Introduction
Video material as well as journal notes document a nine-month project led by choreographer Anna Smith and seven highly experienced professional dancers. The video and written data present a rare glimpse of artists in action as they conceive, develop, reject and refine movement material for a new work. The interactive nature of choreographer and dancers working together to develop a work ensured the recording of discussions and the sharing of ideas both in words and movement.

This chapter concentrates on the weekly log entries made by one of the dancers and the annotations of the video footage made by the choreographer. Our aim is to describe and investigate this particular creative journey and identify aspects of the choreographic process that conform to theories of creativity.

Defining Contemporary Dance
In contemporary dance the major medium is movement, deliberately and systematically cultivated for its own sake, with the aim of achieving a work of art. It is communicative and expressive; it is visual, spatial, temporal, kinaesthetic, sensual, evocative, affective, dynamic,
and rhythmic. Recording and describing the creation and composition of such a complex, multi-modal form of artistic behaviour can offer new insights into human cognitive processes.

In studying the conception and choreographic realisation of a dance work we can expect to observe the recognised hallmarks of creative thinking. These include:

1. Problem-identification and solving (Goldsmith, 1985; Kay, 1994; Wakefield, 1994);
2. Metaphorical thinking (Boden, 1996; Finke, Ward & S. M. Smith, 1996; Martindale, 1990);
3. Juxtaposition of contradictory ideas (Anderson & Helstrup, 1993; Koestler, 1964; Rothenberg, 1994);
4. Imagery (Finke, 1993; Isaksen, Dorval & Kaufmann, 1991/2; Kaufmann & Helstrup, 1993; Reed, 1993; Rieber, 1995; Simonton, 1994).


**Background to the Work**

The project involved choreographer Anna Smith working closely with eight highly experienced and professional dancers. All dancers were female; ages ranged from 21 to 26 years. Dance studios were used at the Victorian College of the Arts and the Choreographic Centre, Canberra. Sessions where movement-material was created, developed, modified, and selected were recorded on digital video. This technology provided good quality images and enabled dancers to view easily a sequence recorded in that or an earlier session.

Entries were made in journals on a daily basis by the choreographer Anna Smith and one of the dancers undertaking an honours degree (Nicole Steven). Anna’s entries included notes on progress.
during each session as well as ideas and images to be explored in movement.

Movement-material was also developed with, or inspired by, the use of particular props. All movement-material was developed without particular music in mind. Performances of Red Rain used a recording of the music from The Ghost Opera by Tan Dun performed by the Kronos Quartet.

Dancers and choreographer worked four to five days per week (averaging 15 hours per week) over nine months creating, developing, sequencing and refining the movement-material. As the movement-material evolved and changed it was recorded on video by the choreographer whenever she felt a useful phrase had emerged or when any movement idea needed to be remembered for future reference or development.

From the outset, movement-material was generated in response to ideas and images expressed by the choreographer, as well as from comments by the dancers. There was no fixed or explicit narrative. Gradually, certain material was selected, principally by the choreographer, further improvised, learned and refined by the group. Video footage was checked and phrases of movement sequenced and re-sequenced. The final work premiered at Gasworks Theatre, Melbourne, in November 1999.

Chronology of the Process
A summary of ten hours of video material in chronological order is contained in Appendix 2. The summary contains descriptive notes from the choreographer and includes the date and duration of each developmental unit. The 14-week logbook written by, Nicole Steven forms the basis of the following chronological description of the choreographic process.

Weeks 1–4
The choreographer began by asking the dancers to think about, and respond to, ideas and images associated with the colour red. Sharing of ideas, associations, images of red and the blood-filled interior of the human body took the dancers into the beginnings of movement. Early experimentation investigated what choreographer Anna Smith labelled ‘through-lines’. The aim was to find a ‘pathway out of the
body’ from the pelvis and out through another part of the body. Dancer Nicole Steven documented the through-lines or pathways she developed:

My second through-line: At the tip of sacrum; Around to iliac crest; Head of femur; Spiral through thigh; Drops out knee cap’ (Steven, 1999, Week 1).

These written notes were used to prompt the dancers’ own memories and facilitate explanation to other dancers. By the end of the first week the choreographer introduced an idea for the work based on a paper sculpture relating to the inside of a vein or artery. The dancers discussed and explored movement suggested by veins, pulsing, breathing, pressure, blood flow.

In the second week, the body through-lines were scrutinised and sequenced. The choreographer asked the dancers to bring something red to rehearsal, and discussion of the objects and their inherent versus secondary ‘redness’ ensued. Some of the objects were used as a basis for new movement; for example, red kidney beans were studied and their feel, sound, textural qualities, observed. The dancers attempted to use the beans while producing their individual through-lines. In the final work, the beans were poured in streams from bowls and from folds held against the dancers’ bodies, or were pushed against a prostrate dancer leaving the trace of her form on the floor as she rolled away (Images on following pages). The red kidney beans became a central metaphor for the idea of blood throughout the work.

In another experiment in Week 2 the dancers took turns in having red wax dripped onto their skin (Image p.174). Nicole noted:

We discovered a rather strange sensation as the hot liquid wax cooled to become a stiff and rigid, almost suffocating, second skin, only to crack and peel cleanly away from the skin as soon as movement was introduced.
Beans are pooled or trickled. In the closing moments of the work they are poured in a torrent of ‘red rain’. The sound recalls rain on an iron roof.

Photo: Anna Smith.

Red kidney beans were used to outline the shape of a prone body.

Photo: Anna Smith.
The line of the body left behind suggested traces written in blood.
Photo: Anna Smith.

In the studio, the dancers experimented with the wax of a red candle dripped on skin – the wax evoking sensuous images of fragility, blood.
Photo: Anna Smith.
In Week 3 large squares of paper with one side red and the other blue were used in the studio. One experiment with the paper resulted in:

‘a beautiful sculpture which resembled some kind of a nest around K. as she lay on the floor. The paper was scrolled and curled … it was frail yet seemed to protect her. It also enveloped around her, the red interior, revealing occasional slithers of blue from the other side of the paper seemed very life-giving, like a nest or womb’ (Steven, 1999, Week 3).

The following image illustrates the paper nest. During this week the choreographer introduced the idea of a lack of oxygen in the blood or body and the dancers were asked to consider what effect this would have on movement.

The ensemble referred to this image as the ‘nested child’. Thickly textured paper curls in folds around the body of the dancer. To the choreographer, the red and blue colours of the paper suggest both life-giving and life-draining qualities.

Photo: Anna Smith.
Another paper sculpture was introduced in Week 4. Created by sculptor Elizabeth Boyce it consisted of several small rectangles of white paper joined by a thread that ran through the centre of each rectangle. The choreographer hung the length of rectangles and asked for the dancers’ responses to the sculpture (Image below). For Nicole, the sculpture was reminiscent of the human spine with each piece of paper a vertebra—the thread like a spinal cord. The group spoke of possibilities of using red ink, symbolising blood, to write their histories along the paper spine. Around this time, the choreographer recorded in her journal:

Shapes fashioned from handmade paper transform the space: it is laid on the ground and curls around a body like a nest. A paper wall, made from vertical strands can be interpreted in a number of ways. Each is, perhaps, a book. The cotton that holds them together, a spine of a book, or a body. (Anna Smith, 1999).

Dancers responded individually to a single paper strand and later demonstrated their improvisation or movement response to the

The paper spines become doorways, corridors and portals. In the performance of Red Rain they are lit to suggest a mysterious curtain that both conceals and reveals.

PHOTO: ANNA SMITH.
other dancers. The nature of the vertical strand presented a challenge for the kind of movement material that could be used. Dancer K. produced a successful phrase—its appeal lying in the ‘subtle, beautiful way the paper reacted to the slightest movement from her body’ (Steven, Week 4, 1999). Dancers and choreographer discussed using an entire wall of the hanging spines in performance. Nicole noted that sharing their ideas about the paper led to a satisfying insight about the large, two-toned squares of paper and their relation to blood in the body—the red and the blue suggesting oxygenated and de-oxygenated blood.

**Weeks 5–7**

A change in the quality of movement-material occurred in Week 5. The initial through-lines were flowing in character and they maintained a stream of motion through a certain pathway in the body. To find a new awareness of each section of their bodies, the choreographer asked the dancers to construct movement that truncated the through-lines already established. Nicole noted the difficulty of this ‘changing dynamic’, and the choreographer taught the dancers what was intended through demonstration. As before, the group learned phrases developed by individual dancers. An improvisation task was constructed as a way to help the dancers ‘break up the habitual flowing awareness [that] already [existed] in our body as trained dancers’ (Steven, 1999, Week 5).

An effective method was to have someone else dictate the parts of the body where movement would be initiated. After pilot-testing the task, the dancers added certain descriptions of quality and dynamic to the bodypart instructions. Thus, each dancer responded to verbal instructions given by other dancers. For example, ‘Right elbow behind back, shoulders tilting, left hand reaching’—with each dancer interpreting the cue.

Sessions involved individual improvisation and then selection of particular phrases of movement. As each unit originated with a single dancer, the units were labelled with a dancer’s name. The dancers viewed the video and the choreographer selected portions of each dancer’s movement-material. Each dancer then learned all of the selected improvisations. Nicole commented on the experience of re-creating her own improvisation that had been captured on video:
I can say that largely I could remember the feeling associated with that particular movement. Yet actually recreating it was difficult in that I was now looking at the image on the screen rather than being given a prompt which would initiate the movement ... D. had a rather different experience with one particular movement of her own. She could not recall the moment when she had improvised that movement. (Steven, 1999, Week 5)

In Week 6 the series of paper spines forming a wall or curtain was used and further improvisations recorded. Nicole was struck by the relation of the dancers to the paper wall:

The unfolding paper spines as the dancer moved away from the sculpture appeared almost as though the spine was being removed from the dancer's internal body.

Week 7 involved revision and consolidation of the movement-material created previously. Nicole observed:

The material was starting to sit in my body more comfortably ... Finally, the strain of remembering was fading and I could begin to really inhabit the movement (Steven, 1999, Week 7).

The choreographer began to sequence phrases and structure them in time.

**Weeks 8–14**
The dancers supplemented their own ideas and imagery with library research on the symbolism of red, particularly in other cultures. The dancers reported their findings back to the group and observed the universality of many of the ideas, symbols and rituals. In the ninth week the choreographer taught the dancers a phrase of her own movement-material. It picked up the idea of through-lines, blood-related imagery and linked in with earlier movement. It occupied a larger area of space than the dancers had used up to this point. This phrase was linked with another and structured around the wall of
paper spines. Nicole noted that integration of this material was difficult. The still, linear hanging paper was juxtaposed with frantic, erratic truncated movement. Larger phrases began to be loosely sequenced.

In Week 10 the group returned to texts found from their library research and the book *Juice of Life* (Camporesi, 1995) was the focus for inspiration. As a fresh alternative, the dancers split up and spent a day in personal rehearsal. Each dancer improvised an individually chosen passage from *Juice of Life*. The dancers regrouped in Week 11 and shared their ideas and phrases of movement-material. The choreographer selected sections.

Most of the movement was tense and dramatic. Phrases created by H. were different. She had chosen a section of text that referred to the cyclical nature of life and the circulatory system. Nicole described the phrase as consisting ‘of a repeating pattern which appeared to circle back and forth around itself. It was really beautiful, and had a persistent lulling rhythm’ (Steven, 1999, Week 11). Sections of all the phrases were learnt and H’s phrase was learnt in its entirety. The remainder of the week was spent piecing these movements together and recording them on video.

Another prompt to develop new movement came from a text read aloud by the choreographer that captured the images of blood and the opposing ideas of life and death:

> At the ends of the universe is a blood red cord that ties life to death, man to woman, will to destiny. Let the knot of that red sash, which cradles the hips of the goddess, bind in me the ends of life and dream. (*Awakening Osiris*; in Ellis, 1998, p.180).

Nicole noted that this technique was new to the process and that it seemed to ‘add texture and value to the movement’ (Steven, 1999, Week 12). Ideas for the beginning of the piece began to emerge at this time incorporating earlier improvisations produced in response to: dripping blood; the wax sequence; movement from peeling wax; paper; text; truncated sequences; and dripping wax.

The dancers and choreographer discussed the intricacy of pathways of blood in the body and one of the dancers mentioned the DNA
double helix. The choreographer then introduced the idea of an unfolding helix or plait-like pattern made up of five dancers in constant motion. The helix would require rapid and continuous whole body movement from all dancers, with each taking a different path while performing complex, individual transitions. Work on the helix consumed hours of discussion, experimentation and spatial and temporal planning. The video shows choreographer and dancers drawing the pattern and coding the path of each dancer in colour (Image below).

The dancers walked through the pattern, perfecting their path and speed to avoid collision with each other. Coloured tape was used to mark out different strands on the studio floor. Finally, additional movement was added and the use of imagery encouraged.

[Image: Colour-coded braid pattern or helix in Red Rain. Individual coloured strands represent the floor path of a dancer. Each dancer performed a sequence of idiosyncratic and complex movement transitions as they travelled along their path. On the video, the dancers discuss their perceptions of this process and its spatio-temporal complexities. Photo: Anna Smith.]
In Week 14 the new task was to find a solution to the helix-movement such that a circular phrase developed by H. might link two or more dancers in an arcing pattern.

**Weeks 15–24**

During the latter months the images and ideas from Week 1 recurred, continuing to inspire and frame movement: visual, rhythmic and visceral images such as blood rushing, pulsing in and out. The choreographer noted these ideas in her journal:

Soaking the high air scarlet; blood silently burning; blood knotted to life and death. For me, these words engender imagery which is textural, sensuous, provocative; there is also pain and loss...Many ideas are giving birth to the movement material and the qualities I attach to it: a visceral relationship with images and objects. Blood and life; a torrent flows.

Props continued to impel movement or enhance newly emerging sequences. Four months into the project there were distinct and identifiable sections to the work: Section 1 merged with Section 2. The process of sequencing seemed to be an emergent one; Anna’s journal captures the mystery and frustration of not always being fully aware of the final work:

On Friday I had a great rehearsal; I think I passed through a difficult stage. I always feel as though I am over-anxious to know the work; what it is. But it is not alive yet so how can I possibly expect to know what it is? It has to breathe its own existence, and I have to be patient, to allow it to evolve itself. The work is an organism which creates its own body, so to speak. Does this make sense? Perhaps I understand the dilemma much better now (Anna Smith, 22/7/99).

After five months, there were five discernible sections to the piece. Much work had been invested in sequencing and developing transitions between movements and sections. The transitions functioned to link bodies in time and space while maintaining the tone...
and flow of the piece. Movement-material was further combined either serially or in parallel—a byproduct of the parallelism of the helix pattern as well as the choreographer encouraging duowork, with dancers practising their sequences ‘against’ others. The parallelism was a distinctive feature of the final work.

During the fifth and sixth months, props of paper, beans, wax continued to be used in the studio and these featured in the final work. By six months, the essence of the work was all but complete, the name of the work had been decided, and time was spent rehearsing and refining. Red Rain emerged as a title during the group’s residency at the Canberra Choreographic Centre (17/8/99) in response to the choreographer’s closing image in the work.

**Description of the Final Work**
The final 40-minute work begins with the delicate sound of water dripping gently through a dancer’s fingers into a hidden pool. It ends with a torrent of ‘red rain’ pouring over bodies and falling in huge droplets of sound. There is something archetypal about the complex of image and sound: an evocation of ancient memories, perhaps of sacrifice and renewal. Between these powerfully conceived images the work unfolds in finely wrought structures that suggest the cycles of experience in which rituals of birth and death, isolation and community, mark the passing of women’s lives.

In a review of the premiere, Fairfax (1999) wrote that:

[M]ountains of blood-red kidney beans cascade across the floor and pile up to snug into the contours of the dancer’s bodies while blood-red light creates rectangular patterns across the floor, boxing up the dancers and isolating them singly, and in groups, so that sometimes as many as four or five different things are happening at once. Meanwhile, a Japanese paper sculpture, strung ribbon-like across the stage and suspended in a shaft of white light (Image 13f), becomes a place for refuge, a shuttered window with dancers flickering past, contemplative, wilful figures in an ordered and highly ordering world (Fairfax, 1999).

Dance critic Hilary Crampton (1999) noted that imagery in Red
Rain is suggested, not explicit. The structures are complex—at times lingering on single moments, at other times flooding the stage with a myriad of images that can be read in different ways. The use of props is integral to the work—thick scrolls of paper form a womb-like nest, in which a diminutive figure curls, foetus-like, overshadowed by a dancer, tall, poised, archaic, with angular gestures. The images recur, the context changes, so that they can be read as tenderness, hope, despair, depending on the juxtaposition of figures and dynamics of the movement.

Crampton explains that the work has an inner tension and muscularity arising from the spine—movements coil and release into explosions of athletic energy. One is aware not only of the dancers, but also of the space behind them as limbs reach back, shoulder blades seem to take on life, like blossoming angel wings. It is as if the dancers are forever trying to bring the past with them (Image below).

Creative Development and Creative Relationships
The development of Red Rain has been traced through an analysis of the journal of Nicole Steven that draws on the technique of musical structure analysis (Stevens, Malloch, McKechnie & Steven, 2003) developed by Heinrich Schenker (Forte & Gilbert, 1982; Schenker,
It appeared to author Stephen Malloch that the task of beginning to discover relationships and important developmental moments in the creative journey as related in Nicole Steven’s journal was a similar task to analysing a musical score, and the task of unearthing the more important elements, and investigating their inter-relationships, may be well served through a Schenkerian-style analysis (see Stevens, Malloch, McKechnie & Steven, 2003).

**Cognitive Analysis**

A useful organising framework for an analysis of choreographic cognition is Finke, Ward and Smith’s (1996) Geneplore model of creative cognition. The model assumes that in the initial generative phase pre-inventive structures are invoked that have properties that promote creative discovery. The properties are exploited in the subsequent exploratory phase wherein attempts are made to interpret the pre-inventive structures in meaningful ways. During creative cognition, pre-inventive structures are generated, regenerated and modified in creative exploration.

**Generative Processes in Red Rain**

Generative cognitive processes that are specified in the Geneplore model include retrieval, association, synthesis, analogical transfer and categorical reduction. An early generative process evident in the creation of *Red Rain* involves retrieval and discussion of red images by dancers and choreographer. Images were visual and verbal in modality (for example, tomatoes, blood, red earth, red sunset), but also tactile (red wax, fire), olfactory (wine, roses), gustatory (plums, kidney beans, berries) and haptic (carpet). Single images elicited the retrieval of other associated images. For example, the notion of blood led to the associated concepts—life, bodily pathways of veins, arteries, the spine, death, and ritual.

Generativity through synthesis in the creation of *Red Rain* is evident in the blending of associations. Breathing, air, oxygenated and de-oxygenated blood, were blended mentally with the blue-red paper sculpture (Week 4). Examples of analogical transfer (Gentner, 1989) can be seen in the hanging paper sculpture being regarded equally as a spine or a personal history (Week 4; Image p.176). The complex five-strand helix is an example of movement-material analogous to the
double helix structure of DNA. Categorical reduction, where objects or elements are reduced to more primitive categorical descriptions, captures a quality of contemporary dance where an idea or concept is expressed in a primitive or reduced form through changes to movement and dynamic qualities. The simplification of movement-material or tempo change is also a form of reduction, such as the selection of H’s circling movement from the more tense and dramatic improvisations inspired by *Juice of Life*.

Pre-inventive properties characteristic of creative cognition include novelty, ambiguity, meaningfulness, emergence, incongruity, and divergence. Examples of pre-inventive properties from *Red Rain* include novel motifs and cues for developing movement around the pelvis; the ambiguity of blood-related images as being both life-giving and life-draining; and the emergence of new or larger structures and sections in the work from linking or juxtaposing smaller units. Convergence and divergence are both present in the final work where at times there is synergy between movement and music, and at other times a divergence of aural and spatial dynamics.

**Exploratory Processes in Choreographic Cognition**

Exploratory phases involve attribute finding, conceptual interpretation, functional inference, contextual shifting, hypothesis testing and the search for limitations. Attribute finding may refer to the exploration of emergent features that result from the creation of conceptual combinations and metaphors (Finke, Ward & Smith, 1996, p.24).

There is an abundance of such explorations in the creation of *Red Rain*. An interesting transition occurs with an image becoming more contextualised as the work develops, and its metaphorical relations take shape. The red/blue paper, for example, becomes at once a womb or a nest (see Image p.175); the flow of red kidney beans appears visually as bloodflow, and aurally as rainfall; and new movement patterns emerge from combinations and intersections of individually developed phrases.

The speculation and experimentation of dancers with the book/spine paper sculpture is a good example of functional inference and the exploration of potential uses of a pre-inventive structure. Props both inspired development of movement material and were used to enhance particular sequences in *Red Rain*. For example, the wall of
paper spines was used to suggest passages and doorways, umbilical attachments, wisps of memory or history flowing this way or that. Images that were initially visual and verbal were transformed into events to be experienced using auditory, haptic or spatial senses—beans for sound and blood dripping, wax as skin, and the DNA helix unfurling in space and time.

The exploratory phase of creative cognition is also characterised by processes of problem-solving. Hypothesis testing, as a means to test and evaluate different solutions to movement, spatial and temporal problems in Red Rain, includes the construction of the five-person dynamic helix. Five hours or two full rehearsal periods of studio time were dedicated to creation and implementation of the human helix. The duration of this rapidly executed sequence in the final work is a mere 20 seconds. It is also significant that the complexities of this movement-material, the parallelism and structure informed much of the final work. For example, the impression of turbulent flow created by several dancing bodies was imaginatively contrasted with sequences of subtle delicacy enacted between two or three dancers, or with the inward focus of a single stilled figure with its evocation of silent introspection. Experiments with dripping red wax were conducted in the studio in Week 2 (see Image p.174) and, in Week 14, a solution was needed that allowed a circular phrase to link two or more dancers in an arc shape.

Conclusion
The creative process for Red Rain may be summarised as a cycle of generative and exploratory actions. The cyclical process is likely to contribute to the non-linearity of the composition processes—the final work bears little resemblance to the series of individual movement sequences that emerged during the initial generative tasks and explorations.

The choreographer must determine solutions to the problem of linking body and limb positions into a narrative of expressive movement while linking individually developed sequences. The linking and transition movements between individual moments must become an integral part of the artwork. Ideally, the final work will appear seamless—movements do not sit as discrete beads on the string of time but unfold fluidly as sculpted shapes of time. Thus creativity in composing
dance lies as much in sequencing, melding and linking the parts of the work as in the creation of the parts themselves.

**Acknowledgement:**