

# The Ash Wednesday bushfires in Victoria

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**ABSTRACT:** The Ash Wednesday bushfires were one of the worst natural disasters in Australia's history. This paper documents observations of human reactions to the disaster started immediately after the bushfires. Two frameworks were used for classification of observations: biopsychosocial and temporal. Biological, psychological and social reactions in adults and children are described as they occurred before, during, immediately after, and two months after the disaster. Some reactions in animals are noted. Victims of the bushfires were seen to have reacted during the various phases of the experience in a predictable way: during the acute danger, when survival was paramount, and immediately afterward, the usual

patterns of hierarchical structure within families and in the wider community broke down and new social structures emerged. These reverted to previously existing patterns in the ensuing months. Feelings of disorientation, unreality and anger at outside agencies, which were viewed as hostile and unhelpful, were commonplace. The findings have implications for the development of everyday stress reactions and clinical syndromes presenting to clinical practitioners. Lastly, the role of intervention for disaster reactions is examined and its usefulness noted.

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ON ASH WEDNESDAY, February 16, 1983, Australia experienced one of the worst natural disasters in its history. After years of severe drought, many bushfires erupted on this day. Nine areas in Victoria and South Australia suffered major bushfires which could not be contained. The losses included 72 lives, over 2000 homes, 335 000 sheep, 10 000 cattle and property valued at nearly \$300 000 000.

People had to face immense forces of nature. Fireballs rushing at 100 kilometres an hour leapt many metres over the highest trees, exploding them as well as houses and cars in their paths. The noise was like "two Jumbo jets taking off next door". The smoke from daytime fires caused temporary "night". The heat was extreme, breathing was difficult and vision was obstructed. Fleeing cars stalled, and crashed into trees and into each other.

For many people, all that remained of their belongings the

next day was a fireplace and chimney. Once magnificent gardens and forests were black, smouldering skeletons. The underbrush was gone. The countryside was deadly still, and bodies of animals lay scorched on the ground.

## The study

The aim of this study was to investigate the human reactions to this natural disaster. Two frameworks were utilized:

1. *Temporal*. — Pre-impact, impact, post-impact, and reconstruction phases were used.

2. *Biopsychosocial*. — This term, introduced by Engel,<sup>1</sup> embodies the need to pay attention to biological, psychological, and social factors in modern medicine. This concept is applied here to observations of disaster reactions.

It was also hoped that this paper might contribute to conceptualizing (i) reactions in disaster as mechanisms aimed at survival, and (ii) the relevance of these mechanisms to human functions and dysfunctions as seen in everyday clinical practice.

Data used in this paper came from personal observations (all tape-recorded) in seven weeks of intense field work

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spanning the immediate post-impact to the reconstruction phases in both near-city (Macedon) and country (Warrnambool) communities. In addition, much information was obtained from affected individuals, colleagues, agencies, and the media.

### Pre-impact

We were not prepared for the fire we knew the summer must bring. Bush caressed our houses and nobody sounded a warning.<sup>2</sup>

Somebody's getting it, a passer-by said.

But at this stage in time nobody fled . . .

Then without warning the fire hit the "Mount"

Farms and houses went up, too many to count.<sup>3</sup>

The threat in this phase was of a future calamity. The goal was preparation for it, but also of maintenance of inner equilibrium.

### Perceptions

Victoria is one of the three most fire-prone areas in the world. Two weeks previously 24 houses were destroyed by fire in Mt Macedon. On Ash Wednesday, the State was a tinder box with temperatures over 40°C, and another of many total-fire-ban days was declared. Ninety-three fires were reported that day. The smoke and smell from those fires, and ominous predictions of wind changes, all gave warning. Yet many described with anguish how, as they perceived it, they had almost no warning — perhaps minutes or only seconds — to flee.

Two explanations are offered for this paradox. First, there had been no fires of this magnitude since 1939. The fact is that the population, including the firefighters, was not, and perhaps could not, be prepared for such violent forces of nature.<sup>4</sup>

Secondly, while anxiety facilitated preparation, too much anxiety or uncertainty about what could be done promoted denial. People found it difficult to accept that their security was really threatened — "It can't be happening to me". This was supported by community myths, such as "Macedon can't burn" or that it is "in a green belt". Many made determined efforts to still their anxieties and pretend that it was just an ordinary day. Even some firefighters hoped that fires would die down, or that predicted wind changes would not occur.<sup>2,5,6</sup> In fact, people lived both in the world of reality and in that of denial. Many described this as an eerie state. The more the preparations for fire involved loss and grief (financial, through cutback of flora, or through evacuation), the more they were resisted and the need for them was denied.<sup>7</sup> The same occurred in the 1939 fires.

(Currently, we are in another potential pre-impact phase. Old arguments about the preservation of flora versus fire prevention are resurfacing,<sup>8</sup> and houses are being rebuilt with no thought given to fire risk.<sup>9,10</sup>)

### Emotions

In the main, anxiety and feelings of potential loss alternated with suppression of these feelings. Throughout the disaster, denial was used to counter intense feelings. While this was adaptive in preventing mental functioning from being overwhelmed, it was maladaptive when it did not fit reality. Thus, only a handful of families acknowledged the danger sufficiently to evacuate some hours before the fire.

### Social activity

Preparations were mainly vested in trained groups (police,

firefighters, and so on) which were given high hierarchical status. Orders and directions were to come from them to heads of families. Because the trained groups could not cope with the massive fires, and because many in these groups were also heads of families, hierarchies broke down, and people concentrated on simply saving their families and themselves. Shame and guilt were felt for not being able to fulfil expected roles.

### Biological aspects

Preparation and denial cushioned people from bodily concerns. Autonomic responses including muscular pains, stomach upsets and palpitations were present when anxiety was acknowledged.

### Children and animals

Children fitted in with adults, and obeyed and helped at their behest. Sometimes children could see situations more clearly than adults, and role reversals occurred.

Animals seemed to sense danger. More birds than usual searched for water. A fox came openly to the door of a house.<sup>8</sup> Pets allowed humans to rescue them, though some cats ran away. Many native animals were burnt, either through the massive nature of the fires, or inability to adapt sufficiently to cues.

### Impact

This was only the start of the night.

People raced frantically in dreadful fright.

They jumped into cars and took off at a rate,

Not knowing what was to be their fate.<sup>3</sup>

The threat in this phase was to the very existence of life and property. The goal of this phase was their preservation.

### Perceptions

Once the fires were consciously acknowledged, they were perceived as very destructive. They were compared to the fire bombs of World War II or the Hiroshima fire storm. Only one person encountered by me had had a more terrifying previous experience — the explosion of petrol dumps in Singapore while being shot at by the Japanese. Many people thought they would die. Yet, denial counterbalanced terror even at this time. Thus, some described the fire as "Christmas fireworks", "like a South Seas sunset", or "a dreadful beautiful horror". The frightening experience, coexisting with denial, could become fascinating, grotesque, or comic — "like a house bouncing along to oblivion", "cow-pats hurtling through the air like miniature burning flying saucers", or "people running to their cars as if in a silent comedy".

People were immersed in a rapidly changing pressure cooker of experiences and perceptions. These were seared into their minds for later reliving and processing.

### Emotions

When people fought the fires, they were not concerned simply to save themselves. More importantly, they fought to save what gave their lives meaning, their loves — family, friends, possessions — environment, and themselves. At the same time, those being fought for not only desired to be relieved of the anguish of the fire, but, just as importantly, they desired protection and rescue by those whom they loved and respected. Hence, the disaster had strong personal meaning for many people, and reflected the objective need of others for survival.

When fighters perceived that they could not stop the fires, they felt an intense longing to be physically together with those whom they loved and to rescue them personally. This was also the basis of some heroic acts. Reciprocally, as fear set in among those at home, intense longing was felt for the absent protectors, which led to frantic telephone calls and more direct calls through tears and screams.

Family reunion caused much relief, while separation caused great anguish and anxiety. As families and individuals had to give up their fight, anxiety and terror took over. These emotions prompted flight in cars, often described as the worst experience of the fires. With limited exit routes, which were jammed, the conditions for panic were present,<sup>11</sup> and, indeed, episodes of panic did occur.

People could not rescue and protect all that they loved. Quick choices had to be made about whom or what to rescue in the circumstances. The sense of choice gave rise to feelings that those one had not rescued one had chosen to abandon. This led to intense feelings of guilt and shame. Sometimes, in order to save anyone, including oneself, feelings had to be suppressed at the time of choice, but guilt and shame were felt later. Guilt was also felt for the suppression of feelings, which was interpreted as callousness.

Similarly, no one could be fully protected from the effects of the disaster. Unfulfilled desires to be protected led to a sense of wilful personal abandonment and betrayal by trusted protectors. Anger, disillusionment, and despair were felt towards such people. Guilt for such feelings was felt subsequently, as the loved protectors had also experienced great distress.

The following case demonstrates some of these painful emotions. It also shows how emotions such as anger and guilt could fluctuate on the basis of fluctuating survival needs which, in turn, determined protector or protected roles and survival strategies.

A woman was very grateful to her uncle who helped to protect her and her children. When he left to rescue some of his possessions, she longed for him, and was angry with him for abandoning her. When he returned suffering from burns, she felt she needed to take care of him. She felt guilty for her reluctance to drive him to hospital, but, while doing so, felt angry with him for endangering her and her children.

Lastly, there was the absence of emotion, an emptiness. This occurred with the perception of being overwhelmed, and was accompanied by a sense of being dazed or stunned.

#### **Social activity**

Despite widespread chaos and some activities appearing random or irrational, closer scrutiny showed survival value underlying most actions. Their effectiveness was demonstrated in the relatively low mortality rates.

Even the shocked, stunned state, associated with absence of action and collapse and described as the "disaster syndrome",<sup>12</sup> served survival. This was noted in a child hunched up and still remaining near flames; her mother could quickly reach her and pick her up.

Though survival strategies could fluctuate according to circumstances, generally they complemented each other along recognized hierarchical lines best-suited for survival. One such hierarchical line was men, women, children, pets and toys. High hierarchical roles involved active fighting, caring and rescuing behaviours and emotions. Low hierarchical roles involved care-evoking and passive-rescue

behaviour and emotions. Maintenance of roles in the hierarchy could be enhanced through social values, anger and evocation of guilt. Telling a crying mother, "You must not give in, you have your baby to look after", could change her strategy from a care-evoking to an active caring one. Sometimes, the usual roles just could not be maintained; older children took charge of their parents, and women, even previously quite dependent ones, took charge of helpless menfolk. Failure to carry out expected roles was associated with guilt and shame. A successful assumption of a role above the expected level could lead to a new-found pride.

When circumstances were too threatening or did not point to clear survival strategies, hierarchies and roles could be disrupted. This was seen in a hotel sheltering over 100 people which was in the path of the fire:

Some men bravely hosed the outside of the hotel, while others, even previous fighters, refused to take their turns because of fear. Others, male and female, sat mute and stunned for hours. A woman provided morale for a while by her rousing singing of *Waltzing Matilda*. Yet, there was panic and jostling when it seemed imperative to obtain wet blankets from outside.

It is noteworthy to look at those who perished. Reports on their inquests<sup>13-21</sup> indicate that, for the majority of them, it was perhaps just bad luck that it was their car or house which was destroyed while they were inside. Some, especially the older folk, defended, and clung to, their properties too tenaciously. Some did not have anybody to rescue them; a few were drunk. One woman could not take it any more, and ran into the fire.

#### **Biological aspects**

Intense sympathetic ("fire-flight"<sup>22</sup>) and parasympathetic ("conservation-withdrawal"<sup>23</sup>) reactions accompanied the various survival emotions and behaviours. It seemed that sympathetic activity was prominent in active, and parasympathetic in passive, survival strategies. Some described feats they could not have normally performed, for example, old people, or those with disorders of the back, lifting heavy drums of water. Those with burns felt no pain, until they reached security. Pounding of the heart which visibly lifted the rib cage, fear like "a rock inside the chest", muscular tension "as if feeling whipped from head to toe", and severe dragging in the womb were described. On the other hand, weakness at the knees, faints and collapses were also described. Premature birth and acute illnesses with psychosomatic components, such as angina, myocardial infarction, asthma and epilepsy also occurred.

#### **Children**

In many ways, children's perceptions of, and reactions to, the fires were similar to those of adults. For instance, they could make assessments and be aware of impending death.

Children's reactions were, of necessity, usually coloured by their passive survival strategies which required them to be united with, and rescued by, adults. They searched for, clung to, obeyed, and took their cues from, adults. They felt distress when these protective figures were themselves not in control.

A 6-year-old boy was terrified of the drive through the fire, but also of his father's screams of helplessness and anger.

Adults felt extreme love for children and acted with altruism to rescue them. They felt personal guilt and shame about their sufferings.

### Animals

Cows and horses were reported as having found fire-free patches in which they stood "stock-still", and thus saved themselves. They continued to stay still in these patches for periods of four to seven days, and returned to them if they were moved by humans. They appeared "shocked" to their owners. A cockatoo which was in a cage under a burning tree was in a state of "shock" for about three weeks. Its feathers stayed curled backwards, and it stopped talking. When it started to talk again, it mooed and barked like cows and dogs, which it had not done before. These were passive survival strategies. Active ones were also noted. A dog, who had never been able to walk downstairs, did so to save its life. Another dog dragged his unconscious owner to the side of the road, and saved her life.

In a hotel, animals overcame their territorial, interspecies, and personal characteristics and, like the children, were quiet and generally cooperative. Chickens laid more eggs than usual. Cows calved prematurely; some stopped giving milk, though this was often associated with burnt udders. Cows evacuated quickly continued to give milk.

### Post-impact (one to two months after fire)

This was a nightmare, gone was their dream,  
And inside their souls they let out a scream,  
"It is true", they cried. "It happened last night."  
To look around now was a terrible sight.<sup>3</sup>

The threat in this phase was absence of life-sustaining essentials. The goal of the phase was to distribute available resources adequately.

### Perceptions

In this phase, people assessed their losses. Losses were not just people, houses, pets, stock and livelihood. They included all the external investments and representations of one's identity, status, and dignity — documents, photographs, family heirlooms, loved flora and fauna, even recipe books and mundane objects, as well as intangibles such as routine and structure.

There was also a loss of ability to provide for vital needs, such as food, shelter, clothing and toilet. The losses were a new threat to survival, and much effort was devoted to retrieval of the essentials to one's integrity.

At the same time, alertness to the fires was very high. Memories were so vivid that people relived the fires almost as if they were occurring at the moment. This was especially pronounced when they shut their eyes, while dreaming, or when cues reminiscent of the fires — a flame, wind, sirens, and so on — were perceived.

As well as external reality, people had to deal with the varied, conflicting, intense and fluctuating inner reactions to this reality. The lack of recognition of these reactions made people fear for their sanity. Most felt tired and "burnt out". The threat of loss of control due to internal sources could be as frightening as loss of control due to external sources.

The world of fires and losses became more real than the world before the disaster occurred. People felt indelibly altered. A nearby unaffected town seemed to belong to a different civilization, while only those who had been through similar experiences were perceived as kindred spirits. The fire experiences became central points of reference. Sometimes

this led to perceptual distortions in orientation, concentration, and memory when related to the outside world. People lived, talked, thought and dreamt their fire experiences.

It is of interest to note that, in spite of their inner turmoil, victims could appear quite "normal" to casual observers.

Denial again fluctuated with painful perceptions. People could not believe that the fires had really happened and felt that, in the morning, they would wake up from a nightmare. Some used partial denial: for example, in allowing that others were badly affected by fires, but that they were not. Many said that things would be bad in the winter (but not at the moment). One person kept everything exactly as it was before the fire, making believe that the fire had not happened. Yet, a Lawson poem on bushfires, or a sentimental film on television, could penetrate people's guards and make them perceive their situations clearly.

Humour was a type of partial denial, and originated from the fascinating and the comic incidents in the impact phase. Some said that humour kept them sane. Humour allowed people to view themselves from outside and to have a sense of control over their situations. Humour was of the self-mocking, "gallows" type. While driving through the fire, a woman said, "At least the snakes will burn, too". Some referred to "cooked kangaroos", and a man described his burning arm like "meat frying in its own fat". A woman, who found a clip from her bra in the ashes, remarked, "I have burnt my bra". Another woman, who returned the day before the fires from a Scandinavian winter, said, "I returned to a warm welcome".

With time, people absorbed the fact of their continued survival, and the possibility of overcoming threats through effective action. There was the dawning perception of a future in a normal world.

### Emotions

Joy was felt at having survived unharmed. Similar relief and joy were felt at finding people and possessions undamaged. "I could have kissed my house when I saw it still standing." Sometimes the joy and thrill at one's capacity to survive were enhanced by comparison with the destruction. Thus, some people rummaged through the ashes in a state of excitement. A woman said, "We did not realize that we had *lost* everything". Conversely, shock, anguish and sadness, often manifested by tears, were felt when valued objects were found damaged or destroyed.

People pined for what they had lost. They tried to reconstruct their burnt houses mentally, as they sifted through the ruins. There was a need to salvage something solid as a tangible memento. People were alert to further losses in the same way as they were alert to further fires. They were anxious not to lose the little stability they had, and the persons they loved. People stayed together much more, minor separations sometimes causing great distress. The majority of people did not leave the area.

A sense of effectiveness began to replace a sense of helplessness. Threats could once again be overcome, and the fighting and rescuing spirit of the early part of the disaster was restored. A sense of power and optimism, the so-called "post-disaster euphoria" replaced the anxieties of the fires and losses. Many understood that this replacement was only partial and tenuous and that, when reality took over, they

would come down with a crash. A woman realized that she was "too happy", and that she was also near tears. In fact, emotions related to the reliving of the experiences during the fires, and facing the losses, alternated with euphoria, and were dominant in some people. For instance many persons, though responding to everyday needs, were still internally stunned to varying degrees.

Along with re-emergence of the fighting spirit, the wish to rescue revived. It spread out from personal and family contexts to embrace the community once more. Rescue this time involved sharing essentials to make sure that others had the necessities for material and emotional survival. Much generosity and reciprocal gratitude were evident.

People felt guilty for being better off than others — the dead, bereaved, injured, and the homeless. Guilt was also felt for being joyful while others were sad, and for not providing emotional succour to those who needed it. Guilt was assuaged by giving: for instance, by sharing houses with those burnt out or giving emotional support to those who needed it. One could never share enough, and guilt for not helping someone was almost inevitable.

Similarly, anger was inevitable as people felt deprived, attacked and robbed. They asked, "*Why* did this happen to *me*?" and, on another level, "*Who* did this to *me*?". It was difficult to find suitable targets. Anger, disillusionment, and despair directed towards failed protectors, as in the impact phase, caused guilt, because these people were themselves deprived and stressed and, furthermore, often retaliated with anger if provoked. Supposed arsonists and looters were too elusive to be attacked. More suitable and safer targets for anger were the Water Trust, firefighters, shire councils and conservationists. Later, outside helpers became prominent targets. Failure to provide emotional support aroused as much anger as failure to provide material support. A woman, who was fatuously reassured, screamed, "I have been through the most horrible day of my life and I want people to understand this!". The sense of being emotionally drained was also perceived as lack of emotional support, and evoked anger. Guilt and anger often alternated, according to whether people felt that they should give more, or that they had already given too much.

Other prominent emotions were anxiety and shame, which were felt at the loss of resources, status, dignity and sense of internal control. Sadness and grief were seen as shameful and dangerous, leading to "cracking up" and inability to carry on with essential activities. Crying was suppressed, often by compulsive activity. Yet, people also regretted not being able to obtain relief in "letting go". Frozen tears were described as a "cold feeling around the heart", and led to loss of empathy and warmth of personality. Inability to grieve led to overwhelming sad feelings at unexpected times, and some, especially the old, became overtly depressed. Ability to grieve allowed a spontaneity and fuller adaptation to current circumstances.

### Social aspects

There were few communal expressions of grief. Services were held for the dead. A week after the fire, the rubble was cleared; this was equivalent to the burial of dead houses. Some attempted to flee from their anxieties by leaving the area. In many more instances, this behaviour was manifested by visiting and leaving burnt-out properties, as often as 20

times a day. These moves were not only flight, but attempts to order things while "away". Later, these forays away from home were made in the guise of holidays. Another common way to flee was through drugs — mainly alcohol and sleeping tablets.

This phase was characterized by a great levelling of previous hierarchies. Rich and poor, all queued together for the same essentials, and all needed each other equally. There was survival value in this closely knit, horizontally permeable social situation, in that scarce material and emotional resources could be aggregated and easily distributed. As people came to understand that they would survive, they shared a great joy. Their fighting spirit returned. High morale and shared euphoria were added to the community cohesiveness — together they would defeat the fire. The community spirit was reminiscent of that in London during the blitz.

At the same time, resources were strained and, being levelled to a lower even if shared hierarchy, led to role conflict, shame and loss of dignity. The strain took its effect; people were edgy, and fights broke out in hotels, schools, and homes. Many families, especially those in which relationships were previously strained, suffered badly, and even split up.

Hierarchies of "haves" and "have-nots" did emerge, but were not clearly defined. The initial division between those whose houses remained intact, and those who had lost their houses, was untenable, as those with houses also had great needs and lacked the resources for continued care of the homeless. Spontaneous leaders emerged and either personally supplied some needs or organized groups of volunteers to do so. Such needs were distribution of information, counting the number of destroyed houses, organizing washing, childminding, and providing other facilities. Populist citizen groups arose around the spontaneous leaders and held political sway for some time.

The wider community reflected the bushfire communities. Great identification and solidarity with the victims were felt. In a surge of generosity, \$30 million, a large quantity of material goods, and much personal effort were offered to the communities. National leaders suspended their election campaign for a few days, and visited the affected areas. Yet, when outsiders felt strained, they, too, expressed anger with the victims: "Those who live in the bush must accept the risk of bush fires", or "You'll be building new houses from our taxes!".

### Outside helpers

This phase was characterized by the entry of many outside helpers. These, and their bureaucracies, provided the first clear-cut hierarchy of suppliers. There was marked ambivalence of feelings towards these helpers. On the one hand, they provided essentials (especially the early helpers who provided food, clothing and shelter), which were gratefully accepted. On the other hand, they underlined the fall in status. Furthermore, because outside helpers could not supply all needs, anger with them was inevitable. This time the anger was safe and brought relief, because it did not disrupt relationships within the community, and could even unite its members — anger which led to a favourable result, restored faith in the validity of people's feelings and their sense of effectiveness. Then, people had the courage to

express other feelings to good effect.

There was much distress in the process of helping which was potentially preventable. The distress occurred if certain criteria were not met by the giving process, by the givers, and by the recipients.

*The giving process.* — The correct things had to be given in the correct way. There was anger directed at the endless queuing for too little or for wrong things, and at rumours of handouts which were unfounded. Gifts were needed not only for their utility, but also as recognition of personal suffering. The most bitter complaints were directed at the insensitive giving which did not take this into account. Complaints ranged from uncaring facial expressions to the inhuman face of bureaucracies. A man was bitter that he was not eligible for a grant for a house which burnt out on his property because he was not the occupant of the house; it was occupied by his father who had died in the fires. Others said, "We needed aid, and we got forms."

*The givers.* — The givers had to be concerned for the victims, not for themselves. Anger was felt towards potential exploiters. These included insurance companies,<sup>24,25</sup> some eager builders, and governments which thought to use donated money for themselves.<sup>26,27</sup> It was felt that some helpers came to look at victims "like at animals in a zoo", while others used their positions for personal advantage.

Bureaucracies were often perceived as being more concerned about their own rules, hierarchies, and territorialities than about victims' welfare. Bureaucracies themselves varied, and some were amenable to change. The Bushfire Appeal Fund in Victoria was an example of an inward-looking bureaucracy which changed for the better. This organization had no local representatives. Initially, its officials wasted much time on weeding out a tiny proportion of excessive claims,<sup>28</sup> rather than spending this time distributing funds. When this bureaucracy was replaced by a more victim-oriented organization, and especially when its head went into the field and personally expedited people's claims, the organization's image improved drastically.<sup>28-31</sup>

*The recipients.* — The recipients had to accept their needs and realize that accepting generosity was not demeaning. However, many could not do this. They refused to apply for grants and other handouts, rejecting what they considered as degradation and patronization; if pressed, they became angry.

Perhaps more frequently than not, helpers and victims cooperated satisfactorily. Helpers were generally well motivated and hard-working, and many came to suffer strain themselves.

### Rebirth

From the outset, many people showed a great resolve to start again. Australian flags and signs such as "No surrender" and "Roses will bloom again" were seen on burnt-out sites. A marriage took place in the ashes and wedding gifts were tree vouchers. People planted and watered, expecting immediate regrowth. This spirit carried people over the worst post-fire period. On the practical side, temporary shops were set up; farmers mended their fences and milked cows; a teashop raised community morale. As their resources grew, people embarked on the solid restructuring of their lives.

### Biological-medical aspects

Overactivity of the autonomic nervous system manifested

itself in symptoms like indigestion, nausea, vomiting, diarrhoea, sweats, palpitations, pains in the head, back and chest, sleeplessness, tiredness, exhaustion and fainting.

Anginas and arrhythmias were aggravated, and isolated reports of myocardial infarctions and strokes which seemed to be fire-related came to hand. Dermatitis and duodenal ulcers flared up; colds were numerous; the number of motor car accidents increased. One distressed man had three motor crashes in the two weeks after the fire. Some crashes were serious. Domestic accidents also increased in frequency.

Some individuals abandoned usual health measures — a disillusioned man who suffered from arteriosclerosis resumed smoking after forced inhalation of smoke in the fires. Routine, but necessary, medical appointments were neglected as they seemed to be unimportant. Depressive and anxiety symptoms were common. Many consulted their doctors about a physical symptom, while they really needed help with psychological and social problems.

### Children

Many children's reactions were similar to those of adults. They were upset by the loss of houses, pets, toys, schools, playing areas and structure. They enjoyed the attention and many gifts they received, but they pined for the better-loved original items which the gifts could not replace.

Children relived the fire in thoughts, speech, dreams, drawing and play. Fire-related cues exacerbated memories. There was a need to be close to protecting figures. Accentuation of these features was manifested in symptoms like sleeplessness, nightmares, enuresis, walking and talking in sleep, obsessional symptoms (for example, continued exclusive playing with a fire engine), clinging, and school phobia.

Children also experienced emotions such as joy, sadness, guilt and anger. In accentuated forms, these emotions were manifested as behaviour disorders, such as overactivity, regression, withdrawal, or aggression. An 8-year-old boy expressed uncharacteristic murderous anger towards his mother, accusing her of letting his pets and toys be burnt. Aggression was expressed to fellow-child victims: "Watch out, or I'll burn you!"

Children's reactions continued to be coloured by their needs to fit in with their protective figures. Strain felt by parents compounded children's strain. Furthermore, many parents suffered a crisis of confidence in themselves as parents, because they were unable to protect their children from suffering. A mother said, "I cannot bear to see my children suffer. I have already done them enough harm." In such families, both parents and children denied the children's inner needs; however, these children were prone to develop symptoms.

Some teachers also failed to acknowledge children's internal worlds. A child complained, "Whenever I felt like talking to my teacher, he was busy or went out with other teachers." Such children shared experiences among themselves, and cried alone or in company with trusted friends.

### Animals

Cats returned home after periods of days or weeks. The personalities of some animals had changed. Some cats and dogs became overly quiet, while others became anxious, clinging or aggressive. It is possible that, to some extent, they

reflected their owners' feelings. Cattle were nervous for some days. A pet cow of mild temperament became aggressive, and refused to suckle its calf. A healthy young dog suddenly developed arthritis, and "just died" without apparent cause. Generally, animals settled down after a period of time, though areas of sensitivity possibly remained.

### Reconstruction (two months onwards)

To know there are people so brave and true  
 And when the rains come all will be new  
 The trees will blossom and the grass will grow  
 The birds will come back and the seeds we will sow.  
 The moon will rise and the sun will set  
 But deep in our hearts we won't forget  
 Ash Wednesday will live in our minds forever  
 But at least we know, we were in it together.<sup>3</sup>

The threat in this phase was destitution. The goal was to build up reserves.

### Perceptions

The heat and drought which brought the fires gave way to a cold, wet winter and, later, to a temperate summer. Nevertheless, stresses now included living in caravans, frustrations with builders, and tight budgets.

New perceptions and memories were interposed between the fire and current reality. It was difficult to assimilate the new reality. A woman said, "The ruins and the ashes are my home. Even the green which is growing is foreign." People felt "not here, not there". Still, reliving of the disaster became a less all-involving process, even though memories and feelings still flooded back when triggered by fire-related cues such as fire-engine sirens or the anniversary of the fire. Some memories were repressed ("forgotten"), others disguised. For instance, dreams of fire gave way to dreams of air crashes. Sleep improved, pressure and confusion diminished, and cognitive powers also improved.

On the other hand, with increasing resources, some denial decreased, and imprints from the disaster experience were allowed into consciousness for processing, sometimes for the first time. This to-and-fro movement allowed connections to be made among the disaster experience and prior and subsequent events and values, which became meaningful to the person.

Some achieved meaning through a conviction that a powerful well-meaning protector had looked after them: "I felt someone was looking after me that day". A farmer felt that it was the Mormons' blessing which saved his house. Some German and Swiss people felt that it was the virtue of adhering to fire regulations which saved them.

Some achieved meaning through a sense of the cycle of life and continuity across generations. Some older folk found comfort in the knowledge that their children would rebuild the farms. A man said, "Someone planted those trees for me 120 years ago. I will now plant trees for someone in 120 years' time." For some, continuity was imbued with negative meaning; these persons always were and always would be defeated by fate. Others believed that it was not worth attaching themselves to things, as they were bound to be lost.

Some achieved meaning through creativity, such as painting and writing poems. Others learnt about the disaster and disseminated knowledge about it, hoping that relief for

future generations would make the present suffering meaningful.

For many, meaning was achieved in learning about human nature, including themselves. It was said, "You really get to know people in a disaster." This could be a shocking, or enriching experience. Perhaps the most difficult lesson to learn was that of human vulnerability.

### Emotions

After the euphoria came reality, and people needed to withdraw and lick their wounds in private. The painful events and accompanying emotions had to be processed and put into perspective. As denial diminished, new waves of all the previously described emotions came to the surface. Many tried to avoid their emotions through compulsive work, or being involved in the emotions of others — sometimes maladaptive derivatives of previous fighting and rescuing attitudes. Compulsive work was especially likely to be adopted by men, and compulsive helping by leaders and professional helpers. Crisis points arose for these people when work or people needing help were suddenly not available. For instance, moving into the new house suddenly brought people face-to-face with their grief. Even faithful replicas were different from the lost houses. People missed the creaking floorboards, the children's handiworks, and so on.

As people became more realistically aware of their losses and wanted to increase their reserves of security, emotions of greed and envy came to the surface. Greed arose from a sense that no matter how much was received it was not enough to ensure security. Envy came from a sense that others had received more, often through their greed and, somehow, at one's own expense. This was used to justify one's own claims. These feelings were curbed by feelings of shame at not bearing one's own losses, and guilt which stemmed from a belief that everything received was somehow at other people's expense, possibly at that of needier victims. Processing and sharing emotions led to a sense of internal and interpersonal reality. Failure to do so led to strain and symptoms.

### Social aspects

In this phase, social cohesiveness gave way to individual pursuits of reconstruction. Rifts appeared on the basis of greed and envy, for example, between burnt-out and not-burnt-out people. Spontaneous leaders and citizens' groups gave way to the old hierarchies and old rifts;<sup>32,33</sup> possibly these rifts were compounded by resentments from earlier phases.

What had remained of social cohesiveness and creativity was demonstrated in community projects. A creative community affirmation was a community play, in which the fire was symbolically defeated by slaying the fire monster.<sup>34</sup> New knowledge has been implemented socially: for example, in firefighting approaches.

### Biological-medical aspects

Psychophysiological and psychosomatic symptoms, anxiety and depressive symptoms, minor infections and emotional difficulties maintained general-practice attendances above those in previous years, despite diminished populations. In many individuals, overt symptoms appeared only in this phase, when denial was curtailed. Some reported the possibility of a pregnancy boom.

## Children

In this phase, children also restructured their lives. For some children symptoms continued, although often diminished with time. A survey in South Australia, carried out in the latter part of 1983, showed that 23% of children in a bushfire community had "psychiatric problems".<sup>35</sup> Some children were still very fire-oriented — in one kindergarten, fire games were still the most popular games 10 months after the fires.

Reconstruction — social, physical and emotional — is still proceeding. For the victims, the experience will never be eradicated. Some will assimilate it better than others and gain wisdom and maturity, but, for most, some scars and vulnerabilities will remain.

## Some general findings

*Uniformity across communities.* — Despite differences in terrain (bush, open fields), type of community (farming, beach, near-city) and wealth (rich, poor), people and their communities reacted similarly at each stage and in each area, even though each community considered itself unique or different.

*Quantity of stress.* — The quantity of stress affected recovery. In the bereaved, the physically burnt, and those with particularly harrowing experiences recovery was slower. The recovery of children whose families experienced personal or property loss,<sup>35</sup> of those with fewer supports (for example, those who left their communities) and of those who had to contend with stresses other than the fire, was also retarded.

*Past history.* — Everyone was vulnerable to the described reactions. Past illnesses and personalities were relevant only in so far as specific stresses impinged on specific vulnerabilities (or strengths).

*Latent period.* — The above-mentioned phases and reactions are only approximations. Any reaction or symptom could be delayed according to perceived survival needs at the time.

*Psychiatric illness.* — There was probably a slight increase in the frequency of overt psychiatric illness. The fire experiences entered or activated the illnesses of some manic-depressive and schizophrenic individuals, such as a woman who believed that she had controlled the fire. However, very few needed admission to hospital. In fact, most of those with prior illnesses coped with their problems like the rest of the community. There were isolated reports of symptoms resolving as a result of the fire, such as that about a boy whose encopresis suddenly ceased; however, other symptoms took its place.

*Psychic suffering.* — Most of the psychological suffering was "normal" in these abnormal circumstances. Yet, the intensity of suffering could rival that of any psychiatric or physical illness. A man described his sense of being abandoned in the fire as being painful emotionally to the same extent as his being burnt was painful physically.

## Psychosocial intervention

This was initially carried out by mental health teams and Council of Churches visitation teams. Local professionals were also involved, and eventually took over from these teams. Emergency physical aid was administered by first-aid experts, and later illnesses were handled by the local doctors.

Information on all types of reactions was dispersed

through the media and by means of pamphlets. Much relief was obtained through learning that reactions were neither dangerous, nor "crazy", nor unique. Warnings about car accidents helped some victims, and grieving and processing were facilitated through encouragement to express emotions.

Personal contact was important. The helper's steadiness, sympathy, reassurance, explanations and putting worrying reactions into perspective reversed a sense of disintegration.

Such personal contact was most important from the earliest time.<sup>36-42</sup> Wounds were then fresh and relatively amenable to help, and maladaptive responses could be prevented.

People had a great need to go over their experiences, and, usually, an indication of willingness to listen led to the verbal release of much internal material. Therapeutic listening included encouragement to explore intimate inner memories which, otherwise, were pushed to the back of one's mind by anxiety, shame, guilt and despair. For instance, a woman expressed guilt at having a good time in town while, unbeknown to her, neighbours were rescuing her children from death. A man expressed with shame the terror he had felt and with despair, that once more he had lost all he loved. Expressions of such feelings led to relief, and re-established emotional contact and control both personally and in relationships with others.

Help was also given with current social concerns. Up-to-date information was distributed about where and how to obtain aid. Victims were often introduced to helping agencies, while the latter were informed at times about the personal needs and reactions of the victims they served.

It was found that, while tactful approaches and therapeutic listening were nearly always appreciated, people kept away from mental health services and stress-counselling centres. They felt that attending them would confirm their fears that they were out of control and "crazy". The Outreach programme overcame these problems. Here, everyone in the community was contacted, and none was threatened by being singled out as not coping. The system also overcame the problem of people who had not been referred not receiving attention, even though they were as distressed as those referred. After the initial visit, people were either revisited or referred to local agencies, according to an agreement between the visitor and those visited.

It was found that the professional background, status and the geographical location of helpers were not as important as their abilities to conceptualize reactions to stress, personal maturity and wish to help, availability and staying power.

*Impact of stress on helpers.* — Through empathy with the victims, the helpers became immersed in the disaster world and its reactions. Their own perceptions and emotions mirrored those of the victims. For instance, they also experienced the initial enthusiasm and community spirit, and the later disillusionment about how much needed to be done. They suffered the same dysfunctions as the locals, though less intensely. Despite frequent debriefing sessions, Berah reported a notable frequency of sadness, "depression", fatigue, infections, car accidents, and changes in eating, drinking and smoking habits among the 19 members of the Prince Henry's Hospital Community Outreach team.<sup>43</sup> Unfortunately, almost no help was given in any organized way to other helping agencies.

## Discussion

Apart from Raphael's, who dealt with the bereaved in the Granville train disaster,<sup>44</sup> organized mental health intervention in Australian disasters has been peripheral,<sup>45-48</sup> and even discouraged.<sup>49</sup> It is hoped that the bushfires' intervention will be a turning point in this trend.

The relevance of the frameworks and concepts set out earlier can now be examined.

**Temporal.** — Pre-impact, impact, post-impact and reconstruction phases were found to be relevant, as each phase presented different forms of threat to life and, hence, of survival goals.

**Biopsychosocial.** — Biological,<sup>50-52</sup> psychological,<sup>53-57</sup> and sociological<sup>58-60</sup> aspects of disasters are dealt with separately by different disciplines. Some deal with subspecialties such as warnings,<sup>61-63</sup> community cohesiveness,<sup>64</sup> and children.<sup>65-66</sup> The masses of observations in disasters can be better ordered and understood by considering them as manifestations of body, mind and social analogues of stress reactions, evoked for survival needs according to disaster phases and individual circumstances. It was clear that biological, psychological and social analogues of stress reactions were equally important in survival strategies.

For instance, the fighting stress reaction was evoked when it was perceived that the fires could be defeated. The biological analogue was sympathetic arousal discharged in fighting. Psychological analogues were euphoria and aggressiveness, while social analogues were high hierarchical status, social cohesiveness, and high morale. The same stress reaction with its analogues was used to distribute essentials in the post-impact phase. In the reconstruction phase, it was channelled into aggressive work.

**Survival.** — Many human reactions may have evolved specifically for survival in dangerous natural circumstances. In the bushfires, these reactions were certainly beneficial. Not only did the fittest survive, but the stronger helped the weaker, ensuring survival of the species.

To understand the variety and conflicting nature of the observations in each phase of the disaster, it must be understood that each stress-provoked action had an opposite reaction which reflected reciprocal survival strategies. When conditions were unambiguous, strategies were chosen according to place in the hierarchy. High-hierarchy strategies reciprocally inhibited low-hierarchy strategies, but slotted in with them when expressed by other persons. This led to adaptive behaviour: for example, the strong rescuing the weak, or the "haves" giving to the "have-nots".

When the stress was more severe, or conditions were more ambiguous, hierarchies were also ambiguous and survival strategies fluctuated between, coexisted with, or counterbalanced each other. This explains the proximity of manifestations of opposite survival strategies: for instance, sympathetic and parasympathetic nervous system reactions, anxiety or depression and denial, guilt and anger, and altruism and cowardice.

**Adaptation and maladaptation.** — As long as survival strategies actually worked toward perceived goals, symptoms and illnesses were absent. This could not happen if stresses were too great, circumstances were ambiguous or strategies were unclear. Physiological activity, emotions and social expectations would then be out of harmony, blocked or left

unsatisfied. This would lead to strains, conflicts, unhappiness and symptoms.

**Clinical practice.** — Accidents leading to post-traumatic neuroses and tragedies, such as bereavement,<sup>67,68</sup> death<sup>69,70</sup> and loss,<sup>71</sup> evoke similar reactions and sequences as have been described above. More generally, many clinical symptoms are biopsychosocial reactions in response to stresses, initially subserving survival, but maladaptive now for certain reasons. Knowledge of the survival value of symptoms enhances understanding of them, and a biopsychosocial perspective increases treatment options.

## Conclusion

Biological, psychological and social reactions have been noted over time after a clearly defined major natural stress. The reactions were examined in the light of their usefulness for survival. Maladaptiveness, in the form of strain and symptoms, was present at times. Similar maladaptiveness can be seen in everyday clinical practice. There was a strong feeling that intervention in the bushfires was useful. However, well controlled follow-up research is needed to support this assumption.

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