Some of the most important challenges in teaching Intelligence Analysis in an academic context are to make the students reflect on their own biases and to convey how group dynamics shape the analytical process. Only by learning this can they understand the ease with which an individual or group slips into familiar patterns of thinking and thus fails to identify new, unexpected developments. According to the late Central Intelligence Agency specialist in this area, Richards J. Heuer Jr., these psychological factors can be a serious impediment to accurate analyses.\(^1\) In addition, in order to be adequately prepared for the prevalence of contemporary information warfare, students need to familiarize themselves with deception and improve their ability to detect it in order to avoid being misled. Since bias and group dynamics are two of the most important components exploited in deception operations, the two issues are connected. Including both the psychological factors and the mechanisms of deception in the same exercises arguably facilitates teaching and makes it easier for the students to grasp these concepts.\(^2\)

Dr. Tony Ingesson, an Assistant Professor in the Department of Political Science, Lund University in Sweden, teaches courses in Intelligence Analysis, Political Science, and Peace and Conflict Studies. Previously associated with the Swedish Armed Forces, he has a background in working with technical intelligence. At Lund University he earned Bachelor’s degrees in Political Science and Conflict Studies, and Master’s and Ph.D. degrees in Political Science.

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The introductory course in Intelligence Analysis at Sweden’s Lund University includes both regular students and professionals from the Swedish law enforcement community and the country’s armed forces. It addresses the challenge posed by bias and deception by implementing timed problem-based exercises, during which the students work in teams under time pressure to analyze scenarios, for which information is disseminated in accordance with their choices or a pre-set timetable. This ensures that no team will ever have access to the full picture, but instead will be required to make choices regarding the pursuit of new information. A session typically takes two hours, at the end of which the students convene and present their findings. The divergence between the findings of each team is then used to highlight the consequences of the choices. It can also help illustrate how bias and group dynamics influence the analytical process. Two of these exercises are presented and discussed here.3

INTELLIGENCE ANALYSIS AT LUND UNIVERSITY

Stevan Dedijer introduced Intelligence Analysis as an academic subject at Lund University in 1975. After a hiatus, the course was restarted in 1996 by Wilhelm Agrell, Professor of Intelligence Analysis at the university’s Research Policy Institute.4 In 2015, it was transferred to the Department of Political Science, where it remains to this day. The subject is taught at three different levels: introduction, intermediate, and bachelor’s degree. Each level represents the equivalent of a complete semester of full-time studies.

Courses are typically taught in the evening to enable professionals to attend after their regular work hours. Each course attracts a mix of professionals and regular students. The professional contingent represents, among other government agencies, the National Police, the Swedish Armed Forces, Swedish Customs, the Coast Guard, the Prison and Probation Service, and the regional County Administrative Board.

During the fall of 2017 and spring of 2018, I implemented a comprehensive reform of the introductory-level course, during which a series of problem-based exercises was developed and tested. The exercises were designed to work within the framework of two-hour classroom teaching sessions, without prior preparations from the students. In both exercises, the participants are divided into teams of typically 4–5 students. They can be considered to be a version of the case study method, and similarly stimulate peer learning.5,6

Problem-Based Exercise #1: Spotting Deception

During the second half of the introductory-level course the students are instructed to attend a problem-based exercise. They are given no instructions prior to the exercise, since one of the purposes of the seminar is to improve
the ability of students to “think on their feet” by forcing them to process relatively significant amounts of data in a short period of time, without preparation.

**Background.** The exercise is based on a news article, which describes how Harvard historian Karen L. King was tricked into believing in the authenticity of a scrap of papyrus with inscriptions indicating that Jesus had a wife. In the news story, the writer tells how King subjected the papyrus to several technical tests, all of which failed to detect that it was a fabrication. But the journalist who wrote the story had tried to locate the previous owners of the papyrus. This search revealed several discrepancies and eventually pinpointed a person, Walter Fritz, who had not only the education required to create the fabrication, but also several motives to do so, among them a dire financial situation and a personal vendetta against academics.

Using a case that has no obvious ties to traditional intelligence reduces the risk of students having preconceived notions about empirical details or procedures (“mind-sets” in Heuer’s terminology), which could otherwise detract from the main points of the exercise. While the deception in this exercise is more in line with a classic case of fraud, rather than the more elaborate deception operations used in a traditional intelligence context, it nevertheless highlights the most important psychological mechanisms at play.

**The Exercise.** At the start of the exercise, the students are given a simple instruction:

A papyrus has surfaced, and is now in the possession of Harvard historian Karen L. King. The papyrus indicates that Jesus had a wife. If the papyrus is real, it will have massive repercussions for society and religion all over the world. Your task is to establish whether the papyrus is really from the time when Christ lived, or if it is a forgery.

You will first of all have to choose whether you want to use technical analysis, or if you want to pursue a Humint-oriented approach and investigate the people who have previously owned the papyrus.

After the first choice, between technical or HUMINT (human intelligence) analysis, each student team is given one piece of information (an “information package”) which either reveals technical data or personal details about the previous owner. This is intended to make the students reflect over the differences between the technical intelligence (TECHINT) and HUMINT approaches, as described by, for example, intelligence scholar Loch K. Johnson. They are instructed that they can proceed to investigate
the path already chosen, or to switch paths whenever they want. But if they switch paths, they must start at the beginning of the new path and work their way down to the more valuable information.

Whatever they choose, they have to wait six minutes before they can retrieve a new information package. Since they have only a little more than one hour set aside for this phase, each choice has a cost in terms of time, and no team will be able to have access to all the information available. This also teaches the students that choices inevitably have consequences, in terms of both time spent and lost opportunities to pursue other leads. The technical path will at first show no indications that the papyrus is a forgery. Not until the fourth information package will a grammatical error in the Coptic language written on the papyrus be discovered. Even more damning, the same grammatical error appears in a version of the Gospel of Thomas that is widely available on the Internet. In addition, a new person from the story is presented in the same information package, stating that the papyrus may be a fabrication deliberately designed to strike a note with Karen L. King.

The fifth technical information package will add new doubts by stating that grammatical errors are not uncommon in ancient writings. In addition, it also questions why someone so accomplished in the technical details of forgery (materials and ink) would make such a crude mistake. Thus, if the students “invest” twenty-four minutes in getting this information, it will still not provide any conclusive evidence (see Figure 1).

The HUMINT Path. The second, HUMINT-oriented, path is more complex than the first and features branching choices. Initially, it will include personal details about the supposed previous owner of the papyrus, Hans-Ulrich Laukamp, and his wife. Both are already deceased and thus cannot reveal any more information. The information package informs the students that Laukamp bought the papyrus in East Germany in 1963, and that, at a later date, he moved to the United States to take up residence there.

If they continue down this path, they will obtain additional information about Laukamp, including the fact that he had started a business in the mid-1990s along with a man named Axel Herzsprung. At a later date, another man, Walter Fritz, became a partner in the company as well. This opens up new options for the students: they can now decide to continue to investigate Laukamp or to find more information about either Herzsprung or Fritz.

If they choose Laukamp, they will find that he fled East Germany in 1961, which means that it is extremely unlikely that he would have returned two years later to buy a papyrus. It also informs the students that Laukamp had spent a total of only eight years in school, and that he had no interest in ancient manuscripts.
Investigating Herzsprung will show that he is not only deeply suspicious of Walter Fritz but also knows that Fritz has financial problems. Finally, if they decide to find more information on Fritz, the picture will grow increasingly clear: he has an education in Egyptology, but initially tries to deny this; he has a website that sells forgeries of ancient objects; he has a documented interest in the concept of Jesus having a wife, albeit in a sordid context.

Figure 1. Problem-based exercise 1: Paths and branches.
Concluding the Exercise. When approximately thirty minutes of the two hours remain, all teams convene to present their conclusions, and their pieces of the puzzle. The teacher draws up the persons involved and the technical findings in a map on the whiteboard, adding more details and relationships as the student teams present them. Towards the end, the picture should be quite clear, and given enough variation in the choices made by the groups, previously undiscovered relationships will appear, among them that the spelling error revealed in technical information package #5 has a connection with a piece of information related to Fritz: he was not a particularly accomplished student of the Coptic language.

The exercise is concluded by the teacher emphasizing the complexity of the case, and that what may first appear as inconsistencies can be explained only by more in-depth research. In addition, it highlights the impact of bias in two ways. First, the bias in the form of wishful thinking on the part of Professor King was clearly crucial for making the deception possible. Second, if the group itself has any bias toward, for example, technical analysis, this will also make its members susceptible to the deception.

The exercise can be used in combination with several different types of literature and methods. I have personally used it both within the framework of a module on disinformation and deception, and in a more general methods course, to train the students in critically evaluating sources and to detect signs of deception and forgery.

Problem-Based Exercise #2: Anticipating the Improbable

The second exercise, used toward the end of semester, is meant to train students in the practical application of several concepts taught during previous modules. The students are given no prior instructions, except that they are expected to have familiarized themselves with the Structured Analytic Techniques (SAT) as defined in the 2009 Tradecraft Primer, and that they will be given an assignment which will culminate with their giving a three-minute briefing at the end of the two hours.10

Background. The exercise is designed to make the students reflect about their ability to identify and assess a highly improbable scenario that is unfolding rapidly, with limited information at their disposal, within a very short time frame. The exercise also includes elements of deception, and thus tests the students’ ability to identify this as well. Finally, it compels them to select relevant information and present it comprehensibly and concisely during the three-minute briefing. Towards the end of the two hours, the teacher also asks questions that require the students to reflect on the group’s dynamics and how these may have affected their performance and conclusions.
The theoretical justification for using a highly improbable scenario is the lack of imagination factor identified by the National Commission on Terrorist Attacks Upon the United States (the 9/11 Commission) as one of four major kinds of intelligence failures prior to the 11 September 2001 attack on New York City and Washington, DC. By introducing a scenario of this nature, the students are given an opportunity to reflect on the extent to which they are open to exercising their imagination, as the report recommends, rather than falling back on historical analogies or familiar patterns. The most important issue is not whether they are able to identify the actual scenario, but rather how much time is spent pursuing more comfortable alternative hypotheses that result from an unwillingness to think “outside of the box.”

More specifically, the scenario employed is based on Max Brooking's novel *World War Z*, which features a global “zombie” infection, in which those affected rise from the dead and become extremely violent. The use of a zombie scenario is inspired by the Centers for Disease Control and Prevention (CDC), which used a similar theme in a crisis preparedness information campaign. According to the CDC, “what first began as a tongue-in-cheek campaign to engage new audiences with preparedness messages has proven to be a very effective platform.” Following this approach, the Delaware County Office of Homeland Security and Emergency Management staged a “zombie exercise” in 2012 for first responders, which included testing the participants on how to assess an emergency, deploy assets, communicate, follow “hot zone” protocols, and set up mass decontamination stations. In addition, the Michigan State University, the University of Rhode Island, Roskilde University, and Drexel University College of Nursing and Health Professions have implemented zombie themes in academic teaching.

The advantage of using this approach is its extreme improbability, which provides an opportunity to “think outside of the box,” and can thus be easily taught in conjunction with the High Impact/Low Probability SAT technique. Because this approach lies well outside any existing empirical jurisdiction or specialization it is a suitable basis for discussion and reflection without becoming stuck on empirical details or favoring specific agencies/backgrounds.

**The Exercise.** At the start of the exercise, the students are given the following instructions:

You are part of a hypothetical government intelligence agency. Your job is to go through the incoming information, which will be made available to you in increments. The first reports will be made available immediately when you start working. The second batch will be made available twenty minutes later, and the third batch twenty minutes
after that. In one hour from now, you will be expected to brief me, in three minutes or less, on the following points: 1. what has happened; 2. what will happen; 3. what instructions (if any) do we need to issue to other government agencies (military, law enforcement, etc.)

As in the first exercise, the participants are divided into teams of 4–5 students. The first batch of reports will give only vague hints of what is going on, containing scattered information pointing to an increased number of people illegally leaving China via its northern border; an outbreak of some sort of disease on a plane bound to France from China, followed by strengthened airport security measures in China; an increase in Chinese submarine activity in the East China Sea; and that Russian units in Northern Ossetia have gone on full alert. In addition, a report from a special forces unit operating in Kyrgyzstan states that it has located a large cache of drugs and weapons, along with several mangled corpses that look as though they have been partially eaten by wild animals.

The second batch of information adds more data from the Kyrgyzstan operation, in which it becomes clear that at least one of the corpses had been shot with some 100 rounds of ammunition, with signs of significant head trauma and parts of a finger from one of the other bodies in its mouth. In addition, the batch contains a report from a back-alley clinic in Brazil, in which a surgeon has been killed by a patient shortly after a major transplant using an organ illegally obtained from Macao; unrest in Cape Town, South Africa, attributed to a new disease called “African Rabies”; and a cable from a liaison in the Israeli Mossad asking for assistance with decrypting a puzzling message intercepted by Taiwanese intelligence which contains strange code words like “berzerk” and is suspected as pointing to a biological weapons program. This is followed by additional indications of growing unrest in the Taiwan Strait and increased Chinese activity in the area.

The final batch of information, made available only twenty minutes before the deadline, indicates that Israel has established a unilateral quarantine, that U.S. special forces have been deployed to sites where the “African Rabies” virus has been found, and that several U.S. agencies may be planning significantly more drastic measures; that a vaccine has been hastily developed by a small U.S. biotech company; that there are large-scale internal movements of people within the U.S.; and finally, that hundreds have died trying to board decommissioned ships waiting to be scrapped in India.

The Briefing. During the briefing phase, the students must present their conclusions. They are expected to have weeded out irrelevant data and focus
on the larger phenomenon and implications. Ideally, they will have concluded that a global pandemic is underway, which results in hyper-aggression, making the infected unnaturally resilient to anything but severe head trauma. They should also state that the infection started in China and has spread throughout the world quickly via air travel. Their recommendations should focus on sealing the borders, alerting the CDC and all medical establishments to the dangers of treating the infected without taking security precautions, and that law enforcement and military personnel must be prepared to aim for the heads of the infected if lethal force is to be used.

Concluding the Exercise. At the end of the exercise, the scenario in its entirety is presented. The Taiwan Straits situation is revealed as a Chinese deception plan intended to draw the attention of the outside world away from the seriousness of the pandemic in China. The vaccine developed by the small biotech company is simply a fraud, intended to profit off the wave of panic—the fact that a small company so quickly develops a supposedly effective product should have triggered at least some skepticism. Moscow’s response is revealed to be a consequence of Russian intelligence simply having obtained information about the pandemic at an earlier stage than other intelligence agencies. The failed transplant should indicate that the infection is most likely blood-borne, while the puzzling message should be interpreted literally, in which case it makes sense. But the biological weapons part is intended as only an illustration of the “mind-set” of the intelligence services that are trying to make sense of it.

The students are then asked more about the process than their findings. Who was the first to suggest the improbable “zombie” scenario? Did anyone hold back because he/she didn't want to appear ridiculous in front of the rest of the group? If so, for how long? Was there consensus or conflict within the groups?

The lessons-learned discussion should focus on the inherent difficulty in detecting a highly improbable scenario, especially when a deception plan is being executed simultaneously. The deception ingredient also makes possible a discussion on the similarities between the deception plan in the scenario and the traditional Soviet/Russian maskirovka concept. Most important, however, is the discussion on group dynamics, and especially on how it can delay the process by making individual group members reluctant to present a seemingly absurd hypothesis to their peers. It can also show how compromises, through development of modified hypotheses in order to achieve consensus, can be dangerously misleading when the case under scrutiny features extreme aspects.
CONCLUSIONS AND EXPERIENCES

While the use of such unconventional scenarios in problem-based teaching in Intelligence Analysis may at first seem outlandish, it does bring several advantages. First, existing preconceived notions, experiences, and mind-sets will have less impact simply because neither of the two cases is likely to draw associations. This enables the teacher to focus on the general lessons learned, and makes the exercises more memorable.

Second, it stimulates more abstract thinking in relation to traditional concepts within Intelligence Analysis, such as the psychological factors that influence analysts, particularly in group dynamics. It also provides an unusual backdrop for discussing the impact of deception and how to detect it.

Third, the use of relatively short and strict time limits, in combination with unfamiliar scenarios, emphasizes the role of time pressure and the challenge of having to think “outside of the box” with very little time to reflect.

Experiences

I have used the two exercises in academic teaching at Lund University, within both Intelligence Analysis and the case of Exercise #1, and also in commissioned education for military officers. The exercises have been well received by both regular students and professionals, who appreciated the unconventional approach.

Exercise #1 also showed interesting differences in group dynamics and cohesiveness. The mixed groups in Intelligence Analysis featured significantly more variation in their path choices compared to the commissioned officers, who tended to make very similar choices across different groups, but strongly favoring the technical path.

Exercise #2 has been tested only in classes on Intelligence Analysis, where it has been used in conjunction with teaching the SAT techniques to train students how to systematically analyze information flows and present their conclusions clearly and concisely. As with Exercise #1, evaluations have shown that the exercise was much appreciated by the students. While most student teams were able to identify the zombie scenario, they tended to become more thoughtful when prompted to reflect on the group dynamics at play during the analytical process. The groups featured different approaches to the improbable scenario, ranging from open conflict within the group especially between its more vocal members, to attempts to downplay its more bizarre aspects in order to make the hypothesis more palatable to other group members. These outcomes were then used encourage students to reflect on their own role within their respective groups, and how group dynamics influenced their analytical process.
Implementing the Approach

Timed problem-based exercises can be relatively easy to implement, namely by taking an existing case as a point of departure, then dividing it into “information packages” to be distributed either as a result of choices in a branching tree, or according to a preset timetable. It can be combined with highly improbable cases, or with more conventional empirical studies.

The method has several advantages in teaching situations, such as by stimulating peer learning, providing ample opportunities for reflection both individually and in groups, as well as being cost-effective. It is also easy to implement for professionals who may be able to set aside two hours for a module, but not necessarily have the time required for preparations. The method adds an element of time pressure that forces the students to maintain a relatively high tempo, which can be useful for revealing tendencies to take “short-cuts,” for example by falling back on familiar analogies and previous experience for the sake of convenience. This can be further reinforced by the use of highly improbable cases. Finally, the method stimulates creativity and imagination on behalf of both the students and the teacher.

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1 The descriptions of the exercises do not include all the details and are only intended to provide an overall perspective. Complete teaching packages can be obtained free of charge from the author.

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