

**INQUIRY HELD UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS (SCOTLAND) ACT 1976 FOR v.
AMANDA DUNCAN**

SHERIFFDOM OF TAYSIDE CENTRAL AND FIFE AT DUNDEE

DETERMINATION BY SHERIFF R.A. DAVIDSON IN RESPECT OF THE DEATH OF AMANDA DUNCAN

(dob 7.2.76)

INQUIRY HELD UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY (SCOTLAND) ACT 1976

FORMAL DETERMINATION

In terms of Section 6 of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act, 1976, I am required to make a formal determination setting out the following circumstances of the death so far as these have been established to my satisfaction, namely:-

- (a) where and when the death and any accident resulting in the death took place;
- (b) the cause or causes of such death and any accident resulting in the death;
- (c) the reasonable precautions, if any, whereby the death and any accident resulting in the death might have been avoided;
- (d) the defects, if any, in any system of working which contributed to the death or accident resulting in the death; and
- (e) any other facts which are relevant to the circumstances of the death.

In fulfilment of my foregoing statutory duty, I hereby determine:-

That Amanda Duncan, born 7th. February 1976, died between 23.34 and midnight on 26th. November, 1997 in the living room of her flat at 2 up right at 13 Cardean Street, Dundee.

That her death was caused by a combination of the consequences of smoke inhalation and carbon monoxide poisoning from the products of combustion of a fire which had been deliberately started in the flat at ground left, 13 Cardean Street, Dundee by Colin Alexander Crabb, presently a prisoner at H.M. Prison, Perth.

That defects in the system of working of Tayside Fire Brigade personnel who attended to fight the outbreak of fire which may have contributed to her death are:-

- (i) that imprecise and unclear instructions "to check the welfare of occupants and ventilate" were given to the first breathing apparatus team to ascend the stairwell of 13 Cardean Street, causing them to believe that occupants of the flats in the tenement had already been accounted for;

(ii) that firefighters generally and breathing apparatus teams in particular were not

adequately equipped with suitable radio equipment whereby they could communicate with the Officer in Charge of firefighting activities, with the Entry Control Officer, with other breathing apparatus teams nor with each other, nor were firefighters adequately trained in the use of such radio equipment as was available;

(iii) that the Officer in Charge did not formulate a plan at the outset by which he knew how many flats there were in the tenement and that he had accounted one way or another for the occupants of each flat;

(iv) that fire service personnel generally had a very poor understanding of the timescale within which a person in a smoke filled atmosphere would be likely to die as a consequence of the combined effects of smoke inhalation causing sooty deposits

which would block airways and carbon monoxide poisoning; and

That other facts relevant to the circumstances of the death are:-

(i) that the fire, from the inhalation of smoke from which Miss Duncan died, was

deliberately set in the ground floor left flat at 13 Cardean Street, Dundee on

26th. November, 1997 by Colin Crabb who has since been convicted of her

culpable homicide;

(ii) that said Crabb suffered from a borderline personality disorder, a recognised form of behavioural disorder, for which there is no medical treatment and which did not constitute a mental illness giving rise to the possibility of detention under Part V of the Mental Health (Scotland) Act, 1984.

(iii) that following the outbreak of the fire, Miss Duncan's flat at two up right filled

with smoke; she went to the window of her living room at the rear of the property

and shouted for help; her cries for help were heard by a number of people, two of

whom reported them to firefighters; three firefighters, Anderson, Robertson and

Webster also heard her cries for help; Webster told Anderson about receiving a report about her cries for help from a member of the public; neither Anderson nor Robertson did anything to assist her; Robertson spoke to her and told her to get

down low and that the firefighters were on their way to her assistance.

(iv) that had Anderson or Robertson reacted as they should have to Miss Duncan's

urgent calls for assistance, by activating a plan for her rescue from her flat by

way of entry by a team equipped with breathing apparatus by ladder via either

the front window of the flat at one up right and then the stairwell or via one of the

stairwell windows to the rear of the property, then her life would almost certainly

have been preserved; and

(v) that had Firefighters Robertson, MacArthur, Horsburgh and Baird been properly

instructed by Station Officer Allan and, in any event, had applied common sense and basic training, they would have conducted a formal search of Miss Duncan's flat when they were able to get access to the upper part of the tenement after the fire had been brought under control and, in the course of that search, they would have found Miss Duncan at a time when it is possible that her life might have been able to be saved.`

sgd. Richard A. Davidson

Sheriff of Tayside, Central and Fife at Dundee.

NOTE

Preliminary Comments:

From the limited information which emerged at the Inquiry it appeared that Amanda Duncan was a vivacious, friendly and thoroughly decent young woman. My condolences are extended to her parents and other family members. I regret that their grief and heartache at her loss are likely to be added to with dismay at the contents of this Determination and Note.

Having said that, sight must not be lost of the fact that the fire in which Miss Duncan perished was deliberately started and that the fire raiser, Colin Crabb, has been convicted and sentenced in respect thereof. I am aware that he has appealed against conviction and sentence but I do not consider that it was any part of my function in the context of this Inquiry to examine any aspect of the criminal proceedings or their propriety nor, I am glad to say, did any of the representatives of any of the parties to the Inquiry and that, for the purposes of the Inquiry, it was a matter of agreement that the fire had been started deliberately by Colin Crabb, though that, in turn, was without prejudice to his right of appeal to the High Court.

Conduct of the Inquiry

Those participating at the Inquiry were the Procurator Fiscal, for the public interest; Mrs. Lorna Kennedy, Solicitor, Edinburgh for Dundee Healthcare NHS Trust; Mr. James Reid, Solicitor, Glasgow, for Tayside Fire Board and the Firemaster and Mr. Dale Hughes, Advocate, for Colin Crabb. I was greatly assisted by all of them in the conduct of the Inquiry and was particularly appreciative of the restraint and sensitivity shown by Mr. Hughes given the difficult nature of his task. If I may say so, however, I consider it a matter of regret that the parents of Miss Duncan were not represented before the Inquiry as I had understood at an earlier calling that they were to be and wished to be. That should not be interpreted as implying any criticism of the Procurator Fiscal but there is patently a difference at any Fatal Accident Inquiry between the position of the Procurator Fiscal and that of the family of the deceased.

The two areas which it was considered merited exploration before this Inquiry were those relating to the psychiatric history of Colin Crabb and whether his illness, esto he suffered from any illness, at about the material time, had been properly diagnosed and treated and about the adequacy of the performance of Tayside Fire Brigade. I should record that in respect of each of those areas of consideration I was greatly assisted by the expert testimony of Dr. Derek Chiswick, Consultant Forensic Psychiatrist, from the Royal Edinburgh Hospital, and Mr. Andrew Whitton, Her Majesty's Inspector of Fire Services, Scotland. Given Mr. Whitton attended at the request of the Procurator

Fiscal in that capacity, he will have to forgive me if I feel obliged to make some criticism of his evidence, but that does not detract from my appreciation of his contribution generally.

I heard evidence over some nine days from 24 witnesses. There are sharp conflicts of fact in that evidence with which I shall have to deal. Hindsight is a dubious blessing but it has become clear to me that there was at least one aspect of the performance of the Fire Services about which the evidence was incidental and insufficient, namely the operation and involvement in these particular circumstances of Fire Control, an aspect which, from the limited information available to me, I consider to be of huge potential importance. I also consider it unfortunate, again with the benefit of hindsight and on reflection, that no one chose to lead evidence from Assistant Divisional Officer Carrie, who for a significant period was at least nominally in charge of the firefighting operations at Cardean Street on the night in question, nor from Firefighter Welsh, who was the designated Entry Control Officer ("ECO"), a position about which I shall have much to say in due course, nor from Firefighters Horsburgh and Baird, two of the four firefighters who entered Miss Duncan's flat and left it without discovering her presence, from Firefighter Lorimer who was the driver of appliance A11-1, the first fire appliance to attend the fire, nor from Firefighters Traynor or Henderson, the crew of an Aerial Ladder Platform which attended at the scene, especially in the light of Sub-Officer Anderson's comments about the role played at one part by Mr. Henderson, nor from Leading Firefighter McRae, who was in charge of the appliance A2-2, which was the last appliance to attend.

I did however have the benefit of observing a member of the Fire Service wearing a breathing apparatus (hereinafter referred to as "BA") set and "going into air" and I am grateful to Mr. Hutcheon for his contribution in that respect, which was illuminating. I am also glad that I came to the conclusion that a view of the locus would be helpful and I am grateful to the Procurator Fiscal, to Tayside Police, to Messrs. Blackadder Reid Johnston, Solicitors, Dundee and to Mr. Norman Brown for their assistance in connection with that visit. It came as something of a culture shock to this Glaswegian to find the rooms in Miss Duncan's flat were as small in terms of their cubic capacity as they were, with my being used to flats in tenements in the west of Scotland with ceilings sixteen feet high. The dimensions of the room in which Miss Duncan was found were about eleven feet wide by eight feet broad by about ten feet high. I was also struck by the awkwardness of the bottom panel of her glazed unit in the lounge which would have made it impossible for her to climb out on to her window ledge. I should also record that we observed at the locus that the door to Miss Duncan's flat had three mortise locks, that the distance from the lounge window of her flat to the wall of the former church in Park Avenue was 37 feet 2 inches; that the vertical distance from the flat window to the ground below of the back court was 25 feet 9 inches; that the width of the close outside the door to the flat at two up right was a mere 3 feet 4 inches, that the dividing wall between the back courts of numbers 11 and 13 Cardean Street was 8 feet 6.25 inches in height, that the distance from the back court door of 11 Cardean Street to the dividing wall was 21 feet 8 inches and that the close at 13 Cardean Street had a turn at the stairwell, i.e. a person entering from the front would walk straight up the close to the stairwell but would require to turn right to carry on through the close to the back court. There were 49 steps in the stairwell at No. 13. Finally, I took the opportunity when I was in Mr. Brown's house, three up left, using only a slightly raised voice, to call down to those in the back court who instantly indicated that they had heard me by turning and looking upwards towards the flat window. I am in no doubt that a person in the back court, even given noise from the firefighting operations and from televisions, radios, stereo equipment etc. would still have had no difficulty in hearing a person screaming or shouting for help from the second floor window of the flat formerly occupied by Miss Duncan.

Inaccurate Newspaper Report of the Proceedings

On the resumption of the Inquiry on 29th. January, Mr. Heywood drew my attention to a report of the Inquiry which had appeared in the Scotsman newspaper of 28th. January, which all the legal representatives at the Inquiry considered contained misleading and inaccurate information about the content of the evidence said to have been given to the Inquiry by Firefighters Mark MacArthur and Iain Robertson. The two particularly offensive statements in the report were, " He (MacArthur) agreed that he had made this statement (that they were only there to air the property and not to search for people) to the fatal accident inquiry to hide the fact that the team failed to find Miss Duncan," and " When questioned by Mr. Heywood, Mr. Robertson replied, 'Yes, that is what happened,'" i.e. the inference was that Robertson agreed with the answer attributed to MacArthur. Having listened carefully to the tape recording of the evidence of both MacArthur and Robertson, I can confirm what I was already certain of, namely that there was no basis in the evidence of either of these witnesses for either of these statements which appeared in the report. At no time in his evidence did MacArthur say that he had made a statement to cover up any failure to find Miss Duncan. On the contrary, he was quite straightforward in this respect of his evidence to the Inquiry, accepting that there had been a failure on his part as one of the BA teams in Miss Duncan's flat, to find her when she should have been found, and it was never suggested to him that he had said anything different on any other occasion. Further, there was no basis for the suggestion that Robertson confirmed the existence of any such cover up. For such a state of affairs to exist, there would have to be have been a conspiracy between MacArthur and Robertson to make such a misleading statement and there is no basis in the evidence for concluding that they had entered into any conspiracy to do so. It is a matter of considerable regret that such inaccurate and potentially damaging comments should have appeared in any newspaper report of the proceedings. Such comments can only have added to the distress and concern of members of Miss Duncan's family and are, it seems to me, unfair to both Mr. MacArthur and Mr. Robertson who also have already had a considerable amount of distress to deal with arising out of these circumstances without that being inappropriately and unnecessarily added to. I trust those responsible will have the good grace to make a brief but nonetheless public apology for their errors.

The Medical Evidence:

I shall deal first with the medical evidence as, at the end of the day, there was no conflict and no real issue about the conclusion I should reach thereanent. I can well see that it might well seem at a superficial level attractive to reach the conclusion that someone who did what Colin Crabb did was not "normal" and, from there, questions arise as to whether that ought to have been recognised and consideration should have been given as to whether he presented a danger to society. Such a conclusion would misunderstand both what was wrong with Colin Crabb and how psychiatric services are provided. It was on the evidence the considered opinion of the consultant psychiatrists who saw him after periods of observation that he was suffering from a "borderline personality disorder." While this forms a recognised category for psychiatric services, in reality it is not a mental illness at all but a behaviour disorder, for which there is no medical treatment, and for which the recognised approach is to try to assist the individual in the community to deal with the issues in his or her life which give rise to the crises. Colin Crabb had attempted, apparently without serious intent, to commit suicide on a number of occasions prior to 26th. November, 1997 but, again, it was the consistent finding that he was not trying to kill himself, for, on observation in hospital, he made no effort to do so and did not appear to be depressed in any significant way, but was crying for help and, in particular, to be admitted to hospital. He had, in fact, had three admissions to Royal Dundee Liff Hospital in the course of 1997, usually following his presentation in a crisis situation, but, following observation, his apparent symptoms of depression and other bizarre behaviour settled as his access to alcohol and cannabis was curtailed. I am entirely satisfied on the evidence that Colin

Crabb was not suffering from a mental illness. He was most certainly not suffering from any mental illness which would have warranted his statutory detention under the Mental Health (Scotland) Act, 1984 and the treatment he received in the course of 1997 was entirely appropriate having regard to his history and his condition on assessment. The care package designed for him would have assisted him had he chosen to take full advantage of it, but he did not do so and was under no compulsion to do so and could not have been placed under any such compulsion. The fact that this irresponsible young man set fire to his flat was not on account of any failure on the part of the psychiatric services. On the contrary he had received prompt, orthodox and entirely satisfactory treatment appropriate to his condition and history. I was impressed with the straightforward evidence given to that effect by Dr. Anne Smith, Consultant Psychiatrist, of Royal Dundee Liff Hospital, and have no hesitation in regarding her as entirely credible and reliable. I was, as I have already indicated, greatly assisted by Dr. Derek Chiswick who had perused the files of Dundee Healthcare NHS Trust pertaining to Colin Crabb up to the time of the index event and whose conclusions were that Mr. Crabb was suffering from a borderline personality disorder complicated by alcohol abuse, that there was no evidence that he was suffering from any mental illness, that he had had intermittent contact with psychiatric services in Dundee between 1995 and 1997 largely precipitated by crises in his life, that the standard of care he received was high and in accordance with normal practice, that the case notes, which were themselves described as being of a high standard, contained no information that suggested that fire-raising was likely behaviour and that the assessment by Dr. Fabian Haut on 24th. November, 1997, two days before the index event, had been of a high professional standard and in accordance not only with normal practice but with the history and presentation of Mr. Crabb.

I should mention briefly, for the sake of completeness, that I was directed to a report, Crown Production 29, in the course of this part of the evidence, which report, it appears, was commissioned by the Procurator Fiscal in connection with the criminal proceedings against Mr. Crabb, from Dr. Helen Kirk, Consultant Forensic Psychiatrist, at the Murray Royal Hospital, Perth. While Dr. Kirk did not give evidence to the Inquiry, the witnesses speaking about the medical evidence who were directed to her report generally agreed with its conclusions.

Dr. Chiswick was thrown something of a fast ball by the Procurator Fiscal in the course of his examination of him, namely, he was invited to express an opinion on whether it would be valuable, as a matter of course, for psychiatrists to have access to patients' criminal records. Dr. Chiswick's response, if I may respectfully say so, was appropriately equivocal and that question I consider to be way beyond the remit of this Inquiry.

Performance of the Fire Services:

I now turn to the performance of the Fire Services and I wish to deal with this under a number of headings.

Issues of Credibility and Reliability:

The Procurator Fiscal, in his concluding remarks, drew attention to the fact that the Inquiry had heard evidence from a number of civilian witnesses whose evidence had been either that they had heard a young woman screaming or calling for help, with some of them being able to identify with greater precision where the screaming or calls for help were coming from, or that they had informed firefighters about a person being trapped at the rear of the property. Some witnesses said both that they had heard screaming or other signs of distress and had communicated these to firefighters. However, among the firefighters who gave evidence, and I have already indicated that there were a significant number of firefighters who, unfortunately, were not called to give evidence, only Graham

Webster said that a member of the public had spoken to him about a person being trapped at the rear of the premises at No. 13 Cardean Street. Webster's evidence was that he passed this information on to Sub-Officer David Anderson. Anderson denies having received such a message. The Procurator Fiscal described this in what seemed to me to be unnecessarily emotive language as a "conspiracy of silence," which, as Mr. Reid rightly observed, is a curious way to treat Mr. Webster and the evidence he gave. What is of more concern is that it rather tends to brand as conspirators all the fire service personnel who attended at this fire and it is in my mind quite wrong so to categorise people who have not given evidence, particularly when it was in a number of cases the Procurator Fiscal who chose not to call them. I wish very clearly to dissociate myself from the notion of a "conspiracy of silence." Having said that, I understand the anger which was the driving emotion for such a comment for it is clear beyond any doubt that some firefighters must have heard Miss Duncan's cries for help and that at least one firefighter, over and above Mr. Webster, was given information about her condition. For members of the Fire Service to have lied on oath about that state of affairs reflects extremely badly upon them as individuals and, sadly, upon the Service. It further defies credulity that there would not have been some discussion among firefighters about the allegations that Miss Duncan's cries for help had been heard by a number of people, including firefighters, and had been reported to fire service personnel. However, apart from Mr. Webster, no member of the Fire Brigade who gave evidence admitted to having heard Miss Duncan, to having received any report about her or to being aware of any member of the service who admitted having heard such cries or having received such a report. I have accordingly looked and listened to this evidence with the utmost care before reaching any conclusions thereon and would propose to summarise the evidence from the critical witnesses shortly but it will help to understand that evidence if it is put in context by reference to Crown productions Nos. 1 and 2, two sets of photographs, which were spoken to in evidence, which was unchallenged, from Malcolm Chisholm, a Scenes of Crimes Officer with Tayside Police. With reference firstly to Production 1, the important photographs, which were taken at about 01.30 on 27th. November, 1997, are:-

- which depicts the front elevation of 13 Cardean Street focusing on the flat at ground floor left which is the flat where the fire was;
- which depicts the front room of said ground floor left flat wasted by fire;
- which depicts the main door of said ground floor left flat showing the mortise lock in the locked position but with the door ajar with the lock accordingly preventing the door from closing completely;
- which depicts the living room to the rear of the flat at two up right formerly

occupied by Miss Duncan showing the outline on the carpet in the right

foreground of the photograph of the location of her prostrate form where

she was eventually found by fire service personnel and also showing the location of the window of this room;

Z. which depicts the front bedroom of two up right, which overlooks Cardean Street, showing the location of the window in its open position;

AA. which depicts the front door of the common close of 13 Cardean Street and the common close and stairwell thereof;

BB. which depicts the stairwell from ground floor to the first half landing at 13

Cardean St.;

DD. which depicts the stairwell viewed from the first floor landing looking down to the half landing and depicting the first stairwell window;

HH. which depicts the stairwell and the main door to Miss Duncan's flat at two up right;

II. which depicts the stairwell from the second floor landing looking down towards the half landing, depicting the second stairwell window;

MM. which depicts the top floor landing and the main doors to the flats at three up right (the door to the left in the photograph) - Mr. O'Shaughnessy's flat and three up left, Mr. Brown's flat.

NN. which depicts the stairwell ceiling at top floor level; and

OO. which depicts the stairwell from the top landing to the half landing showing the third stairwell window.

Crown production 2 contains three photographs, taken later during daylight hours on 27th November, 1997, all of which are important and were referred to frequently in the course of the Inquiry, namely:-

EEE. which depicts the front elevation of 13 Cardean Street. It can be seen from this photograph that 13 Cardean Street forms part of a terrace of tenements. That to

its left is 4 Morgan Street; that to its right is 11 Cardean Street. Each flat in No. 13 Cardean Street has two windows to the front, best illustrated by Mr. O' Shaughnessy's red window frames at three up right, and the individual flats are identified from the front elevation as being either to the left or right, there being only two flats on each floor. I would accordingly list the flats and their occupants as follows:-

ground left - (flat on fire) - Crabb

ground right - Gibson

one up left - Thomson

one up right - Mooker

two up left - Donechy

two up right - Duncan

three up left - Brown

three up right - O'Shaughnessy.

It is also worth noting that the flat to the right of two up right at No.13 is the flat occupied by Ms. McLean at 2up at 11 Cardean Street.

FFF. This depicts the rear elevation of 13 Cardean Street. Again, Mr. O'Shaughnessy's red window frames can be seen at the top left hand side of the photograph. Miss

Duncan's windows are those on the floor immediately below along side which a satellite dish can be seen. This photograph further depicts the three stairwell windows and the rear door of the common close of No.13; and

GGG. which again depicts the rear elevation of No.13 with greater emphasis on the right hand side of the flats showing the rear window of the ground floor flat which was on fire.

The critical witnesses to the two major issues of credibility, that is, whether any member of the fire service heard Miss Duncan calling for help or screaming, and whether any member of the fire service was given information by any member of the public as to her plight are Stanley O'Shaughnessy, Norman Brown, Derek Thomson, Kathleen McLean, William Herald, David Hunter, Michael McGregor, Firefighter Mark MacArthur, Firefighter Graham Webster, Firefighter Iain Robertson, Station Officer George Allan and Sub-Officer David Anderson. Anderson was the last witness to give evidence and it emerged in the course of his evidence that there was a third serious conflict of evidence between what he had to say and the evidence of Station Officer Allan about smoke seen to be emanating from the windows of the flats at three up right and two up right at a time when neither flat's occupant had been accounted for. I am bound to comment that I am not happy that Anderson's version of events, which, it appears, might have been supported by evidence from Firefighter Henderson, was not put in terms to Allan, though Allan did deny that there was smoke to be seen in either of these flats. I shall, accordingly, as best I can, also deal with this conflict.

The critical evidence from each of the foregoing witnesses was as follows:-

1. Stanley O'Shaughnessy: He told us that he was first aware of something amiss when he heard Miss Duncan banging her window and shouting for help. He said he then heard a male voice reply from the back court, "Stay where you are and we'll come and get you." He claimed to be able to hear this though his window to the rear was shut. He then went through to his front room, looked out the window and "saw all the fire engines." He then went out on to his landing and began to descend the stairs whereupon he was met by a fireman. He said that was "practically right away" after he heard Miss Duncan screaming. The witness was a 65 year old visually impaired and partially disabled stroke victim, but I did not understand there to be anything wrong with his hearing. He was the occupant of the flat at three up right.

2. Norman Brown: He told us that he was in bed in the room to the front of the flat when he smelled smoke and then his smoke alarm went off. He opened his main door and found the stairwell full of smoke. He telephoned 999 and while speaking to Fire Control was told, "They're in Cardean Street at the moment." (See Prods. 24, 25 and 27). He opened both windows in his living room at the rear of the flat and could hear Miss Duncan screaming, "Help, Help !" He called down to her that the Fire Brigade was in the street now and that she should stay at her window or go and get a wet cloth and put it over her mouth. He heard nothing further from her. Two firemen came over the wall from the back of No.11. He called down to them, telling them about Miss Duncan and Mr. O'Shaughnessy, namely that he had heard her calling for help and that she was in a state of panic and that he was visually impaired and "a stroke victim." He did not say that he got any acknowledgement but "took it" that the fire service personnel were going to deal with them. Thereafter, there was always a fireman in the back court who kept in contact with him, making sure he was all right. About thirty minutes elapsed before firefighters came to his flat and ventilated the front room allowing Mr. Brown access to clothing whereafter he left and descended the stairs which, by that time, were virtually smoke free. Brown said he knew the people in the back court were firemen on account of

their uniforms and torches. The firefighters were there only two minutes after he had been on the telephone. Miss Duncan had screamed for help three or four times. She had never answered him back. He was not aware of her while he was calling down to the firefighters. Mr. Brown was a 49 year old mature student. He was the occupant of the flat at three up left.

3. Derek Thomson: He told us that he was in bed asleep and was awakened by the bang of a window breaking. He looked out his front window and could see flames "going past it." He telephoned 999 and was told the Fire Brigade was on the way. He went to the main door of his flat but found the door handle too hot to handle. He then made his way to the back room. He was aware of Mr. Brown at his rear window and shouted to him and he shouted back. Also there was a fireman in the back court who spoke to him and asked if he was all right. He was told to let this fireman know at once if there was a problem. He did not hear anyone else. He was eventually able to leave the flat via the main door and the stairwell. He was a 40 year old fork lift truck driver who was the occupant of one up left.

4. Kathleen McLean: This witness is the Leader of the Administration of Dundee City Council. As it happens, she resides at 11 Cardean Street, on the second floor, in a modernised flat which is the product of two flats knocked together. Her flat was accordingly contiguous with that occupied by Miss Duncan. She became aware of a fire at about 23.30 on 26th November and telephoned 999 to be told the Brigade was on the way. She then heard shouting for help from the rear of the property. She opened her kitchen window but her vision was obstructed by smoke. She could hear what she took to be the voice of a young woman, near to her, calling for help and saying that she had to get out. The witness heard a man's voice calling up from the back court asking where she was. The witness thought she heard the young lady say where she was, but clearly recalled her saying that her door was open and to come and get her. The witness then heard a different male voice shouting to "get down."

That voice, too, was coming from below. The witness could not see the back court for the smoke. She did not hear Mr. Brown speaking to the girl or anyone else. The girl sounded agitated and distressed. She thought the girl was probably at the next window along, which would have been Miss Duncan's window. She saw no torch. She assumed the voices in the back court were voices of firefighters because of the content of what they said. Her then partner, William Herald, left the flat with the express purpose of telling firefighters about this young woman. The witness then appropriately became involved in organising the removal of her own family from her flat for their safety. She did not speak to any firefighter about the girl calling for help.

5. William Herald: He told us that he had then been residing at second floor flat at 11 Cardean Street, which was contiguous with Miss Duncan's flat. He was aware of Miss McLean telephoning 999 and being told that the Fire Brigade was on the way. He saw them arrive. He and Miss McLean went to the kitchen at the rear of the flat and discovered light smoke coming apparently through the wall of the flat at the location of a wall cupboard. The kitchen window was opened and he could hear the voice of a young woman calling, " Help me, help me, please help me." There was heavy smoke coming up the building and he could not see where the voice was coming from but it seemed to be from the adjacent tenement and from the same level. The voice sounded frantic. Miss McLean tried to reassure the person. He left the flat to alert fire service personnel to her situation. On arrival at the close, he met David Hunter, an occupant of one of the ground floor flats at No.11. The two of them spoke to firefighters and both said that there was a person at the rear of No.13 calling out for help. The firefighters were at the front of the building. Both he and Hunter said the calls for help were from the second floor. He described the firefighters as being in the act of "putting things together." They then went through to the rear of the building i.e. this witness, David Hunter and two

firefighters, being the one he had told plus a second. There was a high dividing wall between the two back courts. The firefighters got two sets of ladders and laid them up against the side of the building. The same girl could still be heard shouting for help. It was smoky and dark. The firefighters shone up torches but could not see anything. One of the firefighters shouted, "Get down," or something similar. Another firefighter appeared through the close and they all appeared to make a conscious decision to return to the front of the building. The smoke was getting heavier and this witness and Hunter then decided to return to the front of the building leaving no one in the back court. There was a hose through the close of No.11. Neither of the firefighters who came to the back court with them at first was wearing breathing apparatus. The torch used was a large hand held torch. The first two firefighters who came with him and Hunter to the back court would have heard the girl. The ladders brought were two extension ladders each of about ten feet. Mr. Herald was a 53 year old local government officer.

6. David Hunter: He told us that he lived at 11 Cardean Street on the ground floor at the date of the fire. He became aware of the fire about 23.30 and of the arrival of the Fire Brigade shortly thereafter. He left his flat and let the firefighters into No.11 and into the back court at No.11. He told us that he was so concerned about what had taken place that he had made a written note of his recollections at about lunch time on 27th. November, 1997, by which time he knew of Miss Duncan's death. He referred to these notes while giving evidence. He had seen Crabb being detained by the police. A fireman grabbed him and asked if they could get through the back. He opened the door and put a brick against it to keep it open. He then ran to the back court thinking that there was a firefighter behind him, to find that he was on his own. He looked over to No.13 but could see very little because of the smoke. He could not see any lights. He then heard a girl's voice shouting, "Help, help. Get me out." The voice sounded "panicky." He shouted back, "Hang on. I'll get help." She responded, saying, "I can't hang on any longer. Get me out." He then shouted,

"Where are you ?" She replied, "I'm two up." He then ran through to the front of No.11 where there were four fire engines and a number of firemen getting organised, grabbed the nearest fireman and told him that "they were going to have to help. There is a girl trapped two up at the back of No.13 through the close here."

The fireman ran ahead of the witness and the witness then saw Mr. Herald in the back court. He stood beside Herald while the firefighter had a conversation with the girl which concluded with the firefighter shouting, "Get down. Get down low. We're on our way." There was no further response from the girl so he assumed she had done what she was instructed to do. A second fireman appeared and together they began to set up a hose line through No.11. They put two ladders up against the dividing wall. This witness and Mr. Herald then returned to join their own families at the front of the building and had to make way while a number of firefighters went through the close. The hose was never used. The two ladders remained against the wall. At about 01.00 a police officer came to the door and informed him that there had been a fatality caused by the fire. He assumed that must involve an occupant of the ground floor flat which had been on fire. It was much later the same day that he found out, again from the police, that the victim had been a young woman on second floor. He immediately told the police that he had spoken to this woman and had pointed her out to a firefighter. He could not identify the firefighter to whom he had spoken but he was not wearing a chequered tabard nor a white helmet. The fireman to whom he had reported the girl was wearing an air tank but no face mask. He thought the second firefighter was similarly equipped. He said that when he came out of his flat initially, there were only two fire appliances in Cardean Street. The firefighter who spoke to the girl did so within a minute of the witness first speaking to her. The

two firefighters appeared to be contemplating fighting the fire from the rear of No.13 but first via the rear of No.11, but that never did happen.

7. Michael McGregor: He told us that he was a 30 year old Trading Standards Officer who had formerly resided at 18 Park Avenue, that being a street which ran parallel o Cardean Street, so that the tenements in Park Avenue back on to the backs of the tenements in Cardean Street. The flat he occupied at that time was part of a converted church which had a window cleaner's gantry as a permanent feature, and it was possible for him to exit his flat on to this gantry whereupon he would be about forty feet from the rear of 13 Cardean Street. But for the smoke and the darkness, he would have had a grandstand view of the rear of both Nos.11 and 13 At about 23.35 on 26th November, 1997, while he was in his flat, he could hear a female voice shouting for help. His first thought was that someone was being attacked and so he went to telephone the police, but his girlfriend opened the window and immediately smelled smoke, so he telephoned the Fire Brigade. He then went out on to this gantry. It was dark and there was a lot of smoke. He saw a torch being shone on to the rear wall of the tenement at No.13. He could still hear the voice calling for help. He could also hear the sound of a fire engine arriving. Then he heard the sound of ladders, followed by a male voice shouting, "Get down, get down." After that, he heard nothing further at the rear. The female had been saying that she could not breathe. The sight of the torch and the sound of ladders was more or less contemporaneous. The sound of ladders was from the back court of No.11 or No.13. The voice calling "get down" came after the torch and the ladder noises.

8. Firefighter Mark MacArthur: He told us that he was 34 and had 9 years' service as a firefighter. He was a member of the two man BA team in the second appliance attending, A11-2, with Firefighter Iain Robertson, who, on this occasion, was designated team leader. For the avoidance of doubt, it was explained that being the team leader in a BA team did not give the leader any position of command, but merely meant that he was responsible, if the team had to adopt search mode in a smoke filled building, for maintaining contact with a wall, while number two in the team had to maintain contact with him. The officer in charge of that appliance was Sub-Officer David Anderson. The first thing this witness did, despite having been instructed to get into BA gear on route to the fire, was went and tackled the blaze via the front window of the flat on fire using a hose reel drawn from one of the appliances. He did that for some time and was then joined by Robertson who told him they were instructed to go "into air" and try to make an entry at the rear of the tenement, with a line of hose, apparently with a view to tackling any fire at the rear of the property. Going "into air" meant donning the face mask and turning on the supply of air from the tank and breathing with the use of that supply rather than using any extraneous air supply.

He went to the Entry Control Officer ("ECO") and handed in his tally. Firefighter Welsh from the appliance A11-1 was the ECO. He went, following Robertson, via the close of No.11. There was a high dividing wall between No.11 and No.13. He and Robertson got over the wall by means of two ladders. When he got into the back court of No.13, "it was very quiet; there was just smoke coming from the back of the close." It had taken some time to get over the wall because a second ladder had been required. He said that when he got to the back of No.11, there was a hose which had been run out and a short extension ladder against the dividing wall, but Robertson had to go back and get another short extension ladder to enable them to get down the other side. He assisted in getting the hose over the wall. He was aware of the presence of members of the public at the rear of No.11. Once he was "in air" communication with anyone else, firefighter or member of the public was "difficult." He did not speak to any member of the public and none of them approached him. In particular, no one said anything to him about a woman calling for help. He never saw Sub-Officer Anderson at the rear of either property at any time. Anderson would have been readily

distinguishable by the two red stripes on his yellow helmet. He was not aware of any occupant calling to him from the rear of the tenement building. By the time he and Robertson made it over the wall and into the back court of No.13, Station Officer Allan, the Officer in Charge ("OIC") of firefighting operations, appeared via the close door of No.13 and spoke to Robertson. Robertson told the witness their instructions were now to go to the top flats and to start ventilating the flats and see if any of the occupants required assistance. He had not called to anyone to "get down." He had not used a torch, nor had Robertson. He considered that by the time he and Robertson entered the rear of No.13 to start the process of ventilating, he had been at the incident between ten and fifteen minutes.

9. Firefighter Graham Webster: He told us that he was 41 and had 20 years' service and that he was based at Kingsway East Fire Station. He had been the driver of the appliance A11-2, the second appliance to the incident in Cardean Street. On arrival, his duty had been to ensure an adequate supply of water and other equipment to firefighters engaged in tackling the blaze. He said that he was not instructed to take a hose through the close at No.11; that was something which he did on his own initiative. He said that as he was entering the close, a member of the public said to him, "There's somebody at the window at the back of No.13." He said that he had passed that message on to Sub-Officer Anderson who was in the back green of No.11 at that time. Robertson was also present. He thought that there were also other members of the public in the back green. He claimed not to have looked over, but to have passed on the message and dropped the hose and returned to his duties at the front of the building. He did not think that there were any ladders against the wall at this time. He was not wearing breathing apparatus and had nothing wrong with his hearing. He claimed not to have heard any cries for help. Robertson at this time was wearing BA kit but was not "in air." He did not see Firefighter MacArthur at all until the firefighting activity was over. None of the people in the back court of No.11 spoke to him. He did not recollect anyone following him through the close. Anderson had nodded and said "OK" on receipt of the message. Anderson did not appear otherwise to react.

10. Firefighter Iain Robertson: He told us that he was 27 and had 6 years' service. He had been a crew member of appliance A11-2. He was the designated BA team leader. He recalled Sub-Officer Anderson saying en route to the fire that there had been a message from Fire Control that there were persons trapped in the building. He claimed that, on arrival, there were flames emanating from the front window of the ground floor flat and he was instructed by Anderson to take a length of hose and direct it in the window whence the flames were coming. He said he carried out this task with MacArthur, his BA team colleague, who directed the jet in the window. He then helped Rodger and Nicoll run out a hose into the close at No.13. He was then instructed, he claimed, by Sub-Officer Anderson to run a line of hose through the close at No. 11. He ran the hose from the second appliance which ran only as far as the end of the close. He went to get additional hose and connected this up with the existing hose to enable him to go "right round the back with it." Sub-Officer Anderson continued to run out this length of hose while he returned to get a short extension ladder to scale the dividing wall between Nos. 11 and 13. Anderson had been checking out what was required round the back. He pitched the ladder against the wall and climbed it "to see if we needed another ladder to get down." He looked up at the rear of the tenement and could see persons at their windows at one up and three up right. He claimed that he shouted up to them, "Just stay at your windows and you'll be OK." He descended the ladder and ran past Sub-Officer Anderson and Firefighter Webster. He went to get another ladder and Firefighter MacArthur so they could gain access via the rear of No.13. He found MacArthur fighting the fire with a jet in the front window of the flat which was on fire. He took him away from that and they went, via No.11 and the ladders, into the back court of No.13. Station Officer Allan then appeared through the close door of No.13,

having got through the close. He told them to go to the top floor to check on the occupants and ventilate the premises. The witness denied at any time being advised by any member of the public about the presence of a woman trapped or calling for help at the rear of No.13. He agreed with the suggestion from the Procurator Fiscal that the only firefighters who had been at the rear of No.13 had been Anderson, Webster, MacArthur and himself. He denied hearing any screaming or cries from the rear of the premises while he was there. He accepted that, initially at least, while he was in BA kit, he was not "in air" and so would expect to hear anyone shouting for help. He said he had never seen anyone at the window of the second floor right flat. He said when he saw no fire at the rear of No. 13, he decided against taking the hose. He denied ever having used the expression "get down" or anything like it. He denied having shouted advice to Miss Duncan or of knowing of any fire officer who had shouted advice to her. He did not know where Sub-Officer Anderson was when he and MacArthur went over the wall. He did not hear Mr. Brown reporting on the need to help Miss Duncan and Mr. O'Shaughnessy. It was not him who had maintained contact with Mr. Brown and Mr. Thomson as they waited at their rear windows.

11. Station Officer George Allan: He told us that he had as at 26th. November, 1997 been the station officer at Kingsway East Fire Station. He was aged 50 with almost 25 years experience. He was in A11-1, the first appliance to turn out to the fire in Cardean Street and, initially he was the senior officer at the incident and therefore he was the officer in charge ("OIC"). He was aware from the fire log that he and the second appliance with Sub-Officer David Anderson in charge had arrived at the incident at 23.38. He had been OIC until 23.51 when Assistant Divisional Officer Carrie arrived and took over. This witness could be identified at the fire scene by his white helmet which bore a red stripe. He gave the instruction to get a jet in the front window of the ground floor flat which was on fire and MacArthur took up this instruction. He had not specifically instructed him to undertake this task; he just gave the instruction "generally." Sub-Officer Anderson came to him and said that he had been at the rear of the property via No.11, that there was a high dividing wall but there was "nothing untoward," at the rear. At no time was he told of anyone at the rear of No.13 apparently requiring urgent assistance. He claimed to have instructed Anderson to take MacArthur and Robertson to try to make an entry to the rear of the property to check whether anyone in the property was in need of assistance. He did not instruct them to take a hose. By the time they got into the back court of No.13, he had made his way through the close to the back door of the close where he met up with them. They were the only firefighters at the rear of the property then. He claimed to be able to see from the street that, in flats where there were lights on, there was very little smoke. Two up right was in darkness so no deduction could be made about its condition but he assumed that it was in the same condition as the other flats.

12. David Anderson: He told us that he had 18 years' experience as a firefighter, six as an officer, almost all of which experience had been in Dundee. He was as at 26th. November, 1997 the sub-officer in charge of the second appliance at Kingsway East Fire Station, A11-2. He recalled overhearing en route to the fire a radio message from Fire Control to the effect that there were persons trapped in the building. Station Officer Allan instructed him to have his BA team don their equipment and that was done. On arrival at the fire scene, Allan asked for jets to be run to the front and rear of the building. This witness delegated that task to MacArthur and Robertson. Webster, the driver, was in charge of the pump. Time of arrival was 23.38. A hose was run out to fight the fire via the front window. He was aware of Firefighters Rodger and Nicoll preparing to enter the close of No. 13 to fight the fire "in air." He and Robertson then made their way to the rear of No.11. Robertson was running hose to the rear. This witness helped him unreel the hose. There was a man at the close entrance and the witness recalled asking him to hold the door open for them. He had not been approached by any other member of the public. He did not think the back court door was locked. He

did not recall any member of the public opening that door or pinning it open for their benefit. He entered the back court and looked up at the rear of No.13 as best he could. There was a dividing wall about nine feet high. All seemed quiet. He recognised that ladders would be required to scale this wall and instructed Robertson to get these. Apart from Robertson, he was not aware of the presence of any other person. He did not hear any screaming or shouting. He did not use a torch nor, so far as he could recall, did Robertson. He told Robertson to "get reinstated" with MacArthur, his BA team colleague. He returned to the front of the building at this time to find MacArthur. He was then approached by Firefighter Henderson, the driver of the Aerial Ladder Platform vehicle ("ALP") and asked whether it would be required. He then went to MacArthur who was still fighting the fire via the front window of the flat on fire from the street and told him to leave that task and come with Robertson. He instructed Leading Firefighter Traynor, from the ALP, to take over what MacArthur had been doing. He then spoke with Station Officer Allan to the effect that all seemed quiet at the rear but that he had not had a proper look. He intended to return to the rear but Henderson approached him and pointed to smoke coming from the windows at the front of the flats at three up right and two up right. He pointed out this smoke to Allan. Allan decided to commit BA teams to these flats at this stage and instructed the witness to organise a third BA team. This was prior to the arrival of A2-2 from MacAlpine Road. He organised Firefighters Lorimer and Henderson to don BA kits, but A2-2 then did arrive and instead he organised their BA crew, Firefighters Horsburgh and Baird, to undertake this task. He pointed out to Leading Firefighter McCrae, the officer in charge of this appliance, the two flats which were the cause of concern. He then delegated to McCrae the task of organising the ladder rescues from one up right and two up left and he returned to the rear of No.13 via the close. There were occupants to be seen at one up left and three up left. He called to them and enquired if they were "OK." He could see them clearly on account of the lights on in their respective flats. Neither seemed to be in any anxiety or discomfort and they were told that they would be removed as soon as possible. At one time, he could not see the man at the third floor window and called up to him until he returned. At this time, there was no other member of the fire service present at the rear of the property. Neither of these occupants said anything to him about a trapped girl nor an elderly disabled gentleman. He did not shout to anyone to get down or anything similar. There was no screaming nor cries for help from anyone in the building at this time. He had no difficulty hearing Mr. Brown, the occupant of three up left. The witness then returned to the front of the property but went back to the rear from time to time to check on the welfare of these two occupants. Henderson approached him again continuing to express concern about the smoke coming from two up right and three up right. This witness then discussed with Allan whether ladders should be put up to these two sets of windows but the BA crew was then seen to arrive at the top window. He had not been at the rear of No.11 when MacArthur and Robertson had been setting up ladders nor when they had gone over the wall. He denied being approached by Webster and being told about a person trapped at the rear of No.13. He denied being the "fireman" spoken to by either Herald or Hunter about a young woman in difficulty. He offered the explanation that any cries for help must have occurred before the arrival of the Fire Brigade. He was unable to explain or understand Station Officer Allan's evidence that there was no smoke to be seen at two up right. He had seen it and had pointed it out to Allan.

I regard all the civilian witnesses i.e. non fire service personnel as having been credible. There were inconsistencies among them and I had some reservations about the reliability of Mr. O'Shaughnessy especially on the critical issue of the time scale in which the series of events occurred. David Hunter was the most reliable of these witnesses. So troubled had he been about what had taken place that he made a note of the events at lunchtime on 27th. November, 1997, to which he referred. He was, in particular, concerned about what he observed about other aspects of the process of fighting the

fire and rescuing persons which I will deal with in due course but he was a critically important and careful witness whose determination to convey information about what he knew to have taken place which had disturbed him was both considerable and commendable. Evidence of quality and importance was also given by Norman Brown, Kathleen Mclean, William Herald and Michael McGregor. With regard to the evidence given by members of the fire service on these issues of credibility, sadly I have to say that I was unimpressed by any of them. Mark MacArthur did show some appreciation of the enormity of the error he had made while in Miss Duncan's flat and some contrition for his ineptitude and failure to abide by training and instructions. It was clear from the evidence that there were only four firefighters at any of the material times when Miss Duncan's cries for help were being made, who could have heard these cries, namely Sub-Officer David Anderson and Firefighters Webster, MacArthur and Robertson. I believe that MacArthur was only ever at the rear of No.11 Cardean Street after he was "in air" and I accept from the demonstration that took place in the court that it would be extremely difficult for a person "in air" especially where heavy breathing as the result of exertion was taking place, to hear people shouting or screaming unless such people were virtually adjacent to the BA wearer. Accordingly I am prepared to believe MacArthur when he says he did not hear Miss Duncan shouting or screaming for help and that he was not approached by any member of the public with information about her. In any event, the likelihood on the evidence appears to me to be that by the time he first came round the back of No.11, she had ceased to shout or scream. I believe Graham Webster when he says he was given information by a member of the public which he passed on to David Anderson for two main reasons, firstly because it ties in with William Herald's evidence about reporting her plight to a firefighter at the front of No.11 and secondly because of Robertson's evidence of seeing Webster and Anderson together as he was running past to get a ladder. I do not believe Webster, however, when he denies having heard Miss Duncan's calls for help. It seems to me to be contrary to human nature for someone in his position to have received the information he says he did and not look for himself. In any event, Herald's evidence was that two firefighters, including the one to whom he initially spoke, followed him to the back court where the girl could still be heard calling for help. At least one of these officers had brought ladders. According to David Hunter, in Herald's presence, a firefighter had a conversation with Miss Duncan which ended with the advice to "get down, get down low. We're on our way." Herald heard something to that effect being said; so did Michael McGregor from his vantage point. So did Kathleen McLean from her vantage point and Mr. O'Shaughnessy says 'he heard something about "stay where you are and we'll come and get you." It is inconceivable that that "advice" could have been given other than by a firefighter and I am in no doubt, especially in the light of Mr. Hunter's evidence that the officer with whom he had most contact was wearing breathing apparatus but did not have his face mask on, that the firefighter who gave this entirely inappropriate piece of advice was Iain Robertson. Further confirmation of that can be drawn from the evidence of William Herald when he described the firefighters bringing ladders, David Hunter talking about the two firefighters he had seen putting ladders up against the dividing wall and Michael McGregor, from his completely different vantage point talking about hearing the sound of ladders prior to the male voice shouting, "Get down," for Robertson himself accepted that he was the firefighter who brought the ladders to the rear of No.11, and that was further confirmed by Anderson and MacArthur. It follows that I do not believe Iain Robertson's denials of hearing Miss Duncan nor of receiving reports of her plight; nor do I believe David Anderson's denials that he was given information about her by Webster and that he did not hear her cries for help. I am, however, at a total loss to explain why Anderson, in particular, apparently chose to do nothing about her plight at a time when, as I understand the evidence, there was a reasonable prospect that prompt action could have saved her. Further, I cannot comprehend how, given Robertson's knowledge of her whereabouts, he did not make his way to that flat immediately he could get access to the

stairwell nor can I understand his failure to ensure that the room at the window of which he had seen her was searched, but I was singularly unimpressed with Robertson in all respects. So far as concerns smoke emanating from the front windows of two up right and three up right, I prefer the evidence of David Anderson to that of Station Officer George Allan because it is more consistent with the real evidence than Allan's evidence. It is clear that the main doors of both these flats were opened and so it is logical that more smoke would enter these flats than the others and there is ample evidence, from the photographs and from the post mortem report, as well as from witnesses, about the level of smoke in the stairwell and in each of these flats. That there was smoke emanating from these windows also provides a better explanation for the scrambling of a scratch BA team of Lorimer, the driver of A11-1 and Henderson, the driver of the ALP, than that they were to assist in ventilating the property and checking on the welfare of the occupants. Accordingly, I do not believe Allan's evidence that he saw no smoke coming from these flats and assumed that the flat at two up right, in particular, was in the same largely smoke free condition as he claimed the other flats into which he further claimed he could see were. Again, as will become evident when other aspects of this operation are considered, I was singularly unimpressed with Allan and would, frankly, be concerned to learn that he was continuing to occupy a position of any responsibility with Tayside Fire Brigade.

Other Areas of Concern:

General Remarks:

It follows from the conclusions I have just enunciated on the credibility of Allan, Anderson, Webster and Robertson, that I am left in doubt as to what reliance can be placed on any other aspect of their evidence. However, I would not wish to lose sight of a number of other respects in which, it seems to me, the firefighting and rescue operations were characterised by problems of poor quality information, insufficient manpower, incompetent leadership, poor communications, failures to follow basic training and instruction, a lack of understanding of the need to formulate an effective system for accounting for the occupants of the tenement and a desperately poor understanding of the relationship between the presence of thick smoke and the onset of death caused by the combined effects of its inhalation and the incidence of carbon monoxide poisoning.

The most important evidence given to the Inquiry came from Dr. David Sadler, Consultant Pathologist, from the Department of Forensic Medicine at the University of Dundee, who was an excellent expert witness. It is necessary to consider, along with his evidence, the joint report prepared by him and Dr. Emily Rogena of the post mortem examination of Miss Duncan, Crown Production 5. The post mortem examination was carried out on 27th. November, 1997. I do not wish to dwell on the report's contents, but it is important to observe that it records airways blocked with sooty deposits, a carboxyhaemoglobin level of 49% on toxicological examination, and the absence of either any natural disease or alcohol or any other drug which might have affected Miss Duncan's ability to reason. Dr. Sadler felt able to conclude, without difficulty, that the evidence from that examination demonstrated that Miss Duncan was alive at the outbreak of the fire and died as a direct consequence of the combined effects of smoke inhalation, which made it impossible for her to breathe, and carbon monoxide poisoning, which arises through the displacement of oxygen in the bloodstream by carbon monoxide.

Dr. Sadler was asked by the Procurator Fiscal how long it would have taken for Miss Duncan to be overcome by the combined effects of smoke inhalation and carbon monoxide poisoning. He explained that that depended on the rate of accumulation of carbon monoxide and smoke which would be dependent on a number of variable factors including how fiercely the fire was burning and

therefore how much smoke it was giving off, the distance the smoke had to travel and the level of ventilation between the source of the smoke and the victim, especially the level in the flat. It was accordingly impossible to be dogmatic about a specific figure, but it was known that carbon monoxide from a vehicle exhaust directed straight into an otherwise airtight vehicle could cause death in about three minutes whereas if a vehicle was left with its engine running in a garage, with the exhaust fumes simply accumulating in the garage

space and then the vehicle, death would occur in about fifteen to twenty minutes. It was likely therefore in the present case that Miss Duncan's death would have occurred some ten to fifteen minutes from the time her flat became smoke filled. Given that the dimensions of the room in which she was found were about 11 feet by 8 feet by 10 feet, it would not take much smoke to constitute a lethal quantity. The fact that the stairwell windows were closed would again reduce the time for such a lethal quantity to accumulate. Had the main door to her flat in the stairwell remained closed, the level of smoke accumulation would have been less or, putting it another way, would have taken longer to get to the lethal stage. Another variable would be the victim's level of activity. The more she exerted herself, the more she would exhaust her limited oxygen supply.

He went on to explain that the inhalation of smoke containing particulate matter and carbon monoxide and possibly other toxic chemicals combined together to cause death. The particulates, sometimes themselves sufficiently hot to cause irreparable damage, would form deposits in the airways and make the process of oxygenation difficult, ultimately impossible. Carbon monoxide is absorbed into the bloodstream destroying its ability to carry oxygen, which is how it kills. Carbon monoxide poisoning is a gradual process. Smokers and city dwellers may have a 10% level of carbon monoxide poisoning in the bloodstream continuously. 30% -40% levels in the bloodstream would be likely to cause disorientation. Apparent disorientation was a common feature of fire related deaths.

Most deaths in fire related circumstances are caused by the combined effects of carbon monoxide poisoning and blockage of the airways caused by sooty deposits, rather than burning injuries. It was common experience for pathologists to observe burn injuries which had occurred post mortem, the victim having been overcome especially on account of the insidious nature of carbon monoxide.

I have set out the important evidence from Dr. Sadler in the foregoing detail because it seems to me to put in context the considerations every firefighter should have firmly at the forefront of his or her mind when dealing with a fire where non firefighters are or might be present on premises affected by smoke. Of course, these considerations should not only be at the forefront of the minds of firefighters, but also those who are responsible for their supervision and training, for the funding of services and for determining what appliances should be turned out to any particular incident.

I appreciate that no evidence was led before the Inquiry about resources generally available to the Firemaster and to Tayside Fire Brigade. I appreciate that some of the matters I intend to discuss have resource, especially cost, implications. It is not for me to determine how scarce resources should be distributed. My function is to look at matters from the standpoint of the safety of the general public and it will be for others to decide what additional resources can and should be spent. I am also acutely aware that the criticisms I am making both of individuals and of aspects of the system are being made in the context of an Inquiry into a single incident where not all the relevant evidence was led, with the dubious benefit of hindsight and from the calm setting of judicial chambers rather than faced with a fierce blaze and conflicting and urgent priorities. Sight must never be lost of the fact that this fire was deliberately set, though from the point of fighting it, the cause of the outbreak is of limited relevance. I find it accordingly difficult to be harsh in assessing what people did that was wrong in such hostile conditions. What remains, however, is an abiding impression of a supposedly

professional service which went about its business on this occasion in an amateurish fashion. The fact that a number of the fire service personnel lied about aspects of their performance provides further indication to me that, in retrospect, they recognised that they had not carried out their jobs in a proper professional manner.

I draw some comfort that it was not only me but also Mr. Whitton, the Crown's expert witness from HM Fire Inspectorate who found aspects of the performance of the firefighters who attended at this occurrence to be unsatisfactory, though it gives me some concern that he appeared to be somewhat less critical than I am inclined to be. For the avoidance of doubt, he listed his areas of concern as follows:-

- (i) there was a lack of clear and precise instructions given to the BA teams;
- (ii) there had been minimal communication between OIC and ECO as to the whereabouts and tasks performed and to be performed by BA teams;
- (iii) there had been no communication between OIC and BA team 2 (MacArthur and Robertson) on the completion of their tasks, the team leader (Robertson) having a duty to report;
- (iv) there had been a failure properly to account for all the occupants of the building;
- (v) BA teams 2 and 3 did not complete the tasks detailed to them; they failed to carry out correct search procedures; on meeting the conditions which they did at Miss Duncan's flat, they should have adopted a formal search mode on their own initiative;
- (vi) there had been a failure by the BA teams to report to ECO; ECO, in turn, failed to obtain a report from them; ECO should be a conduit of information to OIC;
- (vii) there had been a failure to follow BA teamwork procedure by the members of both teams 2 and 3 becoming separated from each other in a smoke filled flat;
- (viii) ECO did not properly record the tasks allocated to BA teams.

So far as the last item on his list is concerned, I should simply record that, apart from his evidence, there was no other evidence about this aspect, which is a pity given the allegedly central role of ECO.

Some of the other areas which concern me were not adequately covered in the evidence and I have accordingly felt unable to reach any formal conclusions in accordance with the statutory provisions. Nonetheless I mention them in the hope that those generally responsible for the provision of Fire Brigade services will give my concerns careful consideration and act as best they can to alleviate them.

I have attempted to set out the areas of concern in the chronological order in which they arise from the outbreak of the fire to the conclusion of the operations.

Fire Control Operations:

It is unfortunate that no personnel from Fire Control, Dundee, gave evidence to the Inquiry. Reference was made in the course of the Inquiry to Crown productions 24, 25 and 27 which are of particular importance in this respect. Crown production 24 records 13 calls about the fire in Cardean Street to Fire Control and the initials suggest that these calls were received by four different

operators. The calls are logged as having been received between 23.34 and 23.39. Production 25 which is an incomplete record, details the time of each call and the telephone number from which the calls were made. According to the evidence I did hear on this topic, the typing in of the address, 13 Cardean Street, would automatically generate a turn out of two water tender ladders ("WTL"), the standard type of fire appliance and an ALP, by virtue of the Fire Brigade's computerised system. The ALP, I was told, would turn out to any fire where the height of the building exceeded 11 metres. Production 27 is the most important, this being a transcript of the tape recording of 999 calls pertaining to the incident. Again it appears to be incomplete, recording twelve and not thirteen calls, but it is substantially complete and, while its contents were not spoken to in evidence, they were spoken about without any issue being taken as to the accuracy of the transcript. To me, the content of the transcript is important both for what it does contain and for what it does not. Five of the callers were residents in 13 Cardean Street. I do not know, for the matter was not explored in evidence before me, whether Miss Duncan was one of the callers. One of the callers (01382 665560) said, in relation to the fire, "It's my house," but the caller's name was not noted nor the position of the flat in the tenement, previous callers having talked about a close. Another caller (01382 458999) said, "I'm trapped up the top of the close. Well, I canna get out the smoke's that thick. I canna breathe or open the door." The caller is told to stay at the window "and we'll tell them that there's people there," but he or she is not asked for their identity nor which flat in the tenement they occupy nor whether they are alone or there are other occupants. Another caller (01382 860837) is recorded as saying, "There's a fire underneath iz," and giving the address of 13 Cardean Street but again, the caller is not asked where he or she is in the building nor whether there are others present in the flat. A further caller (01382 454913) says, "We're on the second floor. We can't get out because there's smoke belching out....," but, again, no name is recorded nor are the numbers in the flat ascertained and a final caller, whose number is not noted, says, "I'm upstairs from it," but precisely where is not noted.

I was further told that Fire Control has discretion to authorise the turn out of appliances in addition to the designated standard turn out. I was further told that a message was received by Station Officer Allan in A11-1 en route to the scene to the effect that reports were being received of persons trapped in the building on fire.

A number of things arise from this body of evidence. Firstly and most obviously, information was volunteered which was not transmitted to the attending appliances. All the firefighters who gave evidence and Mr. Whitton were agreed that if they had had information as they were en route as to the location in the tenement building of the persons said to be trapped and the numbers involved that that information would have greatly assisted them in determining priorities. Secondly, it is possible that the fire control telephone operators could have devised for them a short simple form on which to make enquiries such as the caller's name, if in a flat in a building on fire the location of the flat, its condition with regard to smoke logging and the numbers of occupants, especially if any are elderly, disabled or children. Again having such information would have greatly assisted and would in the future undoubtedly assist firefighters at the scene of any fire. What I do not know is whether the telephone operators at Fire Control would know at the outset that they were dealing with a fire in a tenement, though that too is something about which they could enquire, and how much time they have to extract such information if it is to be useful. I understand from Mr. Whitton that statistics suggest that in the cities fire appliances arrive at fire scenes on average around five minutes from turnout so plainly there is limited time to pass information, though information received after the appliances arrive would remain useful, but I would have liked to have had a clearer idea of the feasibility of this before I could contemplate making any formal recommendation.

I was told that typing in the address automatically generates a turn out in accordance with that designated by the Home Office, though there was evidence, from Mr. Allan, that for a Category "C" fire, which I understood to be a dwelling house fire (for a house not in a building where there was multiple occupancy) that Tayside Fire Brigade turned out more appliances than the Home Office designated turn out - but I will come to deal with my concerns about the insufficiency of the manpower in due course -, so that suggests that the Fire Brigade have a database which contains all buildings by some form of categorisation. I assume, though the matter was not explored in evidence, that the Scottish Office has adopted the Home Office standards. It would appear, further, that there is a database capable of providing information that a building exceeds 11 metres in height, thus automatically turning out the ALP. If that level of sophistication in the computerised systems is already available, it occurs to me to wonder how difficult it would be for the system to include a database containing information that the property concerned is a tenement or multi-storey flat or the like and how many individual apartments there are in that particular property, which, again, would be information of great assistance to the firefighters assigned to deal with the blaze. In the absence of any evidence on the matter, I cannot take this issue any further.

Finally, I was told in evidence that Fire Control officers had discretion to turn out additional appliances. I do not know, in the absence of evidence, how that discretion would be exercised nor what existing criteria there may be for so doing, nor what experience and knowledge of firefighting Fire Control officers actually have. It should have been apparent, however, from the number of calls being received, that this was not a hoax. It should have been apparent to anyone familiar with the standard turn out to a Category "B" fire, of two WTLs, that, given there were reports of persons trapped on the premises, there would be insufficient manpower on those two WTLs to deal with what appeared likely to be confronting the firefighters. It is a statement of the obvious that the earlier a sufficient number of firefighters get to a fire scene the better. It is evident from the fire log, contained in Crown production 4, the fire report, that Station Officer Allan issued the message "Make pumps three" i.e. send a further appliance, at 23.39, one minute after he arrived at the scene and five minutes after the first telephone call to Fire Control. Alpha 2-2 was then turned out and arrived at 23.44, five minutes after being scrambled and ten minutes after the first call. On the evidence available to me, I cannot reach any definite conclusion but the impression is that an experienced firefighter hearing these calls might have recognised more or less immediately that an additional appliance should be turned out which might have saved vital minutes.

Adequacy of Turn Out:

The evidence was that the designated Home Office turn out for a Category B fire, which I was led to believe meant a fire in a tenement building, was two WTLs. Further, in Tayside, an ALP would be turned out to a fire in any building more than 11 metres in height. In this case, the ALP was of no assistance, the evidence being that it would only be likely to be of assistance to fight a fire in the roof space of the tenement. The ALP had a crew of two, Leading Firefighter Traynor and Firefighter Henderson. It arrived at Cardean Street, according to the log, at 23.39. No criticism was made in any of the evidence I heard of the behaviour or performance of either Mr. Traynor or Mr. Henderson. On the contrary, both appear to have made a valuable contribution to the work of the Fire Brigade that night. Station Officer Allan in his evidence indicated that he was reluctant to use them "in case the ALP was needed elsewhere" which seems to me to be a most extraordinary statement when he has BA teams involved in unreeling hoses and fighting fires externally when they should be being committed to the smoke filled building to get people out, but it lends credence to the evidence of P.C. John McDonald, at the outset of the Inquiry, that he formed the impression that there were fire service personnel hanging about not doing very much while he awaited rescue from Mr. Mooker's

front window. Despite Mr. Allan, Messrs. Traynor and Henderson appear to have played active roles. However, my concern is with the numbers on the first two appliances whom Mr. Allan felt at liberty to deploy. There were five people on A11-1, namely himself plus Firefighters Lorimer, Welsh, Rodger and Nicoll. Lorimer was the driver and I confess that I heard very little evidence about what he did once his driving functions had ceased. Welsh was the ECO. Rodger and Nicoll became BA team 1, with Rodger being the designated team leader. In A11-2 were Sub-Officer Anderson, Webster, MacArthur and Robertson. MacArthur and Robertson, as we know, came to be BA team 2. Webster was the appliance driver and, at the scene, carried out duties of pump man, ensuring that the firefighters had an adequate supply of water with which to fight the fire. So by the time account is taken of the positions of Station Officer Allan who, as OIC, is supposed to be standing back in a position from which he can direct operations, Sub-Officer Anderson, whose first task, at any rate, was to assess and report to the OIC on the conditions at the rear of the building, Firefighter Welsh as ECO and Firefighter Webster as pump operator, there are at best only five firefighters available to fight the fire and effect rescues. I was told in evidence that four persons were required to manoeuvre a nine metre ladder into position, so the minute that two firefighters were committed to fighting the fire from within the close, there were insufficient numbers left to effect any rescue via windows using such a ladder. There was no evidence of any inadequacy in terms of the equipment available on the first two appliances, which, I was told, could carry twelve personnel between them. So the purpose in turning out a third appliance was to provide more firefighters, not more firefighting equipment. I have little doubt that a significant part of the reason why, viewed with hindsight, Allan appears to have made such a poor show of dealing with the circumstances was that, at the outset, he simply did not have enough firefighters with non-assigned tasks to get on with the processes of tackling the fire and rescuing people. So he chose to fight the fire first. On one view, that was not an unreasonable decision in the circumstances, though why he should decline to utilise the crew of the ALP is beyond me, but with the benefit of hindsight, we know that there were six people at four different locations requiring to be rescued with increasing urgency from the conditions in which they found themselves, namely Mr. Mooker and his two visitors, Mr. Donechy, Mr. O'Shaughnessy and Miss Duncan. Until A2-2 arrived with four more personnel, there were not enough firefighters, or so at least Allan thought, to effect any rescue using a nine metre ladder. With the numbers available even then, only one rescue at a time could take place with the result being that it was about 15 minutes from the first call before Mr. Donechy was rescued from his second floor flat. Although I think Allan could have made better use of the manpower resources he did have, the rescue process generally was undoubtedly hampered by there being insufficient manpower. No firefighter who was asked to comment on this suggested positively that the initial turn out provided sufficient manpower and while some witnesses were more reticent than others on the subject, all seemed to me eventually to accept that there was insufficient manpower to meet all initial priorities. Given the importance of having sufficient manpower at the earliest moment to address the competing priorities in a tenement fire of fighting the fire and rescuing people from smoke filled apartments or the stairwell, I would have thought it would be desirable to have a sufficient number of firefighters in the first two appliances for this purpose and so each appliance should carry its full complement of six. That would, in the present case, for example, have, at the outset, permitted a firefighter to tackle the blaze via the front window from the street, a BA crew of two to enter the close and tackle the blaze from the close, a nine metre ladder to be raised to the flat window at one up right, requiring four personnel, a second BA crew to enter that window and then ascend the stairwell to carry out search and rescue operations, while the removal of persons from that window was taking place, and the manoeuvring further thereafter of the ladder to wherever it might be needed. I appreciate that such a recommendation carries significant cost implications but that is what is required if life is to be more effectively preserved than on this occasion.

Accounting for Occupants:

According to Mr. Allan, the one thing that he had learned from the experience of this fire was to prepare a plan recording the number of flats in any given tenement affected by a fire, recording the number of apartments and the checks which had been made to determine the whereabouts and welfare of the occupants. He accepted that in the present case, the absence of such a plan had resulted in a failure on his part to appreciate that he had not accounted for the occupant of two up right, Miss Duncan. He said, in evidence, that the preparation of such a plan was now "procedure." Sadly, when he was asked how he would go about it now, he could not describe that to me adequately, nor could he tell me of any instructions to firefighters by which they would now, as a matter of instruction, produce information to assist in compiling such a plan and he was at a loss to tell me with any clarity who should be responsible at a given fire scene for compiling and maintaining such a plan. Still not recognising the importance of this, he considered that ultimately it was a task which the OIC would delegate. It is instructive that the witness, David Hunter, a sales representative, clearly appreciated at the time that no one appeared to be keeping any kind of record accounting for the occupants on the tenement and the need for such a record was obvious to him. Using the present circumstances, therefore let me illustrate what I think should have happened and why I consider that this is a task for the OIC which ought not to be delegated.

I appreciate very clearly that witnesses can be unreliable, especially in an emergency, which is why I would prefer to see computer generated information going to the OIC to the effect, again to use Cardean Street as an illustration, that "this is a tenement consisting of ground plus three floors with two flats on each floor." The OIC would then know, on his way to the fire, that he had eight "households" to account for. In the absence of such a computer generated message, he would have to rely on information from witnesses at the scene. One can begin to see why further information about the location of persons in the building calling to Fire Control would have helped. Here, Allan was immediately able to converse with Mooker and his visitors who were at the window of one up right. I cannot say that Mr. Mooker would have been able to tell him that there were two flats on each floor of the tenement, but he was demonstrably an intelligent young man and the probability is that he could. Thus Allan would know he had eight "households" to account for. He could see the flat at ground left was on fire, and, properly, he instructed Rodger and Nicoll to fight that fire and thereafter to search that flat which would thus account for its occupants. He could see Mooker and friends at one up right. I am not certain that he could immediately see Donechy, on account of the conditions, but within a relatively short period, he was aware of the presence of Donechy at two up left. His Sub-Officer should have been able to tell him of the presence of Brown at his window at three up left, and Thomson at one up left. It occurs to me, perhaps somewhat belatedly, to wonder whether WTLs do or should carry loudhailers or be equipped with loudspeakers for again it would have helped to determine priorities had the OIC been able to call out to the occupants to go to their front or rear windows, whichever was safer on account of smoke, and make their presence known to the Fire Brigade. The officer going to the rear of the premises should repeat this process with a loud hailer or similar implement. I am critical of Anderson for not having climbed the dividing wall to enable him to report accurately on the position at the rear of No.13. Had he done so, apart from any other consideration, he would have seen there were no flames there and therefore no immediate fire to fight and time wasted unreeling hoses would have been obviated. He could then have reported accurately and honestly by radio to OIC about the whereabouts of Thomson and Brown and the whereabouts and condition of Miss Duncan. With this information, the OIC could thus quickly have determined the presence of persons at one up right, one up left, two up left and three up left all in relative safety. He would, hopefully, also have been told about Miss Duncan's cries for help and the condition of Mr. O'Shaughnessy. In any event, treating Anderson's evidence, which I

have otherwise disbelieved, as true for present purposes, he, the OIC, would thus quickly have established that he had no record of the occupants at ground right, two up right and three up right. BA teams could then have been dispatched immediately, via the first floor window and then the stairwell, to flats two up right and three up right, while the fire in the close was still being tackled. Alternatively, if a ladder could have been got into place via the unrestricted access from 4 Morgan Street which Anderson should have discovered had he carried out his task properly, access could have been made via the first stairwell window and then via the stairwell. Allan said he could see that the ground floor flat right was relatively smoke free, and I have no reason to disbelieve him when he says that, and some member of the fire service was told relatively quickly that the occupant of that flat was at the pub, so Miss Duncan's flat and Mr. O'Shaughnessy's flat would both rapidly have been recognised as the only ones requiring urgent investigation. As it was, it took 56 or so minutes from the arrival of the Fire Brigade to the discovery of Miss Duncan's body, when, at best, she had to be removed from her flat by about 23.50 to have any prospect of survival. The way the fire was fought and the absence of the foregoing process of elimination consequent upon such a plan meant that, even supposing the BA teams had found her when they first entered her flat, the probability is that she was already dead.

Poor communications:

I have already made reference to the potential usefulness of further information being obtained by Fire Control or generated by computer and passed to the OIC of any firefighting episode. I want now to turn to communication among firefighters at the scene of the fire which, again, on my assessment of the evidence was particularly poor, for a number of reasons. I have also already commented on the inadequacy of the initial investigation carried out by Anderson at the rear of the tenement. That was aggravated because he did not report by radio but chose to communicate by word of mouth to Allan, thus wasting more precious time. Allan also gave extraordinary evidence about difficulty in hearing a radio at the fire scene on account of the noise of the pumps operating on the appliances. I am at a loss to understand how the problem of hearing, since that is truly what the problem was, would be different if he was trying to hear a radio communication on the one hand or someone speaking to him on the other but, as Mr. Whitton put it, if he had a problem hearing the radio on account of the pumps then he should have moved away from the pumps. It may be that something could be done towards eradicating such a hearing problem on account of extraneous noise by way of an earpiece or headphones. In any event, the ability to communicate instantly is of such paramount importance that overcoming these difficulties and what seemed to me to be a reluctance to use the radio equipment should be undertaken as a matter of urgency. It seemed to me that there are issues both in relation to the provision of radio equipment and training in its proper and efficient use.

If an ECO is truly necessary, and with a combination of effective radio communications and lack of manpower resources, it seems to me that ECO is a sacred cow ripe for sacrifice, then there has to be effective radio communication between OIC and ECO. In the present set up, the ECO is the only person in direct contact with the BA teams but it is the OIC who needs to know what the BA teams are doing, what they are finding, where they are, what tasks they have been able to achieve and what tasks they are unable to achieve so that he can take effective command decisions. Again, the only way that can be achieved satisfactorily (for it was not achieved at all in the present case) is by instantaneous radio communication.

I regret I have to say that I consider it nothing short of disgraceful that in November, 1997, BA teams were being sent into smoke filled premises without being in radio contact with someone concerned about their wellbeing outwith the premises into which they were being sent. In the absence of such a means of communication, I confess to finding it difficult to know what the ECO actually can

achieve, for he has no means of communication with the team once they have entered the premises and can do little other than watch for them to appear at windows or ensure that they return within their allotted timescale. That seems to me to be a waste of scarce resources and I see no reason why, with effective radio communications, the OIC should not also be responsible for the welfare of BA teams. BA teams themselves have both visual gauges

and an audible warning of low pressure in their air tanks, together with a further audible safety device which emits a loud noise in the event of them not moving for more than a very short period of time, so, if adequate radio communication is added, I cannot see that they would still require a minder. By adequate radio equipment, I have in mind a system which would incorporate both microphones and receivers accommodated within the existing BA kit to obviate the present difficulties of BA crews trying to communicate while "in air" using standard hand held radio equipment. I cannot believe in these days of the microchip that it is beyond the wit of man to devise such equipment and there was some suggestion in the evidence that mask microphones and head microphones had already been incorporated in some equipment. All that I can properly say, again, is that this is an issue which requires to be addressed urgently so that each member of a BA team can communicate with his colleague, can communicate with other BA teams and, most importantly, can transmit information to a command point outwith the building, whether that be the OIC or the ECO. Had such communication been possible in relation to the present circumstances, it would have obviated the absurdity of two BA teams shadowing each other but yet not operating effectively because they could not communicate what each had done and they could have been individually directed to three up right and two up right. They could also have sought specific instructions from OIC, for example, on finding Mr. O'Shaughnessy or on finding the door to Miss Duncan's flat open and could have kept the OIC directly informed of what they were doing and where they were. I was singularly unconvinced by the notion that there should be a radio channel exclusively dedicated to BA wearers. The OIC should be in radio contact with all persons at the fire scene who can provide him with information needed to enable him to take decisions and effectively exercise control, and that cannot happen if people are on a series of different channels. For the moment, the very least that should happen is that all BA wearers should be equipped with some form of radio to enable them to communicate, at least, with ECO and through ECO with all other BA wearers at a given incident of this type. I entirely accept that different conditions may apply to a major incident with a large number of BA crews where a dedicated channel might be necessary, but on a small scale incident of this type, such diversity appears to me to create duplication and scope for increased confusion.

Quality and Clarity of Instructions:

It is patently of the utmost importance that any instruction given by a ranking officer to a firefighter should be clear and sufficient to enable him to undertake the designated task. The question of the adequacy and clarity of the instructions in the present case is now confused by the conclusions I have reached on credibility, but, proceeding for the purposes of this section on the hypothesis that the evidence from Allan on the one hand and Robertson and MacArthur on the other was true, then there was confusion as to what they were meant to do in the light of the instruction they were allegedly given by Allan to "check the welfare of occupants and ventilate the premises." Both MacArthur and Robertson implied in their evidence that they took it from that instruction that they were not the first BA crew to ascend the stairwell and that the occupants of the premises had already all been accounted for. It certainly seemed to be accepted, even by Allan, that this instruction conveys no particular urgency and so it is hard to see how it could have been an appropriate instruction when he was in fact not able at the stage at which it was given to account for

all the occupants. On balance, my sympathies here are with the firefighters. It was suggested that they should have used their own initiative when encountering open flat doors etc., but again there was general agreement that they were instructed to make their way to the top of the tenement and work their way down. Accordingly, until they found Mr. O'Shaughnessy, they were entitled to assume that they were not going up the stairwell to search for potential victims. They did find Mr. O'Shaughnessy and dealt with him though, in breach of instructions, they failed to report his discovery to the ECO. Incidentally, I remain troubled about the way they dealt with Mr. O'Shaughnessy, though I do not pretend it was an easy situation for them to deal with. He was a 65 year old partially disabled and visually impaired stroke victim, who, according to MacArthur whose evidence on this issue I prefer to the evidence given by Robertson, was confused and disorientated. It occurs to me to wonder whether generally to assist anyone with breathing difficulties but especially someone like Mr. O'Shaughnessy who, I accept, could not simply be returned to his smoke filled flat, an additional mask of the type which those of us who have travelled in aircraft are familiar with, could not be attached to the air cylinder and used for this very type of contingency. This was not a matter explored in evidence, though one possibility canvassed, which would have taken further time, would have been to go and get the resuscitator from one of the appliances. My suggestion seems simpler and likely to have more immediate effect if it is feasible. In any event, the OIC should, in my opinion, have made it clear to this BA team that they were the first team to ascend the stairwell and he should have been in a position to be able to tell them what flats he could account for and what flats he could not, rather than leaving it to them to work that out as they descended from the top. He should, presumably being aware of the state of the heavily smoke logged stairwell, have made it clear to them that they should search any flat they found to be smoke logged, forcing entry if necessary (though since axes are no longer carried as standard, how they would achieve entry is not entirely clear.) They should have known from their own training to search such a part of the premises anyway, but they should not have been left in any doubt that they were the first BA team into the premises. The instruction given, according to Allan in his evidence, to the third BA team, Horsburgh and Baird, to duplicate the work of MacArthur and Robertson seems to me to have been ill considered. How they were expected to communicate with each other effectively, I simply do not know, and the third team should either have had a specific task assigned to them, or been told to start at the bottom and work their way up. I am bound to say that the fact that this additional team was sent in at all at this stage does not suggest to me that the only process contemplated was one of ventilating premises and checking on the welfare of occupants which could comfortably have been achieved by one BA team, so this whole body of evidence is suspect. What matters, in relation to instructions, is that both the issuer and the recipient have a common understanding of what the instruction is intended to convey and if the firefighters are to be believed here, that effect was not achieved. The Fire Brigade should review the standard command instructions and reinforce training especially with BA teams so that those who give and those who receive instructions have no scope in the future for such misunderstanding.

Lack of Understanding of the Consequences of Smoke Inhalation:

All of the Tayside firefighters who gave evidence said that they had had no training or instruction as to the timescale within which death was likely to ensue on account of smoke inhalation. That plainly surprised Mr. Whitton who described it as an area where training required reinforcement. Some firefighters were more aware than others of the risks associated with carbon monoxide. The way Mr. Allan conducted operations suggested to me that he had no clear understanding of the rapidity with which people required to be removed from smoke filled apartments and I found the evidence he gave about this to say the least surprising, commenting as he did that if a person was screaming, then they were all right, or, at least, had an adequate supply of oxygen.. I can only assume that

Anderson and Robertson despite hearing Miss Duncan's increasingly desperate cries for help had no real appreciation of the danger she was in and took the view that firefighters would get to her in due course and perhaps in Robertson's case took the view that the open door meant that she had fled down the stairs, though how he thought she would get past the fire in the close I would not know. In any event, and for the avoidance of doubt henceforth, it is my very clear opinion that firefighters should be required on an annual basis to attend at a seminar conducted by a consultant pathologist of at least Dr. Sadler's standing so that they can be reminded of the physical properties of the products of combustion and the effects that smoke, sooty deposits and carbon monoxide will have on the average human being, reinforced, so far as possible with both statistical and anecdotal evidence. Senior officers likely to be OICs at tenement fires, in particular, require to be left in no doubt about the urgent need to remove persons from smoke.

Failures to Abide by Basic Training and Instructions:

I cannot say that the various failures on the part of the firefighters in the present circumstances contributed to Miss Duncan's death because I cannot be certain as to when she died, but that there were such basic failures may have so contributed and would be likely to contribute to death or serious injury if repeated in the future. An open door in a stairwell in a tenement should have led the BA team to investigate. On finding the flat full of smoke, they should have adopted standard search mode. In such smoke filled conditions the two man teams should have maintained direct physical contact with each other throughout. At the very least, in accordance with the instruction to ventilate, they should have entered every room in the flat and opened every window. There can be no doubt that had they done that on this occasion Miss Duncan would have been discovered much earlier than she was and I have to say that it was at least possible that that might have been at a time when her life could have been saved. This failure, the failure to find her on the first occasion firefighters were in the flat, is inexcusable for members of a professional service supposedly trained in search techniques in such circumstances. I cannot say, however, that I heard any evidence which would suggest any inadequacy of training or instruction in this respect, and blame here must be attributed to the four firefighters, MacArthur, Robertson, Horsburgh and Baird, who were supposedly in that flat for, at the very least, the purpose of ventilating it.

Concluding Remarks:

The preparation of this Determination and Note has given me no satisfaction at all and very considerable cause for concern but it would be wrong to conclude that all firefighters on Tayside are incompetent. Firefighters Rodger and Nicoll, for example, fought the fire effectively and bravely and are to be commended for their service to the public. It would, however, be wrong for me, given the number of tenements in Dundee, to leave these matters without again finally emphasising my grave concern about the number of firefighters turned out automatically to this category of fire and to the urgent need for improved communications. I trust that those who have lied to the Inquiry to cover up their own failures will reflect at length on the enormity of what they have done and on their contribution to the untimely demise of an attractive young woman in the prime of her life.