United States, is that no report is allowed to be over two pages long, and all reports are required to be complete within four hours of commission--as Oxford Analytica is proud of noting, their material is tailored "for Presidents, Prime Ministers, and you".

3012. Eastview Publications

Eastview Publications, a popular provider of services to the Foreign Broadcast Information Service, is representative of the kinds of niche providers that have emerged with the "information explosion" and the opening of formerly denied areas.

It is the foremost provider to the world of military maps from the former Soviet Union, and distinguished itself during the Commission on Intelligence benchmark exercise on open sources by providing, overnight, a listing of all Soviet maps available for Burundi--maps that did not exist in the U.S. inventory and could not have been created by the U.S. for days if not weeks.

Eastview Publications is also a premier source for Russian grey literature, and through its office in Moscow is able to respond to a wide variety of requirements.

Another example of private sector capabilities focused on Russia and Eastern Europe is that of Access International, based in Albuquerque, New Mexico. This organization, managed by Ms. Marjorie Hlava, a distinguished leader of many key U.S. information associations including the American Society for Information Science and the Association of Independent Information Professionals, produces a CD-ROM in both Russian and English on major Russian information sources including legal and technical sources.

In the scientific and technical arena, Information International Associates, closely associated with the Department of Energy Laboratories, the Defense Technical Information Center, and the National Technical Information Service, is one of the best access intermediaries for international information. Ms. Bonnie Carroll, its President, has been a leader in professional organizations such as the National Federation of Indexing and Abstracting Services and others.

The above are only a small sampling of the kinds of capabilities that can help the analyst exploit international sources. Many others exist--for instance, *THIRD WORLD RESOURCES* is a quarterly review of resources from and about the Third World. Ordering information is contained in the hand-out.

3013. SPOT Image Corporation

During the Gulf War, it took just over sixty days to collect the mapping, charting, & geodesy data that was required for both the targeting of precision munitions, and the creation

of 1:50,000 combat charts with contour lines. As U.S. forces are confronted with a variety of contingencies in the Third World--in areas which have not traditionally been high on the U.S. intelligence collection priority list--they are finding that the lack of maps is a critical encyclopedic intelligence shortfall.

Fortunately, the private sector is in a position to make a major contribution in this area. Ten meter imagery from the SPOT Image Corporation, for instance, can be both multi-spectral and panchromatic, and is suitable for creating both 1:50,000 combat charts with contour lines, and three-dimensional mission rehearsal programs. The Air Force also finds it adequate for the targeting of precision munitions.

What SPOT imagery cannot do is provide the "ground truth" precision points needed to ensure accuracy for combined arms operations, and especially for the coordination of artillery and air strikes. This precision is now provided by the National Reconnaissance Office, and can also be provided by human assets on the ground with Global Positioning Satellite Receivers--each SPOT image requires roughly eight precision points (e.g. a precise location for an intersection visible from space), and each country had from 60 to 200 wide area images which comprise its coverage.

The Defense Mapping Agency has made great strides in the past few years in recognizing the value of commercial imagery, and is now in a position to integrate 5 and 10 meter commercial imagery for broad areas, 1 meter imagery for urban detail, and NRO or GPS precision points.

It merits comment that SPOT imagery is the source for project EAGLE VISION, which combine real-time downlinks from SPOT satellites with mission rehearsal software. This project, sponsored by the Air Force Chief of Staff, was used in Aviano, Italy to prepare air crews for flights to Bosnia, and was credited with doubling sortie effectiveness. Commercial imagery is low-cost in comparison to national imagery, in large part because it has a much lower resolution (10 meters versus under 1 meter) and in part because it does not have the security costs associated with national imagery. A normal procurement for a wide area is on the order of \$3,000 to \$5,000; individual "snap-shots" can be had for as low as \$450, and SPOT advertises sales of imagery at \$1.50 a square mile.

3014. Universities

Universities, both U.S. and international, comprise a "virtual intelligence community" of great value to the intelligence analyst. Among their unique features are the fact that they focus exclusively on knowledge collection and processing, and that they do so at the expense of someone other than the U.S. taxpayer. University faculty, university student bodies, and university databases are all available to the intelligence analyst at either no cost, or at the nominal cost associated with access to an existing system.

Here are four examples of exceptional facilities of direct utility to intelligence analysts; contact information for each of them is provided in the hand-out:

-- Monterey Institute of International Studies. They have created and they continue to maintain a database on the proliferation of nuclear weapons, utilizing graduate students with native fluency in Russian, Chinese, Korean, Vietnamese, and other languages. Their capability is so extraordinary that they have become the foundation for all-source enhancements within the Nonproliferation Center.

-- Mercyhurst College. This small college in Erie, Pennsylvania is unique because it offers the only program in the United States which grants an undergraduate degree in intelligence and research analysis. Founded and managed by Mr. Robert Heibel, a thirty-year veteran of the Federal Bureau of Investigation, this program requires its students to produce regular newsletters, relying only on open sources, about international narcotics, transnational crime, and other key issues. Students in this program are in very high demand as interns throughout the intelligence community.

-- University of Michigan. They operate a "clearinghouse for subject-oriented Internet resources", including resources for aerospace engineering and government sources of business and economic information.

-- Rice University. They operate an Economic Bulletin Board Service which provides a number of useful files including press releases from the U.S. Trade Representative, defense conversion information, East European trade leads, and so on.

3015. Knowledge Age

Knowledge Age, an intended pun, is intended to highlight the fact that knowledge gets old quickly, and to sensitize the analyst to the fact that there are degrees of currency in knowledge which can be very important.

Books are generally ten years old by the time they are published, and many of them started as graduate theses. Magazine articles were generally commissioned and researched ten months before being published. Even newspaper articles, all but the most sensational, were directed by editors and researched by reporters up to ten days before publication. On the Internet, where time moves quickly, clips may be ten hours old.

The point here is that knowledge which has been published is old knowledge.

Where the analyst can get ahead of the curve, and develop insights not yet available to the general public, is by going after unpublished knowledge. By identifying and getting in touch with international experts, the analyst creates the opportunity to ask for tailored new knowledge which is based on unpublished "works in progress".

The analyst should also become sensitive to the existence of "barter networks", and knowledge networks, in which the elite in a particular area of inquiry routinely exchanges insights and information months if not years before publishing. The goal of the analyst should be to establish themselves as a member of this elite, and to use their own unclassified knowledge and their access to unique unclassified information collected at government expense, as their "membership fee" into this broader network of international experts who comprise the analyst's de facto "virtual intelligence community".

3016. Conclusion

There are no hard figures, and in any case the figures will vary from subject to subject and crisis to crisis, but informed judgement is fairly consistent on this point: 80% of what the analyst should know, in the ideal, is not in the USA, is not in English, and is not in electronic form.

The leveraging of international sources is essential for the analyst intent of obtaining a fresh perspective and good "tip-off" value. International open sources and services should be the foundation for a strong all-source analysis program.

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