LEARNING FROM EXPERIENCE

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Abstract. The purpose of this study was to explore how pilots potentially learn from their and others' experience through post-flight debriefing. Through a case study of pilots who fly air ambulances, this article attempts to illustrate the importance of learning from experience (Bion 1962) among pilots in aviation.

Keywords: learning, experience, airmanship, debrief.

1. Introduction

The purpose of this study was to explore how pilots potentially learn from their and others' experience through post-flight debriefing. Through a case study of pilots who fly air ambulances, this article attempts to illustrate the importance of "learning from experience" (Bion 1962) among pilots in aviation.

I have been working with pilots for 15 years and have been particularly interested in the psychological work pilots are faced with during flight operations. This study focuses on a pilot's ability to handle emotions. Learning and change are two sides of the same coin, and the main issue in this study is to define how the evolvement of airmanship in general and air ambulance operations in particular are intimately connected to a pilot's ability to cope with his/her own emotions.

An air ambulance is an aircraft used for emergency medical assistance in situations where either a traditional ambulance cannot reach the scene easily or quickly enough, or the patient needs to be transported over a distance or terrain that makes air transportation necessary. Air ambulance aircrafts are supplied with equipment that enables them to provide medical treatment to a critically injured or ill patients. The crew in an air ambulance operation consists of pilots and the medical staff. Pilots who operate ambulance aircraft are part of the medical operation and the medical staff is part of the flight crew. On the ground, pilots assist the onboard medical staff in boarding and offloading patients and their relatives.

Air ambulance pilots must have a great deal of experience in piloting their aircraft because the conditions they face are often more challenging than regular non-emergency flights, as these pilots fly in extreme situations in which they simultaneously have to focus on being a good airman while constantly being relationally adequate towards others onboard. From an integral perspective, pilots must also deal with emotions that are evoked through their close interaction with the patients and medical staff in the cabin.

In this paper, I use Bion's theory of learning from experience to relate to the pilot's daily working life. Based on the understanding of learning from experience, I want to explore the following question: what is the role of the post-flight debriefing in the parallel processes of becoming and being a good airman and the ability to contain one's feelings?

2. Method

The pilot's story about the time the crew and he had a flight that contained operative as well as emotional challenges when a patient died during a flight is presented.

The analysis of the narrative used in this study was conducted from a psychoanalytical perspective in order to emphasize the continuous psychological work which seems to be necessary for a pilot to accommodate the ideals within the concept of what constitutes a good pilot in an air ambulance flight operation.

It is important to stress that the story is the pilot's retrospective reconstruction of a flight. Using narratives is methodologically challenging, both from a validity and reliability point of view. Nevertheless, the story is interesting because it illustrates how the post-flight debriefings construct individual and collective emotional experiences. I have therefore chosen to present the case study in a narrative reconstructional form since this illustrates the pilot's personal development. I would like to stress that the purpose of the narrative was not to analyse the pilot as a person, but rather to understand the work of the pilot.

3. What is airmanship?

Airmanship is an indistinct concept that has no clear definition other than several descriptive and normative formulations which cover a broad range of desirable behaviours, attitudes, social, emotional and relational competences and abilities that an aviator must possess in addition to the competencies of operating the aircraft in a safe and efficient manner (Kern 1997, 1998; Lankford, 1998; FAA 2004; DeMaria 2006). An integral part of being a good airman is to be a good crewmember, and being a good crewmember is an integral part of being an airman.

A pilot's ability to communicate, cooperate and interact with others in order to understand, assess and solve problems, in addition to making decisions has been pinpointed by several researchers as being just as important as possessing cognitive and technical skills (Kern 1997, 1998; Franz *et al.* 1990; Driskell, Adams 1992; Helmreich *et al.* 1999; Hedge *et al.* 2000; Benison 2000; Martinussen 2005).

The descriptions and normative conceptions of airmanship have a lot in common with the definition of professionalism referred to by Haugsgjerd (1983, 1990). Within the everyday life of flight operations, pilots face the challenges of experiencing emotions and feelings alongside an ideal of being cooperative, communicative, assertively empathetic and stable; they must also be able to relate to symmetric interaction despite hierarchical differences while at the same time maintaining a mental state in which their emotions do not influence them in a negative way that can affect flight safety.

Pilots must sometimes display or actively deal with feelings differently than what they actually have the capacity to deal with since the daily life of a flight operation demands them to do so. The environment allows few openings for individual emotion, as the cockpit and cabin are first and foremost a practical setting. Pilots and crew members must have the ability to think in bionic terms while controlling the aircraft, regardless of whether they are manually flying the aircraft or using the flight director and letting the autopilot do the steering. The pilots and flight crew must create safety in every flight through their practice (Dekker 2006; Antonsen *et al.* 2008). Pilots must manage the workload connected with the individual tasks in the flight operation. In addition, they must create and at all times potentially reconsider their mental picture of the flight and their planning process, allowing the crew to mentally be ahead of the aircraft: their thoughts must be in front of the aircraft, thereby giving them the ability to identify a potential problem and deal with it in order to avoid any hazardous or dangerous situations (Cannon-Bowers *et al.* 1993).

During the flight, there are many feelings and emotions that the pilot cannot allow himself or others to feel. The pilot must have control over his feelings and not lose his composure, but be even tempered and stable. There is a limit to how emotional a pilot can allow himself to be towards other pilots, crewmembers and passengers during a flight. No one has explicitly told him this, although it is an integral part of being a good pilot. The ideal of airmanship functions more or less as a cultural "dictionary" of how to deal with one's emotions (Ramvi 2007). In the piloting profession, it is the flight operation and professional ideology that set the rules for how, where and when to cope with your feelings. The individual crewmember has to feel his way through and decide for himself what these limits are, because no one gives the pilots any training in adequately displaying their feelings or the right way to conduct themselves, whether it be as an airman or crew member. It is an individual task to learn the more or less unspoken rules of conduct, and if the individual pilot does not have this relational capability, he or she must learn it. As a result, pilots must be in an experiential cycle and continuously evaluate and re-evaluate the ways in which they construct emotional experiences, and "perform" their emotions in ways that are acceptable within everyday life in the cockpit and crew environment within the specific airline they work for as well as within pilot culture in general. This operative rule is so strong that it can easily reveal feelings of fear or anxiety in terms of not being able to live up to the task at hand. Moreover, this emotional competence is an important selection criterion for being hired as a pilot in the first place in addition to being a fundamental prerequisite for being upgraded from a First Officer to Commander.

4. The day the patient died in the cabin

A Senior Captain (43 years old, 12 000 hrs total flight hours, 10 years' experience in Air Ambulance service) in a Scandinavian air ambulance operation told me a story about a flight that in retrospect had put him in a position of learning from experience due to the post-flight debrief: The pilot's story illustrated the challenging position of having to manage being a pilot and experiencing painful emotions:

"It started out as an ordinary ambulance flight around ten o'clock in the evening. The weather at the destination was below the minimum so our coordination centre decided to take the patient by car or fly to another hospital. After a few minutes, the plan was again altered when they called back with a revised plan to fly the patient to another hospital.

Just as we were to depart, the local emergency office called us up again and informed us that they had just received information about a second patient they wanted us to bring to the same hospital. Our flight nurse was negative about this second patient as she considered his medical condition to be too severe to be flown together with the first one. After some discussion and a little pressure, she accepted the idea of having two patients onboard this flight. When the second patient was delivered to us, the accompanying doctor perceived the patient's medical condition to be so poor that he decided to go along as a precaution.

The takeoff was made about 90 minutes after our scramble.

After we reached our cruising altitude, the flight nurse came into the cockpit with a part of her seat belt in her hand. It had broken off close to the fastening bolt. We understood immediately that we had no chance to repair this in flight and realised we had a problem: Norwegian laws and regulations state that no airplane is to take off or land unless all persons aboard are securely fastened by seat belts. So there we were – in mid-air and de facto not allowed to land the aircraft.

A few minutes later there was another occurrence. The second patient died. His heart stopped, and the doctor and nurse were unable to restart it. Patients dying in the cabin is a rare occurence, but sometimes the medical staff are unable to keep them alive long enough to reach our designated hospital. Since our first patient was awake and clear minded, we tried to keep him unaware of the latest development. So our communication became a little "off normal". In order to solve the problem with the flight nurse lacking a seat belt, the nurse was secured by baggage ropes fastened to the floor. We reached our destination and made a normal landing.

After landing, we tried to convey to our coordination centre that we only needed one ambulance to transport the patients from the airfield to the local hospital, and not two. What we did not know was that neither the coordination centre nor the local hospital had been informed that we had two patients onboard. They were therefore a bit puzzled by our message. Onboard, we had a short discussion to decide what to do with the dead body we had in our plane. The consensus was that we had to bring the body back with us. In order to do so according to regulations, the patient had to be brought to the receiving hospital and be declared dead before we could transport the body back to the hospital he had originally been transported from. We decided to go through with this, as we decided that this was the most practical thing to do, both from the operative point of view and in consideration of the patient's next of kin.

A short break was then called for and we refuelled the aircraft. As this was late at night, there were no professional fuel loaders available. In our air ambulance operation, we fly twenty-four/seven, so it is common that if there are no professional fuel loaders available, we fuel the aircraft ourselves, which we have been thoroughly trained to do. That particular night, I ordered my co-pilot to go and get the fuel truck and to refuel the aircraft at the airfield's fuel facility. Near the completion of the fuelling, he had an unfortunate accident. Due to a technical malfunction with the fuelling system, the co-pilot got fuel spilled on his face and in both eyes. I instantly informed the doctor and nurse who took immediate action. They discussed how to best rinse his eyes and check for damage. The nurse was transported to the local hospital to obtain adequate medical equipment and chemicals to use for treating the co-pilot.

Clearly, due to the fuel accident, the co-pilot could not continue his function as a pilot on the return flight to our home base. Yet again that night, we had to take a mental step back and assess the situation: We had a body aboard, and we had a seat without a seat belt. Now we were well into the night and we all were starting to feel tired. At the same time, we tried to keep our coordination centre informed about what we were doing.

To get our plane, the dead body and our co-pilot back to our home base, we scrambled a new co-pilot from our base at the site. My original co-pilot was now a patient and we placed him on a second stretcher onboard the aircraft, next to the corpse lying by the first patient. The flight nurse had to again be secured by baggage ropes fastened to the floor at the back of the cabin. We then performed a normal flight home.

After landing at around seven in the morning, we met for a short debriefing, though the debriefing we performed was nothing more than a short-term decision-making process and I took the initiative to postpone it. We were tired and perceived ourselves as being too fatigued to perform a thorough debriefing. Another decisive factor in our decision to postpone was that we were not in the right mood for it. We pointed out to ourselves that through the entire trip we had an ever so lighthearted atmosphere. We had

smiled and laughed throughout the night. At no time was there a shortage of humorous and witty remarks as the series of surreal incidents was played out before us. Flying home, a hindsight atmosphere closed down around us. In a sense, the witty remarks stood in sharp contrast to the dead man lying on the stretcher. Instead of just performing an operational debriefing there and then and being done with it, we agreed to meet later that day for the debriefing. We went to bed and slept.

The next day the doctor, nurse, co-pilots and myself met for the debriefing. The entire trip from start to finish was discussed. Since there were few operative questions, the main discussion was on the mental and emotional issues, with the humorous atmosphere as an important staring point. We tried to make a common narrative on what we experienced during the whole operation. In this narrative we also tried to identify what happened when, and who said what. Why, and how, did we end up as we did? Did we solve our problems in the right way? What could have been done differently? How did each of us react to the various problems we faced during the night? We took time to write down our own separate view on the night and even invited the coordination centre to write their version as well. The debriefing was thorough; we spent hours letting everyone in the crew speak their mind and tell the others what their feelings were during the mission as the different occurrences took place. After everyone had their turn and expressed their feelings and thoughts, we discussed the similarities and differences in the emotional reactions within the crew.

As it all worked out, we agreed that we did the best we could at the time. All participated and contributed to solving problems, and all felt informed about our situation as it progressed. Hindsight could tell us what we should not have done, but we were all quite pleased with how we had reacted during the night. As we said in our individual writings, the lighthearted atmosphere could partly be explained by fatigue. But most of all, in retrospect, we explained the atmosphere as being the result of us trying to cope with all the problems we faced, with a common understanding that we needed cheering up as we worked a series of surrealistic events throughout the night . We agreed that ethically we could defend our humorous atmosphere because our alternative was to sink more and more into despair over the course of the night. If we had become overwhelmed by our feeling of despair, we could not have pulled through the mission. That was not an option, so we had to pull through. We, therefore, more or less had to create an atmosphere that allowed us to process the situations at hand and leave us with the capacity to deal with the experience. In the debriefing, we also discussed that the humorous atmosphere was the opposite of what we really felt, though we still had rather the same attitude during the debriefing."

In a follow-up interview, the pilot told me that the general rule in the operative pilot culture is that the individual must have a clear understanding as to what the pilot can allow him or herself to feel at any stage of the flight. For that reason, pilots must have an emotional distance to the feelings evoked in their personal life in order to prevent them from entering the professional atmosphere in the cockpit. Similarly, it is important to have a distance to the feelings evoked in the professional setting in order to prevent them from entering personal and social settings.

The captain elaborated on this operative standpoint by telling me what happened in the cockpit when the flight nurse informed the pilots that one of the patients had died. The pilot explained that when the flight nurse entered the cockpit and informed him that the patient was dead, he dealt with the information with a purely operative attitude: "*Since it had no operative implications, I disregarded the information at the time. We were descending towards our destination and I had to focus my attention on flying the aircraft. I remember my immediate reaction and the inner dialogue in my head, saying to myself it was a pity that he had died, but he was old and very ill. After landing, I felt quite a bit of guilt for not being more emphatic. In the follow-up debriefing, we discussed the death further and I expressed my feelings of guilt to the rest of the crew: no one should have to die in an aircraft. The decision to try to move him to another hospital should not have been made. He should have been allowed to die in familiar surroundings with his relatives near him. The crew agreed with me. Even the doctor and nurses agreed that the decision to move the patient from the local hospital to the university hospital was disastrous, also from a medical perspective regarding the analysis of the medical condition of the patient. At the same time, the medical staff, sharing my frustration, assured me that this patient would have died anyway. There was nothing else that could have been done to save him, even if he was on the ground in a hospital. That information helped me, because there was nothing we could have done differently. If there had been something that we could have done that would have made a difference in the outcome, for instance, that we should have used less time than we did, then the feeling of guilt would not disappear. In the follow-up debriefing, the flight nurse also expressed that she felt guilty for not being more assertive towards the medical doctors who had taken the decision to move the patient. We used a lot of time to share our feelings of guilt. But with the crew's help, our feeling of guilt evaporated in the common agreement that we had done the best we could in the situation. With each problem that we solved that night, we became a tighter crew. We were pleased that we had managed to operate in a safe manner and that we had succeeded in maintaining a good work atmosphere, despite all the problems we faced that night.*"

Another pilot flying in an air ambulance operation explained his attitude towards debriefings: "*Flying an air ambulance, I experience episodes that trigger my personal and deep emotions on a day to day basis. Meeting patients barely hanging on to life often reminds me of my own friends and families, and even of my feelings on life and death. As a young captain flying in an air ambulance operation, I remember a particular flight where I felt I had to use my mental capacity in order not to lose my composure. Before the flight, the medical staff operating as our cabin attendants briefed us that we were going to be flying a young child. Although the operative rule is that we as pilots are not to be informed of the medical conditions of the patients we transport due to the fact that this information can potentially influence us in a negative way, I instantly understood this was not a normal transportation flight. It turned out that our passenger was a young boy with terminal cancer. The doctors had given up treating him. All hope was gone, and he was being sent home to die. I knew when the young boy boarded that this was going to be his last flight ever. He was also aware that he was going to die soon, but still he showed great courage about his situation. The young boy reminded me of my own children and how fragile happiness is. Seeing him affected me deeply, but I could not let it stand in the way of performing the flight safely. I remember this flight very well because when we reached our cruising altitude, I remember that I used time to reflect on how we as pilots and crew should approach the situation when we landed and offloaded the patient: How do I say goodbye to a patient leaving the aircraft that everyone, including the patient himself, knows is going to die within a short period of time? I remember thinking to myself that I could not use my standard phrase when we were finished offloading the patient. I could not wish him good luck and hope for a speedy recovery.*

You cannot work in this business without getting emotionally involved with the patients we fly. If you never become emotionally involved, it is my impression that you are unfit to do this job. Debriefings are important to me, because in these sessions we discuss emotional matters and issues. In a debriefing, you learn why and how emotions can surface and the best way to deal with them. In debriefing sessions, we sometimes discuss our own professional and personal feelings, which are often dealt with within an informal atmosphere. Even though the debriefing plays an important role in coping with emotions we experience during missions, it can never prevent you from taking home some of the emotions it evokes. For most pilots, it is difficult to deal with emotions that are evoked during flights. In the same way, it is also difficult for pilots to prevent emotions evoked in their personal life from entering their job.

In some debriefings, we allow ourselves to be quite intimate with one another and share our emotions with other crewmembers, either about what is happening in our personal lives or about what we experience during the flights. Sharing my emotions allows other crewmembers to understand and accept my reactions. But sometimes the sharing also helps in the way that other crewmembers make my emotions bearable to me. To me, a debriefing is not a question of the formal setting; it is more a question of togetherness within a crew."

5. Learning from experience – a psychoanalytical perspective

Bion (1962) offers an approach to understand how airmanship evolves and is maintained as a result of pilots learning from their experiences through post-flight debriefings. In the following, I will concentrate on the role of post-flight debriefing as one of the most important institutional ways of learning airmanship and maintaining a professional attitude in aviation.

The psychoanalyst Wilfred Bion (1897–1979) claimed that developing skills and competence in doing something is intimately related to the evolvement of a specific awareness. To Bion, gaining a piece of particular knowledge is equal to learning from our emotional experiences. We learn to deal with emotions in the same way we learn a particular set of skills. Bion is known for his work on group dynamics. His theory of thinking is interesting for acquiring an understanding about the development of competence among aviation pilots.

Bion (1961) is concerned with two parallel developmental learning processes: a developmental process he refers to as "K" and an anti-developmental process referred to as "–K".

In both, emotions and skills are pieced together. Learning in a positive mode leads to progression in the learning process, but when skills and emotions are linked in a negative mode it leads to regression. It is impossible to distinguish between emotion and reflection says Bion.

The link of emotion to expression and expression to emotion is essential for thinking (Bion 1962). Thinking is, in an emotional sense, a continuous transformation of turning the "raw material" of feelings into emotional experiences, which irrevocably changes the thinker and his or her perception of inner and outer reality.

Bion perceived emotional development and learning a skill as parallel processes. Learning a skill and emotional development take place in the same way. Nevertheless, he also acknowledged how these processes were closely intertwined with one another. The crucial point in deciding whether a person is capable of dealing with a (practical) situation that results in a positive developmental learning process or an opposite, anti-developmental, is in itself emotional. The person's capability to cope with emotional uncertainty and mental pain exists until it is possible to link the situation to a conscious

thought. If a person does not manage this uncertainty, the potential learning becomes denied by an emotional defence mechanism, thereby becoming unavailable for conscious reflection. The potential "thought out action" will therefore be lost and will have the opposite effect, as an unconscious emotion in which the individual experiences a fear of feeling. Thus this process of anti-development results in a process of repetition and stagnation (Ramvi 2007; Ramvi, Roland 1998).

6. The post-flight debrief

In contrast to many other professions, the aviation communities have formal procedures with the motive of developing a pilot's competence and helping pilots and crewmembers with their everyday social interaction and managing their feelings.

After every flight, pilots and crewmembers are in principle obligated by law to have a post-operative debriefing and to submit a retrospective report to the company according to the EU OPS 1.085b, EU OPS 1.037(a)(2), Appendix 1 to EU OPS 1.1045 Operations Manual contents, Annex 6 to the Convention in International Civil Aviation, Part I, paragraphs 3.2.3. and 3.2.4. (Commission Regulation... 2008).

On a daily basis, all of the members of the flight crew have some sort of assembled gathering after every flight to ensure that none of the crewmembers have experienced anything unusual during the flight. An experienced captain explained post-flight debriefings in the following way: "*After each flight, the crew gathers in the crew office. We report to the company on the status of the crew and the aircraft. After doing so, we spend a few minutes evaluating the flight. Normally the operative debriefing is straightforward and amounts to declaring that everything went according to normal operations. Occasionally, we need time to work through specific events that occurred during the flight, either in the cockpit or in the cabin. The debriefing will then continue to its conclusion with no regard to time. Sometimes we submit a written report to our superiors because the nature of the event legally demands us to report it. In the majority of cases, we report events that we as a crew have handled in a good manner as well as when we have handled a situation poorly. We hand in a written report because we feel the event had elements that other crews can learn from, helping them to be able to handle a situation similar to ours differently or better*" (interview 2010).

The function of the post-flight debriefing is to have a group level meeting where all the crewmembers carry out a review after the flight or sortie of events or procedures during the flight. First and foremost, the post-flight debriefings are an institutionalized instrument to improve safety as well as enhance the competence of an individual crewmember (Baker, Key Dismukes 2002;

Dismukes, Smith 2000). In order to enhance individual competence, post-flight debriefings serve a dual function: as a setting that evokes thinking in Bion's terms in addition to allowing pilots and crewmembers to learn from their experience in an emotional sense. In one interview, an experienced captain reflected on the importance of post-operative debriefings: "*In a debriefing you learn what and how emotions can surface and the best way to deal with them*" (interview 2010).

The importance of debriefings is a topic under dispute (Everly, Mitchell 2005). Nevertheless, Bartone (2006) characterizes post-flight debriefings as an after action group event which when properly timed and conducted with a correct focus can have a great therapeutic value for many participants. By helping pilots and crewmembers to place potentially traumatizing events in a broader context of positive meaning, debriefings will have positive individual as well as collective effects in terms of hardiness and resilience (Stueland 2006).

7. Learning airmanship through experience – an analysis of the importance of debriefings

Within the aviation community, there is an overwhelming understanding of the importance of the individual learning from his or her own experience. Characterizing a good airman, it is said that an individual must have: "The attitude and eagerness to always want to learn more and have a well thought through understanding of what you have going on in your life", as stated by a chief pilot (interview 2006).

Through the post-operative debriefing, pilots learn from their experience. The debriefing is part of an everlasting learning process in which the pilot learns to act in a well thought out manner in Bions terms, as opposed to conducting a flight operation on impulse or in a thinking avoidance mode.

In order to learn from one's own experience, there is a common perception that a pilot must share his or her experience with others. In aviation, it is not only a question whether the individual learns from his or her own experience. It is also just as important to question how the crew as a whole has learned from their experience. A modern flight operation consists of several reciprocal actions which demand that several people work together. Consequently, we cannot distinguish between individual and group learning.

Within pilot culture, the debriefing serves as an institutionalized alpha function in which individual emotional experiences are transformed to collective experiences (Bion 1962; Benjamin 1991). In debriefings, the individual pilot can make use of existing cultural narratives such as occurrence and accident reports which formulate the individual's emotions and provide the individual with meaningful explanations as to what he or she experiences during the flight. By sharing one's

experiences with others through culturally specific narratives, other pilots' experiences can help the individual to bear his/her experience. Through narrating one's experience, the individual opens up an opportunity for other pilots and crewmembers to learn from the same experience as if they had been there, while in return, he or she can learn from others' experience as if he or she had been there. In that way, the individual experience opens up for the opposite – learning from others' experience: "When I read incident and accident reports, I try to imagine myself being in the same situation. I picture myself being in the same cockpit and try to imagine how I would react and deal with the matters at hand. When I read or hear people telling about other occurrences and accidents, I always question whether I would have done the same thing as the pilot and crew in question, or whether I would have reacted differently, knowing my level of skills and level of competence."

In post-flight debriefings, pilots and crewmembers are able to "let off steam" together with others who are relationally at the same level. Debriefings are particularly important after difficult, frustrating, stressful and painful experiences.

Debriefings are sometimes only a chance for crewmembers to exchange small stories over which they shake their heads and laugh, which was also the case in this situation. During the flight, the crew was laughing and trying to make the best out of the situation. By conducting a debriefing instantly after landing, the crew also did what they should legally.

Why was it was so important for the pilot and crew to perform a second debriefing? The crew could easily have conducted a short debriefing session in accordance with what was legally demanded of them and report the irregularities that occurred during the event (i.e. the lack of communication of the second patient, reporting to the technical department about the seat belt incident, etc.). Was the decision to perform a second debriefing a result of that it was the most convenient thing to do, given the fact that it was late at night and the crew was fatigued? Or could the decision to perform a second debriefing be understood as a prolonging of the need to follow the unwritten rules of good airmanship and that the crew felt the need to take time in dealing with the raw material of experiences and emotions evoked through the flight?

A pilot must be able to contain his feelings, and we can also claim that he possibly has an unconscious need to deal with them.

In psychoanalytical terms, the pilot must control his feelings during the flight operation. He has to struggle with coping with the emotions in order to follow the operative rules and not lose his composure. In other words, he has to display feelings differently from what he has actually experienced.

Considering the analysis of this case study, we can say that the pilot acknowledged his feelings during the event. In the interview, he reported that during the flight he experienced feelings of helplessness, feelings of mortality, feelings of ignorance or a fear of being out of control. With his initiative to do a follow-up debriefing, the pilot had the possibility to take a psychological step back and relate to the experience in a more mature manner. According to Bion (1962), relating in a mature way requires working with thoughts about feelings. Through his own effort and with the help of others in the crew, he could deal with the emotions he experienced through the course of events. Through other crewmember's projective identification, the pilot was able to distinguish between what is to be learned from the experience and what were his individual emotions during the event. Due to the ideals of airmanship and through his day to day experiences with flying patients, the pilot is in a constant emotional learning process which changes him and the social environment that he is part of. In turn, this means that the next emotional experience will potentially be easier to understand and give him the possibility of acting differently and more in accordance with the ideals of airmanship.

The point I am trying to make here is whether it was only his striving to follow the rules of professionalism that urged him to do the follow-up debriefing? During the event, he had to hold his feelings in check. Through the pilot and other crewmembers' ability to project and identify their feelings during the debriefing, the pilot was able to observe his feelings and compare them with those of the other crewmembers and reflect on them. On an individual level, the pilot could have felt a long-term risk of experiencing *a feeling of fear* or *anxiety* as a result of not dealing with the emotions he experienced during the trip. In other words, there were at least two motivations: the fear of not being able to live up to the ideal of airmanship, and even more so, potentially losing touch with his feelings.

In Bion's theory, the debriefing created an (emotional) experience and thereby a thought out action, rather than acting as if possessing knowledge and running the long-term risk of losing control and not being able to keep their cool the next time a similar situation presents itself. To think and reflect about his feelings by putting them into words makes it possible for him to take responsibility for them.

Tolerance or the ability to bear pain demands courage (Lear 2009) as well as emotional support through others' projective identification (Greenberg, Mitchell 1983). If these factors are not in place, an omnipotence relating to emotions may be used as a defence mechanism. The use of this defence mechanism would be challenging for individual thinking (−K) and have anti-development as a potential outcome.

The element of containment in the colleagues' way of sharing stories with each other creates a good condition for learning from experience. The post-flight debriefing opens for a sense of conjunction between what the pilot feels and the relief of not having to simulate feelings. Bion (1961) described how certain types of groups learn from experience, and labelled these types of groups literally as the W-group (Work group). The group who learns from experience is characterized by K activities. Within the group, there is a climate in which diversity in opinions is allowed and appreciated. This type of climate is development in itself, Bion claimed. Nevertheless, such a group climate is dependent on a tolerance for one another and the fact that different opinions can be put forward without giving one opinion moral priority over another.

In contrast, the group functioning in a manner contradictory to a learning group environment is characterized by –K activities. Bion described this type of group interaction as he labelled it. The interaction is based on the individual's Basic Assumptions (BA-group). All group members share an unspoken and unconscious agreement that a work task can be resolved without any effort, without thinking and learning. "There is a hatred of having to learn by experience at all and lack of faith in the worth of such kind of learning" (Bion 1961: 89). The group, therefore, acts "as if" their basic assumptions are real.

While there is good connection with reality at the W-group level, the BA-group is irrational and out of contact with reality. Even so, the team spirit and relationships at the BA-group level can thrive in a seductive way.

More than anything, the follow-up debriefing demonstrated a W-group mentality. By literally letting each other sleep on it, they met again the following day and performed a debriefing in which the idea was to inform each other about the difficult emotions the events evoked. The general idea was that the individually experienced painful emotions would evaporate by sharing them with the same people they shared the experience with. The emotions that emerged as a result of the flight did not become an individual matter, and the crewmembers were not allowed to deal with the emotions alone, or had to deal with them with others, i.e. family members and others who would have a totally different starting point for projective identification simply because they were not there and did not see all the details and sense the atmosphere. The pilots and other crewmembers evolved and developed (K) as individuals and crew (W-group) because they talked together seriously and shared the individual worries, painful emotions and frustrations they experienced.

Learning from experience is about having the capability to contain one's feelings, taking responsibility for having them, how one passes them on, and not denying them.

To be able to learn from experience, pilots must be able to contain their own fear of feeling ignorant and helpless. Nevertheless, the pilot's main conclusion after telling me his story is that the debriefing helped him to see and understand his own emotional reaction as this was important to him.

By being a good crewmember and making an effort to create a K environment, or a holding environment within the crew in Winnicott's term (1972), not only puts the pilot in a position that enables him to help other crewmembers to contain their emotions, but also constitutes a condition to contain his own feelings and his own learning from experience.

8. Conclusive remarks: the role of debriefing

In this paper, I wanted to explore an actual incident in aviation. I have tried to relate Bion's concepts to a pilot's everyday life, particularly to a situation that involved strong emotions, as well as situations that require crewmembers to contain their feelings. The story about the special flight is, therefore, not only a story about a particular flight. The emotional challenges pilots are exposed to requires them to accept the potential pain of knowing (+K) and to be able to think about their own difficult feelings. This process of containing instead of having omnipotent control may present a great deal of anxiety, but according to Bion this may be the beginning of learning from one's own experiences.

The pilots' need to control their emotions and learning from experience have a double rationale. The pilot's story of the unusual flight highlights the many obstacles that appeared when he and his colleagues were exposed to events that evoked strong emotions. The operative situation enabled the crew to act as containers for emotions aroused both in themselves and in other crewmembers during the flight. They recognized each other, and the use of humour functioned as a common denial of their emotional experience until they were able to sit down and deal with the strong emotions they were exposed to. The crew distanced themselves from a surreal situation by omnipotent relating to avoid pain. In order to learn from experience, the pilots and crew had to deal with them in the debriefing. The post-flight debriefing helped the crew to maintain relationships and deal with the individual pain and their fear of ignorance. In this sense, the post-operative debriefing has a therapeutic function that allowed room for reconciliation between the pilots' ideal and the meeting of reality. With regard to many other professions, it seems as if aviation does, ideally speaking, not leave it to the individual to process emotions and their vulnerability.

From a psychoanalytical perspective, a pilot's idea of airmanship is knowing when to do what, when to contain and when to use defence mechanisms in order to

deal with an operative situation that demands their full attention. Consequently, airmanship is not only about the knowledge of flying aircraft, it is also an emotional and relational skill (Eid *et al.* 2008).

The role of the post-operative debriefing, therefore, has a double meaning by helping the individual as well as the group to create an emotional distance to the event, allowing participants to deal with what really took place during it. Creating distance to the event by distancing the emotions it creates allows for long-term distancing from the event to deal with the feelings created.

The reflections in this article are in accordance with research on the effects of debriefing: When properly timed and conducted with a focus on events rather than emotions and reactions, post-operative debriefings can have a great therapeutic value for many of the participants by helping them to place potentially traumatizing events in a broader context of positive meaning that will yield positive individual and collective effects regarding hardiness and resilience (Bartone 2006; Johansen *et al.* 2005, Eid *et al.* 2005).

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