EUROCONTROL

JUST CULTURE

"EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT JUST CULTURE (BUT WERE AFRAID TO ASK)"

LVNL Headquarters (Amsterdam)

"The case law of the Italian Supreme Court of Cassation in the field of aviation accidents"

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1- Introduction.

I would like to thank both Eurocontrol and Air traffic Control Netherlands, for giving me yet another opportunity to discuss issues in the aeronautic sector from the perspective of the Italian penal jurisprudence.

The penal offenses related to this sector represent an interesting part of the cases dealt by the 4th penal section of the Italian Supreme Court, that I have the honor to head.

In addition, this meeting and presentation are of particular interest to me since I have been flying airplanes for a great many years.

The 4th Penal Section of the Italian Supreme Court deals with all cases of "negligence"; and while the body of jurisprudence on, for example, car crashes or the negligence of physicians is ample, that which concerns the aeronautic sector is luckily small. In my opinion, this demonstrates that airplanes are the most secure means of transportation, and that air crashes are few compared to the volume of air traffic and the number of passengers carried.

A year ago, I wrote a report concerning all the air crashes that happened in Italy, and which were examined by the Italian Supreme Court. Last month, in a paper I presented in Brussels, I discussed three such crashes: the disaster of Capoterra, which occurred on September 14, 1979; the disaster of Linate, which happened on October 8, 2001; and the disaster of the mountain called "Sette Fratelli" (Seven Brothers), which took place on February 24, 2004.

The reason I chose those three crashes is that in every instance, criminal charges were filed - aviation disaster (articles 428 and 449 of the Italian penal code), along with multiple non-intentional homicide charges (article 589 of the same code). Some air traffic controllers were found guilty, and this led to misunderstanding and mistrust between this category of professionals and the Judiciary.

It should be said that this misunderstanding/mistrust really originated with the decisions made concerning the two disasters of Capoterra and Mount Sette Fratelli. In the latter case, the successful prosecution has been seen in Italy and elsewhere as a classic example of how difficult it can be in some countries for a "just culture" to survive the need to balance safety improvement with the wider need of the judicial system to deliver an equitable interpretation of the law. For this reason, I have chosen to mainly discuss the disaster of mount Sette Fratelli.

2. A just culture in aviation.

Before speaking about this disaster, I would like to say a few words about "just culture" in aviation.

Obviously, investigating the causes of aviation accidents is of fundamental importance to improve flight safety and save lives.

Yet ever since investigations into aircraft accidents were carried out systematically, and with the specific aim of using their results to improve flight safety, their use for any other purposes has been a point of concern. This is mainly because the documents produced in such investigations can be used by judges to determine the criminal and /or civil liability on the part of anyone involved in an accident.

But if such documents can be used to ascertain the criminal liability of people involved in an accident, they will not easily cooperate, and will not easily admit to having made errors that could lead to a conviction. This lack of cooperation would understandably not lead to a rapid and correct verification of the causes of aviation disasters.

Thus in many countries, including Italy, there are somewhat antagonistic interests between the administration of justice and safety investigations, whose sole aim is to improve flight safety.

Therefore, a balanced solution between these two rather opposite interests needs to be found. This is important in order to achieve the following definition of a just culture that I

would like to restate here: “a just culture is a culture where front line operators are not punished for actions, omissions or decision taken by them that are commensurate with their experience and training, but where gross negligence, willful violations and destructive acts are not tolerated”.
Unfortunately, reaching such a just culture in Italy will probably be long and arduous. And I shall now try to explain why.
As it is known, Italy has a civil law system that is greatly different from the common law system: Although their differences tend to diminish over time, substantial distinctions remain:
First, the Italian Constitution, Italy’s fundamental law, states that Public Prosecutors must pursue each and every crime (article 112). So, while in countries like the United States of America or Holland, Public Prosecutors may not charge a person who is collaborating with the investigation, or has committed an minor offense, in Italy this is not possible because if someone violates the penal code or a penal law, that person ought to be judged and convicted if found guilty.
Second, in Italy, the offenses that are related to cases of negligence are punished even if the negligence is minor. Today, the degree of “negligence” (minor or major) is assessed solely to determine the punishment (for example, an air disaster caused by negligence is punished with up to five years’ imprisonment).
So we can see that these two points do not promote “just culture” in Italy. For who would cooperate with the authorities in such a context? Who would admit to having made an error?
- There is a third point that needs to be made here, and which relates to an aspect of the Linate disaster’s criminal procedure
During the first-degree trial relating to that disaster, the victims’ relatives, who had brought a civil action against the accused, exhibited the report of the ANSV (National Agency for the Safety of Flight) on the causes of aviation accidents. The defense protested against this display, because though the ANSV makes investigations only to improve safety procedures, it underlined the conspicuous deficiencies and gaps in the "airport’s organizational structure”.
The defense lawyers addressed certain objections to the Italian Supreme Court. They challenged the Court over a series of technical flaws, one of which being, "acquiring a disc produced during the last phase of the trial of first instance, from the defense of the plaintiff, and lacking any label of attribution – being simply named report ANSV”, and considering that “literally 40% of the text from the first-instance judgment is borrowed from this anonymous script".
But the Italian Supreme Court did not accept such objections, observing that:
- the report was indeed from ANSV and could be attributed to the head of the agency, although other persons may have physically contributed to the report;
- it was acquired as a “document”, in accordance with article 234 of the Criminal Procedure Code, and it certainly has the nature and the content of such documents, in the part in which it exhibits the factual circumstances, even if it put them in their own order;
- the judges from the Tribunal and the Appeal Court had confirmed that the possible causes of the disaster, which the report presents, were not used as incriminating evidence against the accused "; and the same judges reiterated that "the report’s findings could not be taken as evidence to determine the guilt of the accused", since "this document is but a convenient summary of the results already acquired, otherwise unquestionable and then, in truth, never questioned, such as:
- the sequence of conversations between P. Zacchetti and the pilots of the CESSNA, also reported in the judiciary report of M. Pica,
- the modalities of impact between the two aircrafts,

- the consequences of the fall of the Boeing of the Scandinavian Airlines to the ground and then against the luggage hangar,
- the consequent deaths of all the persons transported in the Boeing and in the Cessna and of the four SEA employees working in the luggage hangar,
- as well as the obvious condition of things of airport facilities (also reported in the judiciary report of M. Pica)".

As one can understand, it is very difficult to keep the results of an investigation made to improve safety procedures apart from their possible use in determining criminal liability.

I believe there is another problem that needs to be solved rapidly if we wish to improve flights safety.
When an air disaster occurs, the Public Prosecutor starts his investigation, that is covered by the secret (in Italy it is called "segreto istruttorio") which necessarily excludes other individuals and agencies such as ANSV conducting investigations of their own.
This is to be avoided as people should be allowed to work in concomitance with the prosecutor's appointed experts, in order to improve flight safety. Fortunately, the Italian Public Prosecutors are working in that direction, enabling various qualified individuals and agencies to work in tandem with their appointed experts.
Of course, it would be necessary to find a single legal solution to this problem.

Now, in relation to this particular aspect of Italian investigations, I want to share with you a personal judicial experience, which occurred when the "segreto istruttorio" was stricter.
As the judge investigating a 1978 air crash, and in the interest of the victims' relatives, who had brought a civil action against the Alitalia Company, I thought necessary to give them a copy of the technical expertise I had ordered.
But this report was deemed confidential, and some lawyers of the Alitalia company (whose interest was different from that of the victims' relatives since the report had concluded that the crash was attributable to the gross negligence of pilots) pointed out to me that making the results of that confidential report public would entail breaking the rules of the Italian criminal procedural code.
Yet I was able to overcome this serious obstacle in the following manner: the Public Prosecutors had placed the pilots – although they had died in the crash – among the accused (I do not know why). So, I took out their position from the main case (to decide this one would have taken much more time) and I wrote a sentence concerning only the pilots (in Italy, if the accused dies, we sentence for the "non procedibilità" – I don't know how translate this expression, but it means that we close the case); so, in order to take this decision I had to deposit all the acts of the case, and for this reason the expertise was not anymore covered by the "segreto istruttorio" .
Although the lawyers of Alitalia criticized me, I would unhesitantly do it again to defend the interest of the victims' relatives, and to safeguard the right to the truth.

3. Brief observations on some accidents that happened before that of Capoterra.
Before beginning to talk about the disaster of Mount Sette Fratelli, I would like to make a few observations on the way Italian courts dealt with the crashes that happened before that of Capoterra.
A year ago, I showed in a report concerning all the air crashes that happened in Italy and which have been examined by the Italian Supreme Court, that until the end of the 1970s, the responsibility for air disasters was attributed almost exclusively to pilots, while other operators (air traffic controllers, airport managers, mechanics, and so on), were almost never liable.
Before the disaster of Capoterra (1979), in which a DC9 of the ATI Company, approaching the airport of Cagliari Elmas, crashed into mount Nieddu, killing everyone on board, Italy

had other disasters that were caused not by some mechanical failure, but by a human error (especially the pilot's failure to determine the plane's vertical position during navigation).
Among them, we can mention:
- the disaster of Superga (1949) - the name of a hill close to the airport of Turin - in which the entire football team of the "Grande Torino" died;
- the disaster of mount Capanne (1960), in which an aircraft of the Itavia company, while it was flying on the island of Elba, crashed into that mountain, causing the death of 11 people (all passengers and crew members);
- the disaster of Montagnalonga (1972) – the name of a mountain close to the airport of Punta Raisi (Palermo) - in which all passengers (108 persons) and crew (7 person) perished;
- the disaster of Punta Raisi (December 23, 1978), in which a DC9 of Alitalia attempted a night visual approach and crashed into the sea short of the runway (103 passengers and 5 crew members perished).
These cases did not go to the Italian Supreme Court, because the Tribunals and the Courts of Appeal found the pilots guilty (though they had died in the accidents), absolving everyone else who had been charged with "negligence".
Following these acquittals, however, and perhaps due to the strong pressure of public opinion, there was a significant change in jurisprudence, a shift that began with the disaster of Capoterra (September 14, 1979).
This disaster was indeed a game changer, for in addition to the obvious culpability of the pilots, (established by the Cagliari Courts), the Public Prosecutor of Cagliari started investigating the role played by the air traffic control that was then supervised by the Italian Air Force. As a result, an air traffic controller and officer of the Italian Air Force was impeached and found guilty by the Judges of first and second instance. Their sentences were later confirmed by the Italian Supreme Court.
Importantly, in its ruling n. 5564 (April 12, 1985), the Supreme Court set out a series of fundamental principles of air traffic control.
The first of these principles that I would like to mention here concerns the air controller's "position of guarantee".
At this point, I need to open a parenthesis to briefly explain what "position of guarantee" means in Italian penal law.
Article 40, paragraph 2, of the Italian Criminal Code states that "Not preventing an event that you have the legal obligation to prevent, is equivalent to cause it".
What determines the "obligation to prevent the event" is called "position of guarantee", and this is of two types: the position of control (involving the control of potentially harmful sources of danger, such as a dangerous machinery), and the position of protection (involving the protection of people or goods against injuries and damage, as in the case of a physician who is entrusted with the care of a patient).
Sometimes, the problem resides in identifying the source and the content of the legal obligation pertaining to certain persons, including the air traffic controllers.
With its first principle, the Supreme Court ruled that although Annex 11 of the ICAO does not list "preventing collisions with obstacles on the ground" among the duties of the air traffic controller", this does not exclude that an air controller be held responsible for an accident, together with the pilot, if his or her failure to comply with the regulations have contributed to the disaster.
Its second principle concerns the duty of air traffic controllers to intervene, regardless of the rules of the ICAO. The Court established that an air traffic controller "is never relieved from his duty to provide all possible assistance to an aircraft in danger or distress".
Another of its principle regards the air traffic controllers' duty to inform pilots of any appreciable deviation from the given trajectory of their flight.
Finally, the last principle I would like to mention here, has to do with the relationship between pilots and air traffic controllers. The Supreme Court ruled that their interaction is

characterized by an ancillary and conditioned cooperation, whereby the latter becomes subordinate to the former. As a consequence, air traffic controllers could be accused of "negligent complicity" in a disaster, if it were shown that they failed to correct the mistake(s) of a pilot, when they had the possibility to do so.

4. The problem of the night visual approach.

But both the disasters of mount Capoterra and Mount Sette Fratelli occurred while the aircrafts were authorized to a night visual approach.

At this point, I would like to share another personal judicial experience with you, which illustrates the issue of night visual approach, and which can be of interest from the point of view of Just culture.

On December 23, 1978, a DC9 of Alitalia flying from Rome to Palermo, attempted a night visual approach and crashed into the sea short of the runway.

The legal proceedings relating to this disaster did not go to the Supreme Court, but I know the sequence of events very well, for I was in charge of the investigation.

The investigation was initiated by the Public Prosecutor of Palermo, who suggested that the pilots' gross negligence, the inadequacy of the warning lights on the runway, the absence of proper radar and other electronic instrumentations, the insufficient technical assistance from the control tower, as well as the serious delay in the rescue operation had all contributed to the disaster.

This accident is really well documented, for we have the plane's flight recorders and the testimony of survivors and fishermen who rescued the survivors.

About a year after the disaster, an extensive and well-documented technical expertise was submitted. It exonerated the airport operators from all responsibility. Negligence was not retained a contributing cause of the accident, although air traffic controllers, had given the plane clearance to land with the visual approach, there being no adverse circumstances impeding them to do so.

However, this decision (rendered after that of Montagnalonga) gave people the feeling that a widespread negligence, common to all aeronautical operators, had contributed to both those accidents, and had to be punished.

I remember that (after the Montagnalonga disaster) people's negative opinion led to the Italian Parliament carrying out safety inspections at all airports throughout the country, assigning this task to the Armed Forces.

I did and still do disagree with the public opinion on this matter, as I believe that only reprehensible actions - not criminal ones - can be found in the events that led to the crash of the DC9 aircraft.

To illustrate this point, I would like to share an element of this case with you, of which I have first-hand knowledge. One day, the director of the airport who had been blamed for the late response provided by the airport emergency services, told me that the accident had probably happened due to the "black hole" phenomenon. The latter, he explained, consists in the fact that if a runway is located in a dark area (in a desert or in a place surrounded by the sea), the absence of markings could cause the pilot to perceive an illusory horizon and then to approach the runway with a descent angle that is too steep, which can end with a landing short of the runway.

I then asked him why the night visual approach had been allowed if this optical phenomenon could affect pilots (the airport of Punta Raisi is surrounded on its three sides by the sea). The director answered that the existing rules permitted a night visual approach when requested by pilots who have the runway in sight.

A few days later, the director came back to see me and showed me the letter he had written to the Ministry of Transport, and in which he had mentioned my own observation. He then showed me the letter that the Ministry had sent to him in response. The latter stated

that it would have been opportune to follow the advice of the Judge and to prohibit that procedure in Punta Raisi airport.
Well, this sounded rather strange to me: a technical decision taken because a then young judge – without any particular flight experience - had made a comment using good common sense! Later, however, when the night visual approach was finally prohibited in Italy, I looked back at that episode as a sign of things to come; and I wondered if a "just culture" and a bit more reliance on logic from those who write rules could have saved lives.

5. The disaster of Mount Sette Fratelli.

I shall now illustrate the disaster of mount Sette Fratelli, Sardinia.
Yet again, this plane crash brought the air traffic control liability issue to the fore.
In the night of February 24, 2004, a Cessna 550, inbound to Cagliari, was approved for "visual approach", and crashed against a rocky spur called Baccu Malu (Bad Gorge), on the Sette Fratelli mountain. All six occupants died (three crew members and three members of a medical team transporting a donor heart for a transplantation).
The technical reports ordered by the Judicial Authorities ascertained, first of all, that the main cause of the disaster was the Cessna pilot's decision "to make a visual approach in a context in which there were no conditions for the maintenance of appropriate obstacle separation for peculiarity of the orography of the area and the absence of bright visual landmarks, that at night and in the observed conditions, prevented the perception of obstacles and the consequent possibility of separating the aircraft from them".
But if the pilot's error was deemed the primary cause of that air crash, the judicial authorities wondered why the air traffic controller had let the aircraft descend to a dangerously low altitude without intervening.
The general feeling was that this was a repeat of the Capoterra disaster, and that it had happened despite the clear message sent by the Italian Supreme Court when it placed air traffic controllers in the position of guarantee towards all passengers of the flights they direct.
Despite the conclusions reached by the judges-appointed experts who - in relation to the conduct of air traffic controllers - had written that "no disparities emerged with what is stated: a) in the Annex 11 and in the document ICAO 4444 (which concerns air control traffic procedures, as well as the information and alerting services), b) in the technical norm and c) in the rules in force in matters of air traffic control", the two air traffic controllers who were on duty were incriminated and later convicted.
The Judges of the Tribunal of Cagliari believed that the behavior of those two air traffic controllers had been negligent and a contributing cause of the disaster. These Judges did not think right to conform with the technical report's conclusions, noting that the experts limited themselves to considering the specific requirements of visual approach as published in AIP-Italian, part RAC 1-47, and which gave reason to the thesis of the air traffic controllers, (which is that air traffic controllers were required only to separate aircraft between them and not from natural obstacles), without considering two rules (41/8879 / AM.O and 41/8880 / AM.O) that were introduced in 1991 on the order of the Italian General Direction for Civil Aviation that applied strict limits to the night visual approach.
These directives represented additional requirements to the already existing body of provisions prescribed in ICAO, PANS and ATM that apply to pilots of all aircrafts carrying passengers or goods for the purpose of public transport. The first directive (number 41/8879) specifically prohibited the use of night visual approach, except for commercial air transport, a category to which the flight to Cagliari belonged. The second directive (number 41/8880) set six pre-conditions to authorizing night visual approach, should alternative approaches be unavailable.

The air traffic controllers, however, contested (and still do) that such legislation applied to them, affirming that the above-mentioned rules had never been sent to them, but only to the management teams of airports and airlines.
Although they appeared in the Italian AIP in 1996, the existence of these rules was unknown to many pilots and air traffic controllers for years. In any case, while the Public Prosecutor's experts affirmed that their insertion in the AIP only made them binding on pilots, the court decided that as the air traffic controllers have the power to approve or refuse a visual approach, they too were "recipients" and then under the obligation to follow the AIP rules
It is not necessary to enter into the details of this dispute that the Appeal Court of Cagliari and, later, the Supreme Court resolved in a manner incongruent with the thesis of the air traffic controllers.
With regard to the decisive issue of the air traffic controllers' duty to provide separation between aircrafts and obstacles, the First Instance Court affirmed that, because of the difficult topography in the area of the accident, the two accused should have been more prudent and fully adhere to the rules stated in the Italian AIP. The Court also ruled that the air traffic controllers should have verified whether the pilots had the specific competence to land using the night visual approach, especially in the area of Mount Sette Fratelli. Furthermore, the Judges decided that the air traffic controllers were responsible for making sure that the pilots were adequately trained, equipped and informed, as they also had a "position of guarantee" towards the entire crew of an airplane. In other words, they should have been more proactive in preventing a possible impact with the terrain.
The First Instance Court noted an additional element of "negligence" from the part of the controllers who seemed to have given the pilots some misleading information regarding the minimum safe flying altitude for the aircraft, in that mountainous area.
The Appeal Court of Cagliari confirmed the decision of the Tribunal, and found additional elements of "negligence".
One of these elements was that the accused were aware of the dangerous position of the Cessna aircraft on the basis of the information they had received from Rome ACC, which had controlled the first part of the flight. In spite of this, they did not provide fundamental information relative to the topography of the area, thus failing in one of their fundamental duties dictated by the Italian DGAC directive 41/8880.
Another element of negligence was that the accused had violated the technical rules of air traffic control because of the manner in which the transfer of control prior to landing had infringed the Italian Service Order number 102, which states that the transfer of responsibility from APP to Tower, in the case of an aircraft approaching to land, has to take place when the aircraft is at a certain distance from the airport. In this particular case, the transfer of control took place when the Cessna was 26 nautical miles far from the runway of Cagliari Elmas; while the Appeal Court stated that the transfer of control should have taken place in its final approach, that is when the airplane was between 5 and 10 miles away.
In this regard, the Judges of the Appeal Court underlined that in the night of 23 February (the day before the fatal crash) that same Cessna aircraft had landed at Cagliari Elmas airport to pick up the medical team involved in the heart transplantation. On that occasion, the aircraft had been cleared for a night visual approach procedure when it was 10 nautical miles away from the airport, and approaching from the North (in this case flying over an area free from obstacles). In addition, before transferring control to the Elmas Tower, the APP controllers had informed the pilots about the position of the airplane when it was approximately 7 miles away from the runway. This contrasted sharply with the way events unfolded a few hours later, when no such information was provided.

The Italian Supreme Court, in its ruling n. 6828 dated December 10, 2010, upheld the Cagliari Court's decisions. Yet it went further, as it described the role of air traffic controllers in a much broader way, going beyond the rather narrow view given by the Italian Navigation Code, and assigning them the role of "navigation police", a role that reforms of that Code had resisted. In short, it means that in addition to their specific duties, air traffic controllers are expected to act as guarantors for the safety of all passengers and crew members. The Supreme Court also dealt with the matter of the supposed duty of air traffic controllers to issue clearances on matters of safety, but also, and at the requests of pilots, on the fluidity of air traffic, fuel savings, and so on. The Supreme Court concluded that ATC clearance should be issued only when it does not compromise safety.
In that ruling, the Supreme Court also reiterated the distinction it had made in its previous 1985 ruling concerning the disaster of Capoterra, between the service tasks and the institutional duties of an air traffic controller. It further extended the ATC position of guarantee to include the crew. It also made clear that air traffic controllers must follow ICAO standards, and complement them - meaning that they must operate while considering the criteria of "prudence, care and diligence" and following all the technical data pointed out to them.
In practice, the Judges of the Italian Supreme Court assigned a new role for the air traffic controller, whose new position of guarantee towards all occupants of an aircraft places him above pilots, as a great many flight procedures now require his authorization.
But if the figure of the air traffic controller grew in importance; so did his responsibilities.

This later Supreme Court decision dealt a death blow to the procedure of night visual approach in Italy. In effect, with this court's decision, an air traffic controller who, having "misjudged the danger posed by the behavior of a pilot" gives clearance without respecting the minimum distance requirements between the aircraft and the runway, could be prosecuted for negligence. Following this ruling, the ENAV and the Italian Air Force decided to suspend the use of this procedure at all Italian airports.

6. Conclusions.

In this paper, I have tried to explain the history of "misunderstanding/mistrust" between the Italian Judiciary and the air traffic controllers.
But let me say that the reasons for such a 'conflict' are, in fact, limited to a procedure: the night visual approach. These reasons do not justify what I have read in some articles written from the perspective of air traffic controller, and which can be summarized as follow: "In Italy, the aviation industry has lost confidence in the legal system".
With regard to the disaster of Capoterra, we should not forget that after their conviction, the air traffic controllers were given a pardon by the President of the Republic, for the novelty and peculiarity of the case. The conviction that followed the disaster of Mount Sette Fratelli echoed the clear message sent by the Italian Supreme Court during the Capoterra trial, which put air traffic controllers in a position of guarantee towards all passengers of the flights they direct. That conviction also followed two rules that were introduced in 1991 by the Italian General Direction for Civil Aviation, which strictly limited the possibilities to grant visual approach at night.

But we should not overlook the real reasons for requesting a visual approach: saving time and money (particularly that of airline companies) by reducing flight times and fuel consumption. Obviously, we should ask ourselves if these motives should be favored over flight safety.
At any rate, when a visual approach is considered safe, I can understand that clearance to land could be given. However, at airports that present a challenging topography (e.g.,

Albenga, Bolzano, Cagliari Elmas, Florence, Palermo Punta Raisi, Reggio Calabria), I believe that it is correct to prohibit that procedure. If such a procedure were not prohibited, I believe that the obligation to inform pilots of the risk taken by making a night visual approach should be enforced. Consequently, I consider the jurisprudence of the Supreme Court that we have examined to be correct.

I also think that this jurisprudence should be applied with wisdom, that is by taking into account the particular circumstances that characterize each and every accident. This being said, I would like to repeat here that if I were an air traffic controller, I would not give clearance for a night visual approach at any of the above-mentioned airports, unless it were absolutely necessary to avoid storm cells.

I have to underline that even in the pragmatic United States of America, paradise of aviation, a similar problem has shown its head. While American jurisprudence first strengthened the principle of "no duty", according to which air traffic controllers were not obliged to act proactively outside the provisions of the FAA operating manual (even if their intervention could prevent a plane crash), in more recent times that jurisprudence has affirmed the principles of "legitimate trust" from the pilot vis-à-vis the air traffic controllers and the principle of "best judgment" of the latter, based on the theory that "nothing in the regulations prescribes what the air traffic controller cannot do."

And the European Commission, too, seems to have adhered to the view adopted by the Italian judicial authorities. In effect, Annex Vb Reg. 1108/2009, Article 2, letter c), paragraph 4, states that "a\ir traffic control services and related processes shall provide for adequate separation between aircraft and, where appropriate, assist in protection from obstacles and other airborne hazards and shall ensure prompt and timely coordination with all relevant users and adjacent volumes of airspace".

I would like to conclude my paper with this wish.

I said that airplanes are the safest means of transport; and this is so because pilots, but also all those who are part of the world of aviation, are true enthusiasts, who are doing their job with a pleasure and a passion rarely seen in other professions. Our pilots and air traffic controllers, be they military or civilian, to whom we entrust our lives, are all highly skilled and capable people; and we owe the small number of aviation accidents to their professionalism.

So, I hope that this love of flying and all things related to it, together with the help of modern avionics, advanced airport technologies, and an ever increasing awareness of "just culture", will make flying ever safer, so that the 4th penal section of the Italian Supreme Court will no longer have to work on aviation disasters.

With this wish, I have concluded my (perhaps too long) presentation. Thank you all for your patience and attention.

Amsterdam, November 20, 2014

Pietro Antonio Sirena