## One of time's arrows

# The Intelligence Revolution and the Future

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The intelligence revolution is a distinctly 20th century phenomenon, one of the least well understood developments of our time. It began with the surfacing of some extraordinary fantasies into the political consciousness of modern Europe. As the century opened, French society shuddered its way through the scandal known as the Dreyfus affair, in which a French Army colonel of Jewish extraction was accused of spying against the state. The charges were trumped up, but before their fictionality could be revealed they set off a wave of anti-Semitism, heightened by manifestations of French national insecurity (see Bredin).

In Britain, a handful of patriotic and market-sensitive thriller writers seized on the alarms of the day to create both the genre of spy fiction and a panic about the clandestine activities of German spies ready and waiting to subvert the country from within whilst a German Army landed on Brighton Beach. The spy panic had no foundation in reality, but was taken very seriously by the authorities. In response, the British Government strengthened the defence of vulnerable installations in the country, tightened the official secrets laws, created a counterintelligence service (the forerunner of MI5) to uncover the alleged German spies, and constructed a foreign espionage agency (eventually to become MI6) to report on German plans and preparations (which were nonexistent) for invasion of Britain (see French, pp. 355-70). The arrival of a handful of British spies in Germany in the years before 1914, and their inevitable capture by the Prussian police, sparked in turn a German version of the British spy panic. In both cases societal anxiety about espionage and the emergence of fictional images of the dreaded spy preceded the reality.

In Russia, the secret police (the Okhrana) and the underground Bolshevik party played such an intricate game of subversion and surveillance that the identities of the two organizations soon became alarmingly blurred, with Okhrana agents engaged in assassination attempts and other forms of provocation, which were indistinguishable from the "real" activities of their opponents (see Andrew and Gordievsky). The drama of espionage even touched the Canadian psyche. When the Yukon gold rush erupted in 1896, the government took seriously the idea that the inflow of miners, speculators, adventurers, procurers, etc., masked an annexationist bid by the United States. Canada sent its spies south of the border to investigate the activities of a (non-existent) conspiracy known as the Order of the Midnight Sun.<sup>1</sup>

From the beginning, the reality of espionage has been cloaked in fictionality. A public fascination with spying quickly found expression in a Manichean image of espionage both as a force threatening civilization and as a redemptive power whose individual master spies could alter the course of history and save the day. Spy fiction subscribed to this formula from the outset; as a cultural force it was soon joined by the cinema, which projected the myth of espionage from the printed page onto the silver screen.2 Two of the greatest films of the interwar period, the German film-maker Fritz Lang's Spion (1928) and Hollywood's version of the Mata Hari story (1932), starring Greta Garbo, helped sustain the emergent cult of intelligence by portraying a panic-stricken world endangered by spies, and saved in turn by secret agents. The glittering and insouciant Mata Hari presented a special kind of challenge, but Hollywood proved capable of redeeming the world even from the presence of Greta Garbo. Whose day was to be saved depended, of course, on whose day was threatened. The enemy could be the Jew, the foreigner, the not-quite gentleman, the corrupted, the bomb throwers, the women. Why the day needed to

be saved was very much a product of national insecurities that began to mount at the turn of the century. At their heart were fears about the pace of technological and societal change caused by the impact of the industrial revolution.<sup>3</sup> In the wake of its manifold upheavals, traditional measures of the international balance of power were threatened and the domestic structures of government upset.

The industrial revolution begat the intelligence revolution. The consequences included the rise of powerful, expansive, and intrusive intelligence "communities" whose coming both mirrored and helped create the national security state in which we all lived during the Cold War—and whose demise, complete with "peace dividends," may have been prematurely announced.

With so much attention now being paid, at century's end, to recapitulation and to uneasy prophecy about the future, it may be timely, as the contents of this special issue suggest, to consider the nature of the intelligence revolution from as many angles of inquiry as possible. In this essay, I hope to demonstrate the nature and implications of the establishment of intelligence agencies as a permanent fixture of the state. Other contributors endeavor to explicate the widespread impact of intelligence in diverse fields of history, politics, and culture. Above all, it is hoped that the contents of this special issue will go some way to suggesting the kind of force that intelligence services have become through their intervention in global politics, in domestic affairs, and through the ways in which representations of espionage have been shaped for consumption in the cultural marketplace. Not surprisingly, perhaps, the fantastic nature of the origins of modern intelligence services continues to imprint itself on our consciousness; Manichean images about the damning or redemptive missions of intelligence agencies continue to hold sway in public discourse. Yet the very idea of an intelligence revolution suggests that such static concepts are untenable. The intelligence revolution has unfolded at great speed, and continues to speed along, in an uncontrolled, irreversible, and possibly even unpredictable fashion. It is one of "time's arrows," to borrow from Stephen Jay Gould, bringing change to the political and intellectual history of the 20th century.

The linear progression of the intelligence revolution suggested by the Gould phrase is, however, far from smooth and straight. A graph of the revolution might suggest instead an historical roller coaster, the peaks marked by the impact of the three great conflicts of the century: World Wars I and II and the Cold War. In each of these conflicts, states looked to intelligence as a weapon of defence and as an aid to victory. Under the intense pressure of wartime, or quasiwar conditions, the power of intelligence services expanded; their size increased; they moved closer to the inner circle of bureaucracy; they grew more skilled in the performance of their task of threat assessment; and their societal status was affirmed by cultural productions of all kinds. War's end brought demobilization, sometimes of a drastic order, and greater invisibility for intelligence services, but only until the next crisis erupted. In the post-Cold War era, we are perhaps in another period of betweencrisis, making it all the more necessary to investigate the workings of the intelligence revolution as it has been, for its own sake, and in order to assess what might come next.

The intelligence revolution's roller coaster ride blurs the structural components that have made for longterm changes. One of these components has been the growth, punctuated by great acceleration in wartime, of the scale of the intelligence enterprise. At the beginning of the 20th century, intelligence services were operated by only a handful of the major powers, were minuscule in size, existed on the peripheries of government bureaucracy, and possessed very little power. Despite what the first generation of spy fiction writers suggested, their sub rosa capabilities were minimal. The contrast with the situation today could hardly be more striking. Intelligence services are nowadays pervasive institutions of the state. They are no longer restricted to a handful of European great powers, but have been exported throughout international society. They have moved into or near the inner circles of decisionmaking. Their scale is, in the case of the major services, quite massive; their reach is global; their data collection capacities generally outstrip their ability to analyze events; and their budgets are staggering. As research centers, intelligence services can even overpower their academic and corporate competitors. The first working computer was developed at Bletchley Park

during World War II as part of the immensely successful British effort to master German codes. Today, there is probably no greater concentration of research and development activities in the field of computer technology than that undertaken by the National Security Agency (NSA), responsible for the monitoring of global, coded communications on behalf of the US Government (see Bamford). As the scale of the enterprise has increased, the clandestinity of "secret services" has increasingly become a polite fiction. Intelligence communities have access to knowledge and power on a scale unimagined by their precursors.

This change has been paralleled by a revolution in government attitudes toward the conduct of foreign and military decisionmaking. The days when princes and cabinets could make private decisions based on their own readings of the international situation, a practice that still lingered at the beginning of the 20th century, are now long gone. The modern condition of permanent national insecurity, the expansion of the international system, and the proliferation of weapons of destruction have forced governments to look increasingly to intelligence services to shape the flow of information about the outside world both for the purpose of long-term planning and for immediate warning. It was one marker of this change that in the late 1940s, in the midst of fears of Soviet expansionism, the newly established Central Intelligence Agency began to be described in official rhetoric as the "nation's first line of defence." This rhetoric has proved enduring; it was reaffirmed by President Bush in 1989 and by Bush's last Director of Central Intelligence, Robert Gates, in testimony to Congress in April 1992.

The very integration of intelligence assessments into government decisionmaking has introduced, in turn, complex problems in the relationships between intelligence agencies and government, not least to do with the politicization of intelligence to serve the preconceptions of regimes in power, and the employment of intelligence agencies as clandestine and unaccountable arms of executive action. The rise of covert operations, a form of intelligence activism, illustrates this problem in its most brutal form, besides being a phenomenon unimaginable at the onset of the century.

A third and vital component of the intelligence revolution involves massive changes in the application of technology and communications. One of the greatest obstacles to the performance of premodern intelligence services was the slow and unreliable means by which information flowed from the source to the government; this problem was compounded by the fact that intelligence services knew only one way to collect information, namely by relying on reports by secret agents—"humint" in the jargon of modern espionage. Between the days of the classical empires of the Mediterranean world and the 19th century, secret agents performed an unchanging role as the "eyes and ears" of the prince. Since 1900, a great transformation has occurred. Humint remains as one medium of intelligence collection, but its traditional importance has been usurped by new technologies-of signals intelligence (sigint) and machine surveillance (imagery). Signals intelligence is used to vacuum the ether, to search for and unlock the significant messages that flow through a global communications network. Imagery employs devices ranging from spy satellites to spy planes to spy cameras to keep a distant or close watch on activities perceived as posing threats to national security. Sigint and imagery consume big budgets and require great technological application to be utilized; in most cases expense and sophistication keep these instruments out of the hands of all but the largest and most globally oriented intelligence services. A First World/Third World divide thus opens up in the global spread of intelligence. Technology also tends to drive intelligence budgets, determine data flows, and distort priorities for watchfulness. The technological revolution has been so thorough going and so fast paced that it threatens to run beyond the control of intelligence services themselves.

In other ways, too, the technological revolution carries unprecedented dangers. The arrival of new means to collect and process information has helped instill a romantic vision of the perfectibility of intelligence. Sharpen the focus, turn the surveillance dials, and one will have the perfect image, and true intelligence assessment. But no intelligence channel carries all the messages needed by governments, and the result of overreliance on technological wizardry can be complacency, even blindness to threats.

Cases—from the shock of Hitler's Ardennes offensive in the winter of 1944 to the unanticipated fall of the Shah of Iran—attest to this problem.

The technological revolution in intelligence gathering has also bred a memorable dark vision, expressed most alarmingly in the literature of dystopia. George Orwell's novel of warning, *Nineteen Eighty-Four*, is rarely thought of as a spy novel, and for good reason. But it contains a frightening picture of the surveillance state and its machinery. Espionage and counterintelligence are fundamental to the survival of the regime of Big Brother, and so powerful as to breed massive corruption and fatalistic compliance. Margaret Atwood's *The Handmaid's Tale* attempts a feminist revision of Orwell's dystopia, complete with an updated Thought Police, "The Eye," who travel the neighborhoods, their blacked-out vans painted with the corporate symbol of a luminescent eye.

The technology of sophisticated, even scarifying data collection has been complemented by a revolution in communications, which has replaced the letter carried by steamship with the phenomenon of simultaneity (see Der Derian). Events and their reportage are no longer separated by weeks or days, but can now occur at the same instance, an experience suddenly translated from the command post to everyone's living rooms by CNN's coverage of the Gulf war. Between supply and demand for intelligence there exists nothing but fiber-optic cable, the microchip, the computer circuit, all a part of the futuristic "cyberspace" of instantaneous communication. The implications of this communications revolution for intelligence, yet another acceleration in a whole series of leaps forward that began with the coming of the telegraph and the wireless radio, have scarcely begun to be appreciated.

The cumulative effect of such changes in the power of intelligence services, their bureaucratic positioning, and their data collection capabilities have enforced a massive paradigm shift in the practice of espionage. But what of societal attitudes toward intelligence, the view from outside looking in? Intelligence services rarely publicize their doings; clandestinity rules. Spy agencies are the last domain of secret diplomacy. Popular culture has instead

served as the medium by which the rise of intelligence services to power in the 20th century has been disseminated, understood, and legitimized. Spy fiction, spy films, investigative journalism, TV docudramas, memoirs by veterans of intelligence, popular histories, and, a latecomer, scholarly studies, have all served in varying degrees to shape our knowledge of the clandestine world. In this domain, the linear properties of the intelligence revolution do not appear; the metaphor of "time's arrow" seems less than relevant. Instead, one sees a cyclical phenomenon, in which cultural production alternates between two poles—embracing the world of espionage by celebrating its supposed ability to redeem a complex world in which ordinary, individual citizens are powerless; and then rejecting clandestinity as a dangerous field of corruption of power, morals, and individual rights.

Changes in the genre of spy fiction over the course of the 20th century perhaps exemplify this phenomenon as well as any. The cycles can be briefly sketched.4 The first generation of patriotic thriller writers, authors like William le Queux and John Buchan, painted a picture of a political world in which justice triumphed and civilization was saved from profound dangers, but only because of the interventions of heroic secret agents. Their fictions were often coded as camouflaged fact, or "faction," a device especially beloved by William le Queux. Then, in the interwar period, Somerset Maugham, Graham Greene, and Eric Ambler succeeded in politicizing the genre, overthrowing its romantic and heroic conventions, and substituting a bleaker vision of espionage as a metaphor for political and moral decay and as a powerless enterprise in a world of heavily armed social Darwinistic states. In the early 1950s, at the height of the Cold War, the cycle turned again, to bring forth Ian Fleming's James Bond, whose manly code sought to save the male gender and the West at one and the same time. But John le Carré and Len Deighton, and a host of imitators, were soon poised to renounce the Fleming mythology and reenergize the vision of espionage as corruptive and futile, with the spy as self-made victim.

The one constant factor in the popular culture portrayal of espionage, amidst the cyclical pattern, has been its emphasis on the individual and on the singular event. Its understanding of history as man-made and indeterminate has thus been at odds with the implications of the intelligence revolution as a series of transformations in power, bureaucratic politics, and technology. Such opposition can be healthy, insofar as it positions popular culture as a critique of intelligence. But the gap that exists between the revolutionary dynamics of the growth of intelligence and the cyclical portrayal of espionage in various modes of popular culture as a microcosm of societal anxieties and ills is large and unlikely to be bridged successfully in the near future. Bridgebuilding might be conceived as a prolonged function of increased openness in the conduct of intelligence, a more publicly acknowledged role for intelligence services in decisionmaking and public education (or propaganda), and an expansion of the serious study, within and without the academy, of intelligence services and their impact on domestic politics and international relations. The most delayed of all the intelligence revolutions has in fact been the scholarly one. The serious study of intelligence began only in the mid-1970s, and remains divided among a whole range of research projects (see Wark, 1993). As this scholarly study expands, the dominant concepts and cliches of popular culture's view of espionage are bound to be challenged. But it would be a reasonable wager to suppose that the public fascination with espionage as a realm of clandestinity, a realm in which selected individuals can escape powerlessness, ignorance, taboos against violence, and even the law, is unlikely to fade away.

To know how intelligence services have changed, and to know how they have been depicted in popular culture, provides little help with another perennial question asked of intelligence services. What about their performance? Are they worth the cost, and the nightmares? In particular, we might ask how well they repaid the investment during the Cold War, when the stakes were high and the bill enormous? From the historian's perspective, it is too early to say. The documents are not in, the passions scarcely cooled, the time for reflection not yet established. But one can turn the question upside down and wonder what the Cold War would have been like

without revolutionized intelligence services? In this spirit, Thomas Powers has recently provided one subtle accounting. In a review essay in the *New York Review of Books*, Powers used a wrestling metaphor to denote the role of the two great adversaries in the Cold War intelligence contest:

Intelligence services touch, watch and listen to each other at a thousand points. The intimate knowledge revealed by the wrestler's embrace freed both sides from the ignorance, rumor and the outbreaks of panicky fear that spark big wars no one wants. (Powers, p. 55)

Powers's persuasive answer begs, however, another question. How useful is it to think analogously about intelligence services, and just what are the best metaphors? This becomes an important issue, particularly when one considers the predictive function of intelligence. Is intelligence akin to the physical sciences—is it like meteorology? Is it at its best making behavioralist, structural, or evolutionary forecasts?<sup>5</sup> Here the standard metaphor of intelligence that of the jigsaw puzzle—belies the weakness of the predictive scope of espionage assessments. For puzzles have only one outcome, and the construction of the picture does not depend on an exercise of imagination and knowledge concerning the many possible faces of the finished product, but simply on mechanical skill.

We do not yet possess any thorough study of the discourse of intelligence, though the link between intelligence failures and such conceptual traps as mirror imaging and worst case analysis have been identified.6 One interesting avenue for exploration has been suggested by the concept of "chaos" as applied to natural science, and more recently to international politics. Thelligence services, chaos theory would suggest, live in an indeterminate and unpredictable world. Their record at prediction is bound, for that reason, to be spotty. Intelligence failures are also bound to be inevitable, and to occur with something like the same frequence as weather forecasting errors and firefighting miscues. To return to the Thomas Powers quote, it may not be a question of what intelligence services get right, but rather of what largescale disastrous misunderstandings they might help to prevent.

Whether to avoid the worst of misunderstandings, or to engage in something more positively ambitious, intelligence undoubtedly has a future. It is a future secured on the basis of the forward-thrusting momentum of an ongoing intelligence revolution, and on an accumulative historical precedent that has cemented the identification of intelligence and national security, for better or for worse. The interesting questions are: what exactly will intelligence services do in the future? And what will we make of what they do?

What intelligence services will do will depend on the nature of changes that we can only glimpse, but which are already under way in the basic definitions of national security.8 The old concept is fated to be thoroughly undermined. As political sovereignty becomes increasingly a fiction, national security will have to be redefined. Senator David Boren, the chairperson of the powerful Senate Select Committee on Intelligence, has already talked in print of the need for the US intelligence community to give thought to sharing secrets with the United Nations, and this is but one straw in the wind (see Boren, p. 57). National security will not in future mean simply the security of the nation-state; rather it will mean the security of a pluralized system of governance, across which "citizens" are likely to spread their loyalties and their appeals for safety and prosperity.

Equally, the concept of threats to whatever becomes the new national security will undergo change. The outbreak of war and violent civil disturbance will remain as dangers, but the relative sureties of intelligence targeting that were a feature of World War I, World War II, and the Cold War will be replaced by an explosion of new threats and challenges to understanding and control. Terrorism has already proved itself to be a difficult target for intelligence services, and will continue to remain so, by its very nature. Nuclear proliferation and the spread of deadly chemical and biological warfare techniques, as the experience of the Gulf war demonstrated, will be high on the agenda for present-day and future intelligence services. The drug trade is newly established as a national security problem, and intelligence services are already being required to deal with it. On the horizon are other threats. One concerns increased competitiveness within a global economy, with unpredictable and wrenching shifts of economic power. The temptation will be great, whatever the implications might be for the classical liberal doctrine of the nightwatchman state, to utilize intelligence services as weapons of advantage in trade wars and as a means to stave off uncompetitiveness and at least delay loss of economic power. Intelligence services engaged in economic spying may in future create a kind of black-market flow of research and development leads, to compensate for lack of capability at home. Fears about ecological degradation may lead to a new role for intelligence services in monitoring environmental change, pollution, and conceivably the enforcement of international legislation. Population flows, whether of legal or illegal immigrants, will also be a national security concern in future, especially as they stem from political or environmental instability abroad. States and other organizations will require advance warning of such population flows in order to effect a balance between resources and demography, and to maintain a fragile civic tolerance. There are even more wonderful scenarios for future CIAs. When UFOs were in the collective mentality, governments in the United States and Canada turned to their intelligence services to assess the reports that piled up on alien spacecraft. Should project SETI (Search for Extraterrestrial Intelligence) ever receive a signal from outer space, there will be yet another role for intelligence services, not in arming the lasers, but in trying to decode the messages.

It is legitimate to ask about this forecasting: why should any of these roles fall into the hands of intelligence services, rather than some other kind of organization? The answer is that intelligence services, historically, fill information vacuums, and will seek out future roles in order to maintain and justify their existence and place in the power structure. A more important answer perhaps arises from consideration of what intelligence services have already become, as a century-long intelligence revolution has worked its changes. They have become, in effect, large, government-directed think tanks, engaged in the business of research and development, armed to the teeth with information technology, and possessing a multiplicity of expensively earned talents. The

old cadre of spies is hardly even the thin end of the wedge. The intelligence officer might be a manager, a computer analyst, a linguist, an econometrician, and so forth. Few are spies, as the term is popularly understood; few would probably want to be. The film *Three Days of the Condor*—starring Robert Redford as a CIA analyst whose job it is to read spy novels in order to extract plots for a giant CIA data base, and who turns into a "real" intelligence agent in order to uncover a nefarious plot—may have been a last gasp attempt to merge the new reality with the old fantasy.

The obstacle to intelligence services providing information on such future threats as outlined above rests not in the arena of their capabilities, but rather in regard to their dedicated preservation of secrecy. Intelligence services love secrecy; in the organizational mentality it is what distinguishes them from other, more mundane bureaucracies, or from the university academic, for that matter. Secrecy also helps insulate intelligence services from criticism. But relinquishing clandestinity will be the price intelligence services will have to pay for an injection of new roles and new mandates in the future. This may be an easier process than it seems. When spy satellites are busy training their cameras and sensors on illicit fishing or whaling boats, when UN spy planes in distinctive blue and white overfly the latest zone of conflict or environmental disaster area, the question of preserving official "national" secrecy will be moot. CIA Director Robert Gates's belief, aired in testimony to Congress on 1 April 1992, that the US intelligence community will in future continue to be "the nation's first line of defense" already has a nostalgic and old-fashioned ring to it. The future, it is safe to say, will not be so like the past.

If the future for intelligence services is hard to read precisely, the same holds true to even a greater extent for the future of cultural responses to espionage. Cold War formulas for the depiction of spying are clearly dead. What will take place? Two guesses might be hazarded: the first is that old formulas will be replaced by nonformulaic treatments. The metaphor of spying as an escape from the homogenization and nondrama of quotidian reality has penetrated deep into the popular consciousness

and has already become the subject for treatment in a range of cultural production, including serious fiction, that is well outside the spy thriller genre. A second guess is that the old formulas will be replaced by new formulas, with female spies, counterterrorists, ecological warriors, and nonwestern settings well to the fore. Spies are overdue to appear and capture science fiction. As the historical tradition of modern espionage lengthens and is revealed, the material for historical novels and the romance will become increasingly tempting. It may even be hoped that the more we come to know about intelligence work in the past, the more seriously we will take the role of intelligence in the present and future. The fascination that sustains the cult of espionage will, I predict, remain, but will be altered and perhaps even attenuated by a loss of innocence about what intelligence has been, is, and might become.

#### **NOTES**

- Little more is known. The incident is touched on in Wesley K. Wark, "Security Intelligence in Canada, 1864–1945: The History of a 'National Insecurity State,' " in ed. Keith Neilson and B. J. C. McKercher, Go Spy the Land: Military Intelligence in History (Westport, Connecticut: 1992).
- For a capsule survey, see Alan R. Booth, "The Development of the Espionage Film," in Spy Fiction, Spy Films and Real Intelligence, ed. Wesley K. Wark, (London: 1991), pp.136-60.
- 3. This phenomenon is explored by David Stafford in *The Silent Game: The Real World of Imaginary Spies* (Toronto: 1988).
- 4. These passages draw on an earlier piece: Wesley K. Wark, "Introduction: Fictions of History," in *Spy Fiction, Spy Films and Real Intelligence* (London: 1991), pp.1-16.
- 5. I am indebted here to the very skillful and wideranging arguments of John Lewis Gaddis, "International Relations Theory and the End of the Cold War," *International Security*, 17, No. 3 (Winter 1992/93).

- A valuable study of intelligence failure is Richard K. Betts's, "Analysis, War and Decision: Why Intelligence Failures are Inevitable," World Politics XXXI (October 1978), pp. 61-90.
- 7. The "chaos" concepts in these two areas are examined in James Gleich, Chaos: Making a New Science (New York: 1987); and James Rosenau, *Turbulence in World Politics: A Theory of Continuity and Change*, (Princeton: 1989).
- 8. For another account of the future role of intelligence, see Bruce D. Berkowitz and Allan E. Goodman, *Strategic Intelligence for American National Security* (Princeton: 1989), ch. 7.

### **Works Cited**

Andrew, Christopher and Oleg Gordievsky. KGB: The Inside Story of Its Foreign Operations from Lenin to Gorbachev. London: 1990.

Bamford, James. The Puzzle Palace: A Report on America's Most Secret Agency. Boston: 1982.

Berkowitz, Bruce D. and Allan E. Goodman. Strategic Intelligence for American National Security. Princeton: 1989.

Betts, Richard K. "Analysis, War and Decision: Why Intelligence Failures Are Inevitable," *World Politics* XXXI, October 1978.

Booth, Alan R. "The Development of the Espionage Film," in *Spy Fiction, Spy Films and Real Intelligence*, ed. Wesley K. Wark. London: 1991

Boren, David "The Intelligence Community: How Crucial?" Foreign Affairs, 71, No. 3, Summer 1992.

Bredin, Alfred. The Dreyfus Affair.

Der Derian, James. "The (S) pace of International Relations: Simulation, Surveillance and Speed," *International Studies Quarterly*, 34, 1990.

French, David, "Spy Fever in Britain 1900-1915," Historical Journal, XXI, No. 2, 1978

Gaddis, John Lewis. "International Relations Theory and the End of the Cold War," *International Security*, 17, No. 3, Winter 1992/93.

Gleich, James. Chaos: Making a New Science, New York: 1987.

Gould, Stephen Jay. Time's Arrow, Time's Cycle: Myth and Metaphor in the Discovery of Geological Time. Cambridge, Mass.

Powers, Thomas. "The Truth about the CIA," *The New York Review of Books*, XL, no. 9, 13 May 1993, p. 55.

Rosenau, James. Turbulence in World Politics: A Theory of Continuity and Change. Princeton: 1989.

Stafford, David. The Silent Game: The Real World of Imaginary Spies. Toronto: 1988.

Wark, Wesley K. "Introduction: Fictions of History," in Spy Fiction, Spy Films and Real Intelligence.

London: 1991

- "Security Intelligence in Canada, 1864-1945: The History of a 'National Insecurity State'" in ed. Keith Neilson and B.J.C. McKercher Go Spy the Land: Military Intelligence in History. Westport, Conn: 1992.
- "The Study of Intelligence: Past, Present,
   Future?" Intelligence and National Security 8,
   No. 3, July 1993.