

## MH370

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### **ABSTRACT**

When Malaysian Airlines MH370 took off from the Kuala Lumpur International Airport on the 8<sup>th</sup> of March, 2014, little did the world know what fate had in store for this aircraft. After losing contact with the air traffic controller (ATC) at the Kuala Lumpur International Airport around thirty minutes after taking off, no trace of the aircraft has been found ever since. Over the months that followed, several countries joined hands in conducting searches in areas where the aircraft was believed to have been. When these proved unsuccessful, the searches even expanded to areas which were further away, but still proved unsuccessful. There were a number of conspiracy theories doing the rounds. However, till date, more than a year later, there seems to be no concrete answer as to what happened to this aircraft. With the number of possibilities increasing, there is also an increase in the legal complications surrounding this issue. Despite the passage of time, and continuing search operations, no concrete answer seems to have surfaced, which has left the world shocked, and families demanding answers. Through this paper, the author attempts to discuss some of the possibilities of what could have happened to MH370 and the legal concerns arising from the same.

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## **INTRODUCTION**

Safety is a fundamental pillar in the field of civil aviation. The industry also relies greatly on this for its success. Regrettably, aerial accidents do occur. However, these occur at very low rates as compared to the overall traffic volume. In the event that accidents do occur, they are investigated by top experts, by their tireless efforts for weeks on end, before making the information public. With scientific and technical progress, the investigations have become a lot quicker easier. This is exactly why the world has not been able to accept the outcome of the Malaysian Airlines mishap.

March 8, 2014 is one day, which is going to continue to haunt millions around the world, as the mystery of the fateful day is yet to be unravelled. Malaysian Airlines flight MH370/MAS370 was scheduled to take off from the Kuala Lumpur International Airport, in Malaysia and continue its journey to the Beijing Capital International Airport in Beijing, China. It is said that the aircraft lost contact with the air traffic controller (ATC) in Malaysia less than half an hour after it's take off. The plane never regained contact with the ATC, nor did it touchdown at Beijing, or anywhere else.

The mystery of the plane that took off but never came back down to Earth, has been a matter of great debate since the day of the disappearance. Despite the most advanced technology being utilised in the aviation sector, nobody has an answer to the events which took place that day. Several countries have carried out extensive searches and rescue operations in and around the areas where the flight was believed to be in, because the last position of the aircraft was unknown.

Soon after the incident, there was global media uproar, with a number of conspiracy theories doing the rounds, ruling out no possibility. The need was felt for a preliminary assessment to be done, in order to determine the search areas, as well as rule out possibilities of the cause of the accident. Though considerable portions of the public rely on civil aviation as a means of mass transportation, much about this industry is not known to those outside of it. Due to this lack of knowledge, the public failed to understand several points such as:

- Neither the air operator, nor States and their military have permanent access to reliable information regarding the whereabouts of any flights
- Modern communication technology does not warrant seamless connectivity of an aircraft in flight, as also over the high seas

- The ATC does not ‘control’ the flight over the high seas
- The military radar surveillance does not react immediately after detecting an unknown target
- Hints as to the flight path of an aircraft cannot be found on the internet
- Even modern technology like satellites can take a few days to detect the first portions of debris or leftovers
- It may even be impossible to find the wreckage, the black box and any other important evidence on the ocean floor.<sup>1</sup>

Despite best efforts which were put forth by most countries which had some sort of interest in the missing aircraft, no results seemed to stem from the searches.

In addition to the above mentioned, there are a number of legal considerations which have arisen from this incident. A number of them have been highlighted below.

### **POSSIBLE SITUATIONS**

Since the fate of the aircraft is still not known to us, there are a number of possibilities. Each of these has a number of legal considerations to be looked at.

**Technical Glitch-** According to Article 17 of the Chicago Convention, 1944 the aircraft has the nationality of the State in which it registered, and so it is this State which is responsible for the aircraft and its actions. Under Article 31, it is the responsibility of this State to issue a certificate of airworthiness. In addition to these, there are the Standard and Recommended Practices, which are found in the form of 18 annexes to the Convention. Although the legal status of these annexes continues to be a subject matter of great discussion, it can be understood through Article 38, that all States are required to comply with these, to the fullest possible extent, and as far as they find practicable. Thus if any State wants to decline compliance with any International Standard, the only legitimate way is to do so under Article 38, except in cases of war or national emergency, as mentioned in Article 89.<sup>2</sup> In all other cases, States which do not comply with these Standards, are required under the Convention, are required to provide compelling justification for the same.

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<sup>1</sup>Stefan A. Kaiser, *Legal Considerations of the Missing Malaysian Airlines Flight MH370*, (Kluwer Law International, The Netherlands, 2014)

<sup>2</sup>Jiefang Huang, ‘Aviation Safety through the Rule of Law, ICAO’s Mechanisms and Practices’ (2009), Volume 5, *Aviation Law and Policy Series*, Wolter Kluwer Law and Business, p.60

In the current situation, the Airline was registered in Malaysia, thereby making Malaysia the concerned 'State' in such a case. It would be Malaysia that would be held responsible, if the functioning of the aircraft faltered due to any sort of technical failure.

***Negligence of the Pilot-*** The basis of liability in negligence is founded on the principle that when a person owes a duty of care to another, a breach of such duty grounds an action in negligence against the offender.<sup>3</sup> According to Annex 6 of the Chicago Convention, the pilot in command shall be responsible for the operation and safety of the aeroplane and for the safety of all persons on board for the entire duration of the flight. This covers the time period from take-off, till landing.<sup>4</sup> This has been accepted by a majority of the States which ratified the Convention, and have also included provisions of the same in their National laws. Good airmanship is associated with compliance with a list of requirements, and failure to comply with these results in bad airmanship, rendering the pilot liable for prosecution on criminal charges.<sup>5</sup> It has now been established that in the happening of any event, prima facie responsibility rests on the pilot, who is also known as the Commander of the aircraft.<sup>6</sup>

In *Taylor v. Alidair Limited*<sup>7</sup>, it was stated that a pilot owes a greater duty of care due to the greater responsibility of the profession he professes. This case also laid down three presumptions which govern the position of the pilot in command:

- He is presumed to possess special skill and expertise
- In view of such special skill and expertise, he is expected to have enhanced duty of care
- The magnitude of the damage that may be caused in the eventuality of a breach of the duty by the care by the pilot

There is also a duty cast upon the employer to remove the pilot at the first clear sign of inefficiency of the pilot.<sup>8</sup>

It is thus an established point of law that the pilot has absolute authority and is also liable in cases of his own negligent acts. However, in cases where the pilot himself does not survive,

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<sup>3</sup>Donoghue v. Stevenson 1932 AC 562

<sup>4</sup>N. M Matt, 'The International Legal Status of the Aircraft Commander', *Traits de Droit Aérien-Aéronautique*, 2<sup>i-me</sup> Ed. (Paris 1964)

<sup>5</sup>General findings of the *New Zealand Royal Commission of Inquiry into the 1979 Aft. Erebus DC10 Disaster*

<sup>6</sup>Speiser and Krause (1978), P473

<sup>7</sup>(1976) IRLR 420

<sup>8</sup>Shawcross & Baumont, *Air Law*,

there are no provisions as to what the legal recourse in such cases may be. However, the Airline may be held responsible.

**Faulty Signals-** The Global Positioning System (GPS) was founded on a constellation of 21 satellites which orbit the Earth, at an extremely high altitude. These are known to be able to accurately pinpoint positions of targets around the world, at any time. A memorandum was signed between the Departments of Transportation and Defence, of the US in January 1993 which made these available to civilian use as well. This was brought into effect in December 1993. Although it is not the sole navigation system, it plays a key role in aiding air transportation.<sup>9</sup>

There are two fundamental considerations which need to be taken into account when it comes to liability for faulty GPS signals which lead to damage on the Earth's surface. The first relates to the liability of the signal provider, when the signals emanate from outer space. Outer space is considered as the *common heritage of mankind* which means that this is based solely on the law which binds the community of nations, bringing public International law, and Space law to the fore. Article VI of the Outer Space treaty that State parties to the treaty shall bear responsibility of their national activities to the international community. These activities may be carried out by either governmental or non-governmental agencies. This clearly conceptualises the notion of strict liability *erga omnes* to the application of the *jus cogens* principle relating to the Outer Space activities of States. This may be held to be applicable even in situations wherein States are responsible to the international community when outer space technology is used by them for the purpose of air navigation. Thus, the State whose nationality the entity bears would be vicariously responsible for any such activity.<sup>10</sup> The second consideration pertains to the extent to which a State can be held liable for provision of air navigation services within its territory. Article 28 of the Chicago Convention contains no mandatory element, stating only that contracting States undertake to provide such services 'as far as practicable', in order to 'facilitate' air services. However, there is doubt as to whether a peremptory obligation on the State exists, by placing an obligation on the Council to step in cases where the latter feels that the State needs assistance. Thus it cannot be concluded that a State has no responsibility whatsoever, under Article 28. The State receiving such signals in its territory would be responsible to the user, under basic

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<sup>9</sup>Hurn (1989)

<sup>10</sup>Ruwantissa Abeyratne, *Air Navigation Law*, (Springer 2008), p.244

law principles of fault liability.<sup>11</sup>In the *MacLeod* case<sup>12</sup>, it was accepted that the destruction of a vessel by the national of a State cannot be the subject of liability of the individual concerned who was responsible for the act, while carrying out duties for his national government.<sup>13</sup>

In the peculiar case of MH370, the whereabouts of the aircraft are still unknown. The last contact was made about half an hour after it took off from the Kuala Lumpur international airport with the ATC at Malaysia itself. This would make Malaysia responsible.

***Terrorist activities/hijacking-*** When an aircraft is in flight, and a crime is committed on board, the laws of the State in whose airspace the aircraft is in, must be applied. However, the problem arises when the flight is an international one, and it may be difficult to pinpoint in whose territory exactly the crime was committed. Thus, the need for States to extend their penal provisions to their aircrafts, was seen, and this was crystallised in the form of the Convention on Offences and Certain Other Acts Committed on Board Aircraft, 1963, or the Tokyo Convention.<sup>14</sup>Article 11 of this is specifically dedicated to unlawful seizure of an aircraft. According to this article, any unlawful act, interference, or wrongful exercise of control of an aircraft, by threat or force thereof, is an act of hijacking. This provision seems to regard any act of interference as hijacking including acts such as tampering with the flight stick or any other instrument used for controlling an aircraft. Under this convention, the State where the aircraft lands must take delivery of any person whom the aircraft commander delivers, pursuant to Article 9, and must undertake preliminary inquiry into the facts, and is required to take certain measures against such person(s).<sup>15</sup>

However, this Convention failed to cover hijacking as it fails to provide sanctions against the same. Thus, the Hague Convention of 1970 was brought into the picture, which extended the definition of hijacking to include even attempted hijacking. This Convention applies only when the doors of the aircraft are closed for take-off, till the doors are opened for disembarking. The 1971 Montreal Convention, further broadens crimes to mean anything act, which may be against a person or otherwise, which destroys an aircraft, or renders it

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<sup>11</sup>Id

<sup>12</sup>Reported in Moore, II A Digest of International Law, 409 et seq.

<sup>13</sup>See note 10, supra

<sup>14</sup><http://www.britannica.com/EBchecked/topic/10733/air-law/39253/Acts-and-occurrences-on-board-aircraft>

<sup>15</sup>Sami Shubber, *Jurisdiction over Crimes on Board Aircraft*, (Springer 1973), p. 227

incapable of flight, or destroys or damages air navigation facilities etc. Even attempts to commit such acts are included.<sup>16</sup>

Coming back to the case on hand, one cannot say for sure that MH370 was victim to an act of terror, but can only assume. However, if this was actually the case, then these conventions would have to be applied. Malaysia is a signatory to all three conventions. According to Article 4 of the Tokyo Convention, A contracting State which is not the State of registration, may interfere with an aircraft in flight to exercise its jurisdiction only in some situations such as when the offence

- effects the territory of the State
- is against the security of the State
- consists of a breach of any rules or regulations of the State
- has been committed by or against the national or permanent resident of that state.

The Hague Convention has extended the jurisdiction even to the State in which the aircraft lands when the offender is on board, the State where the lessee of an aircraft without crew has his permanent address or principle place of business, or the State in whose territory the alleged offender is found and apprehended if he has not been extradited to any other State.

The Montreal Convention states that the following States may have jurisdiction:

- The State in whose territory the offence was committed
- The State against whom, or on whose registered aircraft the offence took place
- The State in which the aircraft lands when the offender is on board
- The State where the lessee of an aircraft without crew has his permanent address or principle place of business.

MH370 was last in contact with the ATC in Malaysia. Its last location is not known, and after over a year, the search for this aircraft which mysteriously disappeared, has not proved successful. This could only lead to the conclusion that it is lost at the high seas, because had it been in the territory of any State, the aircraft would most likely have been discovered by now. Thus, if indeed, this aircraft was hijacked in any way, the most obvious choice for the place of jurisdiction under these three conventions would be Malaysia.

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<sup>16</sup> I.H. Ph. Diederiks-Verschoor, *An Introduction to Air Law*, (Kluwer Law International 2006), 8th Edn, p.296

**Pilot suicide-** Among several other conspiracy theories which have been doing the rounds with regard to MH370 and its mysterious disappearance, the most disturbing of them all is that of pilot suicide. This is not completely impossible or unheard of, with the US Aviation Safety Network having declared eight such instances in the past, to be pilot suicides. Captain Simon Hardy, who flew a Boeing 777 for 17 years, says that looking at the clues, it seems very likely that this was a case of pilot suicide, since the aircraft flew in and out of Thailand and Malaysia eight times before disappearing from the radar, which he feels could well have been a deliberate move. The ATCs in each country would have believed that the jurisdiction was in the other country, and therefore did not pay much attention to it. He also finds it very strange that this aircraft circled Penang, in Malaysia, which was the pilot's hometown. This was not on the plotted route of the aircraft. Steve Landells, who flew Boeing 777s for over a decade, and is now an expert at the British Airline Pilots Association, says that based on some data which has been gotten from satellites, this aircraft flew six hours South, in a straight line, when it was supposed to go to Beijing which was North-east of Kuala Lumpur. He goes on to say that the 777 has many back-up systems for its electrics so even in the event that all fail, there is a battery connected to the captain's instruments and one of the radios, so a call could still have been made. If even that fails, there's a propeller that drops out the back of the aircraft(ram air turbine), that provides enough electrical power to run the basic facilities, including a radio. Even if there is a severe fire in the cockpit, the pilots would have to leave the cockpit. This has happened in the past. But he points out that if that was the case, the aircraft would not have been able to continue flying for so long, with such a catastrophic fire going on.<sup>17</sup>

The head of Kiwi Airlines, Mr Ewan Wilson believes that the pilot killed himself as well as all the passengers on board by switching off the oxygen supply to all on board. This would have killed those who were not able to grab oxygen masks, within minutes. The oxygen supply would have lasted only twenty minutes, so even those who did manage to grab these masks, would not have survived long. According to him, the pilot was suffering from mental illness, and tricked his co-pilot into taking a break forty minutes after take-off and then locked him out of the cockpit. After cutting off the oxygen supply, he flew the aircraft for three hours, to the Southern parts of the Indian Ocean, where it is believed to have crashed.<sup>18</sup>

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<sup>17</sup><http://www.bbc.com/news/magazine-31736835>

<sup>18</sup><http://www.dailymail.co.uk/news/article-2756315/MH370-pilot-switched-oxygen-supply-kill-SIXTH-example-suicide-flights-according-Kiwi-Airlines-boss.html>

Although there are no specific provisions in any international convention that deal with pilot suicide, such situations may have to be dealt with by national laws, of the State in which the aircraft was registered. In Malaysia, attempted suicide is a crime under section 309 of the penal code. It carries a sentence of up to one year in prison, a fine, or both.<sup>19</sup>

## **JURISDICTION**

Article 33 of the Montreal Convention, 1999 and Article 28 of the Warsaw Convention, 1929 both deal with the matter of jurisdiction. The first requirement under both these Articles is that the claim must be brought in a State party to the Convention.

Article 28 of the Warsaw Convention sets out four original jurisdictions where an action for damages can be brought:

1. The principle place of business of the carrier
2. The domicile of the carrier
3. The place of business of the carrier where the contract of transportation was made
4. The place of destination set forth in the contract of transportation.

Article 33 of the Montreal Convention contains the same four places for jurisdiction. There is a new ‘fifth jurisdiction’, wherein actions for damages for passenger death or bodily injury only may be brought in a State party where “at the time of the accident the passenger has his or her principle and permanent residence’, and to or from where the carrier operates, either on its own aircraft, or that of another pursuant to some commercial agreement.<sup>20</sup>

Thus, the above two provisions are clear that, at the option of the claimant, an action for damages may be brought in any of the four for a specified, as well as the ‘fifth jurisdiction’, but the latter is applicable only in cases of passenger death and bodily injury.

The party who asserts jurisdiction under the applicable Convention is to establish that the jurisdiction of the Court is proper and that the action is governed under that Convention.<sup>21</sup>

Thus, Malaysia would seem to be the obvious place, to have jurisdiction. Article 33 of the Montreal Convention offers plaintiffs a choice of jurisdictions to bring their cases. Two of

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<sup>19</sup><http://www.freemalaysiatoday.com/category/opinion/2013/09/13/stigma-on-suicide/>

<sup>20</sup>George N.Tompkins, Jr,*Liability Rules Applicable to International Air Transportation as Developed by the Courts in the United States, From Warsaw 1929 to Montreal 1999*, , Volume 7, Aviation Law and Policy Series Wolters Kluwer Law and Business, 2010 Edn. p.246

<sup>21</sup>*Benjamins v. British European Airways* 572 F.2d913, 915(2d Cir. 1978)

those are often tend to be the same – the domicile and principal place of business of the airline. In this case both are Malaysia. The other three include the passenger’s “final destination”, the place where the ticket was purchased (which becomes a complex question when the ticket is purchased online), and the place where the passenger had his or her permanent residence. The last one is applicable only if the airline does business in that country. Based on this, there a number of places which would have jurisdiction. According to newspaper reports, the passengers were from China, Malaysia, Indonesia, Australia, the United States, France, Ukraine, Canada, New Zealand, Russia, Iran, Taiwan, and Holland. Assuming these were the countries of their permanent residence, or the place in which they purchased the ticket, then these countries too, would have jurisdiction. The families of those passengers from Holland, Indonesia, Russia, and Taiwan may be required to resort to the 1929 Warsaw Convention, the predecessor of the Montreal Convention, or make claims under domestic laws, since these countries have not adopted the Montreal Convention, 1999. Malaysian Airlines waived the restrictive limits of liability under the Warsaw Convention, so their compensation rights will also be similar to that under the Montreal Convention.<sup>22</sup>

### **CLAIMS AND LIABILITY OF THE AIRLINE**

All, or at least most of the victims’ families, have legal remedies under a number of International treaties. The particular treaty that governs will depend on the trip origin and destination shown on the passengers’ tickets. For those who intended to begin and end their journey in their home countries, the airline’s liability will be governed by the Montreal Convention of 1999. Under this Convention, Malaysian Airlines will be held liable for the damages suffered by the passengers’ families without proof of fault to the extent of 113,100 SDRs. At the time of the accident this was equal to approximately USD \$175,504.

Under Article 21 (2) of this Convention, the airline will be liable in all situations unless they can prove that it was done without any fault whatsoever, on their part, or that the accident was caused solely by the fault of a third party. The peculiar fact about this Convention is that instead of having the plaintiff prove his or her claim, here the airline is to prove its lack of fault.

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<sup>22</sup>*Legal Issues Surrounding Malaysian Airlines Flight MH370*, Brent, Fiol, Pratt LLP. Available at: <http://www.bfnlaw.com/resources/legal-issues-surrounding-malaysia-airlines-flight-mh370.html>

However, a criminal act on board will not absolve the airline from its liability, unless it can prove that it did everything possible to prevent the abduction. Crime or terrorism, is a known risk in aviation. It may be done by the flight crew or passengers, and if the airline fails to prove the above, it will be liable to the families of the passengers for full compensatory damages.<sup>23</sup>

## **SEARCH AND RESCUE**

Article 25 of the Chicago Convention, 1944 elaborates on the procedure to be taken in case of distress of an aircraft in the territory of any State. As is the case with the convention as a whole, Article 25 too, stresses on the sovereignty of States as a whole. In case of aircraft in distress, the contracting State in whose territory the aircraft is, must render assistance to the aircraft, as it may find practicable. This, however, is subject to the control of its own authorities. The authorities in the State where the aircraft is registered and the owner of the aircraft may also provide assistance as necessitated by the circumstances. This is not a 'hard' treaty obligation, but only as far as the States find practicable. The second part of this article establishes the principle of co-operation amongst contracting States when there is a missing aircraft. It includes even an aircraft missing in the high seas.

It is important to note that any States which undertake to search for a missing aircraft, do so at their own cost and risk, and with its own natural resources.

Annex 12 to the Chicago Convention dwells a bit more deeply into this issue. States are to conduct search and rescue operations over the high seas through rescue coordination centres and in accordance with regional airnavigation agreements.<sup>24</sup> There is a recommendation a standard to cooperate with other services which are not part of the search and rescue organization, which could also be applied to military services.<sup>25</sup>

Annex 12 contemplates a situation where the search area can be confined to the vicinity of the point where contact was lost, or at least a stretch along the planned track, and not when the possible search areas are so far apart. In such situations, the annex does not spell out clear guidance to the countries when it comes to information sharing among States either. In the present instance, this led to competition among States, in trying to show each one's

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<sup>23</sup>Id

<sup>24</sup>ICAO Annex 12, Search and Rescue, Chapters 2., 3., 5.

<sup>25</sup>Ibid., standard 3.2.1.

technical superiority, in order to show who is the most advanced in gathering information. With the passage of time and the fading of hope, the competition among the States seemed to vanish and co-operation came to the fore.

In this case, the last position of the aircraft was unknown and therefore search operations have been carried out over large parts of the Indian Ocean. Two large ships, Fugro (A Dutch vessel), and GO Phoenix, a vessel contracted by Malaysia, have been conducting extensive research in the Indian Ocean. The latter has been scaling the southern part of the Ocean, off the coast of Western Australia, while the former has been covering the central part of the Ocean, closer to the flight path of the aircraft. Australia, Malaysia and China have been the most active in the search operations. Australia's transport safety agency is leading the underwater search. The head of this agency has said he is hopeful and optimistic that the jointly funded search operations, by Australia and Malaysia will eventually lead them to find the plane.<sup>26</sup> Satellite Operator INMARSAT was instrumental in applying new methods of location identification of the aircraft. Although the aircraft was not transmitting position or other data, it was able to correlate the characteristics of mere 'handshake' or 'ping' transmissions of the on board Aircraft Communications and Reporting System (ACARS) and thus narrow down the possible positions of the aircraft.<sup>27</sup>

Another new method of cooperation which was applied in the search for the MH370 was the activation of the International Charter for Space and Major Disasters on 11 March 2014 through China's meteorological agency.<sup>28</sup> Once this was activated, participating space organisations exchanged remote sensing images free of charge for the purpose of disaster relief efforts.<sup>29</sup> The (Preparatory Commission for the) Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) conducted an infrasound search with their sensors in the region. However, this was not successful.<sup>30</sup>

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<sup>26</sup>*MH370 search resumes in the Indian Ocean*, BBC News, 6 October, 2014. Available at: <http://www.bbc.com/news/world-asia-29502013>

<sup>27</sup>Amy Svitak, *New Math – Unorthodox analysis of satellite data offered investigators best hope of finding MH 370*, *AW&ST* 31 Mar. 2014, p. 35.

<sup>28</sup>*Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters*, revision 3 of 25 Apr. 2000. Available at: <http://www.disasterscharter.org/web/charter/charter>.

<sup>29</sup>[http://www.disasterscharter.org/web/charter/activation\\_details?p\\_r\\_p\\_1415474252\\_assetId=ACT-482](http://www.disasterscharter.org/web/charter/activation_details?p_r_p_1415474252_assetId=ACT-482).

<sup>30</sup>*Comprehensive Nuclear-Test-Ban Treaty*, New York, 10 Sep. 1996, not yet in force. Available at: [http://www.ctbto.org/fileadmin/user\\_upload/public\\_information/2014/IDC\\_infrasound\\_MalaysianAirlines](http://www.ctbto.org/fileadmin/user_upload/public_information/2014/IDC_infrasound_MalaysianAirlines)

Over a year later, with fast diminishing hopes, what was initially started as a rescue and search operation, continues as a primarily search operation, in order to try and find some sort of evidence, which could help find out what happened to the aircraft.

## **AIRCRAFT ACCIDENT INVESTIGATION**

Article 26 of the Chicago Convention, 1944 lays down how the States are to go about investigating an accident. According to this Article, in case of an accident of an aircraft belonging to a contracting State, takes place in another contracting State, involving serious injury, death or technical defect, then the State in which such an accident occurs shall institute an inquiry committee in accordance, so far as its laws permit, with the procedure laid down by the International Civil Aviation Organization (ICAO). The State in which the aircraft is registered shall have the opportunity to appoint to observers who may be present at the time of the inquiry. The State which is conducting the investigation shall communicate the report and findings to this State.

Investigation is a procedural which is distinct from search and rescue and usually follows the latter. However, in the case of MH370, owing to peculiar circumstances, a preliminary analysis of available data had to be carried out in order to identify and narrow down the possible search area.

According to Annex 13 of the Chicago Convention which deals with investigation, the responsibility of carrying out the investigation is on the State in whose territory the accident occurs, who may delegate all or part of the investigation to another State. If the accident takes place outside the territory of any State, then the State in which the aircraft is registered has the responsibility of conducting the investigation. States of Registry, Operator, Design and Manufacture who participate in an investigation are entitled to appoint an accredited representative to take part in the investigation. The investigation process includes the gathering, recording and analysis of all relevant information; the determination of the causes; formulating appropriate recommendations and any other requirements until the completion of the final report.

The fact that this flight was missing left the Malaysian Government in a state of dilemma. As per Article 26 of the Chicago Convention, they were to carry out the investigation only after

the evidence is well founded and the investigation has been completed. Due to the different circumstances surrounding MH370, a different approach had to be adopted. Without any reliable information to rely on to determine the search area, they had to do so based on preliminary assumptions about the possible events on board and their impact on the flight path. The Malaysian Government was under a lot of pressure from the families of those on board, to provide some information on the whereabouts of the aircraft. The numerous conspiracy theories doing the rounds did not help the situation. This pressure must have been what made the Malaysian Prime Minister declare that MH 370 was not only deliberately diverted, but also its communications systems were deliberately disabled.<sup>31</sup> This unfortunate incident highlighted how Article 26 of the Chicago Convention can be undermined even though the intentions were good.

### **CIVIL-MILITARY CO-OPERATION**

The occurrence of this incident has brought forth the problems regarding civil and military co-operation. Information which was available to the military was either not, or was not timely shared with the International Search effort. This difficulty stems from the very fundamental concept of the separation of powers, since in many States these are two completely separate branches of the executive. While it is a very effective in most spheres, in such instances, it may lead to loss of vital information. Civil-military co-operation is outside the ambit of Article 3 of the Chicago Convention, which deals reflects civil and State aircraft. The search for this aircraft has shown that civil and military cooperation goes far beyond just the aircraft. ICAO has only recently looked into this matter and come out with guidance vide circular 330.<sup>32</sup> The military is usually sceptical in participating in any activity where their surveillance and intelligence is at stake. This exchange of information is often coordinated at the national level, but there is some level of distrust at the international level. In the present case too, military units were reluctant to share radar information. The Australian Maritime Safety Authority (AMSA), displayed more constructive management of this issue, by

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<sup>31</sup> BBC News Asia, 15 Mar. 2014. Available at: <http://www.bbc.com/news/world-asia-26591056>.

<sup>32</sup> ICAO Circular 330, AN/189, 2011, Ch. 6., s. 6.7.

using information available from national and international sources, which were also of military origin, but did not disclose the source.<sup>33</sup>

## **CNS-ATM**

The missing MH370 has also shown the limitations of the existing global communications, navigation, surveillance and air traffic management systems (CNS-ATM), particularly radars used in civil aviation. In ground based surveillance, radars do not reach over the oceans, and often, even within their range, they fail to identify their ‘primary’ radar targets. Article 28 of the Chicago Convention states that each of the contracting States must, as far as practicable, within its territory, provide radio services and other air navigation facilities to facilitate international air navigation.<sup>34</sup> However, this poses a huge limitation since the Article only deals with the territory of the States, and not the High seas. More than seventy percent of the Earth’s surface is covered by water bodies and the Polar Regions, thus proving that this Article is not completely useful in itself.

## **CONCLUDING REMARKS**

Antoine de Saint-Exupery, Amelia Earhart and Glen Miller were all lost at sea. Their aircrafts were declared missing. Search attempts were not successful. However, these were the early days of aviation, and this has always been attributed to the lack of technology back in the day. Over the years, air travel has gone to becoming a means of global mass transportation. This form of transportation depends greatly on safety and indeed, it is one of the safest modes of transport. This is what has made it difficult for the world to accept, about the tragic disappearance of MH370.

In today’s world, we are so dependent on technology for every little thing. The aviation industry is dependent on technology, at every possible level. States invest massive amounts in ensuring that they do not lag in technology, when it comes to aviation infrastructure. Communication networks span across the globe, and information is available at the earliest through these.

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<sup>33</sup>Adrian Schofield, Jeremy Torr, Bradley Perrett, ‘*MH 370 case highlights need for better civil-military and international airspace Cooperation*’, (*Crossed Wires* – AW&ST 24 Mar. 2014), p. 20.

<sup>34</sup>Sean Broderick, Jens Flottau, Guy Norris, Adrian Schofield, ‘*Mystery Flight – Missing 777 underscores need for data-link technologies in routine op’s*’, (AW&ST 17 Mar. 2014)

Despite such technological progress and infrastructural superiority, contact was lost with MH370, which then ultimately led to one of the most complicated happenings in the field of civil aviation. Over a year on, the world is left with no conclusive proof as to what happened, with only theories leaving one and all to wonder about the fate of those on board. The sheer of safety of air travel cannot be questioned keeping in mind this disaster, as the number of air disasters, is very low as opposed to the number of flights which take off each day.

It was after the 9/11 attacks that the door to the cockpit was introduced, in order to prevent unauthorised persons from gaining control of the flight, for their own malicious intentions. That door may seem to be a boon, but there are drawbacks to it too. Looking at this situation, if it was indeed a case of pilot suicide, where one pilot tricked his co-pilot into taking a break, and then locking him out, then there must be thought put into how this door operates and who may have access to it. This situation may have been different if both pilots could use this door, from either side, independently of the other.

When any plane crash occurs, search and rescue teams first hope to locate the black box. This black box records all the happenings of the flight. In a situation like this locating the black box would be able to tell us exactly what happened to MH370. However, since it has not been located just yet, the entire array of possibilities lies open before us. In order to prevent such happenings in the future, the world is trying to move to even more superior technologies, wherein a satellite records the happenings on any flight. Thus, even in the event of a crash, even if one is not able to locate the site of the crash, and thereby the black box, the satellite would have recorded the happenings of the flight. Thus it would make further investigation a lot easier. No black box, or like device would be required.

This case remains to be, and will remain to be a very peculiar one, till the aircraft or its remains are found. Loved ones of the victims are demanding answers. International organizations are working together with Governments of different countries and assisting them in their search. In 2009, an Air France flight crashed somewhere over the Atlantic Ocean, and the black box was found only two years later. It is said that in 1998 a French fishermen discovered a bracelet of Antoine de Saint-Exupery in the Mediterranean Sea, fifty-four years after he was declared missing. The search for MH370 is still going on, and the areas which are being covered have been expanded. So long as this search continues, hope will remain.