Open Source Intelligence in the Information Age:
Opportunities and Challenges

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Introduction

Alvin and Heidi Toffler, writing in their latest book, War and Anti-War: Survival at the Dawn of the 21st Century, describe the fusion of information and technology as the critical mass of rapidly expanding "brain force" economies:

> What the Third Wave has done is explosively expand the amount of information moving around the world. The computer revolution, the multiplication of satellites, the spread of copying machines, VCRs, electronic networks, data bases, faxes, cable television, direct broadcast satellite, and dozens and scores of other information handling and distributing technologies have created...an infinitely expanding universe of knowledge.[1]

The corollary to the Third Wave information explosion is the growing realization that more and more of what decision-makers need to know can be found in publicly-available, or "open" sources. The traditional Cold War means of gathering classified intelligence on relatively static and closed military targets has given way to collecting on rapidly-changing situations and entities that are largely accessible through open means. The robustness and relevance of open-source information is causing a fundamental change in the degree to which consumers rely on the traditional classified disciplines as their only source of intelligence. In fact, Washington policy-makers worth their salt have access to CNN, and most of them have tailored access to print media, either through wire services, newspapers, or, in the case of the Department of Defense, the *Early Bird* .[2]

This study defines the role of Open-Source Intelligence (OSINT) in meeting the needs of the modern military commander and defense policy-maker, and assesses the

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[1] Alvin and Heidi Toffler, War and Anti-War: Survival at the Dawn of the 21st Century, 160.

[2] Paul F. Wallner, "Open Sources and the Intelligence Community: Myths and Realities", American Intelligence Journal, Spring/Summer 1993, 20. The *Early Bird* is an overnight compilation of defense-related news from key newspapers.

current state of OSINT in the Intelligence Community. It begins with a discussion of the general utility of OSINT, including an historical look at the unique open-source contributions to the decision support process. Next it examines the technological advances making it possible for consumers to wade through an ever-rising flood tide of open-source material available in a changing international environment. The study moves on to portray OSINT as a "source of first resort"[3] for providing rapid orientation in crisis situations, or for economizing more expensive intelligence resources in an era of fiscal constraint. When compared to its classified counterparts, OSINT tends to be faster, cheaper, less obtrusive and more suitable for further dissemination to a wider range of consumers, from Congress to coalition partners. In short, OSINT is best treated as an integral part of the all-source fusion puzzle.[4] And finally, this study looks at some of the security, legal and cultural obstacles which must be cleared before OSINT can make a substantial contribution to today's overall intelligence production effort.

What is OSINT?

Intelligence is generally defined as information tailored to support a specific decision by a specific person at a specific time and place.[5] Open-source intelligence, or OSINT, is defined as that decision-support information accessed or acquired exclusively from publicly-available, or "open" sources. Traditional forms of open-source information include newspapers, books, journals, periodicals, magazines, photographs and radio and television broadcast media. The Information Age has added new technologies such as CD-ROM, the Internet, and a host of commercial on-line services to the mix. For all the different forms of open-source information now available, whether

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[3] Phrase coined by Paul Wallner, the first Open Source Coordinator appointed by the Director of Central Intelligence in June 1992.

[4] Phrase coined by Dr. Joseph Nye, former Chairman of the National Intelligence Council and now Assistant Secretary of Defense for International Security Affairs.

[5] Robert D. Steele, "Private Enterprise Intelligence: Its Potential Contribution to National Security", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 280.

accessed free or for a fee, its main feature is that it is unclassified and therefore *not* subject to any of the restrictions that come with handling classified information. The official definition of open-source, as provided by the U.S. Intelligence Community:

> By Open-source we refer to publicly available information appearing in print or electronic form. Open-source information may be transmitted through radio, television, and newspapers, or it may be distributed by commercial databases, electronic mail networks, or portable electronic media such as CD-ROM's. It may be disseminated to a broad public, as are the mass media, or to a more select audience, such as gray literature, which includes conference proceedings, company shareholder reports, and local telephone directories. Whatever form it takes, Open-source involves no information that is: classified at its origin; subject to proprietary constraints (other than copyright); the product of sensitive contacts with U.S. or foreign persons; or acquired through clandestine or covert means.[6]

OSINT is rarely described as a highly structured, tightly integrated discipline all to itself; in fact, just the opposite is true. Besides its unclassified product, there is often very little to distinguish OSINT from its classified counterparts. Foreign Broadcast Information Service (FBIS) reports are basically open-source signals intelligence (SIGINT), since they comprise information or intelligence derived from communications. In a similar light, Landsat and other commercial imagery is basically open-source imagery intelligence (IMINT). Open-source commentary and traditional human intelligence (HUMINT) are basically the same, except for the price paid for the information.[7] In contrast to the traditional (classified) intelligence disciplines which are strictly categorized based on their primary means of collection, there is virtually no end to the means used to collect open-source information.

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[6] Director of Central Intelligence Directive (DCID) 2/12 effective 1 March 1994. The official definition fails to take into account the importance of unpublished material such as that obtained from direct contact with selected "experts" from the media and academia.

[7] Major Robert M. Simmons, Open Source Intelligence: An Examination of Its Exploitation in the Defense Intelligence Community, August 1995, 44.

Some Examples of Historical Importance

The contributions of open-source information are not always easy to measure, since it is often difficult to attribute specific sources of information to strategic decisions given the all-source nature of the intelligence product; nevertheless, several historical examples are fairly well documented. During the 1962 Cuban Missile Crisis, through monitoring Radio Moscow, FBIS provided President Kennedy with the first news of the Soviet decision to withdraw missiles from Cuba.[8] More recently, CIA analysts who monitored the dissolution of the Soviet Union in December 1991, and subsequent parliamentary coup in October 1993, estimate that at least 80 percent of their information came from open-sources.[9]

This (remarkably high) estimate of the open-source contribution to the decision support process is not without precedent. Consider the following comments from former Director of Central Intelligence (DCI) Allen Dulles to the Senate Armed Services Committee on 25 April 1947:

> Because of its glamour and mystery, overemphasis is generally placed on what is called secret intelligence, namely the intelligence that is obtained by secret means and by secret agents. In time of peace the bulk of intelligence can be obtained through overt channels, through our diplomatic and consular missions, and our military, naval and air attaches in the normal and proper course of their work. It can also be obtained through the world press, the radio, and through the many thousands of Americans, business and professional men and American residents of foreign countries, who are naturally and normally brought in touch with what is going on in those countries. A proper analysis of the intelligence obtainable by these overt, normal, and aboveboard means would supply us with over 80 percent, I

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[8] Admiral William O. Studeman, "Teaching the Giant to Dance: Contradictions and Opportunities in Open Source Within the Intelligence Community", American Intelligence Journal, Spring/Summer 1993, 11.

[9] Ibid., 11.

should estimate, of the information required for the guidance of our national policy.[10]

It is equally instructive to learn of the value placed on OSINT by "the other side" during the Cold War. In The First Directorate: My 32 Years in Intelligence and Espionage Against the West[11], Major General Oleg Kalugin, former Chief of Counter-Intelligence in the KBG, writes of an open report he filed as a young case officer--after attending a lecture on how to widen the war in Vietnam by then Columbia professor Zbigniew Brzezinski---which was discussed by the Politburo. "See, Oleg, said one of my commanding officers, your open information wound up in the Politburo. Now you know how important it is to pick up these things from well-placed, knowledgeable people, even if the stuff isn't classified." In another reference, commenting on the Chief of Station in their Washington office, Kalugin notes, "He constantly hounded me to stay on top of a host of unclassified written sources and reports, as well, saying, they were of invaluable help in intelligence gathering".

The Scope of Open-Sources

During every hour of every day, people around the world are collecting a continuous flood of information for business, academic, news reporting or research purposes which is either printed, broadcast, or stored in electronic databases. The communications and computing technologies involved with accessing and processing this information is advancing at exponential rates.[12] The Internet "network of networks" has made possible electronic communications between an estimated 20 million computer users in thousands of universities, research establishments,

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[10] Robert D.Steele, OSS Notices, May 1995.
[11] OSS Notices, January 1995.
[12] Industry experts point out that, for more than the last decade, computer power had doubled every 18 months and they see this trend continuing for at least the next several years.

governments and businesses throughout the world. With the ongoing expansion of the Internet and other electronic information handling systems, the Intelligence Community has identified over 8,000 commercial databases with potential intelligence value.[13] Increased global media coverage by international corporations such as Cable News Network (CNN) has also broadened the open-source field of information influencing policy and operations. According to Army Operations Center Chief Lieutenant Colonel Jeffrey Anderson (USA):

> This is one of the few places in the Army where people watch television as part of their duties. CNN does get information sometimes before we do...We get a lot of information from our own intelligence assets in Bosnia, but we don't get the same feel for what's going on as we do when we listen to (CNN correspondent) Christiana Amanpour or someone like that. That helps us predict what our next requirement will be.[14]

The same information technologies making the world smaller are combining with a growing trend of openness to provide fresh opportunities for gathering open-source information in formerly closed or isolated societies. The dramatic increase in post-Cold War democracies has resulted in a considerably more free and open world press, where the amount of newspapers, journals, periodicals and information media in general has increased dramatically. There are more than 3,000 new newspapers in the former Soviet Bloc that were not on the market only three years ago.[15] In the new global environment, open-sources provide much more hard, credible data about a wide range of international political, social, and economic issues than ever before.

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[13] Paul F. Wallner, "Open Sources and the Intelligence Community: Myths and Realities", American Intelligence Journal, Spring/Summer 1993, 19. This number will undoubtedly increase as Internet accessibility grows.

[14] "Federal Page", The Washington Post, 25 August 1995.

[15] Paul F. Wallner, "Open Sources and the Intelligence Community: Myths and Realities", American Intelligence Journal, Spring/Summer 1993, 19.

A growing trend of declassification is also contributing to the increased flood of open-source information. Since the fall of the Soviet Union, Russia has declassified literally millions of Soviet documents relating to defense and security matters. The KGB archives that were previously tightly closed are now opening up to reveal Soviet views and history on nearly every subject imaginable. During the Cold War, Kremlin leaders met in the deepest secrecy. Today, most Commonwealth of Independent States' cabinets now publish their meeting schedules in advance and conduct press conferences concerning the outcomes.[16] This trend is also occurring in the U.S. and other western nations. An Executive Order, signed by President Clinton on 23 February 1995, authorized the declassification of satellite photographs collected by the U.S. Intelligence Community during the 1960's.[17] In January 1995, the government of Israel declassified and released what is known as the "Agranat" findings from the Yom Kippur War.[18] The report consisted of six large volumes of protocol from top-secret cabinet meetings, sessions of the Israeli Defense Force General Command, and late-night discussions between Defense Minister Moshe Dayan and Chief of Staff Lieutenant General David Elazar. These documents proved to be of significant historical value to military researchers exploring the thought processes involved in leaders preparing for and waging war. The effect of the trend of increased declassification worldwide enhances public access to a growing range of official government products without regard to security restrictions.

The biggest advantage of OSINT is its virtually unlimited potential on any topic. In an age where open-source information is *everywhere*, OSINT is often derived from the

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16 Larry Seaquest, "Defense Intelligence in the Disorderly World", Defense Intelligence Journal, Volume 1, 1992, 39.

17 OSS Notices, May 1995. Photographs are available for purchase by the public within 18 months after the declassification order was signed from the National Archives Record Administration (NARA) and from the U.S. Geological Survey's Earth Resources Observation System (EROS) Data Center.

18 Steve Rodan, "IDF Brass Ignored Agranat Findings, Repeated Mistakes", Jerusalem Post, 6 January 1995.

strangest of sources. Consider a recent example. In preparation for the allied ground offensive in Operation Desert Storm, U.S. Central Command (CENTCOM) tasked all intelligence agencies for all information they could get on trafficability through the wastelands of southern Iraq. CENTCOM needed to know where the sands would be too soft to support tanks and where defiles would stop vehicles and require bridging equipment:

> A great hunt was launched for data. One very helpful source turned out to be the Library of Congress. A crew of intelligence officers spent three days pouring over old archeological manuscripts and found trafficability data. Archeologists early in this century had recorded minutiae on the countryside in their diaries as they slowly made their way across the sands on camelback.[19]

The Intelligence Community can neither anticipate nor collect all of the information which may prove valuable at some point in the future (e.g., recent events in Haiti, Somalia and Rwanda demonstrate how quickly a country or area can become a focus of U.S. and international interest). However, it is quite likely that relevant information has been collected and recorded by *someone*. An effective OSINT system provides the tools to find that information.

The Double-Edged Sword

Like any other intelligence discipline, the inherent value of OSINT hinges on the quality of the collection management methods and analytical rigor applied. The most complete and accurate database in the world is of no use if it cannot be searched quickly and simply. Information discovery tools are required on the Internet in order to sift

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[19] Intelligence Successes and Failures in Operations Desert Shield/Storm, Report of the Oversight and Investigations Subcommittee of the Committee on Armed Services of the House of Representatives. One Hundred Third Congress, First Session. 16 August 1993, 12.

through mountains of information in search of the useful nugget. Like classified data, open-source data can be unreliable and a frequent source of biased and misleading information. It can also be the product of deliberate deception or information control practiced by governments or institutions acting as a propaganda instrument. Israel has long been known to selectively leak intelligence or defense-related information to the press to promote a political point of view. Former Mossad agent Victor Ostrovsky spoke of the Israeli press and even certain American journalists as virtual mouthpieces for the Israeli government with little journalistic objectivity to verify a story.[20] The Former Soviet Union had a long history of using the media for disinformation purposes; the Soviet press would print what the government told them to print without verification.[21] Similarly, the international press contributed to U.S. deception operations during the Persian Gulf War by reporting the high likelihood of amphibious landings in Kuwait which never happened.

Obviously, an analyst must be skeptical of all information sources and judge each piece of data on its own merits. However, individuals lacking basic analytical skills are more likely to take open-source material at face value, randomly picking and choosing information without regard to bias or which has not been corroborated by other sources. This problem applies in particular to those government entities outside of the Intelligence Community--the Federal Reserve Board and the Departments of Commerce, Treasury, and Labor, to name a few--who now engage in OSINT, but do not regard it as part of their mission and therefore do it rather poorly.[22] "They don't "do" collection management, or critical analysis, or forecasting, or indications & warning, at

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[20] Victor Ostrovsky, The Other Side of Deception, 209.
[21] Edward J. Epstein. Deception: The Invisible War Between the CIA and the KGB, 192. The current Russian press, in a change from the Soviet days when the press had a directed bias in favor of the government and the military, now often displays a bias *against* the government and military.
[22] Comments made by Gary Sojka, formerly a member of the prefessional staff on the Senate Select Committee on Intelligence, OSS Notices, June 1994.

the level of sophistication which our intelligence communities have developed over time."[23] A recent Open-source Intelligence survey sponsored by the House Appropriations Committee acknowledges this shortcoming:

> There is no established OSINT training program or even an elementary collection of readings or briefings which can help each customer, existing analysts, and incoming analysts...better manage the discovery, exploitation, and integration of open-sources.[24]

OSINT for Rapid Orientation

The Tier system places nations into a priority order for intelligence collection based on their relative strategic importance to the U.S. national security. Tier 1 countries are those that have the capability to inflict strategic and massive harm to the U.S. Tier 4 countries, on the other hand, constitute Third World nations (such as Haiti, Rwanda and Somalia) that pose little obvious threat, and therefore traditionally have received the least attention. The Intelligence Community devotes roughly 60-70 percent of its budget to satisfying Tier 1 collection priorities, principal among them during the past 40 years (being) the Soviet Union and the Warsaw Pact.[25] Given this concentration, its collection capabilities do not always lend themselves to satisfying other requirements, much less to rapid and constant re-orientation among differing target sets over time.

The world is very different now; the host of "new threats" making headlines have little resemblance to the old. The challenges and issues facing policy-makers have

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[23] Comments made by Ellen Seidman, Special Assistant to the President of the US (National Economic Council), OSS Notices, February 1994.
[24] OSS Notices, May 1995.
[25] Arnold E. Donahue, "National Funding Directions for Open Source Intelligence", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 65.

moved from being centered on what former Commandant of the Marine Corps General Alfred M. Gray once called governmental, conventional, static enemies, and are now revolving around a vast array of non-governmental, unconventional, dynamic or random enemies. To put it another way, the fall of the Berlin Wall has opened a floodgate of consumer demand for information about a wide range of topics that are proving difficult for existing intelligence capabilities to detect, monitor and pre-empt:

> It is as if we had built a Cadillac and a single superhighway connecting two points--Moscow and Washington--and all of a sudden find that we need 3 Jeeps, 10 motorcycles, and a hundred bicycles in order to handle our information requirements. The Cadillac does not lend itself to off-road movement, nor does it lend itself to multiple minor missions.[26]

To make up for this shortfall, decision-makers are increasingly turning to open-source information to provide rapid orientation in crisis situations for which classified collection priorities have not been high.

Nowhere has this proven more true than when encountering requirements for conducting military operations in the Third World. Robert Steele, while serving as the senior civilian responsible for the establishment of a new $20 million Marine Corps Intelligence Center in Quantico, Virginia in 1987-88, learned first-hand the inadequacies of classified products and services in satisfying the intelligence requirements of the Marine Corps. Making the assumption that everything the Marine Corps wanted to know about the expeditionary environment would be available from the national Intelligence Community, he enabled a Top Secret Sensitive Compartmented Information (TS/SCI) computer system with direct access to databases from the Central Intelligence Agency (CIA), National Security Agency (NSA), and Defense Intelligence

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[26] Robert D. Steele, "The Intelligence Community as a New Market", transcript of spontaneous remarks presented to the National Federation of Abstracting and Indexing Services, 23 February 1993.

Agency (DIA). Unfortunately, it was only after this system had been built that he discovered something quite different. "The analysts kept coming in saying "There's nothing there but Soviet missile silo data". The material that was in the classified databases was focused almost exclusively on the Soviet Union, and the Third World "data fill" had not (and still largely has not) been accomplished."[27]

By contrast and belatedly, it was discovered that open-sources could satisfy up to 80 percent of the Marine Corps' intelligence requirements, at 20 percent of the cost of classified information.[28] Moreover, most of this information was available by harnessing the distributed power of what Steele describes as the "information continuum"[29], of which the official Intelligence Community is but just a part.[30] He argues that the private sector is often in a better position than the Intelligence Community itself to serve as the focal points for the collection, processing, analysis, and distribution of open-source information. The following represents personal testimony in an (ironically) closed Aspin Commission Hearing on Open-sources held on 3 August 1995:

> The day ended with a bang, when a member of the Commission asked me if I would orchestrate a rapid-response benchmarking of private sector capabilities on Burundi....and from the airport in Denver I arranged the following voluntary

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[27] Robert D. Steele, "Private Enterprise Intelligence: Its Potential Contribution to National Security", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 283.
[28] Ibid.
[29] Ibid. The information continuum consists of primary and secondary schools, universities, libraries, all businesses and their information repositories, private investigators and information brokers, the media including the trade journal and scientific and technical media, governments from the national to the state and local levels, all defense and law enforcement organizations, and the official Intelligence Community.
[30] Steele notes that although nearly $30 billion is spend of U.S. intelligence programs, over $100 billion is spend by academia and the private sector on the collection and processing of information.

contributions, all of which were delivered to the Commission by overnight mail the next working day:

- From **Jane's Information Group,** a tailored report reflecting all of its published and unpublished knowledge about the situation in Burundi, including personality information and order of battle information for non-governmental groups;
- From **Oxford Analytica,** recent assessments on U.S. foreign policy towards Burundi prepared for its top-level clients at the Prime Minister/CEO level;
- From **LEXIS/NEXIS** , a list of the top 25 journalists whose by-lines suggest that they are expert on Burundi and available for immediate debriefing;
- From the **Institute of Scientific Information,** a list of the top academic experts on Burundi with locator information;
- From **The Economist Intelligence Unit,** a country risk report which documents logistics difficulties that would be encountered, including the limitations of both ports and airfields for strategic entry;
- From **SPOT Image,** virtually total geographic coverage already stored in distributed databases, and it would not have been difficult to quickly put together some 1:50,000 combat charts with contour lines, as well as some fly-by simulations for the pilots responsible for getting airborne and seaborne troops into place.[31]

These open-source materials, available in concise and immediately-usable form, can provide a rapid orientation for contingency planning of military operations. Considering that a principle aspect of the changing international environment is the increased likelihood that seemingly benign countries will increasingly involve

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[31] OSS Notices, August 1995.

operations by U.S. forces, the use of open-source information--largely accessed from the private sector--to "make up for" deficiencies in primary classified collection means will continue to gain momentum. According to Steele, "using open-sources for orientation purposes, as a preliminary to tasking classified systems, may be the single smartest thing an operator can learn to do...and we in the Intelligence Community should encourage this pattern."[32]

OSINT as a Foundation for Analysis

OSINT can be a means of achieving significant savings in a time of diminishing resources. Since 1987, the U.S. defense budget has been reduced by over 70 billion dollars and by 1995, the Armed Forces will have lost over 30 percent of their manpower.[33] Compared to expensive "black world" intelligence capabilities, "white world" data is relatively inexpensive to acquire. The trend is therefore to treat OSINT as a "source of first resort" for satisfying general intelligence needs without depleting or misdirecting more sensitive and costly sources and methods--"do not send a spy where a schoolboy can go."[34] A recent report by the House Permanent Select Committee on Intelligence (HPSCI) states that open-source information should serve as the foundation for analysis, allowing classified intelligence capabilities to be focused quickly and effectively on mission-critical gaps:

> Clandestinely collected information will serve to complement the open-source data, filling in gaps or shedding more light on key subjects. This approach promises to make more judicious use of classified sources and methods of collection, the prospect of economies in the future.[35]

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32 OSS Notices, November 1993.
33 Department of Defense, "FY96-97 Defense Budget", News Release 033-95, 6 February 1995.
34 Robert D. Steele, "Open Source Intelligence: What Is It? Why Is It Important to the Military?", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 330.
35 OSS Notices, July 1994.

It should not be difficult to identify topics of high interest where open-source information is likely to provide the vast bulk of the relevant data. Worldwide military spending and hardware comparisons, environmental policy and enforcement capabilities, trade and financial flows, and energy production and utilization are some obvious areas.[36] The following examples demonstrate how preliminary collection and analysis of open-source economic imports data could prove a cost-effective means of "tipping-off" classified collection capabilities in order to confirm or reject the possibility of weapons proliferation activity.[37]

Scenario 1: Suspected Iraqi Weapons Production

An Iraqi country analyst is alerted to an unusual pattern of high technology imports. The imports are of castings and electronic components, both critical components in the production of ground-to-air missiles. These imports are inconsistent with both the expected level of Iraqi imports (based on Iraq's calculated economic needs) and the historical levels of Iraqi imports. Further analysis determines the source of these shipments. Subsequently, the analyst assesses a potential increased threat from Iraq and issues an alert requesting the collection of additional covert intelligence in order to confirm or reject the possibility of weapons proliferation activity.

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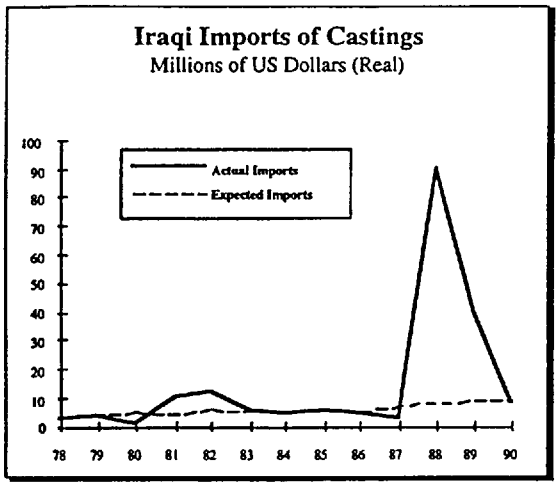
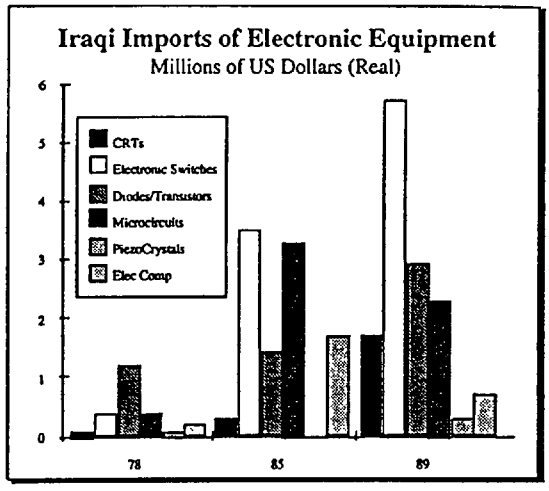
[36] Arnold E. Donahue, National Funding Directions for Open Source Intelligence, Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 67.

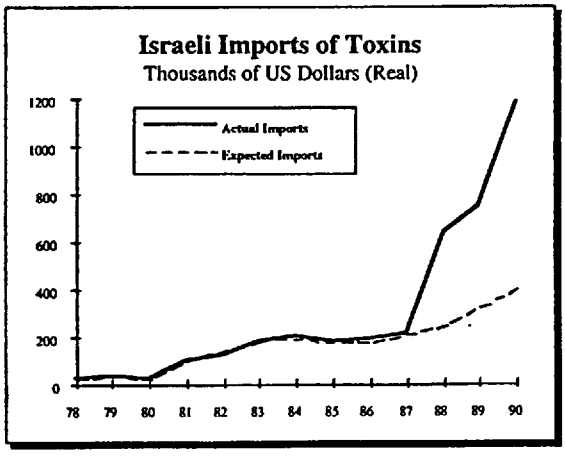
[37] George A. Gerliczy, "Economic Intelligence and Open Source Information", DRI/McGraw-Hill. While the scenarios are hypothetical, all data used in graphics are real and available through open sources.

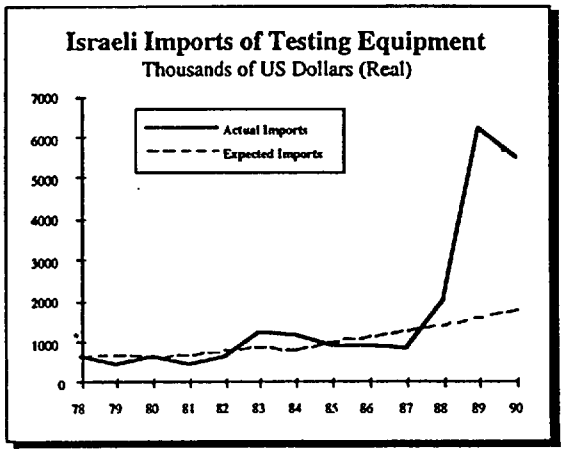




Scenario 2: Suspected Israeli Chemical Weapons Production

A weapons analyst is alerted to a marked increase in Israeli imports of toxic substances. Interested in determining whether these would be consistent with typical agricultural needs, imports of such substances for neighboring countries with similar economic and security needs are evaluated. The analyst finds that the quantities observed are highly unusual under the current environment. Further, the analyst examines imports of other critical components and observes an unusually high volume of electronic equipment consistent with the test and assembly of chemical weapons. Once again, the analyst issues an alert calling for increased intelligence activity in order to affirm or reject the possibility of chemical weapons proliferation activity.





Finally, the *absence* of information in the open-source arena can also be a tip-off for more concentrated classified collection. Analysts monitoring Soviet open-source articles concerning X-ray laser research during the 1970's noted an abrupt halt to all publication on the subject in 1977. This led to speculation that the program had moved into direct military application and classified sources were tasked accordingly.[38]

A Balanced Approach

While open-source information can provide event specifics, background, context, focus, contrast, improved accuracy, alarms, and many other positive analytical features, most experts are careful to point out that it should not be used to substitute for classified data where it is available or should be obtained.

> OSINT offers opportunities to answer some questions more cheaply and quickly than with classified methods. However, things are not always what they appear to be, and excessive reliance on OSINT as a panacea and substitute for classified sources and methods is inappropriate and likely to be dangerous.[39]

According to joint doctrine, open-source information is to be treated like all other available information.[40] That is, it should be integrated into an all-source product based on each piece of information's relative value, reliability, and relevance. Dr. Joseph Nye, former Chairman of the National Intelligence Council, has on many occasions used the jig-saw puzzle analogy to describe the relationship between OSINT and the other traditional intelligence disciplines:

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[38] George A Carver, Jr., "Intelligence in the Age of Glasnost", Foreign Affairs, Summer 1990, 158.
[39] Comments by Keith Hall, Deputy Assistant Secretary of Defense (Intelligence and Security), OSS Notices, October 1994.
[40] Joint Doctrine for Intelligence Support to Operations, JCS Joint Pub 2-0, 12 October 1993, II-2.

> OSINT provides the outer pieces of the intelligence jig-saw puzzle, without which one can neither begin nor complete the puzzle. But they are not sufficient of themselves. The precious inner pieces of the puzzle, often the most difficult and most expensive to obtain, come from the traditional intelligence disciplines. Open-source intelligence is the critical foundation for the all-source intelligence product, but it cannot ever replace the totality of the all-source effort.[41]

Certainly, OSINT should be considered, together with other traditional (classified) INT's, as part of a balanced approach to national intelligence.

OSINT and Speed

The increased operational tempo on the battlefield has demanded more timely delivery of the intelligence product to operational and tactical commanders. During Operation Desert Storm, the historic speed of the allied ground campaign severely tested the ability of the Intelligence Community to keep pace. After the combat, complaints and criticism surfaced that tactical intelligence was too slow in arriving where it was needed. For example, the classified imaging cycle took eight days from articulation of the requirement to delivery of the imagery, while the operational planning cycle was only 3-5 days. Classified imagery was not only poorly suited for wide area surveillance, but generally too late to be really useful.[42] By contrast, electronic distribution technologies (e.g., Internet) now make it possible for worldwide users to access critical open-source products as soon as they are produced.[43] This reality feeds a growing perception among intelligence consumers that OSINT can be

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41 Open Source Intelligence Resources for the Military Intelligence Officer, 434th Military Intelligence Detachment (Strategic), 1 November 1994, 11.

42 Robert D. Steele, "Private Enterprise Intelligence: Its Potential Contribution to National Security", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 284.

43 The Intelligence Community has developed and continues to expand its own wide-area network for retrieving classified information known as Intelink.

potentially more responsive to new and unanticipated requests for battlefield support than its classified counterparts.

> OSINT is part of anyone's competitive edge, including the consumer of intelligence. In part this is because the edge comes from learning faster. There is a distinct impression that the traditional consumers of intelligence are learning faster from OSINT sources than they are from classified sources (and, I might add, losing patience with the slowness of the classified community).[44]

OSINT and Political Risk

Another argument for increased open-source usage is the increasing political risk associated with traditional classified means of collection. During the Cold War, it was basically accepted that the U.S. would spy on the Soviets, and vice-versa. With our potential enemies less clear today, it is more difficult to justify the risk of exposure of clandestine operations with nations that are not as outwardly hostile to the U.S. as was the Soviet Union. For example, diplomatic relations with France were strained in early 1995 when U.S. clandestine sources were reported to be collecting on French economic targets.[45] The increasing volume of open-source materials available on issues such as trade policy and international contracts will likely make future clandestine operations against allies as well as potential hostile nations less likely to be approved.

OSINT and Information Sharing

In a rapidly changing threat environment, intelligence consumers are increasingly vocal about two things: they need to follow a much wider variety of situations around the world than the Intelligence Community is accustomed to monitoring, and they want the information--to the extent possible--to be given to them

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[44] Comments made by Dr Gordon Oehler, Director of the Non-Proliferation Center at the CIA, OSS Notices, February 1994.
[45] "Clinton Wants CIA to Probe Economics", Reuters, 24 July 1995.

in an unclassified format suitable for sharing with Congress, the press, and the public. Overclassification, otherwise known as the "cement overcoat"[46] of intelligence, has a tendency to make information too time-consuming to actually influence policy at the working level. The flood of classified information produced not only does not get read by the intended recipient, the policy-maker, but often, because of its excessive classification, *cannot* be read by his subordinates normally charged with digesting and distilling incoming information on his behalf. According to former Secretary of Defense Frank Carlucci,

> The Intelligence Community still has not learned that a secret (or an unclassified) paragraph is far superior to a 100 page compendium of material that is heavily classified and therefore difficult to gain access to and even more difficult to draw on when attempting to move policy.[47]

On the other hand, open-source information frequently appears less valuable than classified information because it does not carry the classification "mystique". Because it *appears* less valuable, it is shared more freely. The irony is that by sharing it more, its value actually *increases*. A letter from Brigadier General (BG) William B. Webb (USA), U.S. Defense Attache in Beijing, PRC to the 434th Military Intelligence Detachment (Strategic) almost 15 years ago illustrates this point.[48] The 434th prepared a report that dealt with the geography of the Sino-Soviet border and analyzed likely avenues for a Soviet attack on China. BG Webb wrote that although he had access to a great deal of classified material dealing with the same topic, the unclassified report was particularly useful because he could give it freely to his contacts in the People's

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[46] Robert D. Steele, "Testimony to the President's Commission on Eliminating Excessive Secrecy", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 145.
[47] Robert D. Steele, "The Intelligence Community as a New Market", transcript of speech to National Federation of Abstracting and Indexing Services, 23 February 1993.
[48] Open Source Intelligence Resources for the Military Intelligence Officer, 434th Military Intelligence Detachment (Strategic), 1 November 1994, 14.

Liberation Army and others. When information is shared and used by a wider range of organizations and people, the information's value in contributing to a desired outcome becomes self-evident.[49]

In the post-Cold War global security environment, U.S. military forces have increasingly operated as members of a coalition of allied nations, and this trend is likely to continue. According to Colonel P. Konowicz (USAF), CENTCOM (J-2), "The U.S. will no longer go to war alone--the next war will not be fought without coalition partners."[50] Intelligence information based on open-sources is far easier to share with foreign coalition partners than is that drawn from classified, sensitive sources. To paraphrase a Navy Wing Commander (Captain, O-6) who led the lead flight into Baghdad:

> If it's 85% accurate, on time, and I can share it, then that is a lot more useful to me than an SCI compendium that is too much, too late, and needs a safe and three security officers to move it around the battlefield.[51]

In short, a greater percentage of the consumer's needs can be satisfied with unclassified intelligence which is vastly faster to get and cheaper to process, and has the two additional advantages of being risk-free, and eminently suitable for dissemination to a wider range of consumers, from Congress to coalition partners.

The Current State of OSINT in the Intelligence Community

The National Intelligence Council (NIC) surveyed the Intelligence Community leadership in 1994 concerning the contribution of OSINT to the overall all-source

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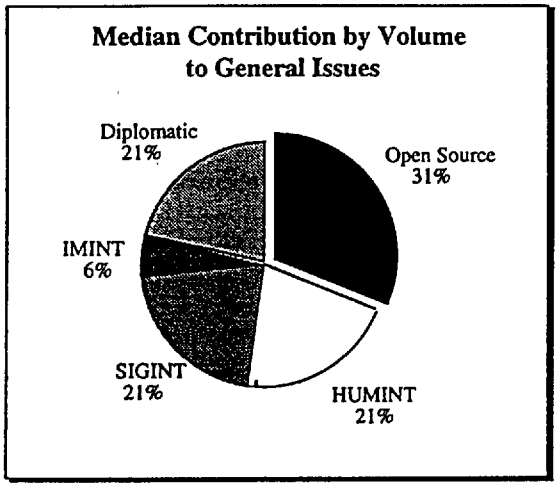
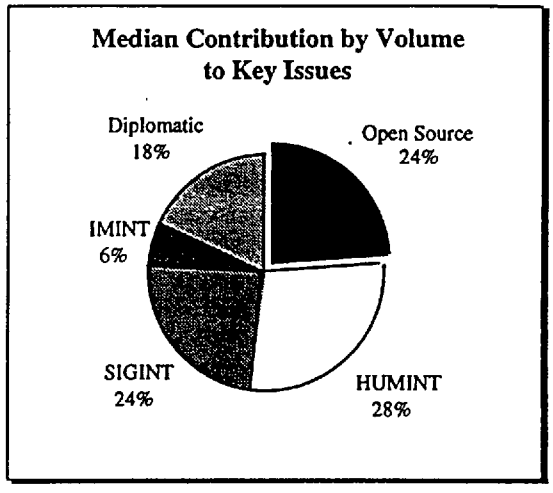
[49] Col G. I. Wilson, USMCR, "Uncorking the Information Genie", Marine Corps Gazette, October 1995, 29.
[50] Comments recorded by author at a CTAPS conference held at the National Security Agency, 18 October, 1995.
[51] Robert D. Steele, "Testimony to the President's Commission on Eliminating Excessive Secrecy", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 149.

intelligence production effort. The Senior Intelligence Officers responded that OSINT was the single most important contributor to general issues, and ranked second behind only HUMINT in time sensitive and critical situations such as crisis response, contingency planning, and short-fused high level policy support.[52] Survey results are depicted below:





The increasing attention given to open-source information is further manifest in the creation of the Community Open-source Program Office (COSPO) in March 1994. Located in the Directorate of Science and Technology at the CIA, the COSPO is the largest and most recently formed organization dedicated to the improvement of open-source access and integration among "the all source intelligence environment of Community users, the deliberative arena of policymakers, and the operational milieu of government action officers."[53]

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[52] Major Robert M. Simmons, Open Source Intelligence: An Examination of Its Exploitation in the Defense Intelligence Community, August 1995, 31.
[53] COSPO, Community Open Source Strategic Plan, February 1995.

Obstacles to OSINT Exploitation

Managerial perceptions and programatics notwithstanding, a more recent survey of open-source utilization at the Defense Intelligence Agency--the largest analytical organization of the strategic Intelligence Community--tells a much different story.[54] Rather than serving as a foundation for analysis, OSINT tends to be treated as a compensation discipline for that which cannot be collected through classified means. There are several reasons to explain this phenomena, ranging from legitimate security and legal constraints to a pronounced cultural bias in favor of traditional classified resources.

The Intelligence Community has a special problem managing multilevel security in automated systems where open-source data is mixed with classified data. "One common problem that I have identified...is the mixing of classified and unclassified, or oil and water, in the same system. On ships this usually leads to an explosion."[55] Presently, the community relies on an elaborate systems architecture to access and disseminate classified intelligence and does not have an alternative system to handle unclassified information. Moreover, highly restrictive overhead and security precautions preclude the efficient introduction and processing of unclassified information into these existing architectures. Further, once introduced, the tendency is to treat *all* information as classified, effectively removing all of that unclassified information otherwise accessible to most government and private sector employees not in possession of classified security clearances. As a result, the potential contributions of unclassified information tend to be overlooked. COSPO Director Dr. Joseph Markowitz'

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[54] Major Robert M. Simmons, Open Source Intelligence: An Examination of Its Exploitation in the Defense Intelligence Community, August 1995, 44. Results are based on a comprehensive survey distributed to nearly 400 analysts representing every regional and functional specialization in the DIA.

[55] Comments made by Dr Ross Stapleton, Community Managment Staff, OSS Notices, September 1993.

long-range solution to this problem calls for analysts to have *both* classified and unclassified capabilities on their individual desks[56], with the inherent technologies in place to support the efficient transfer of information in and out of either systems architecture.

An expanded use of open-source material raises legal questions concerning licensing agreements and copyright protection. For instance, the Intelligence Community, like any other commercial user, buys access to a number of commercial databases. When one component of the Community is licensed to use a database, can it disseminate that data, or provide access to other users in the Community? Should originators of unclassified information be compensated based on the frequency with which their contributions are accessed, printed or transmitted? Lawyers and mangers in the Intelligence Community are working diligently to ensure that the use of copyrighted information strikes the appropriate balance between the government's legitimate need for acces to open-source material with the copyright owner's rights and privileges.[57]

The culture of the community is not conducive to open-source activities. For good and grand historical reasons, clandestine techniques, classified sources, and compartmented methods were required to infiltrate the closed societies of the Communist world. The Intelligence Community was wedded to these, and (as we have seen) a string of codewords on a report often seemed to enhance its credibility, importance and value. Even when the Intelligence Community used completely

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[56] OSS Notices, February 1995.

[57] Admiral William O. Studeman, "Teaching the Giant to Dance: Contradictions and Opportunities in Open Source Within the Intelligence Community", American Intelligence Journal, Spring/Summer 1993, 18.

unclassified sources, it classified the product.[58] One commentator described the preference for classified material as a psychological addiction:

> The mind-set stems from the Cold War itself. The secrecy which surrounded that period has produced in many analysts a belief in infallibility and a pride in exclusivity. The application of codewords and security classification gives an air of accuracy and authority...However, ...the conflicts of today do not lend themselves to the old methods of closed shop analysis.[59]

Perhaps another more cynical way to view this obsession with classification is to base it on a general distrust of unclassified, private sector information.[60] The culture of these agencies and businesses promote open acknowledgement of sources, defined methods of extraction and collation, and wide dissemination to client groups. The bureaucratic self-interests of the community, by contrast, are based on clandestinely, covertness, cover and secrecy. Without these, the raison d'être of the intelligence agencies could be challenged, its activities viewed as unneeded and duplicative. The practitioners of its statecraft will not be pleased, or long tolerate, someone who says, "But I read it in the Washington Times, yesterday."[61] Rodley B. McDaniel, then Executive Secretary to the U.S. National Security Council and a former Senior Director

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[58] Arnold E. Donahue, National Funding Directions for Open Source Intelligence, Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 66. The new Executive Order 12958 "Classified National Security Information", signed on 14 October 1995, discourages overclassification by increasing personal accountability for assigning classification markings to analysis. The effects of this Executive Order are still being felt throughout the Intelligence Community at large.

[59] Robert Hall of Janes Intelligence Review, speech entitled "Jane's Approach to the New Environment", delivered at the Second International Symposium: "National Security & National Competitiveness: Open Source Solutions", Washington DC, 2-4 November 1993.

[60] Robert D. Steele, "Open Source Intelligence: What Is It? Why Is It Important to the Military?", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 337. Steele considers this analytical tendency to be a result of a cultural inclination to treat knowledge as power, and to withhold knowledge from others as a means of protecting one's power.

[61] Arnold E. Donahue, National Funding Directions for Open Source Intelligence, Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 66.

(White House) of the Crisis Management Center, suggested that the tendency to classify information might be for reasons other than the protection of sources and methods:

> "There are two uses to which classification is put: the legitimate desire to protect secrets, and the protection of bureaucratic turf. As a practitioner of the real world, it's about 90% bureaucratic turf, 10% legitimate protection of secrets as far as I'm concerned."[62]

The implication is that classified information does not, simply by nature of its controlled collection and processing, possess a greater accuracy or relevancy than unclassified sources. The estimates of Soviet military and economic strength during the Cold War are fairly well-documented as being incorrect despite being largely based on classified analysis and assumptions.

The practice of protecting secrets can often overshadow the process of exploiting *all* available information. As previously indicated, the experience in intelligence is that open-source information activities compete poorly with clandestine approaches. Current activities, such as broadcast monitoring and periodical and book acquisition, are stepchildren compared to the robustness of clandestine and technical methods. Despite admitting that 40 percent of the all-source product comes from OSINT, the National Foreign Intelligence Board (NFIB) spends less than one percent of its budget on open-source intelligence.[63]

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[62] Robert D. Steele, "Testimony to the President's Commission on Eliminating Excessive Secrecy", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 145.

[63] OSS Notices, August 1994. Dr. Joe Markowitz has called for an (modest) increased investment in open sources from 1 to 2% of the NFIB over the next five years.

A final, and perhaps most significant, obstacle to increased open-source exploitation is the management of the intelligence analysts' time. As reflected in the survey results, the typical DIA analyst states that he generally does not have the time to search resources that are beyond his immediate reach.[64] The daily production requirements of DIA analysts normally preclude research at libraries, discussions with academia, and generally any form of open-source research that involves contact with the private sector or assets outside of the formal Intelligence Community. All of these issues make up institutional and individual obstacles to efficient use of open-sources in the analytical process.

Conclusion

The Information Age has opened a floodgate of consumer demand for information about a wide range of topics now accessible through open means. An effective OSINT program provides the ability to extract meaningful intelligence from this endless flood of data. OSINT is a good remedy for the military commander who requires rapid analysis of threats for which existing collection and production capabilities are unsuited, particularly in the Third World, expeditionary environment. In an era of decreasing budgets, intelligence consumers increasingly look to OSINT as a "source of first resort" for satisfying general requirements, saving scarce classified resources and optimizing focused classified search--"do not send a spy where a schoolboy can go."[65] OSINT also offers a return on investment which far exceeds that of any other discipline; it has the potential to provide a lower cost, lower risk product free of all classification and handling constraints limiting the usefulness of classified

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[64] Major Robert M. Simmons, Open Source Intelligence: An Examination of Its Exploitation in the Defense Intelligence Community, August 1995, 46.

[65] Robert D. Steele, "Open Source Intelligence: What Is It? Why Is It Important to the Military?", Open Source Intelligence: Selected Readings, Proceedings, Volume I, Fourth International Symposium on "Global Security & Global Competitiveness: Open Source Solutions", November 1995, 330.

collection and analysis. In short, OSINT is best treated as an integral part of, as opposed to a substitute for, the all-source fusion "puzzle". According to Admiral Studeman,

> The highest form of intelligence enlightenment is the dynamic and continuous fusion of data from all available sources. In this blending process a great synergy results, and this magic cannot be accomplished without unconstrained and continuous access to open-source data.[66]

Despite the growing perception of OSINT as a foundation for analysis, the current reality within the Intelligence Community is just the opposite; classified information is used as the first and last stop in the analytical process and open-sources are used rarely to fill in the gaps. The Intelligence Community must work hard over the next few years to overcome a series of obstacles, both technical and cultural, which are responsible for this reality. These obstacles are serious, but not insurmountable. Ultimately, the ability to respond to and satisfy the rapidly evolving intelligence requirements of the modern military commander and defense policy-maker hangs in the balance.

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[66] Admiral William O. Studeman, "Teaching the Giant to Dance: Contradictions and Opportunities in Open Source Within the Intelligence Community", American Intelligence Journal, Spring/Summer 1993, 12.

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Mr. Robert D. Steele

19 December 1995

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