

The Experience of Knowing:

A hermeneutic study of intuitive emergency nursing practice.

by

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DECLARATION

The material in this thesis is original except where due acknowledgement is given, and has not been accepted for the award of any other degree or diploma.

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ABSTRACT

This study described the nature and component themes captured within the intuitive practice of emergency nursing; it also explicates the nature of expert practice as defined by Patricia Benner in 1984. The history of intuitive practice or as noted in this study the experience of knowing has to this point only been anecdotal. The experience of knowing needed to either be validated or refuted so that its place in emergency nursing could be found.

The study was informed by the philosophy and method of phenomenology. The participants in the study were fourteen experienced emergency nurses with between 4.5 – 23 emergency nursing years. These participants through their stories and experiences of emergency practice expressed their experience of knowing. Through a van Manen process and Gadamerian analysis six themes associated with the ways in which my participants experienced knowing, were identified. These were named, knowledge, experience, connection, feeling, syncretism and trust.

Further analysis uncovered a developmental relationship between the themes in general and with each other. Culminating in the reconstruction of Benner's expert stage into three distinct phases, Cognitive intuition, transitional intuition and embodied intuition. To enable the full expression of these findings a mathematical theory has been put forward.

DEDICATION

This work is dedicated to my father the late **L. M. Jack Lyneham B.E.M.**

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PROLOGUE

“Any book must have a first chapter with an opening sentence.” (Mankiewicz, 2000, p.10). So must a thesis, but where to begin; by the time you are ready to put *pen to paper* you are well into the journey that is your thesis. To return to the beginning and to construct the value and significance of the beginning of the journey to the final destination is not a straightforward exercise. By this time you have been changed by the experience therefore the beginning takes on new meaning. There is now a history attached to the thesis. Mankiewicz continues “*History is not so neat and tidy, and the search... is a journey into the mystical origins of human life and civilization*” (p.10). The history of this thesis essentially returns me to 1973 as a student nurse, when I experienced for the first time an intuitive incident.

I was working a night shift as senior student nurse in charge on a surgical ward. There was a late case that did not return to the ward until 9pm. The routine for postoperative care included observations were to be taken hourly for the first four hours following the patients return to the unit. By the time handover had finished it was just after midnight and the next, and final, observations were due at 1am. I do not remember all the lead events but I remember the urge to go in and ‘*check*’ on *him*. While going there I thought, “*may as well take his observations, an extra set wont hurt.*” Subsequently, I found that he was severely hypotensive caused by a significant blood loss from his surgery. Needless to say if I had waited until 1am he would have *bled out* (exsanguinated) and died. At the time I put the situation down to good luck and nothing more. I still wondered why I felt compelled to go into his room when I did and this picture remains clearly etched in my memory some 30 years later.

Upon reflection my clinical behaviour was not changed by this incident. I believe this to be a factor of my novitiate and the lack of reflective practice typical of a nursing student in the 1970's. The education of nursing students during this time was governed by the statutory requirement imposed principally by the states Nurses' Registration Board and largely controlled by the dominant medical profession. Therefore the focus of nurse training was not to develop independent critically thinking nurses but nurses who had a bare scientific understanding and who were principally socialised to be obedient. This focus was based on a desire by the medical profession to mass produce nurses in the traditional handmaiden role. The attitudes of the day are reflected in the set basic nursing text, Smith and Lew (1969). When discussing the education of nurses the authors state that:

In addition to learning scientific facts the nurse needs to acquire the ability to understand and adjust to other people, to keep an enquiring mind and to accept change. (p32)

"Enquiring" in the context of the prevailing educational values should not be misconstrued as meaning critically proactive. The nurse of the 1970's was passive rather than reflective, accepting rather than questioning. The nurse's role was clearly defined earlier in the Smith and Lew text. "*Today the nurse is taught intelligent obedience of a doctor's orders.*" (p.21). At this time in our social history there were many challenges to the status quo, to the appropriateness of authority and the birth of modern feminism. Out of this chaos society and nursing changed. Mankiewicz continues;

Archaeologists and scholars strive to construct a meaningful mosaic of our prehistory from a handful of tiles. New discoveries are not merely additional pieces of the puzzle, but may radically alter the whole picture of the past and our relationship to it (2000, p10).

Consequently at this time my incident with the post-surgical patient was not to be analysed, it was not scientific therefore it had no place in nursing. Nevertheless, it

became part of my nursing history. At the start I had in my possession a handful of *tiles*, of experiences and thoughts, such as the surgical patient. This then is my prehistory. The *tiles* found on the journey of this thesis have not only radically altered my picture of the past and my relationship to it but of my future as well. The tiles I possessed and the journey to find them came about over a period of thirty years, but it was not until the late 1980's that I had enough tiles in my possession for my mosaic picture to start to take form.

The mosaic did not come into being as a whole but rather as small isolated sections, which in itself had its own individual structure and form. Consequently, each tile in this mosaic contains a story, an incident or an event which like the incident above, has a beginning and an end so is therefore complete and unique in its own right.

Throughout the development of my practice as an emergency nurse I recall the occasional situation where I would have unspoken concerns about a patient. In the beginning I said nothing. However over time I observed that many of my concerns were valid. I started to listen to them and to observe other nurses. During this time I was still learning how to be an emergency nurse I did not have the confidence to trust or act on these concerns. As experience, knowledge and confidence grew so did the voice of my concerns. What also became evident was there were others, my colleagues who seemed to have a *gift*, they were able to predict problems or identify a diagnosis without so much as a blood pressure been taken. *How were they able to do that?* was a question I asked myself. Alas I could find no answer.

It was about this time that I came to the realization that my clinical behaviour had changed; I was practicing on a different level. I made decisions quickly and competently. Chaos could surround me but I could accurately prioritise my patient's needs. This approach to practice was successful so it was continued. Not much analysis went into my practice or the processes utilised until I considered

enrolling in a Masters degree. The focus of this study became the pathway of unravelling the decision-making process used by emergency nurses. The impetus behind this inquiry was to understand how experienced emergency nurses made clinical decisions. I wanted to explain the perceptive and instinctive practice I observed.

The theoretical framework for the Master's research was based on an adaptation of Elstein, Shulman and Sprafka's (1978) model of hypothetico-deductive decision-making by White, Nativio, Kobert and Engberg (1992). By using a grounded theory design a series of interviews were conducted. In the analysis of the interviews the model was supported. However, as with most research there were unexpected findings such as the use of more subjective assessments and the questions raised during the analysis of the data (Lyneham, 1999). Another model came into being, one that was embedded within the theoretical framework. This model identified the subjective factors of emergency assessment. It appeared that experienced nurses relied on these subjective factors and not on "textbook" objective factors. When exploring the subjective elements a common phrase used by participants kept reoccurring - *Sometimes you just know or I just get this awful feeling about them.*

A new tile had emerged but had no idea where to situate it in my mosaic. The mosaic had changed during the course of the Masters course. It was richer, had more detail, and was more complex in spite of this it remained incomplete. There are times when it is easier to put the additional tile aside rather than search for its place, though we are always aware of its existence and it bothers us that you it cannot be placed. This quandary continued until one New Year's Eve when I was working the night shift in the paediatric area.

It was a typical festive night, the children presented with the usual accidents caused by play, the asthmatic child in some distress and foreign bodies placed in various and

unusual places. Around 11pm a 7-month-old baby arrived with his baby sitter, no specific complaint but was unwell. I suddenly felt my stomach turn. I assessed the babe's basic signs, found nothing unusual but picked him up and told the paediatric resident that I was taking him to the resuscitation area. He asked why, I replied that he needed to be there. The resident had no choice but to follow me. It was with a measure of disbelief that he diagnosed that the babe was in acute heart failure. Two hours later the baby was in theatre at the children's hospital having a very large previously undiagnosed ventral septal defect repaired.

The paediatric resident continued to ask how I *picked it* [the heart failure]. I could not provide any answer as I *just knew something was wrong*. My leftover tile had just fallen out of the box; I had to find out where it belonged. Over early morning coffee I related the experience to my colleagues, who appeared to be divided; one group said it was a process of rapid assessment based on experience and the other said it was inexplicable as it was perceptive. The experience had disturbed me. *How did I know, what did I know* – at that stage I just didn't know. I had experienced *knowing* and was ill at ease.

I looked to others to help me place my tile; I tried to pin down the nurses I had observed with this ability to know. They shared similar experiences but could not explain them. The attitude was *don't fight it*. Some nurses had never had such an experience and thought that it did not exist. On further analysis this second group was made up of relatively new emergency nurses and the other group were very experienced. I asked myself the question were both groups right given their level of practice. I was now prepared to align myself with the first group even though there was no language or validation for this level of practice.

Nurses are storytellers, they use their stories to define and reflect on their practice, to debrief when necessary, to share experiences and to remember. Was the validation

for this experience and level of practice to be found in the stories being told around the table during breaks? The stories were a powerful reminder that there are tacit connections which exist between individuals, connections that are real even though they cannot be conventionally measured.

For my journey to continue it was necessary for me to put my mosaic away for a time and to look to others and to share, discuss and document their prehistory, their journey, their stories and finally their mosaic for this is where I am situated within this phenomenon.

Chapter 1. CONCEPTS AND LINKS

1.1. INTRODUCTION

Keleher and McInerney (1999) believe that nursing is essentially a social process (p49). Nursing does not occur in a vacuum and it is contextual, social, historical, dynamic and comparative. The sick, injured and dying have always been with us and in many cases someone assumes the caring role.

The first recorded mention of a nurse is to be found in the Old Testament, *Now Deborah, Rebekah's nurse died, and she was buried below Bethel under the oak; it was named Allon-bacuth* (Holy Bible, Genesis 35:6-8). Health care arose from a social need and soon hospitals were organised. In 135 – 105 BC the High Priest John Hyrcanus organised a leper hospital outside Jerusalem this is thought to be one of the oldest health care institutions although ancient Indian documents show that a hospital may have existed in 600 B.C. (Algrant y Cañete & deBeaugourdon, 1983; Risse, 1999). There was a social need at the time of John Hyrcanus – a need to segregate the lepers to prevent spread of the disease to the healthy population. This was not a compassionate act but rather an act to protect society.

Thus nursing was extended from the needs of the individual to the needs of a group as a consequence of social change and the needs at a particular time in history.

Society acted to protect itself. What nurses did was to add a compassionate understanding to the society it served. It is evident that nursing is an ancient art that adjusts to the changing needs of society and historical events; the history of emergency nursing is a consequence of such social change and history. Emergency nursing practice has developed over time and now it can be justifiably claim to be based on a unique body of specialist knowledge, skills and experience (Newberry, 2003).

1.2. THE CONTEXT OF EMERGENCY PRACTICE

Emergency departments as they are known today had their origins in wartime in ancient Greece and Rome where the wounded were treated and either returned to battle or were sent back to base camps. The organised care of the war injured appears to be a development of the 10th century and is linked to the history of The Knights Hospitaller and the Knights of St John of Jerusalem (Nelson, 1957). At this time and for centuries thereafter pre-hospital and emergent care remained the exclusive domain of religious or military based groups. However, the industrial revolution and the mechanisation of transport established the need for a different type of emergent care than was previously required. It is historically unclear when and where the first *casualty* ward was established but by the conclusion of the First World War most hospitals had a receiving area for victims of accidents (Ortiz, 1998; Risse, 1999).

The modern emergency department grew from the increasing demands on these receiving areas. The historical underpinnings of the area are evident in the original name, *casualty*, and a term that identifies a person as a victim of a war injury. By the 1950's all major public teaching hospital in Australia had a Casualty Ward devoted to the emergent care of victims of accidents and other major health crises. At this stage it was not considered a medical or a nursing specialty; rather it was initially seen as an extension of the surgeon's role and later exclusively the critical care physicians (Ortiz, 1998; Risse, 1999).

A significant recognition of emergency nursing care in NSW (and Australia) was the establishment of accident and emergency courses in the early 1980's (NSW. RCN archives). By the creation of these courses it was recognised that nurses in the *casualty* wards needed to develop a standard of special knowledge and skills. Since my first experience with emergency nursing in the 1970's I have noticed a number of changes some simply a name change however the implications are significant. The

following is a personal analysis gained over time and from working in rural, remote and metropolitan emergency departments. Over time casualty wards became known in the 1980's as an Accident and Emergency Unit and by the 1990's as the Emergency Department to reflect the changing nature of emergency care. A major paradigm shift came when the area was no longer referred to as a "ward" but a "unit". This set the casualty area apart from all other hospital work units. The shift in nomenclature from casualty wards to accident and emergency units and finally to emergency departments is significant. It represents a severing of ties from the historical foundations of acute critical care medicine and nursing which had emerged in response to the trauma and accidents of war and industry. The modern day term should be seen as more inclusive encompassing the formal response setting for all types of health emergencies.

In Australia emergency nursing is currently practiced in a variety of health care settings, from major teaching hospitals to remote outback clinics. Despite this contextual variety, there is a common organisation in emergency departments. Common characteristics include a triage, or prioritising function; a resuscitation area, for the life threatening situation; acute area and a sub- acute area, for other health emergencies. These sub units may be as simple as a bed allocated to that purpose or a dedicated space with highly technological equipment available ready for use. There are intra-discipline specialities developing within emergency nursing such as triage, resuscitation and mental health. This indicates the changing and developing nature of emergency nursing.

Looking from the outside into an emergency department one may be excused in thinking that it is either all or nothing, that is, either the appearance of bedlam or calm. In either case emergency work is being done. The nature of emergency work is to make sense of chaos and uncertainty. The emergency nurse does this by the

assessment, prioritisation, direct intervention and finally continual evaluation of an individual and their care. Normally people do not plan to attend an emergency department but rather the need is thrust upon them by circumstances, it is caring for the *man off the street* in a literal sense. Emergency nursing has been described as chaotic, exciting and stressful but words continue to fail in capturing the essence of emergency nursing and the emergency nurse.

1.3. THE EMERGENCY NURSE

1.3.1. Introduction

There are a number of facets that make the picture of an emergency nurse and these will be discussed in this section. There appears to be no evidence in the literature to identify these facets however from a personal perspective based on observations within my own practice I put forward three basic considerations. This first consideration is the practice of emergency nursing; this is an Australian perspective however some of the issues are relevant to most developed countries. There cannot be an emergency nurse without the consideration of the person and the characteristics that are inherent as these affect the manner in which that they react and respond to those people, both patients and colleagues within the department. The final consideration is the unique language that has developed over time within the emergency department.

1.3.1.1. The Practice

The practice of emergency nursing in Australia has developed rapidly to adapt to the changing needs and demands of society. With the advent of the Medicare system in 1983 in Australia, which guarantees that all Australian citizens have free (at point of service) access to public hospital care, the demand on emergency departments has increased exponentially. For example, in 2000 80% of New South Wales emergency

departments treated 1,417,275 individuals (NSW Health. 2001). The emergency department is seen as a free clinic for all. This is far removed from the nature of emergency work however as a social change it has required changes to emergency practice. Other issues impacting on the changing nature of emergency departments and the types of presentations seen include political, economic and legislative changes. The impact is seen in the changing nature of the presenting problems that have their foundations in the increase use of motor vehicles, the increased use of illicit and designer drugs and the changing patterns of infectious and communicable diseases (NSW Health 2001).

An issue is that individuals present with minor complaints such as head colds, minor cuts and abrasions and simple catheter changes from nursing homes (not related to autonomic dysreflexia). Inappropriate presentations such as these are a problem and are costly to the system. A consequence of such presentations is that the cost of emergency care has risen (Wise, 1997). This issue has been addressed by the establishment of general practice areas; however there is limited nursing staff to support these areas.

Benner has indicated that the process from novice to proficient takes at least three years (Benner, 1984; Benner, Hooper-Kyriakidis & Stannard, 1999; Benner & Tanner, 1987; Benner, Tanner & Chesla, 1992). Other issues that impact on practice relate to the current shortage in specialist emergency nurses (Hansard Week 11, 2002). With increasing frequency less experienced nurses are placed in complex and difficult situations. Practice development is a process of exposure to experiences and the concurrent theoretical input; the shortage has placed additional stress on experienced nurses as they are constantly troubleshooting and most likely preventing harm.

Overcrowded, understaffed, poorly resourced and an abused system is the view of the modern Australian emergency department (Cameron & Campbell, 2003; James, 2003). This is not the textbook version of emergency practice this is the reality.

Nurses usually know that each patient may require something different from the application of specialist knowledge to just a physical touch that indicates understanding.

1.3.1.2. The person

The effective emergency nurse must have a sense of *self*, a sense of *others* and a sense of *humour*. The sense of self comes from the ability to cope with multiple crisis situations simultaneously, to act with assurance and to know when to intervene. This takes confidence in who you are and what you know (and don't know). The sense of others is found in the nature of nursing. Nursing is the 'act' of caring for others. There is a sense of caring embodied in emergency nursing (Jones, 1999). A sense of humour is found in many health carers, it is a coping mechanism. It is often black and at times to the outsider may seem inappropriate. Emergency nurses humour is seeing the humour in a situation and not at the expense of the person. All of these senses are essential to the nurse as they form the basic building blocks of the expert and intuitive practitioner.

The nurse must be able to switch from an emotionally tense situation to a lighter spirited one; from the death in the resuscitation area to the child who has a piece of Lego up their nose all in the space of a few seconds. To be touched by tragedy and then see the humour in life. The majority of emergency nurses are able to cope with the stupidity and cruelty that exists, driving without seatbelts, the use of illicit drugs, child and elder abuse and remain non judgmental – sometimes this is not possible.

The emergency nurse is expected to cope with all the above and remain functional in both the emergency world and the world outside the emergency department.

1.3.1.3. The language

Language is used by emergency nurses to convey meaning and texture to practice. Language need not be spoken; it can be a gesture, a posture, an expression as well as the spoken word. Language is the primary source for information and therefore is an essential component of practice. As with any specialist group emergency nurses place unique meanings on words and phrases, for example, [emergency nurses] *watch in anticipation, see what is hidden, listen with their eyes, and they hear with their hands*. Other more direct language can be used with unique meaning such as; *he's a cat 1* ((Australasian Triage Scale [ATS 1]. A patient with an ATS of 1 is in an immediate life-threatening situation.) or *time to stop*. Behind these words is the unique knowledge and experience of the emergency nurse.

How do experienced emergency nurses watch in anticipation? It is like the owl watching in the barn for the mouse, the owl knows he is there but not when he will appear and the owl must be prepared to act in a split second, to swoop with deadly accuracy. This is how the emergency nurse must practice, to watch for the *mouse*, the changes in a patient's condition, and then swoop with deadly accuracy to prevent harm and to do good. Then like the owl, the emergency nurse is satisfied at the conclusion of events.

Emergency nurses see what is hidden by knowing what the patient may hide, for example the child that is wearing long sleeves in summer may be concealing abuse. By knowing what can be hidden and placing a meaning on some actions is translating the language of the patient. The language is not always clear as it has elements that include hidden meaning, ambiguity and consequences. When the emergency nurse interprets this hidden language and sees what is hidden a decision needs to be made; what action is required? Sometimes the way is clear and mandated

other times the decision to act becomes unclear, and the question of harm and benefits must be resolved.

Knowledge and experience express themselves in many forms. Some nurses with all the knowledge and experience possible still are unable to connect with their patients. They are unable to translate the patient's language or speak in a language that the patient can understand.

Emergency nurses are still developing the language of practice; perhaps we are infants in the schemata of nursing. As with an infant learning the complexities of language to utter their first words and phrases the emergency nurse is also learning and developing their unique language so that we may be able to communicate our practice to others. A significant complication to the development of language is that there is a component of practice that is hidden, referred to as tacit knowledge. A consequence of this is that the emergency nurse looks to others to form the starting point of our knowledge growth.

1.4. PERSONAL REFLECTIONS OF EMERGENCY PRACTICE

I clearly remember my first shift in an emergency department (then a casualty ward). I was at the beginning of the second year of my basic nurse education; it was an evening shift on a summer's night. I could sense both the tension and excitement in the air. As the charge nurse greeted the new nurses, she impressed upon us that this was a team, emergencies happen but there is always time to *take a deep breath and gather your thoughts*. When I enter an emergency department today the same sense of tension and excitement is still there, I still take a deep breath and gather my thoughts

However I have changed since that first shift, the quest to refine my practice and acquire new knowledge is more acute, this is not to say that I was not keen to learn in

the beginning but now it is different. In the beginning I needed to understand the skills and basic emergency theory and now it is the factors that secure and support emergency skills and knowledge. This change is a result of a changing role as I gained experience and knowledge I have refined the way I practice emergency nursing. The new emergency nurse is my responsibility to teach and guide by providing a role model and to assist them construct a meaning to practice. It is a passing on of the cognitive and tacit aspects of emergency practice so that exposure can assist in the development of the novice emergency nurse.

There are many facets of emergency care. As a triage nurse you are responsible to assess and assign priority to the patient and their presenting condition. This position is for the experienced emergency nurse as these decisions need to be made within a short time period, often less than 90 seconds and under pressure (Newberry, 2003). Too many times the triage nurse has numerous people presenting at the same time. They must quickly assess, usually using a few basic questions and a visual assessment, those who need urgent care. At times this is easy; the diaphoretic, greyish male clutching his chest needs urgent assistance whereas the lacerated arm can wait a short time. Others you *just know* are going to be a problem, or you get a feeling that their presenting history is not the main problem. Following triage the patient is directed to the appropriate area.

In the resuscitation (“resus”) area the emergency nurse is constantly dealing with the “ER” scenarios; the life threatening situations. The area is fast, noisy but organised. You often see the nurse up at the head of the bed talking to the unconscious patient, telling them what is going on. I see the person not the body. The most difficult of all ‘resuses’ are those that involve a child or a young person as the outcomes are usually poor. I look and think that their tiny bodies should not be lying on the bed having all the life preserving insults forced on them. They should be at home in bed or

watching “The Simpsons” or out playing, anywhere but **here**. I have often held a parent who cannot comprehend that an hour ago their child was demanding their attention and now their child lies lifeless and cold. This heart wrenching but it is emergency nursing.

Not all emergency nursing is like the above scenarios. The emergent areas deal with the serious situations such as acute myocardial infarction (heart attacks), asthma and cerebral vascular accidents (strokes). There is a comforting routine in caring for these patients and you can sometimes develop a relationship with them. The relationship is intense and short as the average length of stay is approximately four hours. There are times when caring for these patients you get an uneasy feeling about them you know that something is not quiet right although all the parameters that you have are to the contrary.

At the end of some shifts there is too much adrenaline flowing in your system to settle down. You need to go home to your family, sometimes just to hug your children, other times you need to *talk down* the shift. This is not possible if your family does not understand the nature of your work. You learn that sometimes a drink or coffee with your colleagues or nursing friends or time alone is necessary so that you can once again become functional in the outside world. It is in this place that the emergency nurse tells their stories and others is listened to with understanding.

The understanding provided by your colleagues is often unspoken. There is an appreciation of the situation and the context in which it occurred. Life goes on and the emergency nurse must return to the outside world. There are times however when going back *out there* is terrifying, you see your child or your partner as one of the victims you have just cared for. It is because you know you must return to the outside world that you seek support. Some days you feel you have achieved something significant, even if it was to make somebody smile in the face of adversity, other

days are just black. The experience of those situations in practice where you get an uneasy feeling, a feeling of foreboding that is the theme of this research.

1.5. TACIT KNOWLEDGE

There is an implicit body of knowledge in nursing. Michael Polanyi (1891 – 1976) introduced the formal concept of tacit knowledge in 1958. He defined tacit knowledge as; Knowledge that enters into the production of behaviours and/ or the constitution of mental states but is not ordinarily accessible to consciousness. He further explained that certain cognitive processes and or behaviours are undergirded by operations inaccessible to consciousness, by a cognitive unconscious (1958/1974).

Tacit knowledge is that which forms the foundation or background to enable the accomplishment of a task at hand. If we accept Polanyi's explanation all knowledge-based actions have a tacit component (Sveiby, 1997). Taylor (1994) explored some of these tacit issues of being human and the ordinariness in nursing. She captured an essence of nursing that reflected a human relationship and an unconscious connection. Nurses however are not generally comfortable when asked to explore their implicit knowledge. The nurses' training and acceptance by other professionals is primarily based on what can be explained. It is as if tacit knowledge is in some way inferior. However, Polanyi's emphasis that humans are switching between tacit and focal (cognitive) knowledge continually in order to live in the world may well suggest to nurses that deny tacit knowledge they deny a part of self.

Polanyi described knowledge an activity that would be better expressed as a process of knowing. Rolf (1991) extended this by putting forward the notion that there was a hierarchy of knowledge where each level contains focal and tacit knowledge. The lowest level is *skill* – following rules, next *know-how* – following rules in a social context, finally *expertise* - the ability to change rules. Rolf's notion and Benner's (1984) practice development model appear to be symbiotic in that knowledge

development is an essential component to practice development and visa versa. If this is held to be true then there is a component of tacit knowledge in all stages of practice development.

Tacit knowledge can be likened to reading a letter; there are two aspects to involved. First is the interpretation of the *letter* symbols so that the reader can assign a meaning to the words and phrases allowing for the superficial understanding to register. Finally, there is a hidden meaning that is found in the context of the letter that is, *reading between the lines*. Consequently, tacit knowledge is fundamental to the practice of nursing as nurses must first interpret the basic understandings and practice and then read between lines (behind the screens), it could be argued that almost covertly nurses' practice.

Returning to Polanyi's definition of tacit knowledge as that of a cognitive unconsciousness or a mental state not accessible to consciousness, the question arises of what is the nature of these processes. Thought processes are essential to function however there is more to this process than just cognitive, rational activity. A matrix of activity exists that produces ideas and actions.

1.6. THINKING AS A PROCESS

There is a plethora of literature concerning various aspects of thinking. The role of thinking and thought processes are in every aspect of lives, and when this ability is lost or severely damaged, questions in connection with quality of life arise. Thinking and thought processes are in part a reflection of self and ego. On a daily basis we are concerned not only with what others think and how others view our thinking but our existence relies on the ability the think through and react to our activities of daily living. It is one of the most complex, biological, psychological and social aspects of our lives.

It is not just thinking itself that is of concern but the organisation of thought into recognisable patterns and the action that follows. Thinking often precedes action but there are times when it is apparent that little or no thought occurred before an action. This can result in two types of behaviour impulsive and intuitive. These types of behaviour are dependant on the type of thinking that occurs and at what cognitive level the thinking has taken place.

Brugger, Gamma, Schafer, Zurich and Taylor (1993) believe that thinking is primarily a right brain activity. There is no real agreement in the literature as to the nature of thinking but the concepts of linear and non-linear thinking feature strongly in psychological research (Easen & Wilcockson, 1996; Mazzoni. & Nelson, 1995). Similarly the discussion on cognitive level of thinking is also conflicting in that there is agreement that the conscious and unconscious exist but a third level, non-conscious is thought to be tenuous (Greenwald, 1992; Lewicki, Hill & Czyzewska, 1992; Mulligan & Hirshman, 1992).

Aligned with the research on thinking is a consequence of thinking, decision-making. Decision- making is central to the practice of nursing. How nurses and others make decisions has been extensively researched. A range of issues has been addressed including models of decision-making, pattern recognition, level of cognition and the effects of experience on a decision (Ganzach & Krantz, 1991; Knol, deBruyn, Van den Brecken, 1992; Lawson, 1993; Lyneham, 1999; Scott & Bruce, 1995; White, Nativio, Kobert, & Engberg. 1991).

The role of the unconscious and non-conscious in thinking, decision-making, perception and intuition has resulted in ambivalence and confusion the literature. These will be discussed in the following chapter. The discussion on the role of these concepts is not new, Kuo (1996) described the 4th century BC philosophy of Tao and refers back to the ancient writings of Lao Tzū in the Tao Te Ching considered by

some to be the first intellectual discussion on intuition in relation to creativity, knowledge and being. Modern literature appears to have lost some of the acceptance of intuition by trying to overanalyse the process and when unable to establish evidence by using a scientific model of research then it is thought to have little value or worth.

1.7. RESEARCH QUESTION AND PURPOSE OF STUDY

The research question is: What is the experience of knowing in emergency nursing practice? This is a hermeneutical phenomenological study and the aims of this study are to explore the experience of knowing by identifying and extending nature of intuitive practice in the emergency department through the stories and experiences of skilled emergency nurses. This will also explore and extend the relevance of Benner's fifth stage of practice development, 'the expert practitioner'.

1.8. SIGNIFICANCE OF STUDY

There has been, and continues to be controversy as to the existence, relevance and importance in professional nursing practice of intuitive knowing. One of the difficulties is that intuitive practice in a clinical situation has no formal language or even simple words that describe the experience. The characteristics of clinical practice are extensive and varied and all aspects are related and interconnected. However, evidence for the existence of these characteristics is demanded by both the profession and other professional bodies (Russell, 1990). There is widespread acceptance of that which can be proved or tested in nursing. If an aspect of practice does not fit into the scientific model it is seen as soft or weak and more often rejected.

In 1984 Benner applied the Dreyfus and Dreyfus model of skills acquisition to nursing practice. The final (5th) stage was named "Expert" and is defined as *intuitive*

practice; until this research this term has not been adequately defined and/ or challenged in the specialised field of emergency nursing. Intuitive practice is not widely accepted as a basis for sound clinical decisions. Despite Benner's (1984) best efforts the final stage of her skills acquisition model (expert practitioner) is still not seen as an integral component of nursing practice as the nurse's practice is seen at this level to be intuitive.

Nursing is not an absolute science. Any profession dealing with the frailties of the human condition cannot expect controlled measured responses. Benner identified 10 domains of nursing of which two of these are especially significant to emergency nursing and this research; the diagnostic and patient-monitoring function and effective management of rapidly changing situations (1984:46). Benner's discussion on the movement of the domains and the components contained within these domains is seen in relation to the movement of the nurse through the stages of practice development. Benner (1984) noticed that it became evident that as one moves closer to the expert level the ability to scientifically test the domains decreases.

The flaw in the model appears to be that both Benner (1984) and Dreyfus and Dreyfus (1986) acknowledge that not all practitioners will reach this stage. The defence offered by some practitioners who do not reach expert level is threefold; it is tacit and consequently lacks rigor, it does not alter the care given and it cannot be taught and therefore is not really relevant. But this view is limited and limiting, it attempts to measure *knowing* by scientifically accepted standards. Standard science tends to be absolute and measured against that which is usual and it is the premise of this research that science misses the true meaning and significance of intuitive knowing. I am not arguing or even purporting that subjective knowledge is the only knowledge that nurses should use, this would be foolish. There is a body of

scientifically evidenced knowledge that is growing and supporting practice however, what I am purporting is that one aspect of subjective practice has not been adequately investigated.

1.9. THE STRUCTURE OF THE THESIS.

It became evident when drafting this thesis that there were a variety of themes that expressed themselves as concepts and links. Therefore the structure of this thesis follows in that manner. The literature review reveals that when discussing intuition there are many unfinished concepts and faulty links made. The methodology chapter examines the phenomenological tenet as philosophical concepts and intuitive links made by the various phenomenologist as influenced by their life world.

As the method is very structured the methodological concepts have pragmatic links to enable the research to proceed. The outcomes are revealed in two chapters, the first chapter brings to the readers attention the themes identified in this work as new found concepts and interpretive links as it is the bringing to the table of the participants stories as they have been interpreted. The second chapter is an explanation of how the themes are related to each other and how they have mathematical form and structure this is the new found concepts and the creation of new links.

The discussion revisits earlier concepts and links and draws them into the newfound concepts and links. Finally one must look to the future and explore where to from here, the final chapter discusses these final concepts and suggests future links for other research. This has been a long journey and the epilogue allows for this study to have closure, for now.

Chapter 2. UNFINISHED CONCEPTS AND FAULTY LINKS: A REVIEW OF THE LITERATURE

2.1. INTRODUCTION

The practice of an emergency nurse is complex and at the beginning of this discussion it should be acknowledged that there is more unknown than is known. The literature presents many different and contradictory impressions on nursing practice, the theory unpinning practice and practice development. One aspect of practice that polarises is that of intuition. While many authors acknowledge that if a person is repeatedly exposed to an experience then their actions will become more automatic however very few acknowledge the intangible and the tacit components of practice. Central to practice is the intuitive way in which nurses' experience the patient situation; something inexplicable within the traditional paradigm.

Fundamental to the experience of knowing is the reason a nurse must *know* in the first place. Nurses use patient information for the purpose of making clinical decisions. The process of decision-making has been widely researched in both everyday and professional situations (Ganzach & Krantz, 1991; Knol, deBruyn, Van den Brecken, 1992; Lawson, 1993; Lyneham, 1999; Scott & Bruce, 1995; White, Nativio, Kobert, Engberg. 1991). Subsumed within decision-making and the experience of knowing is a myriad of psychological, social and personal knowledge. This chapter will explore the conventions accepted by nurses and the literature relating to knowledge and decision-making. These are generally considered the traditional paradigms of nursing practice. It is also necessary to consider the issues contained within this paradigm, including judgment, practice development, the process and levels of cognition. Although it may appear at first to be encompassing, this chapter it will put forward that they are severely limited in scope and utility when exploring intuitive practice.

Concurrent to the traditional concepts is the related literature, which discusses consciousness, intuition and the relationship of intuition to knowledge. The role of intuition is central to the development and analysis of concepts and knowledge in so many disciplines for example, mathematics, philosophy, and physics. However nursing in its quest for acceptance as a profession and the belief that scientific evidence is essential has attempted to disregard the role of non-traditional ways of knowing prematurely. A contradiction is seen in practice in that expert nurses practice intuitively using tacit knowledge and subjective understandings of clinical situations.

2.2. THE THEORETICAL INFLUENCES ON WAYS OF KNOWING

It may at first appear as though each of the areas to be discussed in this chapter are unrelated; however intersecting relationships exist. It is put forward that in this instance when two of these theoretical components merge a new theory emerges. As they become intertwined they also become symbiotic. The relationship of the theories involved can best be represented diagrammatically in a Venn diagram (Figure 1). On this diagram it can be seen that when there are three major theoretical frameworks that contribute to three other frameworks the final contribution is what is understood as intuition.

The first major theory is *practice development*; this is the movement from novice to expert. When this converges with the theory on *decision making* the outcome is ***clinical decision making***. The combination of *practice development* and *cognition* results in unique ***nursing knowledge***. Finally the overlap of *decision making* and *cognition* is foundational in ***consciousness***. Consciousness, knowledge and clinical decision making are all implicated in ***intuitive*** emergency practice. The following discussion will demonstrate the relationship of this model to the research question.

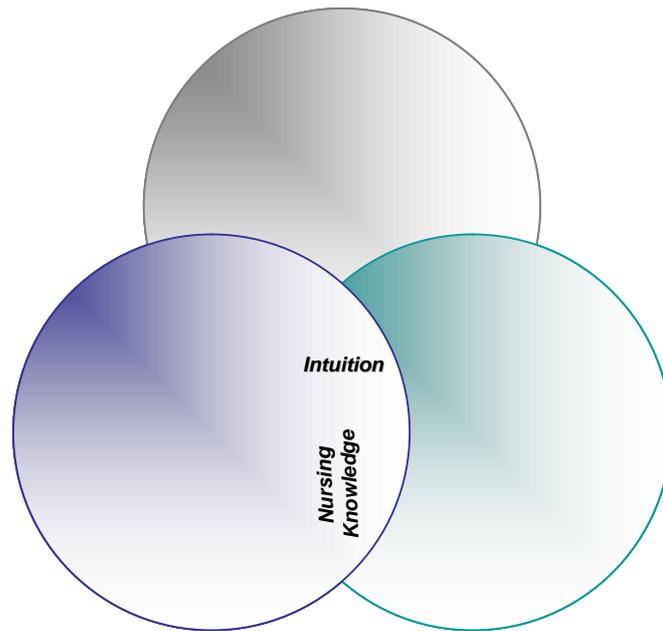


Figure 1: Relationship of Concepts

2.3. *DECISION-MAKING*

2.3.1. *Decision theory*

There is not one day that goes by without a person making a multitude of decisions from the moment we awake in the morning until we sleep that night, existence is based on decisions. Surprisingly the literature avoids defining decision-making, also referred to as problem solving, as a general concept. There are some definitions of decision making in specific situations. Modifying a description by Bandman and Bandman (1995:103) decisions may be defined as the end point of thinking and reasoning in problem resolution. Even if the decision is no decision it is the end point of a process. Therefore decision-making is the process of thinking and reasoning. This definition maybe limited, as it does not incorporate decisions that have a tacit or intuitive component. However it is a starting point from which the discussion on

decision-making can begin. Decision-making is a behavioural concept and became of interest to researchers in middle of last century.

Ward Edwards first postulated the Behavioural Decision Making Theory in 1954 in which he stated that decisions were made by combining information about the chances of certain outcomes and their desirability or utility. Edward's theory has been modified to suit various professions. Elstein, Shulman and Sprafka (1978) examined the behavioural decision making theory and its application to medicine in 1968 and published the results of their initial studies in 1978. They investigated how physicians made clinical decisions by using case scenarios that required participants to notate their thoughts. The major outcome from this study was the description of a four-stage process of decision-making in medicine. Elstein, Shulman and Sprafka named each stage as follows:

- Data collection.
- Hypothesis generation.
- Cue interpretation.
- Hypothesis evaluation.

In the above model data collection refers to the process of gaining random clinical information. This information was then used to generate an assumption (hypothesis) about the nature of the problem in the scenario. The previously gathered information was then clarified and, where necessary, expanded (cue interpretation) so that it could be investigated (analysed) in light of the hypothesis. The final stage either rejected or accepted the hypothesis originally generated. One finding from the Elstein *et.al.* (1978) study was that physicians believed that in many scenarios they used intuition rather than a decision making process.

In another study, Elstein and Bordage (1979) studied the influence of intuition on decision making again in medicine using similar methodologies to Elstein *et.al*

(1978). Intuition was demonstrated to be a cognitive process rather than an extra pyramidal event. Their study refined the Elstein *et.al* findings and named the theory as the hypothetico-deductive approach of behavioural clinical decision-making.

There are two distinct areas of study in decision-making, styles and models. Blustein and Phillips (1990) studied decision-making styles and identified three decision making styles; rational, reflective of autonomous exploration; intuitive, not described; and dependent, construed as a manifestation to adopt values and attitude of others (p163). Scott and Bruce (1995) identified four decision-making styles, rational, searches for logical evaluation of alternative; intuitive, relies on hunches; dependent, searches for advise and direction of others, and; avoidance, avoids decision-making (p818). The similarity of two of the descriptions is evident; the latter study adds a decision-making style but both studies failed to provide even a basic description of the intuitive style. In the Blustein and Philips study the use of intuitive decision-making style was apparent in the results however it was not acknowledged in the final discussion.

A significant trend within the literature is not to adequately describe the intuitive style of decision-making or to trivialise its use as Scott and Bruce did. It is unclear why the literature did not adequately discuss the intuitive style of decision-making, nevertheless it is the beginning of a tendency to undervalue or dismiss the intuitive nature of decision-making in recent research.

A large proportion of decision-making research has examined decision-making models; from the plethora of research there is consistency in the description and use of the models employed. The models used include,

- Rational/ analytical (Wolfe, 1989),

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- Naturalistic (Bower, 1998; Crandall & Gretchell, 1993; Klein, 1997; Lipshitz & Strauss, 1997; Randel, Pugh & Reid, 1996),
 - General descriptive (Davis, Grove & Knowles, 1990),
 - Hypothetico deductive (Bower, 1998; Elstein, 1976; Elstein, Shulman, & Sprafka, 1978; Elstein and Bordage, 1979; Elstein, Shulman, & Sprafka, 1990; Lawson, 1993; Lawson, Baker, DiDonato & Verdi, 1993; Lawson, McElrath, Burton, James, Doyle, Woodward, Kellerman, & Synder, 1991; Lyneham, 1999; May, 1991; White, Nativio, Korbart & Enberg, 1991),
 - Decision analysis (Panniers & Walker, 1994),
 - Interacting systems (Brooks & Thomas 1997), and
 - Process model (McMackin and Slovic 2000).

Other authors have either combined the above models or the model used in their research can be assumed to be one of the above as it was not articulated by the authors (Anderson & Eppard, 1995; Bechara, Damasio, Tranel & Damasio, 1997; Deber, & Baumann, 1992; Grobe, Drew & Fonteyn, 1991; Harbison, 1991; Juslin & Olsson, 1997; Lauri, Salantera, Chalmers, Ekman, Kim, Kappeli & McLeod, 2001; Maddox & Estes, 1997; McKenzie, 1998; Peirce, 1996; Sanford, Genrich, & Nowotny, 1992; Sharmian, 1991; Tanner, 1987; Thiele, Holloway, Murphy, Pendarvis, & Stucky, 1991).

In health care the most popular model is the hypothetico-deductive. Its use has been established in a number of clinical areas in both medicine and nursing. The use of this model by emergency nurses was established by Lyneham (1999). Its attraction in the day-to-day decision-making of nurses is the ability to move around the model. This model starts with the generation of potential diagnoses (initial diagnoses) from minimal pre encounter data followed by testing the initial hypotheses and a continual movement between the hypotheses and data collection until the data sufficiently

supports a final diagnosis. This model allows nurses to test multiple diagnoses simultaneously. This is especially useful for the emergency nurse as little is usually known about the patient except for an initial vague group of signs and symptoms that could be given a number of diagnostic labels.

When dealing with ambiguity a certain amount of error can be expected. Error is poorly tolerated in decision-making in health care. However when the discussion involves intuitive decisions, error is often given as the reason that it is ineffective and inappropriate. The following discussion will demonstrate that in non-intuitive decision-making errors often occurs. There is a significant amount of literature devoted to this subject and this is indicative that the accepted models and processes of cognitive decision making are essentially flawed.

2.3.2. Decision Errors

Decision errors are thought to be evident when short cuts are made in the process and when factors such as underlying bias and limitations are influential (Ward, 1999).

Ward argued that humans have difficulty using all the available information and that there are limits as to the number of pieces of information our brains can consider at any one time, this view was supported by Elstein *et.al* (1990) and Bowers, Regehr, Baalazard and Parker (1990). It is in these situations that an informational short cut or heuristic is used. However, not all heuristics lead to error, Ward cited Dumont (1993) argued that when the problems are poorly structured and there is uncertainty heuristics are used to close the gaps. Experts in an area are more able to reduce heuristic error. There are many arguments as to why this occurs including that experts have a wide range of experience and are able to predict if a heuristic will produce the desired outcome.

Siegert (1999) further explored the issue of decision error. He cited Schwartz (1994) who defines two types of heuristic; availability heuristic as one that is based in personal experience and representative heuristic as the probability of an event being estimated by the degree to which it fits an existing cognitive stereotype. These types of heuristics have been used to explain decision error successfully but Siegert argued that this is simplistic and that there are other processes occurring simultaneously. He put forward the concepts of anchoring and adjustment, overconfidence and discounting as further explanations for error.

Anchoring and adjustment are based in the concept that when making a decision the starting point, or anchor, is fixed and that it is adjusted according to the value accord deemed to meet the specific features of the particular situation. In clinical situations this may mean that the clinician may begin with an assumption of the probability of a diagnosis and adjust the probability according to the data. As Siegert identified in this heuristic the initial placement of the anchor exerts an influence over the decision outcome. The problem here is if the anchor was erroneous the end decision will also be erroneous.

This problem may be reduced depending on the model of decision-making used. The emergency nurses use the hypothetico-deductive method of decision-making in which the anchor is not fixed at one point (Lyneham, 1999). A problem would exist if after testing the initial diagnostic hypotheses the wrong provisional diagnosis was made. The provisional diagnosis can be seen as a *stronger* anchor point and if this were invalid then the management plan would also be flawed. Interestingly decision-error has not been studied in nursing.

Emergency clinicians in all areas of health care are often asked to make decisions or given an opinion without having a thorough knowledge of the facts or worse conflicting facts. These are decisions made where there are high levels of

uncertainty. Dumont (1993) and Schwartz (1994) found that this resulted in errors caused by overconfidence.

Discounting may be an issue in health care. This is when the clinician stops searching for an alternate diagnosis once a plausible cause has been found (Siegert, 1999). Schwartz (1994) refers to this as diagnostic over shadowing. The evidence for this is seen in the litigation of medicos by their patients. It would be a distressing discussion to examine the number of situations where a simple diagnosis was given without consideration of a more sinister diagnosis based on gender, age or previous history.

In my experience as an emergency practitioner this discounting is frequently seen to the detriment of patient care. There have been two recent outstanding situations: A young man was brought to the emergency department from a psychiatric hospital for scheduling (forced admission) and transfer to a secure hospital. The history given by the accompanying staff was of psychotic/ neurotic behaviour. Refusing food or drink, claiming inability to swallow, faking fever by putting a thermometer in hot drinks (but this was not witnessed) and agitated behaviour. I asked if anyone had looked at his throat, the response was why? I looked and saw two massive peri tonsillar abscesses and gave the diagnosis of possible quinsy. His psychiatric history was the primary anchor and as a result discounting occurred when physical symptoms were seen as only as behavioural changes.

The second incident was more complex; a non-English speaking elderly woman was brought in by her daughter with increasing weakness and fatigue. I was told that she had been to her doctor that day and was diagnosed as a viral illness. I thought she looked shocked and I considered sepsis. I gave her an urgent priority and sent her to the acute area. She was shocked, but not septic she had had a massive myocardial infarction and resultant cardiogenic shock. She died an hour later. The coroner

commented that the doctor discounted her presenting problem, her vague symptoms were not adequately addressed and preconceptions about her age were a contributing factor to the initial misdiagnosis by the general practitioner.

Decision error can have devastating effects. Unfortunately Siegert (1999) does not provide any suggestions to reduce heuristic error. Ward (1999) offers a solution in that he advises that actuarial models and methods be employed. He is not alone in that Sadler-Smith (1999a&b), Lipshitz and Strauss (1997) and Bower (1998), contend that statistical methods are usually more accurate.

What is clear is that decisions are made where uncertainty exists; Lipshitz and Strauss (1997) examined the issue of uncertainty. Lipshitz and Strauss analysed the literature on uncertainty and put forward a number of propositions so that they could study how uncertainty in decision-making could be managed. The three propositions were; uncertainty in the context of action is a sense of doubt that blocks or delays action (p150), the uncertainty with which decision makers must cope depends on the decision-making style which they employ and finally different types of uncertainty can be classified according to their issue (outcomes, situation and alternatives) and source (incomplete information, inadequate understanding and undifferentiated alternatives) (p151).

Lipshitz and Strauss (1997) identified three basic strategies of coping with uncertainty; reducing, acknowledging and suppressing. To reduce error statistical methods may be used to predict outcomes, experience is utilised to fill the gaps and additional information is sort. By acknowledging uncertainty one selects a course of action with the knowledge that there are potential risks. Finally suppressing uncertainty is often called the Pollyanna effect. It utilises the tactic of rationalisation. Johnson and Daumer (1993) support the view that in times of uncertainty intuitive

decisions/ heuristics may *work best*, however, this is not acknowledged by Lipshitz and Strauss (1997) or Seigert (1999) and Ward (1999).

Bowers, Regehr, Baalazard and Parker (1990) argued that the research on uncertainty supports the belief that intuitive judgments are often misguided because they are over determined by various cognitive heuristics, this [the authors say] clearly implies that intuition is frequently if not typically a systemic source of error in human judgment (p73). The authors criticise previous literature of this nature by saying that there has been an exploitation of the ignorance of experimental subjects, rather than taking advantage of their [the subjects] knowledge and experience. Their criticism is not entirely erroneous as the research into intuition has a number of serious methodological problems. However, it is unwise to make such a sweeping generalisation that intuition is the source of error in decision-making until such times when appropriate methodologies have been utilised and the results analysed.

One interesting model of decision-making is the naturalist framework; this framework is based in the *real world*. Lipshitz (1993) reviewed nine models of naturalistic decision making and assesses them for similarities / identified six common themes [diversity of form; situation assessment; use of mental imagery; context dependence; dynamics processes; description-based prescription] Klein (1997) used these themes and explored this model as an alternative model for expert decision-making. The premise for this model is that real world experts are able to cognitively process available information, identify hidden cues and use heuristics in situations of uncertainty. His approach is a cognitive task analysis and is informed by the recognition-primed decision-making model. This is a view of decision-making in the real world. The question that Klein tried to answer is how the fire captain knows when to evacuate a building moments prior to its collapse (Bower, 1998). Klein's question raises the issue of experience as a factor in decision-making.

There is no evidence in the literature that supports the rejection of decision-making on the basis of the error involved in traditional models. However decision error is used to support the rejection of an intuitive style of decision-making. Emergency nurses, although shown to use a known rational model also use an intuitive model of decision-making. This has not been adequately investigated. Whatever decision framework is used and in whatever context the decision is made there is an underlying assumption that practice *sic* experience influenced the process and at times the outcomes.

2.3.3. The Effect of Experience on Decision-making

There is an increasing debate as to the effect of experience on decision-making. Dene-Raj and Epstein (1994) found that experience improved performance: Maddox and Estes (1997) found evidence that prior frequency of an experience strongly influences recognition and decision-making. Bower (1998) discussed the application of expertise in real life situations as successful and that experts made speedy decisions based on *know how* effectively. However, Krol, deBruyn and Van der Brecken (1992) found that there was no differences between novice and expert decisions but they only studied cognitive operations in effect not time, process or heuristics, Seigert (1999) argued that in clinical neuropsychology experience makes no difference.

Klein (1997) argued that experience makes a difference to decision-making but it depended on how the strategies for achieving expertise in decision-making were accomplished. He put forward a number of strategies that can be used; engaging in deliberate practice, using attentional control exercises to practice flexibility, sampling alternate strategies, compiling an extensive experience bank, obtaining

feedback that is accurate diagnostic and timely, enriching experiences (reflection), building mental models and obtaining coaching (p348).

The literature is confusing on this issue if one believes the authors who put forward that experience makes no difference then it would be appropriate for new nursing or medical graduates to be placed anywhere in any clinical situation. By reason of successful completion of their university course they have the knowledge to perform competently, this is asinine and dangerous. Decision-making is contextual as Klein (1997) argued it is a real life event with real life consequences; is it not a laboratory experiment.

Therefore what is the role of experience in decision-making? The answer is subsumed within the broader issue of practice development. An individual needs to become proficient in decision-making so that their practice and its consequences develop to serve the purpose for which they are intended. As beginning practitioners the graduate may be able to relate the signs, symptoms and treatment of a myocardial infarction but they cannot recognise it in all its varying and different presentations. It takes exposure to these variations and reflection on current practice, knowledge and the application of different approaches to handling the situation to be proficient; this is practice development.

2.4. INTUITIVE DECISION MAKING

Shirley and Landon-Fox (1996) support the use of intuition in decision-making especially when uncertainty is high, variables are less predicable, facts are limited and little precedent exists. What Shirley and Landon-Fox have described are the clinical situations that exist within a typical emergency nurse's day. Complex decisions are made, however the intuitive style is only one component of decision making used by emergency nurses. The tacit component of emergency practice is witnessed daily in emergency departments world-wide. It is not uncommon for

conversations between nurses to include a *feeling* that a patient would *go off* (*and they usually do*). This is an example of the language of the emergency nurse; to *go off* does not mean one specific behaviour rather a range of behaviours that have a negative consequence for the patient. In this situation the nurse does not usually know what will happen only that something will happen. This is a real aspect of practice and one that appears to be poorly understood in nursing.

Conversely Scott and Bruce (1995) are rather scathing on intuitive decision-making. Their study is highly critical of an intuitive decision-making style. They confuse intuition with one of its contenders, *hunches*. The authors reject out of hand that intuitive decision-making has any place in decision theory. The inclusion of the intuitive decision making style in their study appears to be the result of its inclusion in other literature/ studies. The authors do not put forward any argument in support their position.

Scott and Bruce (1995) identified four types of decision-making; rational (searches for logical evaluation of alternatives), intuitive (relies on hunches), dependant (searches for advise and direction of others) and avoidance (avoids decision-making). Their sample, for this multi-staged study was biased using 92% males (total N=2100) who were military officers, established businessmen or undergraduate business students. It is not surprising that the results show a strong inclination to the rational style of decision-making. The authors believed that once internalised only one method of decision-making was primarily used, they provide no support for this belief.

Anderson and Eppard (1995) identified the elements used in clinical decision for admitting a scheduled psychiatric patient. Nine structures were identified these included, the process that was followed which was deemed to be systematic and individualised. The decision was influenced by legislation and resultant criteria. The

process permits an investigation of alternatives and included the use of team decision making. Participants acted with caution and acknowledged the inability to control all aspects of the decision. There was a component of intuitive reasoning where participants talked about feelings of 'impending doom' and a sixth sense. Clinicians also listened to gut feelings hunches and red flags. Finally the authors recognised the connection with the clients; the participants discussed intimate knowledge of client and their behaviour. This study demonstrated contrary to the belief of Scott and Bruce that a number of styles of decision-making are used simultaneously.

The relationship between personality and decision-making was examined by Huitt (1992). Huitt argued that personality preferences would influence both the way a problem was solved and the types of solutions adopted. Using the Myer-Briggs Type Indicator he believed that a person with a thinking preference would tend to use logic and facts and the solutions would make sense in light of these facts. His results for the intuitive types were that their orientation was on concepts and principles. The solution was deemed effective when it considered the whole situation. The intuitive type used a range of techniques including deductive reasoning, imaging and visualisation and synthesising information.

Huitt argued that the strengths of an intuitive process included the decision-maker *sees* connections and links and then develops complex solutions. A strength mentioned by the author was the implications of improper solutions, if by this he means decision error it cannot be seen as a strength. This appears to be a common criticism of intuitive decision making as discussed earlier, as all decisions have a natural component of error.

2.5. PRACTICE DEVELOPMENT

The adage that *practice make perfect* forms the basis of the theory of practice development. Herbert and Stuart Dreyfus published the now classic *Mind over*

Machine. In 1986 in this book they put forward three major premises; the first that a process of skills acquisition goes from novice to expert and secondly that expert practitioners are intuitive and finally that even artificial intelligence cannot duplicate common sense and cannot learn things that have not been explicitly taught (p67). It is for these reasons Dreyfus and Dreyfus believed that the mind is more powerful than the machine.

Patricia Benner singled out this model as potentially having utility in nursing and using predominantly qualitative methods, for the first time examined the differences between the beginning practitioner and the experienced nurse. Not only did she find support for the Dreyfus and Dreyfus model she identified the domains of nursing practice (Benner, 1984). Benner's work has received general acceptance as far as the role of experience and the appropriateness of the identified domains of practice, but controversy still remains as to the nature of the expert practitioner and the manner in which they craft decisions. There has been no specific examination of practice development in emergency nursing. Krol, deBruyn and Van der Brecken (1992) stated that feedback was essential to the development of expertise and that even after 20 years if there has not been adequate feed back expertise will not occur. The authors also challenged the generally accepted concept that time and experience alone maketh the expert.

The first distinction that Dreyfus and Dreyfus (1986:16-17) made was the difference between to *know that* and to *know how*. To *know that* is to be able to know the rules relating to a task and *knowing how* is the performance in context. As applied to nursing, a student of nursing can recite in an examination the *knowing that* of an aseptic technique but may not have the *know how* to perform the task effectively. As Dreyfus and Dreyfus (1986) acknowledge, this is the fundamental developmental difference in practice development. The development of *know how* assists in the

movement through the stages of practice development however the *knowing that* forms the theoretical foundation for the progression.

As human beings acquire skill through instruction and experience they do not appear to leap suddenly from rule-guided “knowing-that” to experienced based know-how (1984:19).

Both Dreyfus and Dreyfus and Benner put forward a five stage model of practice development. Using the same language labels these authors stated that the five levels were; novice, advanced beginner, competent, proficient and expert. The next section will explicate the characteristics as each stage.

2.6. FIVE STEPS FROM NOVICE TO EXPERT

2.6.1. Stage 1: Novice

The novice or beginning practitioner learns to recognise situational facts and features relevant to a particular skill and their action is based on these facts and features. At this particular stage the facts and features are in the objective domain, in other words they need to be tangible, to be measurable and observable. Action is also based in the application of the published rules for that skill. The elements of the situation are so clearly defined they are recognisable without being aware of the overall situation; Dreyfus and Dreyfus referred to these elements as being *context free* (1986:21).

Benner (1984:21) commented that rule governed behaviour is extremely limited and inflexible. She argued that following the rules may impede success, as the rules cannot tell the novice the most relevant task to perform in an actual situation. In nursing practice an example of novice stage behaviour can be demonstrated when basic aseptic technique is considered. The novice knows the rules and principles that applies, novices can recite the equipment needed and relate the step-by-step approach but what do they do when they expose the wound and find an undulating, purulent, ulcerated mess. They do not have the know how to deal with the situation. However,

after they have consulted with a more experienced nurse who shows them how to respond and the necessary modifications to the rules the novice can, when presented with a similar situation apply the new rules. The simple aseptic technique now has some context.

In nursing the novice stage is not a once only event. Benner explained that if an experienced expert adult intensive care nurse is transferred to the neo-natal intensive care unit they will return to the novice stage (1984:22). In the emergency department this frequently occurs when busy, an intensive care nurse is sent to assist. Although they are competent in caring for a critically ill patient on a 1:1 basis faced with six or more unstable, undiagnosed patients they find themselves at a loss to know how to plan the care required, they are novices in this situation. In practice this appears to be poorly understood as nurses are taken from their area of expertise and sent to other areas where they are unable to provide the same level of care they are capable of in their usual practice areas. This practice is unfortunately, widely accepted (Naude & Muller, 1998). With exposure to novel presentations of clinical situations the novice nurses practice begins to cultivate context. A consequence of this is that practice changes and improves to a marginally adequate level; the novice now moves to the next stage.

2.6.2. Stage 2: Advanced Beginner

The advanced beginner has now significant familiarity with real life situations and how to cope with them. They are beginning to identify meaningful elements and are now applying more sophisticated rules to situations (Dreyfus & Dreyfus, 1984:22-23). The advanced beginner is now situated in the real world although they are yet to embrace the fullness of this situation.

According to Benner, at this level the nurse is able to identify global characteristics of a situation and that these can only be identified through experience with them (Benner, 1984:22). This is marginal practice and for the advanced beginner the situation and conditions of practice are still so new they can only take in very little of what is going on around them. If there are two equally demanding situations they will not know which to address first as they lack the understanding to know what is important (Dreyfus & Dreyfus, 1986:23).

This is a rather lengthy stage and may take up to three years before the advanced beginner begins to see outside his or her own narrow focus (Benner, 1984:25).

During this stage there is a major integration between theory, rules and experience to form practice. The contextual aspect becomes rich and colourful; practice now includes some textual aspects this solving simple problems occurs without reference to a more experienced nurse. The nurses at this stage has made errors and experienced learning. However there is still a rigid and structured order in the manner in which the advanced beginner practices. The stage is characterised by a gradual building of confidence and eventually they are ready to move on.

2.6.3. Stage 3: Competent

The rigid and structured order seen in the previous stage is now seen as an impediment to practice. Through reflection and feedback of practice there is a globalisation of the practice and an ability to recognise priority and urgency. Care is planned; the plan dictates which attributes and aspects are to be considered and those that can be ignored (Benner, 1994:26). Dreyfus and Dreyfus concur and demonstrate that at this level the competent performer is able to recognise and act on patterns that exist in a situation (1986:24).

The competent nurse has the confidence and ability to cope with a wide range of nursing situations but still lacks the speed and flexibility found in the next stage. Now that their practice is safe the competent nurse has the mental space to become truly reflective. Previously reflection was task based and aimed at increasing the proficiency of those tasks but now this has mostly been achieved, a reflective examination of practice as a whole, is needed.

2.6.4. Stage 4: Proficient

The proficient 'performer' makes conscious choices of both goals and decisions after reflecting on various alternatives (Dreyfus & Dreyfus, 1986:28). The situation is perceived as a whole and is guided by maxims. Practice is analytical and fluid; perception appears to be the key (Benner, 1984:27). There is a level of involvement that is deep and has meaning to the performer. All the features of the situation are present but there are some that fade into the background as they are not relevant. No detached choice or deliberation occurs as the action required presents itself as is; ready to be enacted (Benner, 1984:27; Dreyfus & Dreyfus 1986:28). One important characteristic identified by Benner is that the proficient nurse can recognise when the expected *normal* picture does not materialise (1984:28)

Dreyfus and Dreyfus here introduced the concept of intuition although Benner did not use this concept until the next stage (Stage 5). Dreyfus and Dreyfus use *know-how* and *intuition* synonymously:

Intuition must not be confused with irrational conformity, ... and all other unconscious and non-inferential means by which human beings come to decisions. ... only intuition is the product of deep situational involvement and recognition of similarity. Nor is guessing intuition. Intuition of know-how, as we understand it, is neither wild guessing nor supernatural inspiration, but a sort of ability we all use all the time ...acknowledged in women and adjudged inferior to masculine rationality. (1984:29)

They go on to explore intuitive understanding as a precursor to detached decision-making. The triggering of memory from a single component of a situation, tapping into the repertoire of past experiences forms a basis for decision-making. This ability is called *holistic similarity recognition* (Dreyfus & Dreyfus, 1986:28-29)

The progression to the final stage is not as apparent or clear-cut as in the other stages. Progression seems to occur after working in an area for three to five years continually but there is no research evidence to support this (Benner, 1984:31). More recent work has indicated that not all practitioners will reach this stage and that some remain fixed in previous stages either by choice or ability (Brykczynski, 1999a)

2.6.5. Stage 5: Expertise

At this stage the expert's skill has become so much a part of their being that they are unaware of their practice as much as they are unaware of basic bodily functions such as breathing. There is a deep involvement in their environment and the expert does not see a problem in a detached way or works at solving them. In contrast the expert simply experiences a situation and responds in a fluid automatic manner (Dreyfus & Dreyfus, 1986:30-31). Benner believed that the understanding of a situation is intuitive and the expert zeros in on the accurate region of the problem without wasteful consideration of a large range of fruitless options (p32-33). However legitimising and connecting this stage of practice has always been problematic.

2.7. INTERPRETATIONS OF PRACTICE DEVELOPMENT

Tolerance of the novice and advanced beginner is low in the emergency department. This is a consequence of current staff shortages and the generally high patient acuity needed to be safe in this area of practice. Nurses who are novices and advanced beginners are unable to function effectively in critical areas such as triage, resuscitation and emergent care. In an ideal situation these nurses would be taken

into these areas by the expert nurse and their practice development guided in safety. The reality is that inexperienced nurses are often placed in clinical situations for which they are unprepared and tend to learn through error filled practice.

Although generally accepted there has however been criticism of Benner's model. The criticism appears to focus on the intuitive nature of the expert stage. There appears to be no serious criticism or challenges of stages one to four, it can therefore be implied that in nursing the role of experience, as described by Benner, is foundational to sound, safe practice. This acceptance also implies that there is a movement from purely rule based to a highly analytical manner of practice behaviour.

Returning to Rolf's (1991) hierarchy of knowledge where *expertise* is the ability to change rules. The notion of the experts' ability to change the rules in nursing is supported by Benner, Hooper-Kyriakidis and Stannard (1999:8-9). The authors referred to this as thinking in action (also referred to as reflection in action). It is interesting to note that in this text the authors do not refer to the nurses in their study as experts but as an advanced practice nurses. It is not entirely clear why this decision was taken. However the following explanation given was,

Although this work is based on a large representative sample of critical care nurses from multiple settings, we do not use the term "expert" to indicate that a particular nurse is expert in every aspect of practice. "Expert" is also not used to refer to a specific role such as an advanced practice nurses. Expertise is found in the practice of experienced clinicians and advanced practice nurses. (Benner, Hooper-Kyriakidis and Stannard, 1999:9)

This appears to indicate that even Benner's team was not prepared to fully acknowledge all the components of expert practice. This leaves a gaping hole in the basic theory of practice development; who are these experts and what are they doing in practice. It is evident that the nurses in Benner *et.al.*'s study are operating at a high level; their practice descriptions are fluid and perceptive. Is this not their original

description of expert practice? It is with some confusion that the term *advance practice nurse* is used. The confusion may lie in the symbiotic use of the terms expert and advanced practice nurse. If it is accepted that the advanced practice nurse is actually the expert nurse then the confusion is resolved but this is not clear in Benner, Hooper-Kyriakidis and Stannard's text (1999).

Benner and Tanner (1987) explored the nature of the expert nurse and put forward six necessary combinations of conditions for expert intuitive judgment. They are pattern recognition (a perceptual ability to recognise relationships), similarity recognition (ability to recognise 'fuzzy' resemblances despite marked objective differences), commonsense understanding (ability to grasp culture and language to promote understanding), skilled know-how (embodied intelligence), sense of salience (to live in a meaningful world) and deliberate rationality (the expectations of certain events and attending to certain aspects of the situation).

In a later study Benner, Tanner and Chelsea (1992) described the nature of practice development support for previous work completed in 1987 related to the nature and elements in each stage was found. At the expert stage however they found weak support for the six conditions identified in 1987, and the language used to describe expert practice was considered vague. Dreyfus (1998) continued this substantiation for all stages of practice development.

The first three of the six components of expert practice are predominantly cognitive in their processing. Klein (1997) found that there was a direct relationship between familiarity with a situation and the speed at which it was recognised. *Recognition of patterns and similar features* occurs when there have been multiple exposures to an experience, what appears to change in the expert is the speed of recognition. The nuances of a situation can be subtle and the ability to recognise them is not found in the less experienced clinician. This *common sense understanding* develops over time

combined with multiple different exposures to the same diagnostic outcome. Klein believes that identifying the nuances of a situation will not happen if the practice is based on the rules, as the capacity to understand nuances fall outside the rules (p340).

Rolf (1991) argued that there was a tacit component in each stage of practice development but the strength of the tacit component may change as experiential learning occurs. It is clearly difficult to describe an embodied process. It is reasonable to suggest that the lack of clarity in the final three conditions put forward by Benner and Tanner (1987) may be a consequence of their strong tacit component. *Embodied intelligence*, where action tends to be less conscious, is where the body appears to take over and controls action, a tacit action. Many times in practice expert nurses find themselves coping with situations prior to a cognitive awareness of that situation. A *sense of salience* is the innate understanding of the importance of the components of an action without using a rule-governed behaviour. Salience may best be demonstrated by the interconnectedness of subjective and objective information and tacit connections. Finally *deliberate rationality* is where the expert views a situation from within a framework or web of perspectives based on prior exposure and knowledge. The expert is able to, external to cognition, identify the unnoticed crucial components and tacit patterning.

Paley (1996) also found that the lack of clarity in the nature of the expert practitioner is the major criticism of Benner's model. Clarity appears to depend on the ability to describe the nature and development of the expert stage. The ambiguities that surround this final stage plus the lack of a definition that would satisfy the scientific community are the foundations for this criticism. Representative of such criticisms is seen in the four questions posed by English (1993).

- *How do we recognise the expert nurse in the first place,*

-
- *What is the relationship of internal and external criterion – do only expert nurses use intuition,*
 - *What is intuition and how does it work, and*
 - *How is intuition acquired? (p666)*

These are all valid questions however the responses are not to be found comprehensively in the literature. To answer the first question it may be warranted to ask another, that is, who identified the expert and then how is their expert behaviours expressed?

Reflecting on this is to turn the mirror on oneself and to recognise where you are in the scheme of practice development. A self-examination of clinical behaviours is said to be an important component of any practice development, but empirical evidence in relation to the existence of intuition is lacking (Williams, 2001).

Nonetheless can one recognised expertise within themselves? Many expert nurses are operating at an expert level and have made the transition without cognitive awareness; that is, expert practice has become part of their professional identity.

Expertise may not be recognised as such as these practitioners *melt* into the background and tend to go about their practice fluidly and without drawing attention to their actions. This is a partial reason that may hinder a clear definition of expert practice.

The manner in which an expert may practice is expressed in a variety of ways and may also be found in the actions of others. When working in busy emergency department it is not uncommon for experts to be assigned the more difficult areas as a result of the unconscious recognition by the team leader of the reduced need for active supervision of that area. This a tacit acknowledgment of the expert's ability. There is a recognition that the fluidity of practice is not altered by stress and pressure.

Authors who defend Benner such as Darbyshire (1994) tend to argue along a methodological line. That is, the method of reduction used by Benner to arrive at her theory was flawed not the premise of the question asked. The major debate continues to be the nature of intuition, is it innate or mystic, is it cognitive or not, is it a feminine trait or is it decontextualised knowledge (p759-60). This debate is not useful as it is circular. That is, as soon as an author mentions a paranormal entity their credibility is automatically questioned. Other authors appear to have assumed *correctness and appropriateness* of the process without question and moved one to explore another aspect of the model (Bryczynski, 1999, Maynard, 1996). The constructs of this debate will be discussed later in this chapter. Nevertheless it is essential for this type of phenomenological study to remain open to all possibilities.

At the time Benner published her theory, nursing was undergoing a major social and institutional change and there was strong impetus for the professional recognition of nurses within health care. During this period it was not uncommon for articles to appear in the literature staking a claim for the need for purely scientific basis of nursing practice. Such concerns have historical ties from 1960's and 70's and unfortunately are still apparent in some corners of nurse academia today. Authors such as Mallick (1981) in support of this criticism comment:

The weakness in nursing's claim to scientific status may be the relative failure to establish the validity of the tools used in data collection. (p600)

Admittedly this work was just prior to the publication of both the Dreyfus and Dreyfus and Benner studies but this position remains prevalent. This position is not totally invalid as research that followed on from Mallick such as Fry and Burr (2001) and Gerdtz and Bucknall (2001) demonstrate that established rules of practice are useful in making valid decisions. The use of rules has greatest utility in the practice of the novice and the advanced beginner, it provides structure and rules for these practitioners and is appropriate at this level. Inasmuch as the emergency nurse does

not remain at this level but moves to a greater practice capacity this concept fails to explain why proficient and expert practitioners do not need such rule based structure.

Benner was unsure of the acceptance of the terminology she used, especially the word, intuition. She was tempted not to use the word knowing that there would be a challenge mounted by those nurses who argued for a purely scientific base for nursing knowledge. However “*when pen came to paper there was no other word to use therefore it was written*” (Patricia Benner, 1999 personal communication by email 10 March).

By taking an academic risk Benner forced conventional nurse thinking outside the accepted norms, leading to a challenge the way nursing was considered both internally and externally. Benner re-established the context of practice, of embodiment and the real personal world of nurses and their patients, which had been lost or buried in the nature of science. The general support for her work over the years fluctuates the problems and criticisms remain the same. What is intuitive practice?

In an attempt to link practice development and decision-making a number of authors have argued that practice development is linked to problem solving, analysis of data, judgment and clinical decision-making (Bevis, 1993; Kintgen-Andrews, 1991; Maynard, 1996). These processes have often been linked to critical thinking. Maynard (1996) argued that the emphasis on critical thinking in basic nurse education is misdirected, as it does not affect the manner in which the novice nurse practices nursing. At this level critical thinking does not affect competence. She later implies that true critical thinking is developmental and a component of practice development.

2.8. *CRITICAL THINKING AND PRACTICE DEVELOPMENT*

The emphasis on critical thinking was at its peak in nursing during the mid 1990's. During this time both in America and Australia critical thinking was noted to be a criterion for meeting Registration Board competencies (Rane-Szostak & Robertson, 1996). However there was a lack of support for an agreed definition to base this decision on. The most basic definition is that critical thinking is a process that requires careful judgment. This definition implies that choices are made (Kidd, 1995; Rane-Szostak & Robertson, 1996). Behrens (1996) found there was a relationship between chronological age and the results when she used a standardised critical thinking measures, the Watson-Glaser Critical Thinking Appraisal (WGCTA). The WGCTA assesses five skill areas established as components of critical thinking; these are inferences, assumptions, conclusions, interpretations and arguments (Behrens 1996).

Berhens states that critical thinking abilities increase with age and are not merely by exposure to an educative process and make no judgment as to the role of aging and experience to critical thinking. Tanner (1996) stated categorically that nurse education has no effect on critical thinking abilities (p3). However she concluded that critical thinking is a process that mediates between knowledge and action through critical reflection. Emergency nursing is a critical process but there is no evidence in the literature on the relationship between critical thinking and effective emergency nursing practice.

Maynard (1996) links Benner's professional development and critical thinking in the context of competence. She reveals that the development of professional competence requires a trio of abilities; cognitive, psychomotor and affective and that these are triggered during the educative process and therefore are foundational to novice practice. These abilities are also essential to the process of critical thinking (p14).

She concluded that as an intellectual skill critical thinking does not occur in isolation but rather it develops simultaneously with other recognised professional competencies (p14).

During 1995 a debate between Zbilut and Kidd emerged in the literature. On one side Zbilut put forward the notion that if critical thinking processes can be identified then an algorithm can be developed and taught, therefore anyone could be a nurse if they learned this algorithm. Kidd, on the other hand, argued that critical thinking was action based knowledge gained in the performance of nursing. She criticised the notion of algorithms by stating that they do not replace clinical understanding. She concluded nursing to be a blend of biological and social science and it is the social science that addresses the humanity in care (Kidd, 1995; Kidd 1995(b); Zbilut, 1995). As the authors did not appear to be arguing from the same characterisation of critical thinking, it became apparent that consensus would never occur.

The authors in this section so far have painted a somewhat black and white picture of critical thinking. There would be wide support for the notion that critical thinking although not defined is a process, an intellectual skill and a critical reflection of practice. Nowhere in this literature was the mention of tacit or embodied knowledge. It could be suggested that these authors were trying to present a criticism of Benner's fifth stage without stating this overtly? Clearly, there is an underlying current within the literature on critical thinking that this is what any expert should be able to achieve. Critical thinking is a cognitive process and one that is cognitively present, that is, it is an active cognitive activity that is rational, traditional and logical.

Arguments about the nature of critical thinking are similar to arguments seen in the 1970's and 1980's as to the place of a scientific knowledge in nursing. Critical thinking is a non-sense; thinking whether it is critical or deliberate is simply a process of advanced analytical decision-making and as such is unable to be or to

become tacit or embodied. Only one paper attempted to address the issue of critical thinking and intuitive practice (Paul & Heaslip, 1995).

Paul and Heaslip (1995) argued that critical thinking required intuition to the same degree intuition required critical thinking (p43). They explained that critical thinking is the ability to monitor what we are thinking, by focusing on what are critical points in the process. Therefore parts, rather than the whole becomes critical rather than the whole process being critical. They argued that expert nurses with sound intuitions have highly developed skills in using thought to focus on what is critical and therefore problematic. One argument of concern was the authors believed that intuitive knowledge is gained by learning how to describe common patient responses. If this is so then a reasonable question may be asked: How is it that the expert nurse is unable to describe in language the intuitive component of their practice? Paul and Heaslip appear to be using a modified use of the word *critical*. They contend that the nurse focuses on what is *critical* using this word as an adjective not as the traditionalist would use it as a verb.

This final confusion into the nature of critical thinking is useful in that it articulates the divisions actually found in practice. The unanswered question that remains is: Are we [nurses] thinking critically or is the process of thinking critical? Perhaps it is that nurses' are doing both, by acknowledging that there are a number of alternatives and actions that can be taken to arrive at the same end point is to understand the critical nature of the situation, to isolate and use those elements to make a decision. In summary critical thinking is a conscious, cognitive process of thinking it is informed by knowledge, experience and reflection nevertheless it remains an incomplete process in that the nurse and her actions are more than the sum of their parts.

There is no clear link made between intuition and critical thinking by Paul and Heaslip (1995). It is almost as if intuition is *converted* to a cognitive, unconscious, task. To further discredit intuition, the authors state that it is even a potential source of malpractice (p42). However this is more a cursory comment as they do not examine intuition in any detail or depth. Even the writings found in an earlier discussion by Benner and Tanner's (1987) demonstrated a more focused approach to intuition and (critical) thinking than was presented by Paul and Heaslip (1995).

2.9. COGNITIVE PROCESSES IN PRACTICE AND DECISION-MAKING

It is necessary at this point to deviate into the nature and structure of thinking and cognitive processes as these are said to be the foundations of thought and action (decision-making). There is an overabundance of information dating as far back as Lao Tzŭ; the writer (551-479 BC), Socrates; the examiner (469-399 BC), Plato; the idealist (427-347 BC) and Aristotle: the realist (384-322 BC) on the nature and purpose of thinking. For Aristotle, Plato and Socrates, thinking was the process of explaining and understanding the universe and mankind's relationship to it. For some of their contemporaries such as Pythagoras, the purpose of thinking was to make order of the chaos, achieved through the study and understanding of mathematics. Lao Tzŭ presented the first written work on intuition as a life force. Lao Tzŭ's work was entirely philosophical thinking and does not appear to contemplate the nature of thought itself.

When the infant scientific and the established religious communities clashed at the beginning of the second millennium there was a destruction of academia and all that it represented. Thinking was seen as heresy and intuition as witchcraft. At the time of the first industrial revolution and with Papal (Leo X) support for the art, ideas and knowledge put forward by Di Vinci in the early sixteenth century an interest in the scientific foundations of humankind was rekindled. The more humankind learned

about the brain and its function the more curious we became. Only in the 19th and 20th century has it become of interest to expose the underlying cerebral nature of thinking and the nature and function of the brain. But with this quest came the discarding of that which was not explainable using science.

Descartes axiom *I think therefore I am* started the modern quest for what was this concept of thinking (Cupchik, 1999). By the beginning of the 21st century it is widely accepted that thinking is a cerebral process with a number of processing factors or levels. Thinking fundamentally defines who we are and what we do but is influenced by our cerebral processes, personality and nature. A large proportion of the research into thinking examines the process and at which level thinking takes place. It is a complex mechanism assumed to occur on at least two levels.

The literature divides thinking into the conscious and subconscious with a further delineation of the subconscious into 3 levels of processing, they are the pre-conscious, unconscious and the non-conscious. For the purposes of this research it is at this non-conscious level in the subconscious that intuitive processing occurs. The conscious and sub conscious are equal processes one occurs with awareness and the other without awareness Bohart, 1999; Clark, 1995; Goldberg, 2000; Nixon, 1999; Travis & Pearson 2000; Vaneechoutte, 2000).

The determinate of level of the level of consciousness is the issue of attention and awareness. That is, there are thoughts that are intentional (conscious), such as, what shoes do I wear today. There are thoughts that are presented to us without awareness, the drink that is subliminally presented that causes a desire for a drink (pre-conscious). There are also thoughts that are unintentional firstly, automatic (unconscious), seeing a bleeding arm and immediately applying pressure, and secondly the level of processing believed to be associated with the inner person, also unintentional (non-conscious). Some authors have linked the non-conscious with

intuitive abilities. These processes are interactive and appear to be linked. For example one cannot decide on what shoes to wear without unconsciously processing what the weather is, what clothes are worn or what mood one is in, and a feeling that a sandal, although it is sunny and suits the clothes is wrong for today. However the cognitive process used in the context of emergency practice has not been established and there is some logic in the assumption that the emergency nurse processes information on all cognitive levels so that orderly, appropriate decisions are made.

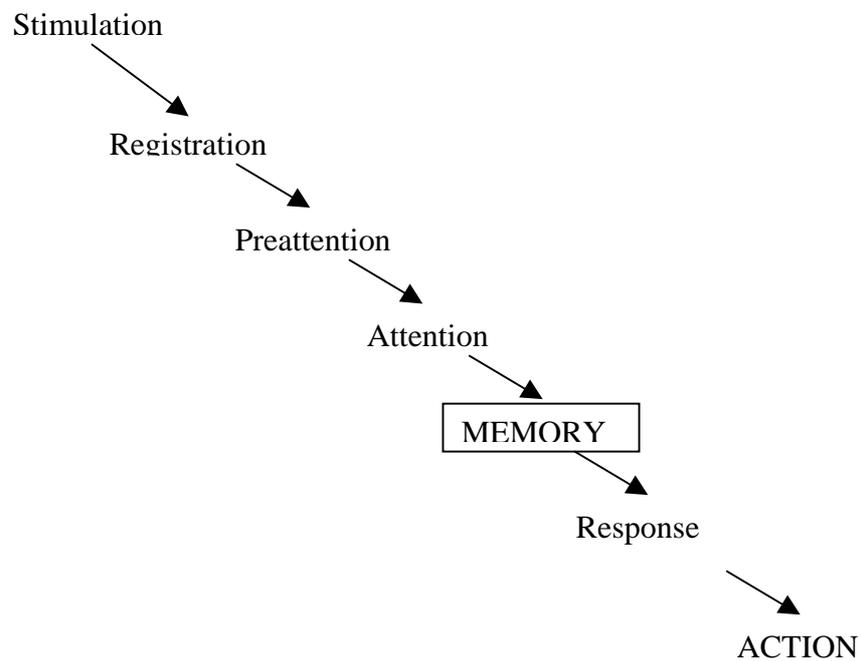
2.9.1. Conscious Processes

Conscious processes are explained here for the purpose of completing a total picture of all the processes used in thinking and decision making. Conscious processes are used when a problem or the need to make a decision comes to our attention.

Conscious processing is a rational linear method (Greenwald, 1992; Mulligan & Hishman, 1997; Spitz 1993), it is a process about which the individual is aware and actively participates. The process follows a detectable pathway which has a beginning, a middle and an end. The results of the process are arguable rational in that the individual can articulate how the *end* was reached, even if there is no logic or reason to the end.

The individual both attends to and intends to act or consider the outcome, therefore conscious processing is both attentional and intentional to a problem or decision (Mulligan & Hishman, 1997). Additionally Papineau (2000) tendered a premise that conscious mental occurrences have physical effects. There is significant evidence to support this premise in that electroencephalograms (EEG) and positron emission tomography (PET) scans show consistent changes when subjects move from a relaxed to a thinking state (Goldberg, 2000). It is an active physical process that can be rationalised; it has logical connections and measurable outcomes. The linear

aspect was modelled by Greenwald (1992) as a direct process as shown below (Figure 2).



(Adapted from Greenwald, 1992:767)

Figure 2: Information Processing Model of Cognition

Conscious processing cannot occur in isolation as it is affected by knowledge, experience and emotion. Epstein, Pacini, Denes-Raj and Heirer (1996) compared the rational and experiential systems of thinking (Table 1) articulating some of the significant differences. These are characteristic of the effort required. The focus is either affective or logical and mediated by the rational and experiential systems. The conscious processes are clear intentional processes that may be required to inhibit or oppose responses that would likely occur automatically given environmental inputs (Mulligan & Hirshman, 1997).

Why then does the conscious need to be activated to oppose or inhibit an automatic response; is it basically to prevent harm? Mulligan and Hirshman (1997) indicated above there is an association between the intention and the automatic. There is

clearly a limit to the conscious working memory and attentional capacities when these limits are reached then other non attentional systems must be activated for simple survival. Therein lies a connection between that what is automatic and that which is intentional, in other words there is a second system in operation which is synchronous to conscious processing – the unconscious.

Table 1 **Comparison of the Experiential and Rational Systems**

<i>Experiential System</i>	<i>Rational System</i>
<i>Holistic</i>	<i>Analytical</i>
<i>Automatic effortless</i>	<i>Intentional Effortful</i>
<i>Affective: Pleasure – pain orientated</i>	<i>Logical: reason orientated (what is rational)</i>
<i>Associationistic connections</i>	<i>Logical connections</i>
<i>Behaviours mediated by “vibes” from past experiences</i>	<i>Behaviour mediated by conscious appraisal of events</i>
<i>Encodes reality in concrete images, metaphors and narratives</i>	<i>Encodes abstract symbiosis, words and numbers</i>
<i>More rapid processing: orientated towards immediate action</i>	<i>Slower processing: orientated towards delayed action</i>
<i>Slower and more resistant to change: Change with repetitive or intense experience</i>	<i>Changes more rapid and easily: changes with strength of argument and new evidence</i>
<i>More crudely differentiated: broad generalisation gradient; stereotypical thinking</i>	<i>More highly differentiated</i>
<i>More crudely integrated: dissociative, emotional complexes; context specific processing</i>	<i>More highly integrated: context general principles</i>

(from Epstein, Pacini, Denes-Raj & Heirer, 1996: 392)

2.9.2. Unconscious Processes

Historically Freud has been credited with the modern academic discussion of the unconscious. However Whyte (1960) in his history of the unconscious provided

evidence that the distinction between the conscious and unconscious was first postulated by Descartes some 200 years before Freud. Further investigation showed that the discussion on the unconscious was also known by other terms, for example, Leibniz (1704/1981:53) alluded to the unconscious as *insensible stimuli*.

Nevertheless Freud's work placed the unconscious and its processes within the realm of modern psychological discussion. In the last 100 years a vast amount of literature and research on delineating between the functions of the conscious and unconscious mental processes exists (Mulligan & Hirshman, 1997; Spitz, 1993). Freud's legacy has been to limit the unconscious to a purely emotional position and the consequence of this is that it is seen as *dumb* (Greenwald, 1992; Erdelyi, 1992; Spitz, 1993).

However, more recent studies have refuted this assessment by stating that the unconscious is *smart* and necessary for thinking and decision making (Greenwald 1992; Lewicki, Hill & Czyzewska, 1992; Loftus & Klinger, 1992).

Erdelyi (1992) argued that the unconscious is a pretheoretic term with a variety of problems, it has multiple and *unsettled* meanings. Merikle (1992) traced the first experiment on the unconscious to Sidis in 1898 and concluded that some of the questions posed by Sidis remain unanswered today. It appears that the results of research in this area depend on the willingness to accept the subjects' verbal reports to provide an adequate measure of all relevant conscious information.

The simplest general meaning of unconsciousness is *unaware of* (Oxford Dictionary). Unconscious processes are unintentional and lack the attention found in conscious processes yet they are not oppositional but rather complimentary. It may be more correct to describe the unconscious processes as perception without awareness (Merikle, 1992). The difficulties in providing empirical evidence for unconscious processes have delayed its acceptance (Greenwald, 1992; Merikle, 1992). Greenwald noted that the 1950's omission of the word unconscious from the

vocabulary and texts in the discipline of psychology occurred following a period of intensive research starting in 1947 which failed to provide empirical evidence for the existence of unconscious influences on perception. As with nursing knowledge the need to have empirical proof hindered progress of understanding intuition in this area of psychology.

The reluctance to accept unconscious processes on the basis of lack of evidence ignores one of the most compelling arguments, dreaming. Spitz (1993) reasons the following:

When asleep I dream (the aware "I") I am no longer in control of my thoughts, yet somehow my mind organised my memories and on occasion incorporated outside noises into a narrative... The dream is not consciously controlled. (p234)

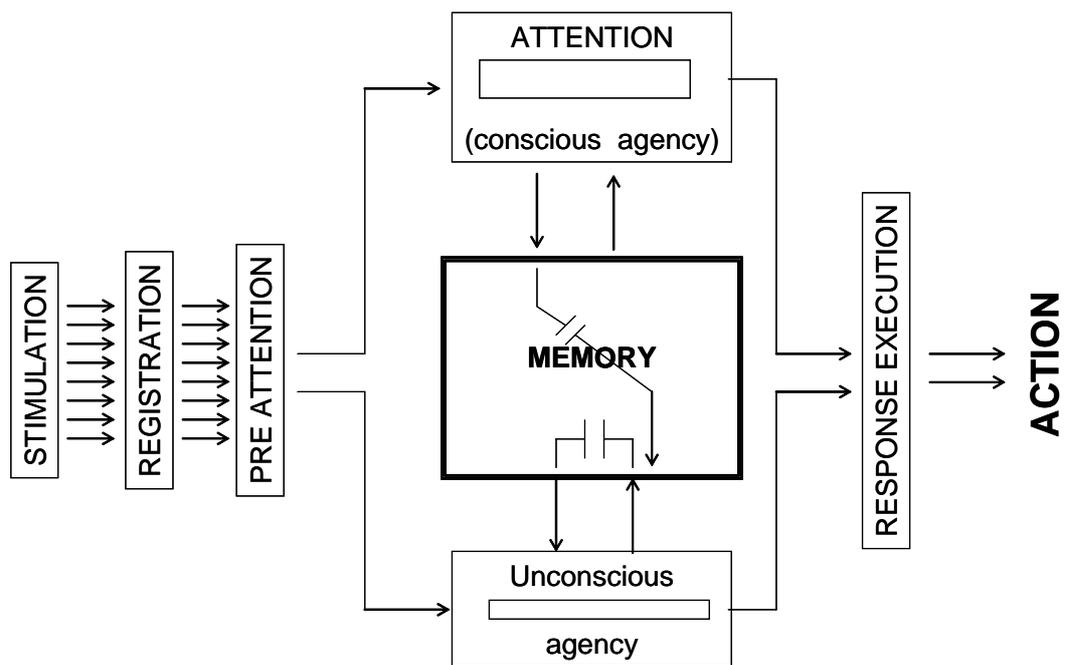
If this organisation occurs during sleep there is no reason why it cannot also take place while awake. In other words unconscious processes will influence conscious thought and behaviour in many ways.

In 1987 Kihlstrom published research results that do not appear to have been developed further despite providing a possible explanation of the unconscious processes. Kihlstrom produced a taxonomy of the subconscious that included automatic processes which are either acquired or innate. Innate processes are perceptual and highly practiced skills that are acquired. These results may provide an entrée into expert practice and therefore intuition

The unconscious plays an essential role in learning and thinking. There is a school of psychological thought that equates the unconscious with subliminal suggestion. The subliminal research appears to support the connection with the unconscious but some authors have put forward that processing occurs at a pre-conscious level (Kihlstrom 1987; Kihlstrom, Barnhardt & Tataryn, 1992). Subliminal processes are primary

cognitive priming procedures and the pre-conscious is tapped by subliminal perception and implicit memory.

Attention plays a critical role in unconscious processes. There are three domains. The first two, *unconscious cognitive activation* and *unconscious establishment of memory*, involve attentionless unconscious cognition and the final domain *unconscious retrieval of memory* which involves verbally unreportable unconscious cognition. Greenwald (1992) organised an information processing model of conscious and unconscious cognition (Figure 2). However no further work has been done to support the model (Greenwald, personal communication, email 13th June, 1999).



(Greenwald, 1992: 767.)

Figure 3: Information-Processing Model of Conscious and Unconscious Cognition.

In this model Greenwald proposes that there are two equal agencies impacting on memory. That these agencies are somewhat independent of each other however they are both implicated in cognition. Research has been unsuccessful in proving or

disproving statistically or otherwise the processes of the unconscious. As recently as 2000 Goldberg described this conundrum as “*the now active even frenzied pursuit to close the gap or lift the barrier or to heal the split.*” It is the mind that holds the key, unlike other aspects of physiology which are seen and the function is visible and understood. The mind is not the physical brain. The brain’s synaptic activity is visible on various scans but how that activity translates to thought and action is not deeply understood. Researchers can test, postulate and hypothesise but the answers to the mind/ brain relationship are presently not accessible. The consequence of the answers not being accessible is to severely hinder the research into intuition as intuitive thoughts are not initially conscious. Their origins may lie within the sub conscious.

In...any experimental procedure do cognitive researchers assume that they can directly learn how humans process information by simply asking them to report the contents of the procedural knowledge they follow. No matter how cooperative or well trained our subjects are, they cannot tell us how they go about processing information...This is because subjects not only do not know how they do all those things but have never known it, and they do not have the slightest idea of how they learned.

(Lewicki, Hill & Czyzewska 1992:796)

The unconscious is a complex poorly understood aspect of the mind. The literature supports the existence of the unconscious however it cannot agree on how it functions and it’s the nature of its impact. The unconscious appears to be an essential component of the mind which in turn is necessary for existence.

2.9.3. Non-Conscious Processes

In the late 1980’s the word non-conscious began to appear in the psychological literature as a part of the process of unconscious thinking/ processing (Lewicki, Hill & Czyzewska, 1992). Some authors appeared to make this distinction in order to remove themselves from the influence of Freud’s definition of unconscious (Hill, 1993). Nonetheless there appears to be a distinction between the two, that is the role

of experience. A significant difference between the unconscious and the non-conscious is that the non-conscious is relatively independent of experience whereas the unconscious appears to use memory and therefore experience as a component of its processing (Figure 3).

The argument put forward by Kihlstrom (1987) that the unconscious is either perceptual or acquired supports this argument. Perceptual learning occurs without awareness, for example, when we are physically touched we learn what this is called and what it represents. Perceptual unconscious learning involves our senses. The experience of acquired unconscious is gaining automated skills without awareness and related to direct experience (Au, 1994). A baby is not aware that the skill of walking is developing then at a point in time the baby takes its first steps. This biped skill is practiced without the baby thinking *I will get up and practice walking today* however it is the motivation of getting to where they want to be that is cognisant. A fit normal adult will walk unaware of the mechanisms involved, it is in our memory and experience that this becomes an automatic action.

McMackin and Slovic (2000) cited supporting research that demonstrated that non-conscious information processing is more efficient than conscious analysis. Non-conscious processing is not a difficult task when one considers the cumbersome nature of conscious analysis. If the non-conscious experience and learning is independent of experience and may be a foundational component of intuition.

Lewicki, Hill and Czyzewska (1992) explained the acquisition of information by using encoding algorithms. For example, a facial feature x and mood of y results in the tendency to interpret (encode) behaviours of subsequently encountered people who process both x and y . There is a range of both conscious and unconscious processing involved; it is related to the experience and subsequent experiences.

How is information acquired without experience, or non-consciously? Lewicki, Hill and Czyzewska (1992) believed that this process occurs using a sophisticated encoding ability that is outside of conscious awareness, however they do not explain how the learning component of the experiments were set up only that there was a manipulation that resulted in a change in reactions.

The question that has not been asked in the research into the non-conscious is, if we do not learn by experience how is non-conscious learning acquired. It may be hypothesised that this could be sensual learning (not in a sexual sense), that is, learning through our known and unknown senses.

2.9.4. Consciousness: A Precursor of Intuition

Awareness of person, knowledge and self is the foundation of emergency practice.

There are a number of interpretations of consciousness. The nature of consciousness was central to the thinking of William James a century ago (Travis & Pearson 2000).

A review of the Oxford English Dictionary reveals six definitions of consciousness:

1. *Interpersonal cognitive relations*
2. *Remembering on a first hand basis one's past actions or experiences*
3. *Occurrent awareness of any object*
4. *Immediate awareness of one's mental-occurrence instances*
5. *The totality of mental-occurrence instances that constitute our conscious being*
6. *Potential forms of conscious entirely different.* (p306)

These definitions do not assist our understanding of the concept of consciousness. As a Western society there is a level of comfort with the first five definitions as they are based in the cognitive/ mental instances theme. Awareness of self and others is related to cognitive structure and is part of the tacit nature of emergency nursing.

James (1890) stated that no subjective states can be its own object of experience (cited in Travis & Pearson, 2000:78). The Eastern cultures however, are not in line

with James's comment as they explore the sixth definition, consciousness as a pure experience but with objective markers.

Travis and Pearson (2000) conducted a phenomenological study on Eastern Transcendental meditation as an experience of consciousness. The major themes uncovered were, absences of space, time or body sense; peaceful and unbounded. Consciousness was found to be self awareness isolated from the processes and objects of experience. This finding removes consciousness from conscious and unconscious processing but not non-conscious processing. These findings provide weak support for a relationship between consciousness and non-conscious processing.

The Japanese Zen Buddhist Saint, Hakuin Zenji described consciousness as being distinct:

Before long you will find that the mind-nature has become settled in you – like a rock, unmovable and peaceful...[Then] the one pure, unconfused truth, all, as it were, in one whole, will rise up before your very eyes.
(1963:117).

There is physiological evidence that the body responds to this level of consciousness in a manner unable to be elicited by any other means. That is, apneustic breathing, an increase in the peak power of the EEG and an increase in skin conduction. These changes are not seen during waking or sleeping states and appears to be unique to a high level of consciousness found during mediations (Travis & Pearson, 2000).

Vanechoutte (2000) further supports the premise of physical changes associated with consciousness. As a chemist he examined enzymes that react to subtle changes in mood/ emotion or lack of it and concluded that certain enzymes could be regarded as devices which interpret the environment by picking out only certain molecules and which can be different in varying moods. The author described the subtle effects that occur at a cellular level. On this level it is possible to describe the cellular experience

in the same terms used for enzymes. These changes may be responsible for the gross physical changes described by Travis and Pearson (2000). All these responses are without awareness, that is, without consciously processing and in response to a change in the environment. The environmental change can also be sensory or tactile input.

It is still believed that only humans have symbolic language and symbolic language allows the storing of experience and the encoding of this information thus providing a frame of reference. Vaneechoutte describes consciousness as reflexive awareness, defined as experience which is possible because symbolic language enables us to observe experience as if we were a third person looking at ourselves. The discussion appears to have moved from a conceptual to a philosophical stage with this concept as the nature of consciousness and awareness are not tangible like experience.

It is the use of symbolic language to say that the “I” of awareness is different from the “I” of experience. Consciousness permits language to be used to describe experience with embedded awareness. Consciousness allows the phenomenon of experience to be related without reflection as to reflect is to become aware.

Consciousness is synonymous with experience that is lived non-consciously. Nixon (1999) believed that it can be any experience which does not separate an inner subject from its outer world. Experience is probably a continuum of sensation in which environmental stimulus and instinctive response are experienced as a unity. A link may now exist between consciousness and phenomenology, consciousness does not remove the context but rather the context is integral to the experience of consciousness. If consciousness is perceptive and innate then this intuitive nature of consciousness must also be linked to phenomenology.

Philosophers such as DuBois-Raymond, McGinn, Nagal and Fodor held that as humans we never possess the pre-requisite concepts to represent or comprehend or

represent facts even if our species lasts forever (cited in Turner, 2000). Merleau-Ponty (1942) described the philosophical thinking in France at that time as the existence of parallel philosophies. The first is one which makes of every nature an objective unity that constitutes consciousness and on the other sciences which treat the organism and consciousness as two orders of reality. Perhaps this is arguing that science and philosophy can and does co-exist with some kind of accord? DiLollo, Enns & Rensink (2000) does not believe that co-existence is possible. He writes that consciousness is a *competition* that is in need of standard scientific explanatory practice. He reduces consciousness to a product of a restricted class of cognitive process generated by a functionally restricted brain. With this kind of thinking human consciousness can be replicated by a computerised robot as suggested by Dreyfus and Dreyfus (1986).

Standard scientific explanations are not always appropriate when exploring the nature of what is to be human. This thinking is contrary to the Dreyfus and Dreyfus belief that the mind is superior to a computer. Rosenthal (1997) further confused the discussion on consciousness by arguing that there are two types. The first type is a state having a characterised content and the second as a state poised for use in reasoning. The first type appears to be related to subliminal perception and the second for concerns such as control of speech. Both concepts appears to be out of place in the discussion as it is not related to the aware “I” but rather the thinking cognitive “I”. Forman defined consciousness as a wakeful but contentless (non-intentional) experience; one neither thinks, nor perceives nor acts (1998:5). Loosely describes how intuition ‘feels’.

2.10. INTUITION

Humans have the experience of action that appears to arise spontaneously without intention or effort, without the sense of “me” doing it. There is a strong sense of

knowing not captured by current psychological models, a basic knowing not explicit or graspable (Rosch, 2000). Rosch continued that anyone who attempts to introduce intuitions based on this sense of knowing into science enters a no man's land in which there is no language or established models of discourse or no rules for how to proceed.

The history of intuition is said to date from the discussions of Socrates some 2500 years ago but it is in fact a little older. Most Westerners writers have ignored the Eastern cultures and therefore have overlooked an early Chinese philosopher Lao Tzū and the Tao Te Ching now thought to be the earliest writings on intuition as well as the foundation for the religion of Taoism still practised today (Kuo, 1996). The Tao Te Ching was written at least a century before Socrates. Lao Tzū had a similar problem to Rosch; the inability to successfully use language to express intuition. The Tao believes that one must abandon tunnel vision or be freed from the restrictions of past experiences to be able to embrace the intuitive self (Kuo, 1996).

The acceptance of intuition is, in some instances cultural. Anthropologist Charles Laughlin (1997) described the “dreamers” of the So of Uganda and the Tibetan Lamas who invoke intuitive realisations that are acted upon as though unquestioned truths. However, here in our *cultured* Western civilisation it appears that such intuitive behaviours are treated with scepticism and mostly ignored.

Intuition, however, permeates most academic fields including mathematics, philosophy, education, psychology, literature, science, business and management. Although there is no language or established models of discourse, a great deal has been written and discussed on intuition and its status in our culture. One outstanding issue in the discussion is the failure of writers to discriminate between valid intuitive knowledge and its contenders such as guesses, impulses, projections and biased

perceptions. Another issue is actually defining what intuition is and is not. These issues will be addressed in this section.

2.10.1. The Nature of Intuition

The English word for intuition is thought to be derived from the Latin *intuitus*. Laughlin (1997) translated this as “the act of achieving knowledge from direct perception or contemplation”. The relationship of this word to the word used by Socrates *daemon*, (knowing as a force or presence, a voice, a passion, an urge of certitude that impels one into action) is unclear. It is interesting however that at some point in history *daemon* became the root word for demon. Could it be that this was the beginning of the unacceptability of the use of intuitive abilities?

There are two authors whose works are widely cited and generally accepted as having validity in the discussions on intuition (Goldberg, 1989; Vaughan, 1979). According to Vaughan the type of intuition depends on the level of awareness. Four discreet types of intuition are described; physical, emotional, mental and spiritual. Intuitive experiences may contain elements of one or more of these types. Briefly, the physical is associated with bodily sensations, intuition become conscious. The emotional is where there is a vague sense of the need to do something. Mental intuition involves the images that appear in our awareness and finally, the spiritual is described as holistic understanding.

There is overlap with Goldberg’s functional categorisation which acknowledges the diversity of intuition (Table 2)

Table 2: Functional Categorisation of Intuitive Experience.

Category	Description
Discovery	Representative of the ‘eureka’ experience. It is spontaneous, unforeseen and sudden
Creativity	Results in imaginative alternatives or options.
Evaluation	A binary action which directs choice. Eg. The decision to do something against advice as you know it is right.
Operation	Serves to direct action
Prediction	Refers to foreknowledge or prediction that is either positive or negative.
Illumination	A transcendence of experience.

(Adapted from Goldberg, 1989)

(1979) put forward three categories; mental, emotional and spiritual. He did not provide a detailed description of each. There appears to be similarities between the two authors categories of intuition based on the function source and outcomes of each (Table 3). However there appears to be no relationship or connection between Goldberg’s idea of functions and Vaughan’s physical type of intuition

Table 3 Comparison of Vaughan and Goldberg’s Categories of Intuition.

Goldberg	Vaughan
Discovery	Mental
Creativity	
Evaluation	Emotional
Operation	
Prediction	
Illumination	Spiritual

Laughlin (1997) points to the historical conflict between intuition with metaphysics and religious knowledge. Religion and metaphysics together are the nemesis of science as they stand as a hindrance of the “reality” of empirical proof. Laughlin believed that *the result of this is that the intuitive baby has been thrown out with the*

metaphysical bathwater (1997:22). However the issue of verifiability remains.

Science with its positivist view would like to tie up the loose ends caused by the unverified notions in this world. Fortunately this is countered by those like Heidegger (1927) who believed that these problems cannot be solved by rationalising the essential nature of being.

Nonetheless science continues to *use* intuition and its processes for its own creativity but simply has ignored its role. Science has tried to explain the process of intuition by using neurophysical methods, hence the belief that it is a right brain activity (Bogen *et.al.* 1972; Levy, 1972; Ley, 1982; Parsons & Osherson, 2001; Sperry, 1974). Social scientists have attempted to reduce intuition to a level of unconscious processing associated with the right lobe. However neither has explained the nature or experience of the process.

Psychological support for intuition varies depending on the school of thought.

Intuition has been developed by some psychologists as a trait rather than an event or a component of knowledge and decision-making. An example of this is the Myers-Briggs Type Indicator (MBTI) which is a forced choice, self-report inventory that attempts to classify individuals according to an adaptation of Jung's theory of conscious psychological type (Briggs Myers & Briggs, 1962). The MBTI differentiates people on the basis of personality traits pairing extrovert/ introvert, intuition/ sensing, thinking/ feeling and judging/ perceiving.

Redford, McPherson, Frankiewicz and Gaa (1995) cited a Myers and McCaulley (1985) study that show only 25% of the population preferred an intuitive mode and argued that this is a result of the restrictions of our conforming society who tend to submerge intuitiveness. The use of the MBTI is widespread and varied, for example, Moore and Bayne (1997) use the results of a MBTI to determine if people read for

pleasure. The authors state that those who have a *sensing* result are less likely to read for pleasure. Maybe this is an example of the misuse of such tools.

Although now somewhat dated, Atkins (1987) used the MBTI to identify the personality type of emergency nurses. This is the only study found specifically on this topic. Only 28% of subjects were found to be intuitive and 11% demonstrated a balance between sensing and intuition. It is difficult to comment as to the validity of these results to predict the use of intuition in practice as there has been no examination of the connection. However, the results did show that 40% of nurses had in some way a connection to intuition.

Shirley and Langdon-Fox (1996) highlight the confusion between intuition and insight. They distinguish between the two by arguing that intuition is without conscious awareness and insight is the awareness of something with rational thinking. This is a vast difference if one considers the levels of processing and if accepted then authors who freely interchange the two are not acknowledging the differences in the levels of processing having significant support in the psychological literature.

The discussion on the differences between insight and intuition is continued by Henley (1999) when she attempts to distinguish between the features of the two. The conclusions of her discussion are reduced to the suddenness of the experience. Insight is always sudden and intuition can develop over time, no evidence is provided for this conclusion. However she puts forward an interesting concept of the differences in the *subject* matter of their content. Insights contain solutions of a known problem and intuition's subject matter unfortunately is not discussed and the concept not developed.

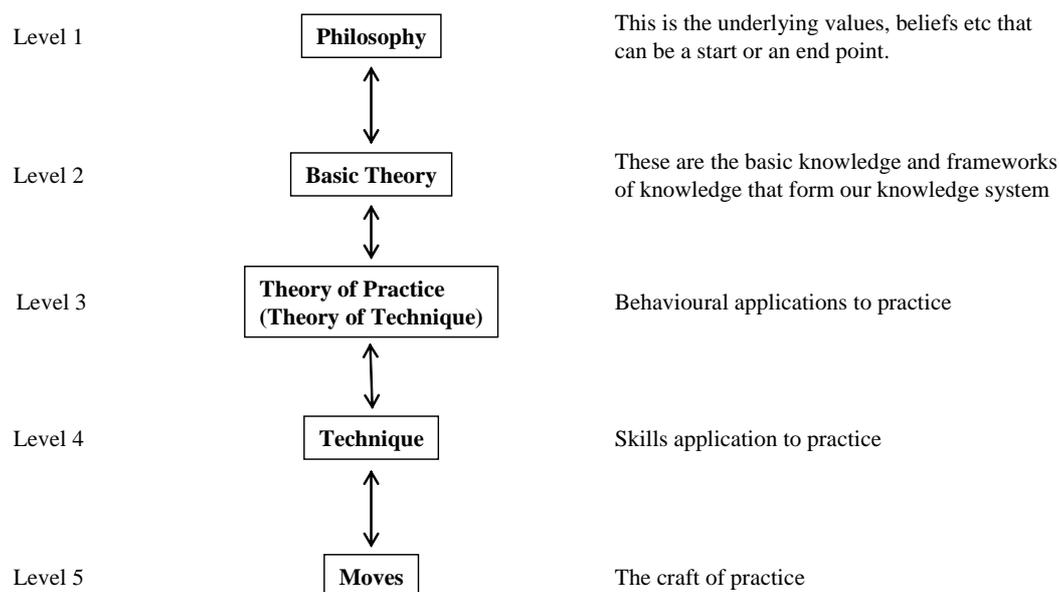
The concept of *subject* may be pivotal in this discussion about the differences between insight and intuition. An intuition not only occur suddenly but the awareness

of the *subject* of the experience is absent, that is, there is no problem initially attached to it. The problem arises once the intuition has been experienced. Whereas insights are the *solutions* to known problems.

Winman (1999) proposed that some so-called intuitions are cognitive processes operating in hindsight – the *I knew it all along* phenomena. That is when an incident occurs and the results or solution is known the person has a feeling of knowing the right answer *before* the solution was published. Winman argued that this could be a type of cognitive completion but his study found that this only occurs in a statistically insignificant number of cases. Therefore the *I knew it all along* is evidence of unfulfilled intuitions.

A relationship between intuition and tacit knowledge is thought to exist as both require implicit learning and have similar characteristics (Shirley & Langdon-Fox, 1996). There is a difference in the level of acceptance in these two concepts in academic literature and thinking. Tacit knowledge appears to be a more acceptable as there is scientific evidence for its existence. The discussion on this issue is sparse it is as though intuition would vicariously become less *mystical* if the relationship with tacit knowledge is explored and accepted. Vaughan (1979) believed correctly that intuition flourishes when it is valued and in support of this idea Shirley and Landon-Fox (1996) argued that environments should be provided that support and accept intuitive behaviours.

A link between intuition, experience and reflection was presented by Shapiro and Reiff (1993). Reflection, according to the authors forms a pivot for intuition and also for the role of experience ion. Without reflection or reflective inquiry the translation of theory into practice is all but impossible. Shapiro and Reiff (1993) put forward a bidirectional framework for reflective inquiry (Figure 4)



(Adapted from Shapiro and Reiff, 1993:1381)

Figure 4: Framework for Reflective Inquiry

Moving from one to five in the framework (above) is considered to be a deductive, explanatory process and alternatively from five to one is an inductive, interview process. The bidirectional ability of the framework is a strength of this model; the practitioner could either reflect on their philosophy and adapt practice or reflect on skills and adapt philosophy, a very dynamic model. A development of this model could be a change from a linear to multidirectional circular model to encompass intuitive reflection.

Gender issues and intuition are confusing. There is evidence that major physical differences exist in the male and female brain (Moir & Jessel, 1989; Oberman & Josselson, 1996; Pease & Pease, 1998). These differences include connections related to communication, attention and number of synaptic junctions. Given these differences it may be assumed that the gender with the superior ability to

communicate, pay attention and so forth should have a greater ability to be intuitive. However, research does not support the early belief that women are more intuitive than men (Epstein *et.al.*, 1996; Taggart, Valenzi, Zalka & Lowe, 1997; Sadler-Smith, 1999a; Sadler-Smith, 1999b). There is increasing support for Vaughan's (1979) thought that it is not that men are not intuitive but rather they have been both taught and socialised to repress feelings. The Taggart *et.al* (1997) study produced a different result in that they found no differences in use of intuition based on gender. The notion of clinical intuitions permeate many professions that deal with the human condition. Bohart (1999) discussed the sense of following on from an intuition in psychotherapy as an appropriate therapeutic technique even if it is outside the normal parameters of treatment. She likens this to being in tuned to the rhythms and flows of an evolving therapist/ patient relationship. Clinical intuition is described as a factor in psychological autopsies; clinicians have a sense that all the known information, such as cause of death, place of death does not reveal the nature or essence of the death (Selkin, 1994). This sense of a missing or hidden factor and a sense of error appears to be a significant factor in clinical intuition.

Mitchell and Beach (1990) discussed traditional and image theory of intuition and automatic decision making. They state that traditional theories may overintellectualise the cognitive processes and previous researchers alter definitions and axioms in an attempt to make the theory fit the data. They proposed image theory as a middle road to the traditional approaches. They criticized the extensive support of their original theory by saying that they believed that the strategy selection model was too limited (p3). This support did not *gel* with what they were experiencing personally and professionally when making decisions. The authors said that this soft data was outweighed by the hard data. The three traditional theories of intuition are:

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1. Epistemology – the philosophy of science, where theoretical networks, social construction and hermeneutics loosened the positivistic hold over cognition.
 2. Control theory – a systematic collection and organisation of information into a template which becomes a competitor for assessing fit.
 3. Cognitive theory – This group used schemata (cognitive frameworks). These frameworks involve classification systems, trait associates or some prototype against which incoming information is compared (possibly useful in some nursing decisions). The authors argued that the schema is the same as a template from control theory.

Mitchell and Beach (1990) put forward *image theory* where informational representations exist. There are 3 types of *image* described in the theory value, trajectory and strategic. Fundamentally the central precept of the theory is that when a decision is *framed* it is past experience that provides guidance. The assumption is made that when faced with a decision the decider takes in the features of the situation, that is the facts and circumstances and then probes the memory looking for a policy [which is a previously successful frame]

Bowers, Regehr, Baalazard and Parker (1990) provide a good analysis of previous thought and research in intuition. The authors cite previous research that has demonstrated that where uncertainty exists intuitive judgments are often misguided because they are over determined by various cognitive heuristics. The authors clearly implied that intuition is frequently if not typically a systemic source of error in human judgment (p73). The authors criticize previous literature of this nature by saying that there has been an exploitation of the ignorance of experimental subjects, rather than taking advantage of their [the subjects] knowledge and experience. They state that the second problem is in the so called context of justification, rather than the context of discovery. The authors believed that intuition involves informed

judgments in the context of discovery, and involved memory, experience in judgment and problem solving and the mnemonic networks are active and relevant.

Bowers, Regehr, Baalazard and Parker (1990) proposed a definition of intuition as a preliminary perception of coherence (pattern, meaning, structure) that is at first not consciously represented, but which nevertheless guide thought and inquiry towards a hunch or hypothesis about the nature of the coherence of the problem (p74). They proposed two stages, a guiding stage (where discovery is made) and an integrative stage (where the intuitive thought comes into consciousness). The authors made an interesting comment on orderliness. The orderliness underlying intuition depends critically on the orderliness underlying memory. They then discussed the organisation or order of clues as an automatic activation by mnemonics. Many of these concepts however have been lost and not developed in the past decade.

When discussing intuitive development Johnson and Daumer (1993) start with a analogy of Little Red Riding Hood who felt *uneasy* when she arrived at Grandma's house and ignored her *gut feeling* and was eaten by the Big Bad Wolf. The authors' acknowledged that like Little Red many people fail to take in and use the intuitive component of communication. Johnson and Daumer linked right brain and lateral thinking with intuition which they believed takes place at a subconscious level in the non-conscious space. They analysed the literature and like Shirley and Landon-Fox (1996) stated that the definitions were varied and at times not a definition but a description of behaviours.

Johnson and Daumer (1993) used Goldberg's 1983 model to explain the stages of intuition. The stages are; preparation, incubation, illumination and verification.

Preparation is the formation of a hypothesis, incubation is where non-conscious synthesis occurs, illumination is where a mental image is formed and verification is when the effects are analysed. It is the preparation stage that has most authors

perplexed. For example, why does a hypothesis form an unanswered question? Part of the answer may lie in what the person experiencing at that time, how are they interacting with the environment and in what context.

Johnson and Daumer (1993) argued that intuition cannot be a left brain activity (where knowledge is embedded) but rather on the right side (where knowledge is embodied). The authors cited Agor 1986 who identified factors that impede the development and use of intuition (Table 4).

Table 4: Factors that Impede the Development and Use of Intuition

<i>Factor</i>	<i>Origin of Factor</i>
Projection Mechanism	Attachment Dishonesty
Stress Factors	Physical/ Emotional Tension Fatigue Illness
Time Constraints	Rushed to make decision Failure to get necessary background Failure to do homework required Acting impulsively
Lack of Confidence	Anxiety Fear Confusion Feeling of imbalance Too much accommodation of others

(Johnson & Daumer, 1993:264)

These factors appear limited to creative intuitions and not to experiential/ professional intuitions. However, some of these factors such as lack of confidence and projection mechanisms are valid to all types of intuition. The substance of the other two factors describe the nature of emergency work where intuition exists and is successful and unimpeded.

In philosophy a common feature of intuition is immediate apprehension. Unlike psychology, philosophy believes intuition is a foundational component of rational activity. Intuition is associated with a conscious activity and there is a historical use

of vision to account for intuition. In the Western tradition of philosophy Osbeck

(1999) revealed the following traditions:

- *Intuition is central in rationality accounts of knowledge. As rationalist thinking cannot occur without it. The basic 'first principles' of knowledge that are the foundational idea from which thought is developed. This is based on the ideas put forward by Plato and Aristotle.*
- *Immediate apprehension of particulars is assumed to give rise to the contingently true propositions that constitute all knowledge (generally called sensory intuition). Accumulated intuitions are the raw materials of knowledge. There is an assumption that we have a non-inferential grasp of simple natures that is ultimately responsible for our ability to trust our observations.*
- *Intuition is understood as providing a framework that establishes the possibility for experience of any time. According to Kant, intuitions and conceptions constitute the elements of all our knowledge.*
- *Traditional rationalistic conceptions of notions such as intuitions, necessity and a priori knowledge are repudiated i.e. as privilege intellectual insights into reality.*
- *The most thorough development of intuition theory is within the context of the philosophy of mathematics. There is an understanding of numbers themselves is as intuited objects. The assumption of an intuitive basis for conceptions of the properties of numbers and their lawful relationship predates Plato.*
- *Ethical intuitionism that assumes ethical generalizations can be recognised as true by any person with proper insight of knowledge of concepts such as goodness. (p235-7).*

Osbeck identified three common features of intuition:

- *The non inferential nature of intuitive apprehension.*
- *The notion of a judgment based only on inference (below the threshold of consciousness) is different from a notion that which can have no grounds even in principle.*
- *Natural rational capacity apprehends certain aspects of experience not reducible to sensory stimulation (p 238).*

Intuition encompasses a capacity for abstraction and generalization from experience.

Intuition can be expected to increase in power and flexibility as we mature and as our inherent rational capacities develop (Osbeck 1999). Psychological understandings are more in line with epistemological accounts. For instance Kohler's investigation of creativity and phenomenological insight raised the question, does the insight 'flash' equate with an immediate pre-apprehension thought.

2.11. CONSCIOUSNESS AND THE PATTERNS THAT CONNECT

Arvidson (1997) discussed intuition differently to most authors in that he posits that the issue is not one of probability or that the feeling or knowledge is true or what intuitions are accurate indicators of reality. He believed that the question is simpler. Arvidson asks, what is the transformation of the shape of the field of consciousness in the moment and what is the nature of the reorganisation of consciousness that takes place? The author believes that in an intuitive movement there is a compulsion to attend to its *voice* and therefore results in, or is the result of transformations in the field of consciousness. It is apparent that care should be used when using the term *attention* as it may become confused with how the cognitive psychologists use it to describe a factor of conscious processing. It may be more correct to be consistent and use *attentionless* in this discussion.

Consciousness is described as all that is presented or intended at any moment.

Interestingly Arvidson (1997) put forward a trilogy of dimensions in the field of consciousness. The field of consciousness consists of theme, as the focus; thematic-field, as the content of the theme and margin, which is the co-presented items with the theme and thematic-field. Attentional issues now become the movement between these dimensions. This is not an unfamiliar paradigm. When solving a complex mathematical problem attention shifts to the different components of the problem until a sense of rightness exposes itself so that the solution can evolve. In this context human-kind are serial shifters, moving from one problem to the next. Intuitively we know when we are on the right path. Therefore intuition may be presented as a change in attention in our consciousness.

There are many ways to explain any experience. Forman (1996) suggested that awareness is not constructed out of material processes of perceptions in the brain but rather there is a sense of being extended beyond the borders of one's own body. It is

the sense of an experience. He suggests that it is at the fusion of the experience and consciousness that intuition *comes* into perception. If intuition or automatic decision-making were beyond any level of awareness the actual sense of the *gut feeling* would not occur; it would be like driving your car on familiar roads to home, at times it just happens automatically without being consciously aware of the direction you have taken.

Stepping outside the traditional paradigms, Rosch (2000) used biofunctionalism to meld intuition with analytical science. She believed that humans have intuitions about the world and about what it is to be human. Being human is based on wholeness, causality, a sense of timelessness, the experience of spontaneous action, realness, knowing which senses, wholeness and values are to be lived and the value to be alive and to experience. Knowing, says Rosch, *is not captured by any of our present formulations of it* (p201). Knowing is total emersion, Rosch commented that:

Biofunctionalism is still a highly abstract and generalised proto-theory, more like a philosophy than a science..... Surely it is cultural insanity that our human sciences should be so out of touch with what humans deeply know about themselves. Einstein said that problems can never be solved with the same mind that created them. (p201)

In summary the nature intuition is complex and remains a debated topic in the literature. There are two authors of note in the literature on intuition, Vaughan (1979) and Goldberg (1989) these authors categorised the intuitive experience. In doing so they explored the functional nature of the experience of intuition. Science attempted to explain intuition using neurophysical methods this however has not proved to be successful. The main body of support for intuition come from psychology.

Psychology treated intuition as a trait and a right brain activity and therefore can be measured. The MBTI remains a tool still utilised to assess the present of intuiting as a trait.

The argument put forward by authors such as Shirley and Langdon-Fox (1996) and Henley (1999) that intuition is related to awareness and that there is unresolved confusion in the literature between intuition and insight. Interestingly the generally held belief that women are more intuitive than men was not challenged by authors in this section however, this issue will be discussed in the next section of this literature review.

The utility of intuition was addressed by Bowers *et.al.* (1990) they believed that intuition informed judgments thus linking intuition to decision-making. Authors such as Johnson and Daumer (1993) made an assumption that intuition exists and examined the conditions where intuition fails. The authors identified the factors that impede both the development and use of intuition.

The authors in this section related intuition to a level of consciousness. As consciousness itself is poorly understood the relationship of consciousness to intuition is at best supposition. However the attentional issues raised by some authors support a relationship between the consciousness and intuition. There remains many unanswered questions and psychological research has attempted to provide answers to these question.

2.12. RESEARCH AND INTUITION

Research into intuition is vast, varied, ambiguous, conflicted and, on many occasions, has no relationship to intuition but rather some of its pretenders; guesses, impulses, projections and biased perceptions. The first issue is definitional as many authors who purport to study an aspect of intuition fail to present any definition (Crandall & Getchell-Reiter, 1994; Crow & Spicer 1995; Denes-Raj & Epstein, 1994; McKenzie, 1994; Panniers & Walker, 1994; Redford, McPherson, Frankiewicz & Gaa, 1995; Sadler-Smith, 1999a; Sadler-Smith, 1999b; Taggart *et.al.*, 1999). Shirley and Landon-Fox (1996) agreed that definition is a significant

point of divergence, however they point to a common idea best described by Vaughan (1979) who summed up intuition as *knowing without being able to explain how we know*.

If intuition is knowing without knowing then the greatest support for intuition's existence is found in savants. Savants are usually autistic people who are creatively gifted. They are prodigies in a field for which there is no rational explanation. No-one knows how they know. Savants can intuitively play music, paint masterpieces or perform complex mathematical task without any training or education. Yewchuk (1999) calls this intuitive excellence. Unencumbered by culture, society and expectations, savants demonstrate that it is not necessary to know. That is the power of knowing.

Crandall and Getchnell-Reiter (1993) present a confusing study as their implied aim was to elicit concrete indicators of assessment from the intuitions of neonatal intensive care nurses. The authors used Klein's method for eliciting details of the knowledge utilised during assessments made in the context of the workplace. The assessment instrument is valid and useful in deconstructing assessment in a multitude of professional situations.

There is confusion by the authors that embedded knowledge is intuitive. There is no doubt that expert nurses use embedded knowledge during a practice situation. This partially explains the fluidity of practice described by Benner (1984). Nurses also use heuristics to make decisions in that experts do not need all the known information available but rather can with one or two cues make a valid decision.

The authors initially asked the participants to recall an incident where their presence made a difference to the patient outcome and it was suggested that a gut feeling or a hunch may have induced action. The differences between a gut feeling and a hunch and their relationship to intuition were not discussed by Crandall and Getchnell-

Reiter (1993). Exception may be taken to the word *hunch* as it has connotations of guesswork.

The Crandall and Getchnell-Reiter (1993) study has value but not to the explain intuitive practice. The value of this study was to identify the heuristics, cues and the relationship of these to a patient's assessment. This knowledge is essential for the discussion on expert knowledge in nursing and enables a new approach to the development of practice by providing information to the novice nurse. In 1999 Crandall and Getchnell-Reiter appeared to repeat their 1993 study however no new findings or conclusions were made. Still the distinction between embedded and embodied knowledge remained a confused issue in both studies.

Crandall and Getchnell-Reiter (1993, 1999) are not alone in confusing embedded with embodied knowledge. It may be appropriate at this point to deviate briefly to delineate between the two. To be embodied is to *provide a spirit with a bodily form* and to be embedded is *to be fixed firmly and deeply* (Oxford Reference Dictionary, 1996: 459-460). Applying these definitions to both knowledge and embodied knowledge is therefore to imply that an implicit component that needs to be given a recognisable form and embedded knowledge is that knowledge which is firmly and deeply fixed into the left brain.

These differences can be translated into practice; embodied practice becomes that which combines all that is the nurse, the senses, values, knowledge, skills, personality and person. Embedded practice is a combination of skills and knowledge that have become automated. One type of practice has a soul (embedded) and the other *is* the soul (embodied).

Miller (1993) dated contemporary research into intuition from the late 1970's and the descriptive qualitative studies began to uncover the constructs of intuition in nursing practice. She defined intuition as a gestalt experience of awareness without conscious

reasoning. Miller does not state direct study aims but they are assumed to be to test the reliability and validity of a tool she developed to measure *self perception of intuitiveness*.

The tool (the Miller Intuitive-Instrument, M.I.I.) was developed on the basis of the qualities associated with nurses demonstrating a level of intuition identified in previous research. Five to ten self descriptive statements for each of the six qualities identified were developed. This study followed established guidelines for tool testing including validation using other established tools such as the MBTI. Miller acknowledged that little is known about intuition and its relationship to nursing practice. She believed that the M.I.I. provided a way to quantify self perception of intuitive practicing nurses, a step in the development of a theory about intuition in nursing.

In a move based upon her previous research Miller (1995) examined the characteristics of intuitive nurses. Miller cited Benner's 1984 research to support that the intuitive nurse exists but there was inadequate literature that determined the qualities of the nurses who made intuitive decisions. From the literature Miller identified seven characteristics common among intuitive nurses. These were experienced with intuitive practice, confidence in intuition, sense of self as skilled practitioner, clinical mastery, unconventional approach to problem solving, awareness of the use of self-receptivity in practice and an interest in the abstract nature of thing.

Her results support only five characteristics as reported by the participants in this study. That is, willingness to act on intuition, the skilled clinician, having a connection with clients, interest in the abstract and a risk taker. Not only do intuitive nurses display these characteristics but tend to be extroverted, perceptual and

interestingly tend to delay making a final decision until satisfied with all the information.

The belief that all aspects of decision-making could be documented was a premise in a study by Panniers and Walker (1994). Their aim was to quantify nurses' intuitive ability in order to define a set of mutually exclusive decision alternatives. The issue with this is that the authors are attempting to quantify an experience. It is suggested that errors made by the authors include the belief that individuals can communicate preferences and the strength of those preferences (p347) and the use of non expert nurses. Their sample included any nurse who was not considered a novice. This study also failed to define intuition and did not have a one reference relating to intuition. This was more a study on decision-making preferences by nurses, who by Benner's stages had not reached a level where intuitive practice was expected.

The accuracy of intuitive judgement strategies are thought to be important as it is not clear which strategies are generally accurate (and not). If generally accurate it would constitute an explanation as to why people use an intuitive strategy. Learning about the accuracy of intuitive judgements may well improve overall judgement strategies and lead to finally understanding the environmental factors as they affect accuracy.

The lack of evidence on the accuracy of intuitive judgement was investigated by McKenzie (1994). However without a definition of intuitive judgements the study appeared to lack direction. It was a multiphase study that initially examined co-existing variables in an outcome/ event model. The premise stated in this phase was that virtually all [intuitive] strategies were inaccurate and the question asked was the degree of accuracy. The event/ outcome situations described were loaded and the subjects were not described. An example of an event was given, then the subjects were asked to assess the degree to which treatment and recovery are related.

The second phase used a probability Bayesian inference-strategy. Again the subjects were not described. The problem presented to the subjects was not clearly stated but based on Bayesian tasks. This study had little to do with intuitive judgements and more to do with probability and guessing. McKenzie (1994) and similar studies are damaging to the inquiry into intuition as they provide artificial support to reject intuition as a component of decision-making. Suspicions exist as to the validity and utility of the McKenzie study as there is no discussion on intuition. In addition such misgivings are confirmed by the evidence that only four of the one hundred and thirty references relate to intuition. Perhaps it may be that cognitive psychologists at this time were focused more on discrediting intuitive decision-making.

Probability was also the foundation of a study by Dene-Raj and Epstein (1994) used the cognitive-experiential self-theory (C.E.S.T) to test judgement against given odds. The C.E.S.T was developed on the belief that behaviour is guided by a joint system of two processes determined by the nature and degree of emotional involvement. Authors state that experiential systems automatically direct behaviour and conscious thought. The stated purpose of this study was to determine if subjects would make a *non-optimal, clearly irrational decision when offered less favourable objective possibilities than the alternative*. The authors provided a financial incentive to the subjects based on *successful* responses but did not discuss the impact on decision-making or the effect on unconscious processes that may be perceived as improving the odds.

The relationships between rational and intuitive processing systems were not established although the authors believed that the two processing models do exist together. The nature of experiential decisions was not addressed at any stage; the results demonstrated that visual cues and interpretations of the probability of success influenced choice/ judgements. This was a heuristic and bias themed study not a

study on intuitive processing. Again the lack of any definition of intuitive processing appears to have influenced this research.

Redford *et.al* (1995) hypothesised that there would be a positive relationship between the intuitive personality type on the MBTI and moral development (using the Defining Issues Test, DIT). Their hypothesis was supported. The authors did not however present a convincing argument as to how intuition and moral development were related and intuition was not explained or defined. It appears that the ability to imagine how another feels and thinks was put forward as intuitive perceptive processing. This is not a convincing argument and the author's lack of discussion on intuition is reflected in the reference list. Of the twenty-two listed readings only one related to intuition.

A 'Q' sort design by Crow and Spicer (1995) began with the premise that knowledge hinges on the way in which phenomena are categorised and supported the view of a memory indexing system (p414). The aims of this study were to examine how nursing assessment might be realised and to identify the process of categorisation used. The authors contended that unconscious problem solving is intuition and that it is actually an elaborate process of categorisation. The authors continue to explain intuition as a way in which nurses have categorised a clinical phenomenon. This method of categorisation became the basis for their study.

Unfortunately the literature review in this study failed to examine any work on intuition outside of nursing and a consequence is that they fail to define their terms. The results of this study identified the categorisation and prioritising of diseases. The authors' state that the cognitive skill referred to as intuition could be explained by the way in which clinical knowledge comes to be organised in memory. The authors demonstrated an inadequate conceptualisation of intuition. Crow and Spicer (1995) also implied that intuition is an identifiable process that is rational. This

implication diminished the value of their results, if they had maintained the consistency with the stated aims of study the utility in deconstructing basic nursing assessment may have been established.

Epstein, Pacine, Dene-Raj and Heirer (1996) based a study on the cognitive-experiential self theory (C.E.S.T) and proposed that people process information by two parallel interactive systems (see Table 1). The aim of this study was to develop a reliable self report measure of individual differences in ‘intuitive-experiential’ and ‘analytical – rational’ thinking styles and testing of its validity. This study was generated by the dissatisfaction with the MBTI as it was an either or result. In a 2 stage design they established tentative support of the Rational-Experiential Inventory (REI). This research did not examine intuition as a concept per se but rather thinking style that included intuitive components. A criticism of this study is that it does not address the issue of an individual using a different thinking style at different times.

Chui (1996) conducted a mathematical study with school age children examining their use of intuitive knowledge in solving simple to complex *length* problems. The author provided support that intuitive knowledge originates prior to schooling other finding included that the results were in conflict with expert ideas and that processes are resistant to change. Chui acknowledged that some of these intuitions are erroneous due to the changing realities of growing up. However the child’s ability to use intuitive processes is well established by middle school. Didactic knowledge and formal concepts are referred to as secondary intuitions, that is, those that support held beliefs.

Chui’s results showed that children used multiple intuitions to solve one problem. An explanation for the results in this study could be the child’s inexperience with heuristics. The relevance of this study is the existence of intuitive knowledge and

abilities from early childhood. It is argued that it is not something that magically appears in adulthood, it is developmental and innate.

An interesting question arises from this study which is the extinguishing of intuitive abilities in adults. Cultural and professional socialisation tends to either devalue or debunk intuition as mere guessing and hunches or to support its use. A result of the former is that intuition is not used or if used not acknowledged as it is used to avoid negative comments and even ridicule. There is no evidence in the literature that socialisation has ever been investigated.

Ethnicity, gender and age were the focus of a study by Taggart *et.al.* (1997) using a personal style inventory developed by the primary author. Four hundred and ninety five subjects across four countries were used. The results of this study however are not consistent with previous findings; a multi-variant analysis indicated that no significant differences existed in all six scales. The scales had three rational and three intuitive factors; planning, analysis and control (rational) and vision, insight and sharing (intuition).

Taggart *et.al.* (1997) acknowledged the deviation from previous findings and argued that it may be a combination of survey design and subject selection. The authors suggested further research is needed however, this may be a little premature as the nature of intuitive decision-making is still only tentatively understood. The comment is in contrast to the vast array of knowledge discussed earlier where the cognitive trails of decision-making can be clearly expressed. There is an equal lack of support for intuitive decision-making. Perhaps, once there is firm support for intuitive decision-making then it would be appropriate to examine the influence of culture, gender and age.

The investigation of the impact of intuition on learning style is usually conducted as a comparison to the analytical style as though they are dichotomous opposites. For

Sadler-Smith (1999a) it was a combination of both elements to form a learning style. As a basis for his study he used an adaptation from Curry (1983) and Riding (1997) to identify two intuitive influences on learning preferences and strategies. There was no discussion on intuitive decision-making but rather a discussion on right and left brain activity in learning, no new arguments were put forward and the conclusion was made that the right brain is more likely to be intuitive and the left analytical.

The aim of his study was to investigate the relationship between learning preferences and the intuitive-analysis dimension of cognitive style. The results of interest to this thesis are the gender related style that demonstrated that men are more likely to be and use an intuitive cognitive style. The support for this finding, in contrast to the previous author's results, is significant. The strength of these findings begs the question as to why men are not publicly acknowledging their use of intuition in decision-making. Maybe Vaughan (1979) is correct in saying that men are in someway socialised into not using intuition.

Claire Petitmengin-Peugeot (1999) is the only author to date to have investigated the experience of being intuitive. She believed that the intuitive experience has not been studied *for itself*. Petitmengin-Peugeot also acknowledged previous findings concerning the right/ left brain activities. She argued that previous research has described knowledge as an analytical/ deductive process and brings intuition down to a level of unconscious inference (p44). She continues her criticism by saying that science has not yet developed a method which would enable intuitive research to be possible. Petitmengin-Peugeot also discussed the issues and confusions that surround defining intuition; although there was no clear definition in her article. She states that:

In fact, to choose the persons I interviewed, I had to start from a definition of intuition, the largest as possible in order not to biase the

results: a knowledge that comes without the intermediary of a deductive mechanism nor through habitual senses.

(Personal communication, email 18 February, 2002.)

She introduced the concept of pre-intuitive gestures; these are an *event* that makes it possible to carry out an unlearning process, a break in the usual manner of looking at the world. The pre-intuitive gestures liberate an interior space for intuition to spring forth (p44-45). This is a philosophical stance and is further described by the author as Platonic conversion, Cartesian doubt or phenomenological reduction.

Using phenomenological descriptions of the intuitive experience divided the study into three stages; gathering descriptions, analysis and modelling and, finally comparing established models. The results showed a process that included a gesture of connection, the gesture of listening, and the intuition itself. These involved the phases of letting go, connection, listening and intuition. Intuition was then described as a sensorial reaction to content, external state at the time, threshold of awareness and the moments immediately following the experience. These results demonstrate the complexity of intuition however, a model of analysis was evident but a model of the intuitive process was not developed.

Burton (1999) examined women who have achieved management status in their chosen profession arguing that intuition and leadership form a partnership. Her study investigated these experiences. An assumption used in the study was not supported by other literature in that women are generally more intuitive. Previous studies do not support this as a global statement as through omission it assumes that men are not.

Burton (1999) defined intuition without the benefit of exploring a range of definitions. She identified eight themes in her phenomenological study. The themes of interest to this particular thesis are; (1) *the positive benefits of listening and* (2)

following intuition the benefits include better decisions, trusting the end result and listening decreases stress. (3) *Consequences of not following intuition* these included decreased productivity and decreased creativity. There were various other negative consequences documented in her dissertation as related by the participants. The final theme of interest (4) *the distinction between intuitive and rational knowing*, was found to be a source of conflict for her participants. The rational is sequential, logical and linear and easier to support whereas intuition was described as an inner sense of rightness.

This final theme is a source of conflict for most researchers in this area. It has been the focus of the discussion thus far on error in decision-making and the validity of using intuition as a method of making decisions. Burton's (1999) participants were probably experiencing the weight of proof of the foundation of their decisions.

Decisions that are easily deconstructed are more likely to be given support than those that are sensed and cannot withstand analytical scrutiny.

In an attempt to uncover the nature of embedded knowledge in clinical practice Brykczynski (1999) provided a contextual account of clinical practice. The 1984 models of *know – how* used by Benner and Dreyfus and Dreyfus were used as a conceptual basis by Brykczynski. This article perpetrated the confusion between embedded and embodied knowledge as the author clearly identified embedded knowledge as that which was deep within the cognitive structures. Other than confirming the domains of nursing practice identified by Benner, the result of interest to this research was the connection between intuition and competence. This was not a direct discussion but rather presented itself within the verbatim accounts of practice from her participants. Brykczynski's results also provides support for the findings of Burton even though the professional areas of focus were different.

Vaughan and Hovak (2000) commenced their study with the premise that intuition can be improved with training. The study presented was one which examined the development of improving odds and therefore the chances of success in scores gained in computer software training. This can be viewed as a misuse of the notion of intuition. Previous research discussed earlier in this chapter (Bower, 1998; Dene-Raj & Epstein, 1994; Krol *et.al.* 1992; Seigert, 1999; Klein, 1997; Maddox & Estes, 1997) on decision-making has clearly demonstrated that experience with a *condition* improves the speed and accuracy a person can react to that condition.

Osbeck (1999) identified problems with research into intuition, for example; unfamiliarity with philosophical literature, subjective accounts of truth and essence. The difference between the psychological and philosophical here is acknowledged without any elaboration or defence. The author argued that a combination of the historical and philosophical perspectives may produce more conclusive results. Osbeck also argued that the research into professional intuition is based on personality type (p 231). He provided a comprehensive history of psychological research from 1948 and refers to Hammond (1996) who identified a rivalry between intuition and analysis.

In summary, there is an emphasis on positive, creative and speculative tasks and a negative view on the potential for error. Osbeck (1999) concluded that both have relevance but are different. Psychology characterised intuition as having three attributes,

- *Intuition equated with unconscious processes, that is, implicit cognition.*
- *Unconscious cognitive processes analogous to cognitive processes, therefore intuition is inferential.*
- *Intuition associated with irrational thought processes (Osbeck, 1999:232-233).*

The most prominent psychologically understood model assumes cognition is informed by information from two infrastructurally parallel processing systems. The

conclusion is that intuition tends to be less accurate but accuracy increases with experience. Intuition as an experience has never been the subject of serious philosophical interest.

2.13. *NURSING AND INTUITION*

Twenty years preceding Benner's first published work (1984) the conflict between *hard science* and intuition in nursing existed. Mallick (1981) cited literature from 1965 onwards that has a common thread that only science and objective measures should be used as a basis for effective nursing practice. She commented that data elicited by *ambiguous* tools must be considered highly unreliable (p602). The basis of this belief was that these tools cannot be validated. Mallick did not discuss why intuitive assessment was inappropriate and no literature was presented in support.

Mallick argued that one must conclude that nursing will remain intuitive because current assessment tools do not meet scientific criteria. It is possible however that given the academic pressures of the time, the influence on nursing from other established professions Mallick capitulated. As far as Mallick was concerned at that time nurses could accept either being intuitive (undesirable) or scientific (desirable) not both. This position was typical of the thinking of the day and nevertheless consequently limiting for the development of nursing theory.

Three years after Benner published *From Novice to Expert* she along with Tanner extended the discussion on intuitive practice. Benner and Tanner (1987) used Dreyfus and Dreyfus's six key aspects of expert practice to explain the nurse's intuitive behaviours in practice. The first is *pattern recognition*, a concept well accepted in the psychological literature. Basically information or cues are clustered to form a group of cues that form a recognisable clinical pattern. As the nurse moves through the stages less and less cues are needed to form a pattern (Bordage & Lemieux, 1991; Boshuizen & Schmidt, 1992; Budassi Sheehy, 1993; Carnevali &

Thomas, 1993; Carnevali, Mitchell, Woods,. & Tanner,1984; Christensen, Elstein, Bernstein & Balla, 1991; Deber & Baumann, 1992; Edwards, 1994; Elstein, Shulman, & Sprafka,1978; Elstein,, Shulman, & Sprafka, 1990; Elstein. & Bordage, 1979; Grobe, Drew & Fonteyn, 1991; Harbison,. 1991; Jones,1988; Sanford, Genrich, & Nowotny,1992; Sharmian, 1991; Tanner,1987; Yore,1993)

Similarity recognition is the ability to recognise the ‘fuzzy’ resemblances to previous situations despite significant differences in the features of the clinical pattern. It is a triggering of memory on an unconscious level.

Commonsense understanding is knowing the language and culture in which the nurse works. This is the lived experienced of illness as well as nursing the ill. It is being literate in the patient’s world that is, to understand the patient’s language.

Skilled know how is the combination of knowing how and knowing that. It is as though the patient becomes an extension of the nurse. Benner and Tanner (1987) called this embodied intelligence and believed it is a source of academic irritation as it is not verifiable scientifically.

Sense of salience means a nurse is able to differentiate between the relative priorities of a situation. Benner and Tanner put forward that this is more than a formal model of judgement but rather an interrelatedness of observations. It is seeing an individual tree in the forest where others cannot see the forest for the trees.

Deliberate rationality is not clearly explained by the authors but appears to be the ability to clarify a position by changing perspective.

Benner and Tanner do not state if all six elements are required to be present and at what level or strength to *produce* intuitive behaviours in nurses. The authors say that intuitive judgement is devalued and at worse disbelieved. Given this pronouncement was in 1987, and it is now 2003 it is disappointing that the rhetoric has not changed.

Hampton (1994) discussed the relationship between intuition and expertise as reasoning not related to the conscious. She linked intuition with experience and superior pattern recognition however this experiential intuition has not been fully developed in the literature. Hampton supported the notion that intuition is not guessing or *a hunch* but rather a sophisticated process which is based either in 'chunking theory', network theory or schemata that is related to experience.

Hampton (1994) used case examples and demonstrated a high level of analytical practice. The practice was able to be broken down into cues and the nurses actions were able to be rationalised. The author made an attempt to place intuition into an acceptable psychological theory as an attempt to gain credibility for the notion of intuitive practice in nursing. The discussion however does not explain gut feelings or an impending sense of doom that often envelopes the nurse in their intuitive moments.

Paul and Heaslip (1995) related critical thinking and intuition, remembering that at this time (the mid 1990's) critical thinking was a focus of academic thought and was extinguished in the literature within three years. With this in mind the attempted connection was logical at the time. It was a reasonable question to ask if critical thinking was a factor in expert practice. The authors argued that nurses practise intuitively by virtue of having developed critical thought.

The authors confirm that nurses learn by each clinical experience and that the expert nurse has a 'high' level of knowledge on which to base decisions. Nurses at this level can also recognise the significance of cues; the authors say intuitively but do not present a convincing argument. Paul and Heaslip (1995) defined intuition as *the immediate apprehension that something is so without the benefit of conscious reasoning*. This is also a 1972 dictionary definition by Gluralnik. On the surface this

definition implies an individual has a great deal of intuitive thought as we ‘know’ and recognize a book, table etc without thinking.

Paul and Heaslip (1995) contend that the nurse utilised embedded nursing knowledge in a similar way and that the expert nurses does not solely rely on this type of intuitive thought. They discuss prejudice as a form of pseudo-intuitive knowledge – basically this is a leap beyond what is actually *there*. Paul and Heaslip have introduced the concept that reasoning in nursing has nine elements.

1. *The purpose or the goal, or end in nursing*
2. *The question at issue for nursing problems to be solved*
3. *The nursing point of view or frame of reference*
4. *The empirical dimension of nursing reasoning*
5. *The conceptual dimensions of nursing reasoning*
6. *Nursing assumptions the starting point for reasoning*
7. *Nursing inferences*
8. *Implications and consequences: where our reasoning takes us*
9. *Implicit and explicit reasons in nursing.* (p 44)

Intuition is not explored in depth as this article appears to be mainly focused on critical thinking. Paul and Heaslip (1995) notes that critical thinking is only one of many factors in practice. Other factors include, knowledge, reflection, intuition, embedded knowledge and reasoning skills.

Easen and Wilcokson (1996) analysed the concept of intuition in relation to situational decision-making. The authors acknowledge the definitional and conceptual issues but do not provide a definition or a conceptual image. Easen and Wilcokson put forward the concept that intuition is not *irrational* but rather a rational component of nursing judgements. Definitionally this is not rational in the sense of a conscious / rational / linear decision but rational in that it has its foundation in reasonable nursing behaviours.

Easen and Wilcokson (1996) believed that this process of decision-making occurs on a non-conscious level dismissing the sub conscious, unconscious and pre-conscious as undefined terms. The authors appear to be a little confused here as there is significant evidence and understanding for cognitive processes, although for the non-conscious the support is weaker a consequence of being a relatively new concept. What is not understood is the level at which intuition is initiated and the manner in which it comes into consciousness.

The authors acknowledged that there is a deep involvement in practice that draws the nurse into direct contact with the problem. It is argued by Easen and Wilcokson (1996) that a deeper understanding of intuitive practice is required to provide a conceptual framework and then this will be able to become a component of the development process.

Erroneously Kikuchi and Simmons (1999) believed that there is a trend to base nursing practice solely on subjective judgements. Unfortunately, there is no evidence provided to support this belief and an extensive review of the literature has failed to find any other author who either supports or believes in the sole use of subjective judgements. This article is similar to the literature that appeared thirty years previously, when nursing was establishing a credible basis for practice and these types of views were common place.

Kikuchi and Simmons (1999) believed that nursing decisions are *sound, sensitive and sensible* only when there is a basis in principles, an intention to do good, takes into account contingences and are based in common sense knowledge. This they believed provided a tenable framework to develop a body of knowledge consisting of a set of objectively true nursing principles. At this point it is reasonable to question the connection these authors have with the actual realities of practice and nursing knowledge.

2.13.1. Intuition as Authoritative Knowledge

It is apparent that intuition remains a polarised and polarising issue. As King and Appleton (1997) said there is covertness about intuitive practice and a general lack of recognition of its continued use by a large number of nurses in all clinical areas.

Intuitive practice is denigrated by medical staff and nurses are made to feel guilty for using this aspect of practice. The research may be inconclusive as to the nature of intuition nevertheless as King and Appleton support it is a component of nursing care/ practice. It is not the only way in which a nurse may practice but one of many. Intuitive experiences do not occur every single shift the same as one does not usually experience a cardiac arrest every shift.

Intuitive experiences are a form of accumulated knowledge that has some authority in developing practice. King and Appleton (1997) stated that intuition occurs in response to knowledge. It is an experience of knowledge, the senses, the mind and the body and as such remains a peripheral issue. Intuition has the authority to inform practice as it affects the action taken; as a result intuition is authoritative knowledge.

2.14. UNFINISHED CONCEPTS AND FAULTY LINKS.

It should be evident in this literature review that there has been minimal reference to nursing literature and research to inform this particular research. Like most research at this level it is appropriate to go outside the insular professional literature to briefly explore what and how others are exploring and analysing the concepts under investigation. But unlike other professional areas nursing has not moved on in its thinking or research therefore the analysis of where nursing stands on intuition for the purpose of this study has been an unproductive endeavour.

The problem that has manifested itself at this stage of this research is that nursing and nurses was continually trying to reinvent a wheel that was not suitable for

nursing in the first place. This pattern was established in the late 1950's when nurses began to become dissatisfied with the handmaiden role. By the 1960's changes in nurse education began by a restructuring of the apprenticeship of nurses. By 1971 in Australia the 1000-hour curriculum was in place and a combined university/ nursing course existed at the University of New England (Russell, 1990).

In 1985 the move for all basic nurse education in Australia to be at tertiary institutions was complete. With this change it was thought that nursing would begin to move forward. It is apparent that the expected change did not occur because the old baggage came over with the move. Many hospital educators were given a choice of move to the tertiary sector or go back to a practice area (Russell, 1990). A number of those educators who made the move brought with them an attitude that did not embrace the new environment and its potential. By 2003 it is reasonable to expect that nurses would have developed a sound research base initially using other disciplines as a springboard to establishing a discrete nursing language and concepts.

The pattern in nursing has been to rename the same issues each decade believing that they are new concepts, without making any new knowledge or developing the concept fully. Concepts are partially developed, discussed and researched in the literature but no real or definitive conclusions are reached. As soon as an impasse is reached there is a jump to the next new concept. Therefore there appears to be no continuity, no conclusions, no development of understanding, no consolidation of knowledge leading to circular and confusing structure of nursing knowledge with inconsistencies of structure and form.

There have been a number of emergent patterns for expert/ intuitive practice over the last 30 years. Viable, researchable patterns have emerged but there has been a failure to find the links between each of these emergent patterns. A consequence of this is that faulty or no links have been made between concepts, instead of building onto

established knowledge a circular process has existed since 1950. Nursing has not resolved or reached consensus on the definition of practice, they have not established the place of science in nursing; they have not developed the concept of expert practice.

Benner (1984) used a simultaneously developing concept in a number of professional areas that of practice development. It was and still is a viable and valid researchable topic as components of the theory have remained underdeveloped, they have been challenged however no conclusions have been reached. Expert practice is foremost in this area and the biggest challenge to expert practice is the understanding of intuitive practice (Brykczynski, 1999a; Darbyshire, 1994; English, 1993). It can be seen from the internal and external [to nursing] literature that this concept has been the subject of research interest (Brykczynski, 1999a; Brykczynski, 1999b; Burton, 1999; Carnevali & Thomas, 1993; Crandall & Gretchell-Reiter, 1993; Darbyshire, 1994; Dene-Raj & Epstein, 1994; Elstein, Shulman, & Sprafka, 1990; English, 1993; Petitmengin-Peugeot, 1999). However, the methods used and questions asked have failed to establish what this intuitive component was like, what was its structure, its form, its organisation. The intuitive experience and how it is experienced needs to be uncovered before aspects can be tested in other more quantifiable ways.

The movement through the stages of practice development is aligned in a utilisation of the different components of the conscious and sub-conscious. In novice practice the processes are primarily cognitive and conscious and in order to move to subsequent stages perceptual and experiential episodes occur then learning becomes more of an adsorption of what is around us. The less aware we are of the learning and development that takes place.

The literature is clear when describing the components of practice development, in that there needs to be knowledge and a reflection on knowledge as it relates to

practice and the force that permits the two to fuse and become significant. This is the nature of the experience. However the experience of knowing or intuitive practice is more than the sum of its parts.

2.15. THE PRACTICE DEVELOPMENT CURVE

The learning curve was first introduced by Frank Andress in 1954 as a mechanism for determining production and introduced into education by Wright in the 1960's (Teplitz, 1991). The theory behind the original educational concept of the learning curve was that exposure to new knowledge over time will produce learning.

Building on this principle practice it is suggested that practice capacity has a similar hypothesis. Practice development can therefore be represented by a graph that incorporates a practice development curve similar to the normal learning curve (Figure 5).

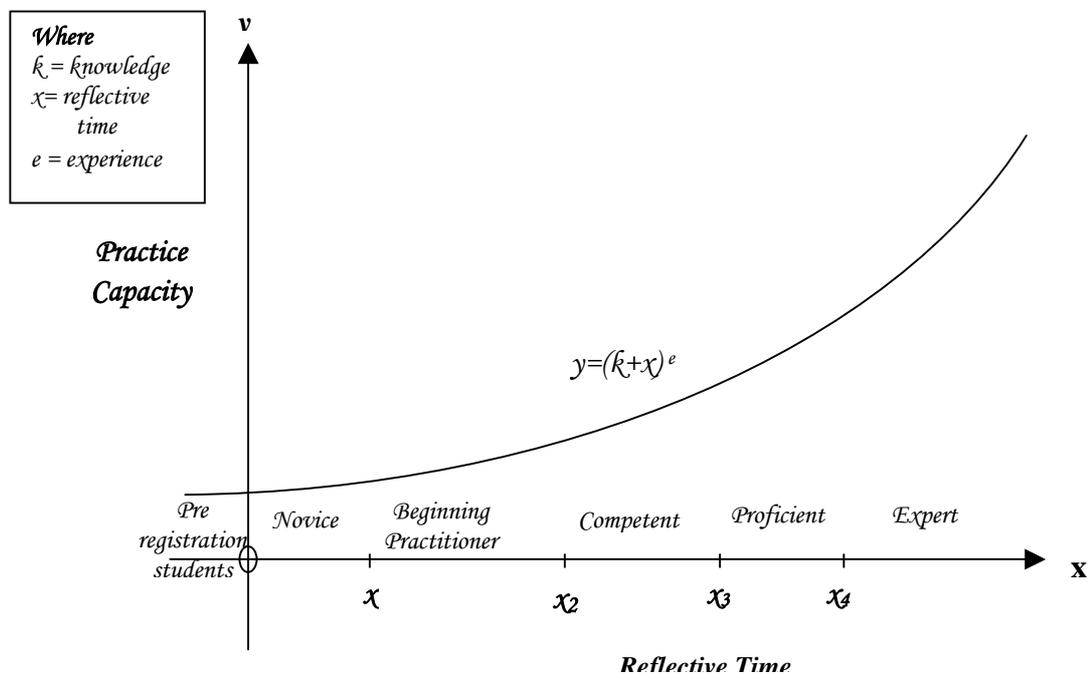


Figure 5: Practice Development Curve

Based on the works cited in this chapter the shape of the curve will be the combination of knowledge reflection and time raised to the power of experience ($y = (k+x)^e$). The curve exists along the reflective time line of novice to expert practice; it does not represent a life continuum as a nurse will be a novice many times. The curve on the y axis is directed in a positive upward movement indicating that practice capacity (the value of y) or the level of practice ability increases. The reflective time space (x) between each stage of practice capacity is not equal as not all stages will required the same period of reflective time.

The research into intuition is inconclusive or there is uncertainty as to what intuition is. Throughout the literature intuition has been confused with guessing, hunches, insight and other nebulous concepts. The actual experience of being intuitive has only been studied once in the general population and in itself provided the first glimpse of some understanding of the concept (Petitmengin-Peugeot, 1999). There are however indications of understanding by some authors but support for their ideas and concepts are weak.

Researchers (Atkins, 1987; Henley, 1999; Mitchell & Beach, 1990; Sadler-Smith, 1999a& b; Shirley & Landon-Fox, 1996; Taggart *et.al.* 1997; Winman, 1999) are attempting to reduce intuition to a process that can be empirically supported. In this type of research the individual will loose their voice as they become a number.

Perhaps what is crucial is that the voice of the individual intuitive emergency nurse be heard as their practice has been decontextualised and deconstructed without acknowledging the experience itself. To explore the experience of intuition is essential but until now has not been the foci of research. The issue of definition is a starting point but a task fraught with difficulty.

2.16. CHALLENGING THE TRUTH IN DEFINITION

It is reasonable to suggest that research should not proceed without establishing an operational definition, in this case a definition of intuition. Establishing an operational definition is problematic as for each and every definition there will be a criticism of some part of it. In an attempt to resolve this conflict it is necessary to examine what a definition is. Whitehead and Russell in *Principia Mathematica* stated that:

A definition is a declaration that a certain newly-introduced symbol or combination of symbols is to mean the same as other combination of symbols of which the meaning is already known.

It is to be observed that a definition is, strictly speaking, no part of the subject in which it occurs. For a definition is wholly concerned with symbols not with what they symbolise. More over, it is not true or false, being an expression of a volition, not a proposition. (1910:11)

If it is not a truth or a fallacy then it becomes clear that all a definition is a symbolic representation of a choice or preference. The purpose for which the definition is required is to ensure that readers come to a similar understanding of the choice or preference. The issue with this purpose is that a common mindset may bias results or omit personal experience. Such bias has been evident in previous intuitive research where the definitions used have coloured the results.

The discussion in this section has highlighted that the axioms and concepts concerning intuition are confused and have influenced the results of the research. Defining our axioms and concepts is essential before the data is analysed or understood. This task may be appropriate in quantitative research and in some qualitative research but it is not an absolute requirement for phenomenology.

I am thus going to deviate from the conventional and not put forward a complete definition but rather use two symbols of intuition. One is from Brown *the immediate sense that some proposition is true* (1999:180) and Vaughan (1979) *knowing without*

knowing how. The *symbols* used here therefore represent the nature of definition in that they represent a sense and a knowing (found in the experience), also the underlying truth of intuition. I am not prepared to define intuition further as it is the fundamental nature of this research and is not essential to be absolute at this point. If I am influenced by a definition then my methodology and therefore my findings must be considered biased within a phenomenological study.

The research into emergency nursing has not considered the intuitive nature of practice. The nursing research on intuition to date has been focused on more general areas of intuition and as a result not explored the nature of the experience itself has not been explored. Prior research on intuition is definitionally and methodologically flawed in that other concepts were been tested for example critical thinking. Benner's initial work has not been developed adequately and still does not describe the nature of the expert's intuitive practice.

2.17. CONCLUSION

This chapter has drawn together the background knowledge involved in the study of intuition in nursing. This has been a broad base chapter as intuition remains poorly understood, nonetheless in nursing it was brought into the discussion by Patricia Benner in 1984 when she used the term, intuition to describe the expert nurse. The areas and theories discussed in this chapter relate to either intuition or intuitive decision-making per se.

The underlying and supporting theories and concepts where also discuss as they also relate to the experience of being intuitive (the experience of knowing). These included consciousness as an awareness of self, cognition as a psychological concept of processing, practice development and decision making. The research surrounding

intuition and intuitive decision making is confusing fraught with methodological and definitional problems.

Only one study (Petitmengin-Peugeot, 1999) examined the experience of intuition, in this study the participants were neither nurses nor any other health care professional. Nursing has not fully explored the notion of expert practice or the expert practitioner as intuitive (or knowing). There lies an inherent danger in defining intuition especially in a phenomenological study as a definition result in a reflection on that definition and consequently the experiences and stories shared may become reflective instead of pre-reflective.

The philosophy of this study was informed by phenomenology as can be seen from this literature review that little is really known about this experience that is found in the life world of emergency nurses. The next chapter will discuss the phenomenological tenet as viewed from the life worlds of its proponents.

Chapter 3. PHILOSOPHICAL CONCEPTS AND INTUITIVE LINKS: THE PHENOMENOLOGICAL TENET

*How can technicolour phenomenology arise from soggy grey matter
(McGinn 1991 cited in Papineau, 2000)*

3.1. INTRODUCTION

Nietzsche (1874) held that truth as we know it will die with us. However, truth is not that fragile, as it survives from generation to generation, certain truths may fade but established truth continues to grow and develop so that knowledge matures. The question then needs to be asked; who establishes truth. Science has assumed that role for centuries but is science capable of establishing all truths? Nietzsche asserts that the future of science is staked on an attempt to understand the canvas and the colours but not the image on the canvas.

In his unique style Nietzsche captured the essential problem of science. Science is so focused on the *colours and canvas* that it fails to see how the colours relate to each other to form the image and that the colours conceal the canvas. Science does not see the hues or shadings of the colours or how the quality of the canvas gives texture to the image rather it just seeks to quantify the character of the colours and the canvas. This is the foundation of the dissatisfaction with traditional science. The truth in the image is more than the colours and canvas it is the experience of living in and with the image.

The image is more than the sum of its component colours and surface. When the image was created it was to be experienced as a whole, as an interpretation of a moment in time captured through the artist's eyes. It is the experience of the image that remains with us not just the individual colours. This is life as it is lived and experienced, the central tenet of phenomenology (Husserl, 1912; Krell, 1993; Heidegger, 1927).

According to Embree (1997), there are four dominant philosophical tendencies and stages in phenomenology. The first two tendencies are linked to the work of Husserl. *Realistic phenomenology* emphasises the search for the universal essences of being human. *Constitutive phenomenology* involves suspending the pregiven status of conscious life as something that exists in the world. The third tendency stems from the work of Martin Heidegger who extended Husserl's work. *Existential phenomenology* is concerned with action, conflict, desire, oppression and death. Emmanuel Levinas introduced the works of Husserl and Heidegger to France where the third tendency was developed by Jean-Paul Sartre, Maurice Merleau-Ponty and Gabriel Marcel. Finally and still influenced by Heidegger *hermeneutical phenomenology*, the premise of Being is that human existence is interpretive. Hans-Georg Gadamer is credited within emergence of the interpretive tendency. Other leaders include Paul Ricoeur, Don Ihde and Gianni Vattimo (Embree, 1997).

The development and acceptance of phenomenology has spread from the European School to North America, where Ihde and Moustakas are considered the main philosophers (Caelli, 2000). The differences between the two schools according to Caelli are that, American phenomenologists do not generally seek the pre-reflective experience but include thoughts and interpretations of the experience. Their position is focused on the description of the lived experience within the context of the culture rather than seeking the universal meaning of the lived experience. This deviation from the original appears to loose the direction of phenomenology which is the experience as it is consciously experienced.

The failure of previously discussed research to answer the basic question, as to the experience intuition resulted in a search for a philosophical position that would inform this study and its proposed method. Central to this study is the position that intuition is an experience and the philosophy of experience is phenomenology. This

chapter will trace the development of phenomenological thought, relate the experience of intuition with phenomenology and finally discuss the movement of phenomenology from a philosophy to a research methodology.

3.2. THE DEVELOPMENT OF PHENOMENOLOGICAL THOUGHT

It is appropriate to discuss the development of phenomenological thought in consideration of the life world of the proponents. If we take phenomenology out of the context in which it was developed we do not see the *image* just the *colours*.

The formal phenomenological movement had its origins a century ago when in 1900–1 German born Edmund Husserl published *Logische Untersuchungen* (Logical Investigations). Phenomenology is a 20th century movement dedicated to describing the structure of experience as they present themselves to consciousness, without recourse to theory, deduction, or assumptions from other disciplines such as the natural sciences. It started as a philosophical movement which became a research methodology as a consequence of its life world approach.

3.2.1. Edmund Husserl (1859-1938)

Husserl was born at Prossnitz in Moravia, Austria. He was raised in the Jewish faith, however as an adult he was baptized Christian in 1886. Husserl had a privileged secular and religious education and was granted his doctorate in mathematics in 1883. In 1884, he attended the lectures of Austrian philosopher Franz Brentano, about whom he remarked, *Without Brentano I would have written not a word of philosophy*". He continued his studies but in psychology, which combined with his academic background of mathematics and philosophy provided Husserl with a depth of understanding of logic and argument. Brentano's lectures gained Husserl's attention as Brentano was challenging the problems associated with objective science and psychology (Husserl, 1954).

Some authors recognize that Brentano sowed the seeds of phenomenology in Husserl's mind therefore should be credited with starting the phenomenological movement (Krell, 1993). Brentano's book *On the Manifold Meaning of Being According to Aristotle* influenced not only Husserl but Heidegger and thus the modern search for Being began.

Husserl was dissatisfied with empirical science and many aspects of psychology and psychological research. Unlike other psychologists of the day he sought to know himself as part of the world:

By, contrast, as a psychologist I set myself the task of knowing myself as the ego already made part of the world, objectified with a particular real meaning, mundanised, so to speak – concretely speaking, the soul – the task of knowing myself precisely...myself as a human being among things. If I myself effect the transcendental attitude as a way of lifting myself above all world – apperceptions and my human self-perception, purely for the purpose of studying the transcendental accomplishment in and through which I “have” the world.....it would be something belonging to the real soul as related in reality to the real lived body.
(Part IIIB, 1954)

Husserl does not seek to separate himself from the world but rather be part of the real world and not the world created by empirical science and psychology. He described the world as an essentially limited thematic horizon. He believed that psychology had to fail because the analysis that was required was from the pre-given life worlds.

Husserl declared that the original reflective question is directed toward what and how souls are in the world, that is the life world (Husserl, 1954).

It is from this attitude that Husserl asserts the phenomenological position, the study of essences from the understanding of consciousness or *to the things themselves*. The relationship between consciousness and Being for Husserl was a life time search. According to Husserl the first step in phenomenological orientation is when an object has been called into question. Here the Cartesian method of doubt is a starting point as without doubt there is no *cogitato* (considered reflection or thought). A natural

progression from the ability to distinguish certainty from uncertainty is to the point where interpretation becomes part of the process.

Understanding or studying essences is achieved through the bracketing of the experience. By bracketing, an experience can be phenomenologically reduced and ideally this is an examination of a phenomenon through the suspension of all presuppositions, beliefs and judgements. Bracketing was the point of diversion for a student and colleague of Husserl, Martin Heidegger who believed that phenomenological reduction was not possible. Phenomenological reduction is built into interpretation as Husserl asserts,

I must accomplish phenomenological reduction: I must exclude all that is transcendently posited (1907/1975:4)

Without reduction Husserl believed that there can be a *seductive shifting* between problems, between explaining cognitio as a fact of nature and its essential capabilities to accomplish its task. Accordingly, if we are to avoid this confusion and remain mindful of the meaning of the question – we need phenomenological reduction (Husserl, 1907/1975). This is a pure task being asked of mere mortals who throughout history have been unable to meet such high ideals. This is not to say that pure reduction should not be the aim but maybe as others who followed recognise that we as humans are not capable of such purity of interpretation.

To bring the resultant knowledge to evident self-giveness and to seek a view of the nature of its accomplishments does not mean to deduce, to make inductions and so on. The existence of the *cogitato* is guaranteed by its absolute self-giveness by its giveness in pure evidence (*evidenz*). This places pressure on the ability to be able to practice phenomenological reduction. Husserl continued in saying that the idea of reduction acquires a more immediate and more profound determination and a clearer meaning in an *a priori* within absolute self-giveness. As he reflects:

Only with epistemological reflection do we arrive at the distinction between the sciences of a natural sort and philosophy. Epistemological reflection brings to light the sciences...are not yet the ultimate science of being. (Husserl, 1907/1975:18)

The logic of Husserl's thinking is not clear at first but if it is brought back to the tenet of philosophical analysis, of search for truth and being then Husserl's assertions become clearer. His position is that both science and philosophy have a role in the development of knowledge concerning the human condition; one looks at what it is and the other searches for the why. The *what* should not be influenced by the biases and prejudices held by the interpreter, thus supporting the need for phenomenological reduction.

Husserl makes a point in a published series of lectures which demonstrates that phenomenology is a state of mind, of being.

Phenomenology: this denotes a science, a system of scientific disciplines. It is also and above all denotes a method and an attitude of mind, the specifically philosophical attitude of mind, the specifically philosophical method. (Husserl, 1907/1975: 18)

Husserl sees an issue in applying a philosophical method in that if the existence of *cogitato* is not separated from *my cogitato* then the final cogitation is flawed. This is his continuing argument for why bracketing, as a method of phenomenological reduction is required. However as the next generation of phenomenologists would argue phenomenological reduction is not possible. To encapsulate Husserl's concept of reduction he says that:

This relation of the phenomenal object (...a conscious content) to the phenomenal subject (myself as an empirical person, a thing) must naturally be kept apart from the relation of the conscious content, in the sense of an experience, to consciousness in the sense of a unity of such conscious content (the phenomenological substance of a empirical ego). (1913/1970:539)

Husserl argued that bracketing is only temporary as what is bracketed is reinstated with the main theory. This process allows a pure *reflexion* of the experience that is

real and intentional. It is from this point that Husserl discusses intentionality as it relates to phenomenology (objectively orientated phenomenology). It is intentionality that characterises consciousness and it justifies the describing of experience (1913/1931:212-42). Derived from the Latin *intentio*, intentionality is the ideas and representations of things formed in the mind. Intentionality was revived for philosophy by Brentano around 1874. His idea was that intentionality is the mark of the mental; it included all that is in the mind believing, desiring and hoping.

In this way, ‘intentionality’ does not necessarily involve the idea of intention – in the sense that actions are intentional. Intentionality is a representable content. The term should also be distinguished from the notion of intensionality. Intensionality is a feature of logical and linguistic contexts which exhibit a referentially opaque-substitution of co-referring expressions in a sentence and may change the truth-value of the sentence and they do not license existential generalization. (Allen & Bekoff, 1997; Heyes & Dickinson, 1990).

Husserl presents many definitional statements concerning what phenomenology is and is not, this must not distract from the outcome of his works. In doing so Husserl has clearly shown how phenomenology was in its infancy and through natural development how it grew and changed in his mind and writings. Each definition extracts a little more understanding of the expression of phenomenology. He uses words such as *science of origins* and *it is the maternal-ground of all philosophical method* (Husserl, 1912/1980:69). It is interesting however that the word and therefore the connotations of the word science appears strongly in his writings maybe like today the word science gives some validity to what an individual attempts to do and to the resultant knowledge and interpretations. Husserl may not have been as free from those constraints as he may have desired.

For Husserl, experience is a consciousness and writes of a unified stream of consciousness:

In this sense what the ego or consciousness experiences are its experiences: there is no difference between the experience or conscious context and the experience itself. (Husserl, 1913/ 1970: 540)

When discussing individual consciousness Husserl argued that it is interwoven with the natural world, an intimate attachment with the real world (1913/1930:127). If this is his belief then how is bracketing (and therefore reduction) possible if the real world is part of pure consciousness? He continued this dialogue by asserting that

consciousness of the embodied self-presence of an individual object.natural wakeful life ...is a continuous perceiving. The world of things and our body within it are continuously presented to our perception. (Husserl, 1913/1931:127)

The sense of body and its (phenomenological) implications was later considered by Maurice Merleau-Ponty. Significantly Husserl saw that it was the intrinsic nature of an experience that is perceivable through reflection. Husserl saw no conflict as the reference of phenomenology was a standpoint that directs our *mental glance* to an experience so that one is able to refer back to the experiences of essential nature, our empirical existence (1913/1931:142-4). When in all the other sciences we strive to rise to the surface and once there swim as fast as we can. Husserl asks us to rid ourselves of all struggles and allow ourselves, against all instincts for mental preservation, to settle to the floor of pure objective realism.

Husserl's retirement in 1928 did not prevent his continuing development and lectures on phenomenology. However with the rise of the National Socialist Party in Germany and his Jewish heritage he was systematically removed from academic life. In April 1933 he was suspended from the University of Freiburg after nearly 20 years of service to philosophy. Martin Heidegger's (his former student and colleague) was appointed rector a few days after Husserl's suspension. In 1936 his teaching licence

was suspended and his name was removed from the *Volesungsverzeichins (a list of lecturers)* at the university. To add to his humiliation he was prevented from presenting at the 9th International Congress of Philosophy in Paris in 1936. He died in April of the following year after a fall. His final lectures and manuscripts titled *Krisis* were secretly removed from Germany probably by Rudolf Pannwitz (Bernet, Kern & Marbach, 1993).

3.2.2. Martin Heidegger (1889-1979)

Heidegger claimed that phenomenology should make known what is hidden in ordinary everyday experience, the existential experience. Heidegger's education was limited in its scope until 1911 when at Freiburg University he changed his studies from theology to philosophy, mathematics and natural sciences. It was during this time he became a student of Husserl, finally receiving a doctorate in philosophy. Heidegger had three major philosophical and one political influence, Husserl, Kierkegaard, Nietzsche and Hitler. These influences were evident in his text *Being and Time*. Heidegger believed that the life-world was interpretive therefore hermeneutic. He was concerned with the events and emotions of everyday life especially death. In contrast to Husserl, Heidegger claimed that the meaning of *Being* can be found in the existence of Being, in the world in which it is lived. The meaning of Being has been expressed as the *existenz* [of] *Dasein*. Heidegger's *existenz* [of] *Dasein* was a Germany in crisis following its defeat in World War I.

The development of existential phenomenology came from Heidegger's attention to the question of what it is to exist and the examination of existence *as it is* without manipulation. However there are interpretations of Heidegger's *Dasein* which initially appears to be incongruent with its expression in *the Basic Problems of Phenomenology*. Mala (1999) asserted that *Dasein* described *the human being* (note

the use of lower case ‘b’) not as Heidegger declares, Being. Mala dissected Dasein as *da* meaning “here” and *sein* meaning “to be” therefore Dasein means *to be here*. He sees *here* as a place in the world, this is interpretive of the word to fit Heidegger’s concept:

The Dasein directs itself toward beings in a manner that understands being, and in this self-direction the self is concomitantly unveiled. The Dasein’s factual everyday understanding of itself as reflection from the things with which it is concerned. (Heidegger, 1927/1962:158).

In Heidegger’s mind Dasein does not need a special kind of observation, nor does it need to conduct a covert action on the ego in order to have the self; rather, as the Dasein gives itself over instantly and passionately to the world itself, its own self is reflected to it from things (1927/1962:159).

As a philosopher living in pre-Nazi Germany Heidegger was ambivalent towards the traditional social and religious concepts of the day. He found that he was drawn towards the policies of the National Socialist party in that it offered Aryan supremacy and strong directed leadership. His support of the Nazi regime saw him installed as rector of the University of Freiburg in 1933, although in later years he wrote of his failure in this role. The intent of his criticism of Husserl’s phenomenology during this period appears to be more a consequence of the fact that Husserl was *non Aryan*. Heidegger never published any anti-Semitic works but his treatment of Husserl and other Jewish academics was considered to be politically motivated (Farias, 1989). Prior to this period the criticism was more a genuine philosophical debate.

During his tenure as a member of the National Socialist Party from 1933 – 1945 Heidegger’s lectures and papers did not address phenomenological development or debate but rather he sought the safety of analysing accepted Germanic philosophers such as Nietzsche and Hölderlin. Post war his refusal to recant his Nazi past

prevented him from teaching until July 1949 however by then much of the passion was gone (Farias, 1989; Leithart, 1994).

Putting aside Heidegger's dubious past his contribution to the development of phenomenology, regardless of the original intent, was to challenge Husserl's phenomenological reduction and bracketing and to support the hermeneutic analysis of the world as it is experienced. He was also concerned that the individual was always in danger of being submerged in the world of objects, routine and the behaviour of others. He believed that when faced with the feeling of angst the absolute meaningless of life becomes evident. Once this angst has been experienced the individual can then discover an authentic sense of being. Here Nietzsche's influence of suffering can be seen.

Heidegger's life was complex in that his life journey appeared to be underscored by a search for the truth in Being. Concluding that there are two basic ways of Being; the Being of Nature (*Res Extensa*) and the Being of the Mind (*Res Cogitans*), (Heidegger, 1927/1962:122). Heidegger re-established the interpretive paradigm of hermeneutics this will be discussed later in this chapter. In his later works he compared Western conceptions of Being to the ancient Greek conception of Being. He challenged the role of technology and saw it as a force that deprived Being and a human life of meaning, a condition he called *Nihilism*. Heidegger believed that humanity had forgotten its true vocation, to recover the deeper understanding of Being achieved by the ancients but lost by modern philosophers. Lowth cited in Ott described the complexity Heidegger's life journey:

A Jesuit by education, he became a protestant through indignation; a scholastic dogmatist by training, he became an existential pragmatist through experience; a theologian by tradition, he became an atheist in his research, a renegade to his tradition cloaked in the mantle of its history. (1993:120)

Heidegger like Husserl and the others that followed attempted to utilise a *pure description*. It was observed by Gadamer that when reading Husserl's works Heidegger noted in the margins "*to things themselves!!*" (Gadamer, 1960:225-7). In *Being and Time* Heidegger described the structure of everydayness and in so doing moved away from Husserl's repositioned phenomenology to a point where everydayness is made apparent by manifesting what is hidden in the ordinary experience. This, Heidegger described as *being-in the world*. Phenomenological reduction from Heidegger's perspective is impossible. What one does in the world is one's own private experience as human action consists of a direct grasp of objects.

Heidegger did not have the literal opportunity to develop his thoughts fully before making them public. Far from being a completed work Heidegger was compelled to publish *Being and Time* before it was finished; a consequence of academic expediency. The Marburg Ministry of Culture would not offer him the Chief Philosophical Lehrstuhl at the University until he had published something. As Krell (1993) says '*the book suffered a premature birth, hectic and deprived of dignity*.' Although considered to the contrary, *Being and Time* is not a completely thought out thesis, which could explain some of the later apparent discrepancies.

A further division between Husserl and Heidegger was his belief that phenomenological reduction does not require bracketing of the subjectivity inherent in the interpreters life world. Rather he claimed that understanding is mediated by a sensitivity to situations which is a component of the interpreter's life world. A consequence of this interpretation is that we move to an existential understanding, an unreflective and intuitive grasp of a situation. Heidegger believed that understanding must be incomplete because Dasein is both historical and finite (Heidegger, 1927/62)

Phenomenology for Heidegger expressed a maxim which can be formulated as Husserlian *to things themselves!* It is opposed to all free floating constructs and

accidental findings; it is opposed to taking over any conceptions which only seem to have been demonstrated; it is opposed to those pseudo questions which parade themselves as problems; often for generations at a time (Heidegger, 1927/1962:50). It is being in the world. Yet this maxim is self evident and it expresses the underlying principles of any scientific knowledge whatsoever.

Worldhood is used by Heidegger as an ontological concept and signifies the structure of one of the constitutive aspects of *Being in the World*, as a way in which Dasein's character is defined existentially. How then with this notion could Heidegger support Husserl's phenomenological reduction, when *Being in the World* is a state of Dasein? To Heidegger the consideration of *Being in the World* is within the horizon of average everydayness – the kind of Being closest to Dasein. In this way the world comes into view (Heidegger, 1927/1962:92-4).

Heidegger links Being in the world with state of mind, thereby Dasein to 'mind' and to an encounter of something that matters to us. Heidegger makes an interesting point on truth in that the essence of truth lies in the *agreement* of the object with its object thereby saying that truth is relative and exists only if others say it exists (Heidegger, 1927:94,177,214). It then becomes evident that the detractors of intuition may be ignoring intuition's ontological and phenomenological foundations. The truth on intuition lies in its existence in the lives of others as a Dasein – as Being in the world.

Heidegger developed this concept and in 1923 published *Ontology – the Hermeneutics of Facticity*. Heidegger writes of the phenomeno-logical path of the hermeneutics of facticity, whereby phenomenology is the orientation of the path of inquiry and the *being there* of Dasein is focused on the phenomenon. Heidegger says what is necessary is to bring this phenomena authentically into view is intuition and in such a way that Dasein discloses itself with regard to definite characteristics of

being. In these words I find tacit support for this research. His journey ended at the beginning as Heidegger was buried with Catholic rites in 1976 (Ott, 1993).

3.2.2.1. Hermeneutics

In ancient mythology the messenger of the gods was Hermes, it was his responsibility to interpret the *gods* wishes for man. The interpretation of text is as old as the written word and the first formal interpretation of text was undertaken as a religious task to interpret the word of God from the scrolls handed on by the prophets. However, this simple task was made complex by man, by culture, by context and by bias. As hermeneutics was a religious task therefore a religious example can demonstrate the problems with interpretation.

Abraham is an important religious figure in three major religions insomuch as the Jews, Moslems and Christians all worship the God of Abraham. To the Jews Abraham directed the course of their lives and their religious beliefs. To the Moslems Abraham was the father of Ishmael the father of Islam, finally he was a prophet laying the foundation for the Christian Messiah. The question still unanswered is – what was the influence of Abraham?

Aristotle used the term hermeneutics in his paper *Peri Hermeneutics* (loosely translated means *On Interpretation*). Aristotle used a logical approach to the interpretation of the sentence based on its structure – this is not a simple grammatical interpretation as Aristotle believed that “*words spoken are signs of the souls, written words are signs of the word*” (Aristotle v 1; 1965:115). Aristotle did not recognise that the spoken word is an annotated expression of the mediation of thought and emotions. Words do not always reflect thought, this has been the issue for the expression of intuition. Words do not reflect the thoughts and emotion of the

experience. The Aristotelian method of hermeneutics is too limited and limiting for the study of intuition.

The practice of hermeneutics continued and the interpretations of early Christian writings were the responsibility of Christian scholars of whom many were canonised, adding support to their particular interpretations. Barrett (1996: 223) argued that the Christian church in the Middle Ages was forced to become hermeneutic to defend its doctrine against other philosophies that were gaining favour.

Hermeneutics emerged from this vague defensive position during the Renaissance.

Three issues outside the church forced a change in direction. The first was the inability of the church to provide guidance for some and these individuals turned to the Ancients for introspections. Second and resulting from the first, an interest in Roman law (and with Aristotle's grammatical interpretation) a new basis of jurisprudence was founded. Finally, and most importantly for this discussion, the philosophers of the time referred to as the enlightenment philosophers used an interpretive approach so that human knowledge could be organised (Barrett, 1996).

Schleiermacher (1768-1834) wanted to redress the resultant imbalance of hermeneutics in the eighteenth century. *To seek understanding without reflection and to resort to the rules of understanding only in special cases is an imbalance* (Schleiermacher cited on Muller-Vollmer 1997:74). In other words to find a balanced understanding should be sought in all situations. A significant contribution of Schleiermacher was that he was the first to consider the spoken work as text therefore paving the way to seek understanding from narratives.

Dilthey (1833-1911) moved forward from this point and appears to be the first to identify the cyclic nature of hermeneutics. He noted that the underlying understanding, *verstehen*, (the basis for methodological hermeneutics) involved proceeding from the author's biography and immediate historical circumstances to

the reconstruction of the world in which the text produced then has a place in that world. Gadamer later developed this concept and used the term historicity to describe the role of personal history in the hermeneutic circle.

Dilthey's importance cannot be underestimated. His belief that the study of social science rests on *erlebnis* (lived experience), *verstehen* (understanding), and expression. History, art and other social sciences express the spirit of the other and that such understanding involves our lived experience (Rickman, 1988)

If hermeneutics is viewed historically its focus shifts from religious to the secular which is reflective of social history as a whole. Initially hermeneutics was nearly exclusively confined to biblical exegesis however by the end of the nineteenth century and with the direction especially that provided by Fr. Schleiermacher and later by Dilthey, a modern general methodology for hermeneutics was intuited. Burnard (1998) explained the shift as one that moves from the pre-suppositions of some kind of universal empathy characteristic of nineteenth century romanticism to a more linguistically based notion of universal pragmatism found in twentieth century philosophers.

It was not until Heidegger made the philosophical connection between phenomenology and hermeneutics that the paradigm moved fully into the life world. It is not clear if Heidegger was influenced by Dilthey but he did share Schleiermacher's concern that a person cannot understand a text without projecting oneself into the text. Heidegger's ontological hermeneutics was a movement away from Husserl, Schleiermacher and Dilthey's theory of interpretation to an existential theory of understanding. This understanding by its nature is incomplete because Dasein itself is both historical and finite.

Understanding and experiences are for the most part unreflective as they do not need to be anything but Dasein. Understanding is a no-longer-conscious component of

Dasein; it is embedded in its context and fore-knowledge. A consequence of this no-longer-conscious knowledge is that interpretation is a conscious recognition of one's own world – an existential understanding. Heidegger's ontological hermeneutics therefore moves into a self-conscious interpretative vantage (Heidegger, 1923).

The study of intuition is somewhat supported by the nature of Heidegger's hermeneutics in that fore-knowledge is accumulated over time and contains successive exercises of existential understanding and one that cannot escape its limitations of a self-conscious interpretative stance, an existential accumulation over time of experience and a growth of fore-knowledge – practice development:

Heidegger describes the hermeneutic circle in such a way that understanding of the text remains permanently determined by the anticipatory movement of fore-understandings. The circle as a whole and the part is not dissolved in perfect understanding but on the contrary is most fully realised. (Gadamer, 1975:261)

Idhe (2000) a contemporary phenomenologist acknowledges the impact of Schleiermacher and Dilthey on hermeneutics. He says that Heidegger, Gadamer and Ricoeur are the three European giants of the hermeneutic tradition as they married hermeneutics with phenomenology (Idhe, 2000).

It can be argued that all knowledge is circular. Inductive research is a good example of this process. A scientist does not look for data and then come up with a premise, rather they develop a premise first then gather the evidence to support it. However, without some understanding the premise could not be developed. This cyclic nature of knowledge has an intuitive nature, an intuition for projection. Heidegger uses the word disclosure to describe this.

The world is disclosed **to** Dasein through one's emotions. A consequence of this is the hermeneutic circle. It is an error-correcting cycle which increases understanding. The error-correcting nature is found when the *hypothesis* is not supported. One returns to

the question and to the underlying pre-understandings that led to the question and a new hypothesis is developed to be tested. The uniqueness of each hermeneutic circle is the shared meanings held within the circle and as understanding grows so will knowledge.

The interpretive paradigm is not a problem for phenomenology as phenomenology requires that the world be subject to the hermeneutic circle. John Lye (2001) put forward the principles of phenomenological hermeneutics.

- *We live in the world and meaning is related to our existence in the world. Our existence includes our prejudice (in the Gadamerian sense), our situation and abilities.*
- *We share reality through common signs*
- *Our symbolic world is not separate from our Being*
- *Experience is not just language, we are being-in-the-world*
- *There is a self presence before there is meaning*
- *Intentionality is at the heart of knowledge*
- *Consciousness is intentional*
- *Self understanding is a cultural act and culture is a personal act*
- *The hermeneutic circle does not close off but opens up because of symbolic and self destructive nature of our being*
- *The readers horizons meets the text's horizons and is governed by the horizons at the time of writing.*

(Brook University 3/ 4/2001)

3.2.3. Jean-Paul Sartre (1905-1980)

Heidegger's philosophy had an influence on the existential movement and on literature; this attracted the young French author Jean-Paul Sartre. Sartre is considered to be the most significant existentialist in the 20th Century. His inclusion in this discussion is a consequence of his analysis of self-consciousness in relation to Being. An external conceptual link now existed between Husserl's and Heidegger's philosophies.

Sartre, great nephew of Albert Schweitzer, was born in Paris and raised in the home of his grandfather a professor at the Sorbonne following the death of his father.

Unable to make childhood friends he sought the comfort and magic of books and ideas (Sartre, 1963/ 1984). Whilst at the prestigious Ecole Normale Superieure (Superior Normal College) he came into contact with the works of Husserl and Heidegger. He interpreted these philosophies from a negative existentialist vantage. That is, Husserl had a belief that it was futile for philosophers to debate abstract principles and Heidegger saw that humans occupy an incomprehensible world and die without ever knowing why we are here.

Greatly influenced by his time as a prisoner of war his writings reflected the senselessness of life. For example, he believed that there was no God therefore man is responsible for his own determination (*Being and Nothingness*). However, the underlying theme was that through the recognition of the senselessness one is able to develop individual integrity and strive to improve humanity and achieve an *authentic* life. The influence of Heidegger and Nietzsche are clearly seen in Sartre's descriptions of the senselessness of life. However Haught's (1991) interpretation of Sartre's version of the authentic life is profound:

Never stop advocating reason – even though 900 residents of Jonestown swallow[ed] cyanide.....

Never stop seeking fairness and decency – even though death squads rape and decapitate women in El Salvador

Never stop trying to resolve differenceseven though more than 100 wars have been fought since World War II

Never stop believing that men and women need each other.....even though half of marriages splinter in bitterness

Never stop supporting freedom.....even though Shi'ite Muslims in Iran hang Baha'I teenagers who won't convert

Never stop seeking social justice – even though Texas police drown Mexicans in canals.

University of Charleston. November 20, 1991

It is in this description that the Being becomes real, to *be* is to have an authentic life. It does not matter which world we live or what our experiences are as long as they are examined for what they are not for what they seem. In this he is advising existential phenomenologists to consider the authentic Being. There was only one person of Sartre's generation to have the intellect to challenge and debate his ideas, Maurice Merleau-Ponty. Sartre's impact on phenomenology was through the challenge and developments seen in the work of Merleau-Ponty. Again the influence of Husserl on both Sartre and Merleau-Ponty is evident.

According to Whitford, Sartre was influenced by Husserl's early work and Merleau-Ponty his later works (1982:13). She sums up the differences in the vision of man by saying that for Sartre man is free; for Merleau-Ponty man is historical (p14). It is this basic difference that began the debate on existential phenomenology.

3.2.4. Maurice Merleau-Ponty (1908-1961)

Born in France in 1908 Maurice Merleau-Ponty's early life was punctuated by the death of his father in World War I. Despite this loss he described his childhood to Sartre as incomparable (Schmidt, 1985). Like Sartre, Merleau-Ponty attended the Ecole Normale Superieure where he studied philosophy and psychology. He was the Chair of Child Psychology at the Sorbonne in 1949 and the youngest ever Chair of Philosophy at the College de France in 1952. Unlike the phenomenologists before him his doctorate was awarded not on the merit of a thesis but on the merit of his first two books.

Although attending the Ecole Normale Superieure at the same time Merleau-Ponty and Sartre they did not establish a relationship until they resumed contact in the resistance movement during World War II. They soon discovered a common interest in the works of Husserl. He worked with Sartre on *Les Temps Modernes*. It was

political rather than the philosophical differences that divided Sartre and Merleau-Ponty. He attended many of Husserl's lectures at the Sorbonne but as he did not speak German he understood little. His early death in 1961 did not prevent his two final publications from being published posthumously (Schmidt, 1985).

Phenomenology, Merleau-Ponty wrote in 1945, *existed as a movement* before it came to full consciousness of itself as a philosophy. He believed that Husserl and Heidegger did not encounter a new philosophy but recognised in the works of Hegel, Kierkegaard, Marx, Nietzsche and Freud as what they had been waiting for, phenomenology (Schmidt, 1985).

Unlike those who went before him, Merleau-Ponty believed that there is no relation or aspect of phenomenology that does not implicate the body and his descriptions allows us to reconsider the problem of embodiment in terms of the body's practical capacity to act, rather than in terms of any essential trait. Consciousness, he asserted, is completed synthesis (1945:134). Merleau-Ponty challenged the dualistic premise of mind and body, for example Descartes' prioritising the mental over the physical.

For Merleau-Ponty both empiricism and intellectualism are flawed:

Empiricism cannot see that we need to know what we are looking for, otherwise we would not be looking for it, and intellectualism fails to see that we need to be ignorant of what we are looking for, or equally again we should not be searching. (Merleau-Ponty, 1945:28)

Phenomenology of Perception (1945) was Merleau-Ponty's main thesis and an insightful analysis of Husserl from an unpublished collection of his works painstakingly translated. Onto this analysis Merleau-Ponty introduced the first sustained attention to the significance of the body in relation to itself, the world and to others. His thesis is united in the claim that we are our bodies, and that our lived experience of this body denies the detachment of subject from object, mind from body (pxii). This ensures that there is no lived distinction between the act of

perceiving and the object perceived. *We must therefore avoid saying that our body is in space, or in time. It inhabits space and time* (1945:139).

The way we are in the world is not by chance but rather; In ignorance and negligence I let myself be guided to the general way of the world. I will know it well enough when I perceive it (Merleau-Ponty, 1974:128). Whitford (1982) explained Merleau-Ponty's conceptualisation of the way of the world in terms of a reflection of it, that is, reflection depends on an unreflective immersion in the world that never ceases. For Merleau-Ponty it would seem that knowledge can be pre-reflective in the sense of the lived by the body as well as reflective. Phenomenology's purpose therefore, is to uncover and bring to light the nature of unreflective experience (p28-50).

According to Merleau-Ponty the perceived world is the presupposed foundation of all rationality, all value and all existence. It is not that phenomenology seeks to destroy this foundation but rather to *bring them down to earth* (1974:197). His views on reduction are simple in that the most important lesson which reduction teaches us is the impossibility of complete reduction (pxiv). Merleau-Ponty commented that lived body and the lived experience does not interest all people and he acknowledged that the physicist would have no interest in this pursuit (p222). He contends that there is a place for pure science and that science should acknowledge the place of the body in the lived experience:

Phenomenological analysis is a clarifying effort of this kind. It is seeking to identify with rigor, and to link together in an intelligible way, the attitudes and traits that may justifiably be called human. (Merleau-Ponty, 1974:247)

Merleau-Ponty's notion of embodiment has touched a chord with nurses as a consequence of our involvement in the body in the lived world. Nurses are embodied within their practice as Merleau-Ponty concludes;

...the world is not the sum of things which might always be called into question, but the inexhaustible reservoir from which things are drawn.
(1945:344)

Hubert Dreyfus (1996) applies Merleau-Ponty's intentional arc to skills acquisition. Dreyfus contends that Merleau-Ponty's embodiment is necessary for the intentional arc to exist. Dreyfus interprets that the intentional arc names the tight connection between the agent and the world; that is, as the agent acquires skills and those skills are stored not as representations of the mind but as dispositions to respond to the solicitations of situations in the world. This link between Dreyfus and Merleau-Ponty is significant as it leads to the conclusion that embodied knowledge is not something that we are conscious of so it cannot be understood as a conscious or an unconscious representation. Therefore, the movement through the process of skill acquisition (or practice development) is partially embodied in a phenomenological sense. It is now clear that a phenomenological investigation into expert practice may elicit how this practice is embodied as a lived experience. It is unfortunate that Merleau-Ponty's contribution to phenomenology was not immediately understood.

3.2.5. Hans-Georg Gadamer (1900 – 2002)

The death last year of Hans-Georg Gadamer ended an extraordinary life and contribution to philosophy. Born 1900 in Marburg Germany, the son of a chemistry professor, not much is currently known about his early life and influences. At the age of 18 he started his formal education at Breslau completing his doctorate at 22 in Marburg. Unlike the Aristotelian influence on previous phenomenologists, Gadamer was also strongly influenced by Plato, the subject of his two doctorates. By taking a step back from traditional classic scholars to the father of all philosophers Gadamer was able to move forward.

Aristotle Gadamer asserted focused on being and truth, whereas an integral component of Plato's thoughts was the concept of forms in which abstract entities

(universals) are contrasted with their objects in the material world. The connection of abstraction with reality can be placed in Gadamerian terms as a fusion of different positions. This broadened the horizons of Gadamer's explanation of truth, history and interpretation. The central importance of Plato is related to *sprache* (language and speech)

Language and speech for Plato was reduced to two implications of *sprache*. *Sprache* can have two levels equally correct; it is used in accordance with convention and as a correct use of what they name. Gadamer tied this Platonic theory to the processes of disclosure of reality that occurs in speaking (Smith, 1991). Gadamer was critical of the abstraction of *sprache* as this wedges language between image and sign (1960:378). In *Truth and Method* Gadamer makes the following declaration;

all language belongs in a unique way to the process of understanding and all understanding is interpretation and all interpretation takes place in the medium of a language which would allow the object to come into words (1960:350)

In 1923 Gadamer became Heidegger's assistant moving through to a second Platonic doctorate. He taught at Kiel and Marburg and during World War II he served as a rector at Leipzig and finally at Heidelberg until his formal retirement in 1968. His most productive time was spent following his retirement evidenced by the numerous publications, lectures and articles written, the last being in at the age of 99. Not much is known about his *life world* at this time.

The influence of such a mind living in a repressive regime in Nazi Germany must have had some affect. Gadamer appears to have avoided many of the conflicts that surrounded the events of 1930 – 1945. His contempt of the National Socialist regime is seen in *Philosophical Hermeneutics* (1975) when discussing art, its interpretation and use as an authentic experience he says

About thirty years ago, this problem cropped up in a particular distorted form when National Socialist politics of art, as a means to its own ends,

tried to criticise formulation formalism by arguing that art is bound to the people. (1976:5)

Although not much is written about Gadamer's activities outside his academic life he has made comments that tend to reflect the man. The lack of analysis of his life world may be academics keeping a respectful distance until his death. Silverman (1991) acknowledges Gadamer's influence in twentieth century philosophy as a central figure who re-orientated continental philosophy along with Husserl and Heidegger as he offered a new way of understanding Western philosophical thinking. Gadamer moved from the narrow study of "things" (Husserl) and Dasein (Heidegger) to an interpretative paradigm where knowledge merges with the life world and its history. Gadamer was not a traditional phenomenologist, his analysis of the world was through history and culture and the interpretation on events from this perspective. Like other phenomenologist he had issues with the constructs of traditional science and the imposition of scientific method onto the natural sciences. His development and analysis of hermeneutics and his ability to merge disparate ideologies are Byzantine especially to me a humble student without a philosophical background. Gadamer examined the development of modern hermeneutics from the time it began to move from a religious to a philosophical task. He concentrated his analysis on the foundational work done by Schleiermacher and Dilthey and then through Husserl and Heidegger. He was one of Heidegger's assistants and presumably party to many of the debates as Heidegger developed his phenomenological and hermeneutical concepts.

Commenting on Schleiermacher Gadamer in *Truth and Method* (1960 translation by Barden & Cumming, 1975) acknowledges that he sought to;

place[ing] oneself with the mind of the author, an apprehension of the 'inner origin' of the composition of the work, a recreation of the creative act.a knowing of what has been known (1960:164)

Gadamer's major criticism of Schleiermacher is found in the notion that;

understanding that the meaning of the part is always discovered only from the context i.e. ultimately from the wholeSchleiermacher ...sees every thought construct as an element in the total context of a man's life.The limitation of this type of hermeneutics based on the concept of individuality is now seen in the fact that Schleiermacher does not find the task of literary and of scriptural exegesis ...fundamentally more problematic than any other kind of understanding (1960:167-8)

Gadamer makes an interesting and somewhat controversial point in *Truth and*

Method when he states that the artist who creates something is not the ideal

interpreter of it (1960:170). This has relevance for this particular study as the

participants should not interpret their stories of practice as they were the *artists* who

created them. Gadamer does not comment on who is the appropriate interpreter but

indicates that appreciation of the work (interpretation) can be universal.

Together with his criticism of Schleiermacher Gadamer also recognises the

importance of his work. “[Schleiermacher] brought independence to the

hermeneutic method – no mean feat after many millennium of existence.”

(1960:171). He also recognised the main limitation of his work was that

Schleiermacher believed that an understanding of texts and a global historical world

view was possible. Gadamer *had to move beyond it.* (1960:173)

Gadamer rejects a universal history in hermeneutic analysis and moves on in *Truth*

and Method to Dilthey. Gadamer remains critical of historicism and moved from the

epistemological problem of history to the hermeneutical foundation of human

science. He posited himself where the inner historicity belonged to the experience

itself (1960:195). He acknowledges that Dilthey started at the right point that is,

Husserl, however Dilthey somehow became grounded in historicity and the belief

that hermeneutics could interpret the original author's ideas.

It is from this point that Gadamer moves forward and he defines the aim of

philosophical hermeneutics as;

the basis of all subjective meaning and attitude and hence both prescribes and limits every possibility of understanding any tradition whatsoever in terms of its unique historical quality. (p269).

The enormity of that aim should not go unremarked. Gadamer has placed a *traditions history* as a unique experience of that tradition not of a component episode of a wider history which is not only enabling but it is also limiting. The historical context in which a tradition is experienced comes clearly into focus. For this study each participant has had a history leading to their intuitive pathways, each is unique and bound within that person's history, not the broader history of emergency nursing today. The individual's history is what makes every participant valuable however this places a responsibility on the interpreter not to prejudice each interpretation.

It is at this point that Gadamer introduces the concept of horizons. If we stand at the point of each situation's uniqueness then an essential part of the concept is its horizon.

The horizon is the range of vision that includes everything that can be seen from a particular vantage point.A single horizon embraces everything contained within historical consciousness. (1960:269)

The implication of Gadamer's view of horizon is that the same horizon will have a different interpretation depending on the position of the interpreter at that particular point in time and will vary between interpreters.

Seven years following the publication of *Truth and Method*, Gadamer's collective works for the period 1960–1972 were published in *Philosophical Hermeneutics*.

Gadamer discussed his development of hermeneutic reflection from Dilthey to a *new and broader footing linguistically, ontologically and aesthetically* (1975:18).

Hermeneutic reflection fulfils the function of bringing to our conscious awareness *something* – something but not everything.

Gadamer is able to simplify the hermeneutic task by saying that understanding includes a reflective dimension from the very beginning (1975:45). Understanding is therefore knowing the known. Gadamer perceived that the goal of phenomenological reduction was not to reduce the unity of principle but to disclose the whole wealth of the self-given phenomena in an unbiased way (1975:146).

His underlying assumption was that interpretation is an all encompassing way of being – an *a priori* way of being. Gadamer talks of the fusion of horizons in that the reader's horizon meets the texts horizon: the reader reads with understanding and frames of reference. However, what is read is a construct whose nuances and interrelations are governed by the horizon at the time of writing. Reading therefore is tied to the text and its historicity; every reading is only an interpretation. Horizons are constructed by ones' cultural being and that the world is of its nature changing and changeable. Gadamer's fusion of horizons is done with the understanding that it is only one view of the horizon neither right nor wrong as in true hermeneutics no such absolutes exist.

3.3. PHENOMENOLOGY AND INTUITION

The nature of being or life as it is lived is intuitive. Lao Tzū first documented the intuitive nature of existence however it was over 2000 years later that the connection between intuition and life as it is lived was raised in philosophical discussions. In his inaugural lecture at the University of Freiburg in 1917 Husserl unknowingly acknowledges Lao Tzū in saying:

To begin with, we put the proposition: pure phenomenology is the science of pure consciousness. This means that pure phenomenology draws upon pure reflection exclusively, and pure reflection excludes, as such, every type of external experience and therefore precludes any compositing of objects alien to consciousness.....

The fundamental fact is that there is a kind of intuiting which, in contrast to psychological experiencing, remains within pure reflection: pure

reflection excludes everything that is given in the natural attitude and excludes therefore all of Nature.

(Inaugural lecture at Freiburg in Breisgau)

Is this not the freedom from the restrictions of past experiences to embrace pure consciousness and the intuitive self that Lao Tzū wrote of in the Tao Te Ching between 551-479 BC (Kuo, 1996). Husserl (1917) links object, truth and cognition by arguing that to every object there is a corresponding and ideally closed system of truths and an ideal system of possible cognitive processes by virtue of which the object and the truths about it given to any cognitive subject (p.1). He continued his argument by linking experience to cognition; an experience to the intuitive grasp of the object in its original form. Perception of the experience is not static and Husserl described the object's sensuous 'looks' in other words the object is perceived differently from different vantage points.

The intuitive nature of phenomenology and philosophy is widely seen in the philosophical literature. There is specific reference to the intuitive nature of understanding and knowing in phenomenology including in the writings of Husserl, Heidegger, Merleau-Ponty, Gadamer, van Manen and Idhe. The nature of intuition is fundamental when exploring the unknown. When faced with equally compelling pathways in thinking, in experience and in one's life the direction taken is more based on the feeling of *rightness* of one pathway and there is also the feeling of dis-ease when the wrong path is taken. The phenomenologist does not discuss the nature of intuition as it is just a given that it is part of our *existenz*, our Dasein, our life world, our Being.

Husserl directly links the intuitive experience and objects in thought by saying,

Fundamental epistemological problems can only be solved by re-working them until the objects of thought can be intuitively experience in a direct way (Husserl, 1913/1975:xxvi)

Husserl believed that eidetic theory of the lived processes present themselves in the eidetic intuition. This allows intuition to be a vivid and detailed image of lived experience, to see what is been intuited. Both Husserl and Heidegger perceived intuition as a source of genuine science as a *primal dator*.

Intuition is a reflexion of an object in the broadest sense. Intuition is at the heart of phenomenology. It is not an object to be experimented upon or dissected it is simply a fundamental part of Being. Without intuition there can be no sciences, no knowledge. As Gadamer concluded

Knowledge is intuition and in the case of direct perception, that means direct givenness of what is known in perception. It has its own certainty in itself. (1975:132)

It is a given in philosophy but this is not enough to subdue the criticism of the hard sciences. When intuition crossed the line and became an object within science it became a quandary and inexplicable rather than an essence. Returning to the fundamental principles of phenomenology is to return to the experience itself, as it is lived; to experience the essence of knowing.

3.4. FROM PHILOSOPHY TO A RESEARCH METHOD

The transition of phenomenological thought to a research methodology was based upon a dissatisfaction with the empirical methods of traditional research. In psychological research as Brentano, Husserl and Heidegger found, the person and their life world was removed from research and as a consequence the results lost meaning. There have been many translations of the phenomenological theory of Husserl and Heidegger into research method but it was never their intention. Theirs was a pure philosophy and their discussions on method related to philosophical method as explicating thought and ideas in order to determine Being, knowledge and truth. This fundamental flaw in contemporary human science research methods has temporarily caused some confusion as noted by Crotty in 1990.

However its attraction in thought and detail provided social scientists such as van Kaam, Giorgi, Colazzi and van Manen with a philosophical framework to develop a method of examining experience as it is lived in the context in which it exists.

However van Manen does not attempt to move pure phenomenology into a research method. He has moved being-in-the-world and being as a lived experience to a point where they are objects of interest in human science. Van Manen has taken from the philosophy and from the phenomenologists the concept of human science research – the lived experience.

Van Manen does not become submerged in the phenomenological philosophy rather he raises to a point a clarity so that in principle the philosophy of phenomenology can be the foundation for a human science research method. He says that the starting point is the belief that human science research is textual reflection on lived experiences. His intent is to have an increase in one's thoughtfulness and orientation focused on the experience itself for itself. He clearly articulates the defining aspects of phenomenology {how one orients to the lived experience} and hermeneutics {how one interprets the "texts" of life} (van Manen, 1990:4).

The attraction of van Manen is that by using a phenomenological stance we are able to take a step back from the search for truth and knowledge (in a purely scientific way) and see what has been there all the time. Van Manen conceptualises phenomenological research as;

- *The study of lived experiences (Husserl's influence)*
- *The explication of phenomena as they present themselves to consciousness (Heidegger's influence)*
- *The study of essences (Husserl and Merleau-Ponty's influence)*
- *The description of the experiential meanings as we live them (Merleau-Ponty and Gadamer's influence)*
- *The human scientific study of phenomena*

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- *The attentive practice of thoughtfulness (Heidegger's influence)*
 - *A search for what it means to be human*
 - *A poetizing activity (Merleau-Ponty and Marcel's influence)*

(van Manen 1990:7-14)

Phenomenology is not

- *An empirical science*
- *Mere speculative inquiry in the sense of unworldly reflection*
- *Mere particularity nor universality*
- *Problem solving*

(van Manen, 1990:21-23)

By clearly articulating what phenomenological research is and is not van Manen was then able to move towards developing a process that could be used in its entirety and flexible enough to say if the basic tenet and integrity of exploring the lived experience as it is lived is maintained then what is required of the process may be eclectic. This deep understanding of the philosophy permits the lived experience to come into being naturally and not to be forced to show itself.

Orbe (2000) values phenomenology as a research method as it enables the researcher to listen and to see what is there before it is reflected upon and therefore changed. He supports van Manen's notion of what phenomenological research is and is not. Both Orbe (2000) and van Manen (1990) recognised the difficulties of removing self and bias and that it is a practiced skill of continual re-focusing that finally elicits the true meanings of lived experiences.

The utility of phenomenological research is seen by Orbe as one that can compliment, complicate and extend current knowledge. Phenomenological research is seen as a facilitator of knowledge. It does not a Caelli (2000) argued eliminate culture but rather embraces the fullness of the experience.

It is from the same vantage point, of the dissatisfaction with the research method of empirical science to inform some researchers and to answer the (research) questions they had that both the philosophy and research methodology of phenomenology formed. This was a somewhat gentle growth where researchers like van Manen saw the possibilities of a pure research method in a philosophical movement. To van Manen and others removing the research question to the laboratory removed it from its existence and from the *things themselves*. van Manen was one who was able to take the life world to a point where a hermeneutic analysis was possible.

3.5. CONCLUSION

This chapter has concentrated on the development of phenomenological thought and the philosophers who were responsible for this analysis. The literature tends to remove the philosophy from the life world of its proponents however the influence of the life experiences and the social and historical events of the time did have an influence. Phenomenology developed from a fundamental dissatisfaction with traditional science and the methods of scientific research, basically the humanness of the phenomenon of interest was removed and the phenomenologist believed that this produced results that had some utility but were changed by methods used.

There was a philosophical analysis of bringing to our attention man as an experiential phenomenological being. As a being that has value just by existence a value they believed had been lost over time. Truth to the phenomenologist was not the truth of science but the truth of existence and being and time. The use of speech and texts to bring to one's attention the reality of a situation resulted in a hermeneutical development and interpretation. Returning to Nietzsche's analogy of science and its quest to quantify the canvas and the colours and failure to explore the image becomes a phenomenology truth. The phenomenologist draw out the

experience of the image how it is interpreted by an individual and how each individual will have a different perspective of the image, and each is right, as there is neither right nor wrong just interpretation.

This philosophical perspective supported the development of a new research method so that the experiences as they are lived and from each individual horizon could be explored for what they are not what science wants them to be. The movement from a philosophy to a research method is fraught with difficulties as this was not the intension of the phenomenologists. However van Manen's contemporary use of the phenomenological philosophy to develop a method of research practice has produced a structure that can be utilised to explore an experience of life from the vantage of the individual.

Chapter 4. METHODOLOGICAL CONCEPTS AND PRAGMATIC LINKS

4.1. INTRODUCTION

The life world of the emergency nurse encompasses many components of practice. Jones (1999) examined the life-world of the emergency nurse as a whole; this study in contrast is interested in one component (of that life world), a lived experience within that life world. The previous chapter discussed how the concepts found within phenomenology are related to the phenomenon of interest in this study. The attraction of phenomenology for nursing research is that it does not remove the phenomenon of interest from the life world in which it occurs. Nurses are thus attracted to a methodology that allows for the study of the human condition in a manner so closely related to how they nurse, that is, in context, without prejudice and holistically. As Orbe (2000) contends, qualitative methods are an effective listening tool and, phenomenological research can give a voice to a persons lived experience. Hermeneutic phenomenology as a methodology embraces the values and significance that the participants place on the phenomenon of interest and then provides for cautious interpretation of their experiences. This methodology is a considerable responsibility for the researcher, especially for one who is very much a part of the same life world. Van Manen described the validating cycle of phenomenological inquiry:

...a good phenomenological description is collected by lived experience and recollects lived experience – is validated by lived experience and it validates lived experience. (1990:27)

Van Manen offered a process for phenomenological research that empowers and guides the investigator. This process permits a flexibility within the method without compromising the underlying philosophical foundations. The structure for research

provided by van Manen has six elements that will be discussed in this chapter. Van Manen requires of the investigator to; (1) identify the nature of the lived experience, (2) to be able to set aside self, (3) to investigate the lived experience as it is lived, (4) to practice hermeneutic phenomenological reflection and writing, (5) to maintain a strong relationship to the phenomenon of interest, and finally (6) to find a balance in the research context.

Phenomenological research has been embraced by nursing in a way that no other methodology has to date and it has provided the opportunity to examine clinical experiences in the context in which they occur. For some nurses phenomenology has provided a window into the illness experience and for others, a glimpse into the nursing experience. However a semantic difference has ignited a debate initiated by Crotty (1990).

Crotty argued that nursing research has lost the focus of phenomenological research in that it has moved away from the philosophical underpinnings. There is validity in this argument despite Caelli's (2000) response that he only examined the first 10 projects that used the methodology. There are studies that have taken a van Manen phrase, *lived experience*, and semantically changed the focus of phenomenological research. Consequently this interpretation has limited some research to researching *the lived experience* instead of researching *lived experience*. The difference is that the first examines the experience as an object and the second as the subject. Crotty suggests that nursing needs to move back towards the Husserlian thought *to things themselves* and in many respects start again. Van Manen did not move away from the philosophy but provided a framework in which the philosophy could examine pure experience.

4.2. THE STRUCTURE OF HERMENEUTICAL PHENOMENOLOGICAL RESEARCH

Van Manen (1990) cited six research activities that interact together to provide the structure for human science research. This section will present a review of the six activities and describe how they relate to this study.

4.2.1. The Nature of Lived Experience.

Lived experience is the beginning and end of phenomenological research. The purpose according to van Manen (1990) is to textualise the experience before one has had a chance to reflect upon it, as reflection may alter the perception of the experience. Lived experience is a pre-reflective conscious of life; it is pure in that it is unaware of itself. Intuition it is believed is a pure experience, we are only aware of its presence when an intuitive event occurs. Even reflecting on the intuitive experience cannot provide a means to adequately textualise it. Unfortunately the lack of textualisation is a two thousand year old dilemma. Lao Tzū (530BC) and Roach (2000) cited the lack of language to describe this phenomenon.

Intuition is an anomaly in that it cannot be predicted when the experience will happen. It is an overwhelming experience that compels a decision; there is no conscious decision to be intuitive, intuition *just happens*. Unlike the experiences that Jones (1999) examined, (the emergency life world), one does not put themselves in an intuitive situation as you would when you enter the emergency department (ED) to start a shift; in this situation you willingly enter the life experience.

Intuition has a hermeneutic significance as it creates memories that are so powerful as to evoke the senses. The intuitive person interprets the intuition so that appropriate action can take place. It is an immediate experience as Merleau-Ponty says [phenomenology] *must seize this life and give reflective expression to it*. Van Manen

(1990:38) put forward the concept of mining the life experience's meaning.

Therefore the interpretive paradigm is the expression and objectification of intuition (lived experience) to discover its embodied meaning.

Van Manen tends to demystify Husserl's concept of essences in that an essence is simply a linguistic construction, a description of the phenomenon. In this simplification it is then possible to orientate oneself to the phenomenon. In other words what is the essential nature of intuition [the phenomenon of interest]? This question implies an orientation to the phenomenon. The orientation for this study on intuition is as a practitioner of emergency nursing. Therefore the research method in this study is for the participants to recall their intuitive experiences in such a way that the essential and meaningful aspects become evident.

In all stages of phenomenological research van Manen reminds us to be constantly mindful of the original question thus to be steadfastly orientated to the lived experience (1990:42). In other words, remaining faithful to the purpose that I was originally embarked upon. That is, remembering that the purpose of this study was to identify, extend and explore the nature of intuitive practice in the emergency department through the stories and experiences of skilled emergency nurses.

4.2.2. Setting Aside Self

To accommodate Husserl's bracketing and the arguments on the difficulties put forward by Heidegger and others, van Manen starts by acknowledging that to reach a point where research is possible the researcher already knows a great deal about the topic area (van Manen, 1994:46). The issue is that we enter the research environment with pre-understanding and other knowledge provided by personal learning and experience. Van Manen agrees that it is necessary to suspend these beliefs by

deliberately holding them at bay (1994:47). However, this notion needs further investigation.

The initial chapter of described how the phenomenon of interest came into being from a personal perspective. It is where I am to be found within this phenomenon, but I acknowledge that it may not be where others are. Gadamer (1975) talks of a rehabilitation of *prejudice*, in which he contends that no method can pretend to be perfectly foundational or perfectly free of prejudices. Simply, in this context, prejudice is that which is prior to conscious judgement, it is at the very heart of consciousness.

Unlike Husserl's bracketing, rehabilitation of prejudice acknowledges that it is not possible to un-know or to put aside all knowledge of the phenomenon. To be more precise, Gadamer (1975) used prejudice in a positive way for the researcher to come to a preliminary understanding of the participant's narratives.

The history of this study is that it evolved from a basic question asked but not answered in my Masters degree. Then I thought there was a logical process oriented to the nature of decision-making that could explain intuition. This in fact was a denial of the phenomenon, an attempt to force it into an acceptable model. This pursuit failed miserably and only left me with more questions and a larger hole in my mosaic. I followed the guide that the participants in the Masters offered. It was an experience of knowing, by being guided by the original participants I entered this study somewhat innocently not knowing where it would lead.

As the prologue has shown, it took some time for me to acknowledge my knowing. This quandary has made it easier for me to set aside self in this study. I have had this life experience and I have a preliminary understanding but am at a loss to understand

its essence. So with ease I turn to my new participants so that I can be informed by their life experiences.

4.2.3. Investigating Experience as We Live It.

Prior to investigating a lived experience the nature of the materials collected should to be examined. Within the human science perspective there is a conflict as to the nature of the material collected in many texts it is referred to a data (*datum: pl*) (Denzin & Lincoln, 2000; Munhall, 1994; Field & Morse, 1985; Babbie, 1992). The ambivalence experienced is based in the accepted meanings of the word. The Oxford English Reference dictionary provided two definitions of data:

*Known facts or things used as a basis for inference or reckoning, and
Quantities or characters operated on by a computer (1996:362)*

The second is obviously not related to this discussion however the first needs to be explored. Phenomenology is not about *known facts* nor is it about *things* nor is it used for *reckoning* or *used as a basis for inference*. Therefore the use of the word data in relation to phenomenology is incongruent. Van Manen tries to incorporate a non conventional use of data to phenomenology in that its original meaning was *something given or granted* (1990:54). As with many words the original meaning alters according to societal change. I am suggesting that the use of the word data is no longer unsuitable for the consequences of a phenomenological interview.

Phenomenological descriptions have an inter-subjective character and in this sense it addresses the phenomenon as a human experience. Acknowledging personal experience and its influence on the pursuit of the phenomenon is a starting point when investigating a lived experience (van Manen, 1990). Being aware of the

structure of ones own experience of intuition assists in orientating self to the phenomenon and therefore to all stages of phenomenological research.

In order to obtain experiential descriptions from others in this study I need to understand what being intuitive is like and therefore, by extension, as an aspect of the possibilities of being human. In the prologue of this thesis the development of my intuition was explored therefore this becomes my starting point as van Manen described is an ego-logical starting point for phenomenological research (1990:54).

Van Manen described writing lived-experience descriptions as protocol writing he examines the etymological source of protocol to apply to phenomenology. Protocol writing is the generation of original texts from which a researcher can work (1990:63). To assist in the investigation he suggests that the participants describe the experience as it was lived without explanation, just tell the story, describe the experience from the inside, describe what is vivid in the experience and attend to how the body feels. In this study this process was achieved by starting with the story and then exploring the sensations and vividness once the story was told.

4.2.4. Hermeneutic Phenomenological Reflection

The essential purpose of this study is to grasp the central meaning of intuition. To come face to face with the experience as lived by others is to reflect on its meaning (or essence). Intuition is multi layered and as discussed in the previous chapters defies a single definition. The only mechanism we have left is its reflective meaning. Van Manen (1990) raises the notion of theme as a *free act of seeing meaning* and therefore gives control and order to our writing. Themes are the self contained structures of experience; they are not conceptual statements nor are they categorical statements. We are seeking some form of meaning to the experience from these

themes. Of all van Manen's descriptions of themes the one that stands out is a *theme gives shape to the shapeless* (1990:88).

At present intuition is entirely shapeless; it has no boundaries no structure or even an adequate definition. Intuition truly comes from being human and relating to other humans. To immerse in the stories and experiences of the participants is to enter into the experience to become part of it and then exit the experience with a new understanding of it.

4.2.5. Hermeneutic Phenomenological Writing

At the beginning of this journey I did not understand the nature of phenomenological writing. I was told the analysis is in the writing however it was not until I started writing did I understand the impact of this statement. This thesis is a discourse on intuition on the experience of knowing within the world of emergency nursing. Words are both powerful and powerless, they are spoken and unspoken, and finally they are all we have to express our reflections of the lived experience.

Van Manen names this process of writing as a fusion of the research activity and the reflection (1990:125). He sees the art in writing as one of contradictions for example he puts forwards that:

Writing separates us from what we know and yet it unites us more closely with what we know.....

Writing distances us from the lifeworld, yet it also draws us more closely to the lifeworld.....(p126-7)

This language returns to the notion raised by Gadamer (1975) as the fusion of horizons. I had an experience some years ago which may explain my conceptualisation of Gadamer's fusion. I was touring the north island of New Zealand when we were taken to a cliff and shown the point where three oceans meet

from three different directions. These oceans fused together creating a single foam ripple that was at one with itself, a unique geographical marker. Imagine the power of these mighty oceans fusing into a gentle ripple; this is how the writing of this work is for me. There are the participants coming gently together with the power of their stories and their lived experience of knowing forming in my mind a gentle ripple of words that will appear on paper.

4.2.6. Maintaining a Strong and Oriented Relation

Unlike other research methods phenomenology does not tolerate a lax execution. It demands that those involved remain *strong in his or her orientation to the fundamental question* (van Manen, 1990). It would not be difficult to become egotistic and indulgent when both obtaining the interviews and in the writing although this would miss the essential nature of phenomenology.

Remaining orientated to the fundamental question of the nature of intuition was facilitated by the interest it has triggered in those who discussed the research with me. The interested group has ranged from colleagues and peers and to many of the professional groups outside of nursing. The nature of this research has been discussed with medical doctors, navy medics, pilots, veterinarian and businessmen. This inclusion may seem a frivolous inclusion in this discussion however the discussions which occurred outside of nursing that confirmed (and assisted in the development of and the defence of the themes) the extent of intuition and its impact on existence.

4.2.7. Balancing the Research Context

The saying, at times you cannot see the forest for the trees, points to a similar risk in phenomenological research. The interpretation of the texts requires two perspectives;

the first is related to maintaining a strong orientation with the research question (the forest) and the development of the themes (the trees). In other words van Manen warns, never lose sight of the overall purpose of the research. This warning needs to be tempered with the nature of the trees as they have a life of their own and may overwhelm so that the view of the forest is lost. Van Manen (1990) advised that the research must stand back and measure the overall design of the study/ text against the significance that the parts play in the total textual structure.

The purpose then of phenomenological research is to construct a view of reality from the participants. There are a number of issues related to reality however for the purpose of this study the nature of the reality being sought is a *perceived* reality. This position acknowledges that a reality does exist but it will never be fully understood (Lincoln & Guba, 1985: 83). Reality can only be viewed from a particular vantage point where the results are a perception of reality and, like Gadamer's fusion of horizons, will change if examined from a different perspective.

4.3. A MISSING LINK

When writing the prologue, the actual events were in some respect easy to put on paper however, the emotion that I felt when writing this section was impossible to capture as was the vivid picture conjured up by the story. For instance, with the first intuitive experience I can see in my mind's eye the corridor, the layout of the ward, the darkness of the room, the cool summer breeze room through an open window and which side of the bed I was on. Add to this image the smells that I remember, the physical senses that were alerted and the feeling of compulsion to check on that patient. Whereas I may be able to say what the images are but still I do not have intensity, colour and accuracy of the words to describe this scene. This is an example of a lived experience as it was lived. The participants in this study are placed in a

similar position however, I can see their smile as they recall an event and hear the tension in their voice when they are talking to me but I cannot translate this into words for the transcript. I do not know, and neither do they, the source of that smile or the feelings that underlie them. The feelings of personal connections with the participants that developed as a result of the research process are also missing from the text.

When interviewing people that I had never met before a period of *getting to know you and to trust you* existed. The interviews at the beginning were a little formal until a point was reached where the participant relaxed; usually when we laughed over a situation that had occurred. It was an understanding of the context of emergency practice jointly shared. I also cannot include those feelings in the text or the feeling of connection made with another emergency nurse. These interviews have become part of my mosaic, when reading the transcripts in this study I see the participant, can smell the coffee, visualise the room and feel the ambience. At times I re-lived the experience.

The inability of language to successfully translate life and life experiences is not new (Lao Tzū, 551-479 BC; Roach, 2000). Words can and do have a powerful affect on emotion but as emotions are felt and experienced differently by each individual.

Words continue to fail to adequately describe emotion. Emotion can involve a unique shared experience of connection between the researcher and their participant. There is the feeling of being on the same *wavelength*, of understanding the significance of the story without needing to ask why, a missing link, a breakdown in the connection as to describe some situations is to lose the impact of them.

There is no answer to or procedure that can resolve this dilemma. This dilemma is an accepted component of qualitative research.

4.4. *SEARCHING FOR THE STORIES*

Prior to commencing any recruitment for this study application was made to the University of Tasmania's Ethics Committee (Human Experimentation) for approval. Once approval was obtained the process of acquiring participants began.

4.4.1. Gaining Access to the Participants

Intuitive practice is often practiced covertly therefore a self selective method was employed. It was important that the participants had a self belief in their ability to be intuitive and a level of comfort in talking about their experiences. Using Benner's practice development as a guide, I was looking for expert practitioners; those emergency nurses who had reached the expert stage in their practice where practice was fluid, contextual and intuitive. Therefore the selection criteria was a Clinical Nurse Specialist in emergency or an emergency nurse who had been in the area for five or more years and who had had an intuitive experience. The study was Australia wide so that all contexts of emergency nursing were potentially covered. To this end it was decided to place an advertisement in three nursing journals: *The Lamp*, *The Australian Emergency Nursing Journal* and *The Australian Nursing Journal* (Appendix I). These journals reached the majority of all Australian emergency nurses.

The potential participants made initial contact by phone after reading one of the advertisements. They were then sent an information sheet (Appendix II) and a consent form (Appendix III). At this stage it was important not to give too many details about the study as if successful I needed the participants to be pre-reflective. Once the consent forms were returned the participants were contacted to arrange the interviews. The interviews were conducted at a place designated by the participants

which was most often in their homes. This diversity required travelling to and within four Australian states; Tasmania (4), New South Wales (6), Victoria (2) and Western Australia (2). It is to be noted that the two Western Australian participants were English nurses on a working vacation and able to provide an international perspective.

Demographically the participant makeup was as follows: 1 male 13 female with their emergency nursing experience ranging from 4½ to 30 years or a total of 176.5 emergency nursing years. Although it would have been beneficial to have more males in the group the ratio is similar to actual emergency nursing gender breakdown. The study employed a purposeful, self selecting process (Babbie, 1992). Lincoln and Guba (1985) believed that all sampling is done with a purpose in mind, in this study the purpose was to sample typical cases, that is, those who believed they were intuitive.

The sample size is appropriate for a phenomenological study as there is a large amount of narrative text to be generated (Denzin & Lincoln 2000; Munhall, 1994: van Manen, 1990;). The emergence of themes and patterns is strengthened when they begin to be repeated in a number of the interviews (Benner, 1994; Munhall, 1994). Only one interview was conducted with each participant as once the notion of intuition was introduced and explored then reflection on the interview content and power is more likely to occur and influence any subsequent interview was conducted. Reflection was evident when I met one participant a year following the interview and was told how that interview impacted on her and her practice.

4.4.2. Study procedures

The participants were asked to relate stories where intuition played some part in their work as an emergency nurse, even if they did not act on it at the time. The interview followed an unseen schedule (Appendix IV). The time for each interview ranged from 45 minutes to 2 hours, the average being 55 minutes. This average time is consistent with the time recommended by Denzin and Lincoln (2000).

The interviews were recorded and transcribed for analysis and for each participant an alias was given to ensure anonymity. At this stage all identifying information was removed from the tapes. The tapes were secured at the University in case of computer failure resulting in loss of transcripts.

Prior to the interviews the participants were reminded that personal or institutional information from interviews would be removed in the transcripts. The participants were informed that they could stop the interview at any time without prejudice and, they could have access to the final document. No interview was terminated and most wished to have access to the final document. For this purpose a PDF file of the thesis will be made and sent to the participants. The participants did not receive any remuneration for their participation.

4.4.3. The Story Tellers: the participants

All participants had their own unique stories and characteristics; from Sarah who spoke very softly as though she did not want to be heard, to Vickie who was excited that at last her stories could be told. Sarah's experiences concerned her as she thought she was *different or odd* as compared to her colleagues whereas Vickie had been openly using her intuition for some time even when challenged.

Sarah: My Secret Practice

Sarah is an *old hand* at emergency nursing describing– *I have a good feel for that* [emergency nursing]; her current tenure in the emergency department was 8 years. She was self conscious about the interview and spoke so softly that I had to strain to listen to her stories, it was as if she practiced covertly. As she told me – *Like I didn't say to anyone today that I was coming to have an interview*. She voiced the common issue of lack of language – *I don't know how to describe it, I just know*.

Vickie: A deep abiding trust in self

Vickie has been an emergency nurse since finishing her training 23 years ago. She has moved around until she found an ED that provided true holistic care. Vickie could not find holistic ED care in the city hospital so moved into the country and is now content. Vickie is a spiritual person who believes in the tacit connections between humans as a life force. For Vickie, intuition is a normal component of practice, *I just feel it's perfectly normal, for me it's a normal part of my life. I don't even question it any more, I just accept*. Vickie's explained her life as intuitive and she connected with those around her. She told me that she doesn't have time to read the nursing journals but when the one with the advertisement about the study arrived she just sat down and flipped through it and the advertisement caught her attention. She believed that this coincidence indicated that she should be part of this study.

Stephen: A denial of self

Stephen has experienced a number of clinical areas including community, surgical and renal; his emergency experience is 11 years. Stephen and commented, *I'm quite happy with what I'm doing* [emergency nursing]. Stephen found it difficult to admit to his intuition but his stories of practice revealed many instances of knowing – he even said *but you sort of know*. I had a sense of frustration when interviewing

Stephen; his stories were full of intuitive incidences but he immediately wanted to rationalise them even though he could not. This behaviour tends to support socialisation of males not to admit to intuitive practice.

Elise: A matter of fact

Elise is a nurse that has always demanded that her practice interests her. She has been involved in critical care for over 15 years, in Royal Flying Doctor Service, Paediatric Intensive Care, Midwifery, Emergency and more recently in the Royal Australian Navy. She has been deployed to Timor and Afghanistan where she said that she *has to rely on her intuition as at times there is nothing else*. She is forceful, confident and respected in her field. She talks of the conflict in practicing nursing with her side-arm (gun) ready to use if necessary. Elise told of how this was a barrier to her *knowing* at first until she could resolve this ambivalence.

Gayle: It's all in the scheme of thing

Gayle has been an emergency nurse for 16 years. She finds that now she cannot control how she feels and at times as a feeling will just appear from nowhere, *it just came on me, like don't send him home. And it's very difficult to describe but it was just you just can't send this person home. Just don't do it!* To Gayle it is now just in the scheme of things that impact on practice, not to be made a fuss of but to be used to your advantage. She said on a number of occasions that her mother has the same gift and it became *freaky when we are together*. There was one point in the interview where this became evident – she asked me if my recorder was OK. We looked, it was, but within a couple of minutes it broke down and I had to use the backup.

Cheryl: It's all there

Of her 30 years in nursing Cheryl has spent 21 years in emergency departments. She describes thinking on many occasions that *there could be trouble here*. Cheryl believed that her intuitive practice took 11 years to develop, and it was when she spent some time in Intensive Care that her inner voice *became very loud, I ignored it but then it started to shout at me, then I listened*. Cheryl said that having her first child was useful in developing her intuitive practice. She didn't know if she was just too tired to fight it or if she became more focused once her child was born.

Lyndall: My Inner World

I interviewed Lyndall in a park as it was *too nice to be indoors*. One of her opening statements was *–I could tell you were an emergency nurse – you were playing spot the disease*. She was on leave from her department. Lyndall had been in and out of emergency departments for 12 years. She described *knowing as her inner world* that was *more reliable*. Lyndall loves her work and is deeply involved in her practice. Lyndall was someone who connected with those around her instantly; she had an intuitive grasp of situations.

Karen: Silent Practice

Karen is relatively new to the emergency world with only 5 of her 7 years been spent in emergency departments. She is looking for adventure in her life and is just visiting Australia with a friend on a working holiday. For the last 18 months she has been working in Australia in a tertiary emergency department. She described her first intuitive situation as that she *had this awful feeling that something was not right*. Karen described her preceptor's intuitive ability which she envied as a new graduate in England and the surprise she felt when she realised some years later that she also was intuitive. Karen described the moment *like wow I was like that, like my preceptor all those years ago. And then I thought how did I reach this point?*

Julia: On the cusp

The only way to describe Julia and her practice was that she was on the cusp of changes in her practice. During the interview she realised that she had *the feeling* and experienced knowing but had not trusted it. Julia had only been in the emergency area 4½ of the 6 years since graduation. She was included, although she was outside the initial parameters as I believed that her time in emergency nursing was sufficient. This proved to be an interesting inclusion. She described this aspect of her practice *I think because like I said I don't always tend to trust it either this intuition [a situation happens and then I think] No it doesn't make sense and then I think oh God I was right.* This was an epiphany for her. Her practice was fluid and contextual but *missing* something. I ran into her about a year after the interview and she animatedly told me of what changes had occurred and how comfortable she now was and trusted her *inner voices* and how *wonderful* this was.

Manda: Looking for acceptance

Manda is unsure of herself and her practice. She has been in the emergency department for 6 years and thought her practice was fluid and intuitive; however her stories of practice lacked the depth of others. Manda was practicing competently but not intuitively. She was able to accept the intuitions of others, when *'Mary' comes in from triage with a patient and says watch them – I get nervous as they usually go off.*

Melissa: A spiritual connector

Melissa like Vickie is a spiritual person who makes tacit connection with others. Melissa has over 15 years in emergency nursing, with a *couple of holidays in other areas.* Until the interview she did not think that her intuitions were anything but normal, *I thought everyone had these feelings so anytime someone was worried*

without any signs I just would believed them. There was a clarification of this point when she added *I never did trust some people [nurses] there was just something about the way they were with people that was off.* Vickie had worked with Melissa and described her as having a special gift.

Margaret: Quietly confident

Margaret is Karen's friend and travel companion. Like Karen, Margaret has spent 5 of her 7 nursing years in emergency departments. Margaret is the quieter of the two friends and is more circumspect about describing her practice. She describes a *quiet voice that nags you until you do something just to shut it up.* Margaret said that she found English nurses reserved compared to Australian nurses. However, in the more outgoing nature of her new colleagues she found herself becoming *confident to say something as they would just accept it.*

Martha: A silent strength

Martha is from a Polish background with English as her third language. She has over 30 years nursing experience, 18 years in emergency departments, starting in Poland and then moving to America and finally settling with her psychologist husband in Australia. Poland 30 years ago *was not a pleasant place.* She describes herself as a *late bloomer* as she did not *relax* until arriving in America. To her, intuition is *just knowing when to worry enough to act.* She describes her *conscious as my guide it tells me those I worry about.* Intuition is a *worrying about another that led to some action.*

Kaye: The intuitive mind

Kaye has a quiet sense about her and her practice. Her emergency practice spans 22 years and she says her mind has always *worked differently* to everyone else. Kaye

noticed that *I did things [in practice] that were out of place but to me they seemed normal*. To Kaye the stories of practice are special in that they keep her *grounded in reality*. Experiencing intuition is *not special I have been listening to my sixth sense for years*.

4.5. NEW CONNECTIONS

4.5.1. Preparing for the Interviews

The experience of listening to the stories of practice is memorable. Although the participants each wanted to be part of the study the depth of warmth, honesty and sharing in the interviews remains with me. I was fortunate to practice my interviewing technique on staff at the University of Tasmania. One practice session with a midwife was truly remarkable as the imagery of his intuition was powerful. It was unfortunate that that material could not be used.

Before the interviews I consciously went through a process of setting aside self and entered the process with a free mind. As Gadamer put forward rehabilitation of prejudice allows for a common entry point. This was essential in this process as I established myself with the participants as an emergency nurse who would understand their language and practice. In most instances this was done informally before the tape was turned on.

It is not uncommon for nurses' stories to meander along and enter other areas not connected with the phenomenon of interest. Van Manen (1990) encouraged the researcher to be clear and directed about the question and not to lose focus.

Although essential to set aside self remaining true to the focus of this study the experience of knowing must remain as first priority.

Van Manen (1990:64-5) provided suggestions as to how to produce a lived experience. These suggestions include attending to how the body felt, describing the situation from the inside and relating the most vivid component of the story. The interview schedule was developed so that the focus would be maintained and also providing the participant with the opportunity to have the experience explored. Taping the interviews avoided the distraction of taking notes and is a more accurate method for analysis.

4.5.2. The Relationship with the Participants

There was a tacit connection with each participant, some more than others. Not only is it a responsibility to accurately record the stories but it is also a privilege to be able to share each participants stories. These are personal, emotional and strong connections between the participant and the situation. I remember the elation after interviewing Vickie as her stories were so powerful and connected. After Julia's interview I remember feeling a resolve in the *rightness* of the underlying theory of practice development. Stephen resisted acknowledging what his stories were revealing.

I shared with the participants many aspects including a common practice and a shared experience. Benner (1996) advocates interviewing in the working place as the familiar surrounding may stimulate memory however these interviews were conducted from the safety of the participant's homes. I believed that the clinical environment would be distracting and draw the participants' attention away from the interview. When relating stories of practice that according to the literature may be practiced covertly, the participants needed to feel safe when revealing these hidden aspects of practice. The use of reflective open ended questions and using the same

descriptive words as the participants assisted in the flow of the stories (Field and Morse, 1985).

I am not the same person I was at the beginning of this study. There has been growth and sharing during this process. It is enriching in that the participants and their stories are now very much part of my mosaic. In this type of research all the researcher is faithful to the stories and seeks to search out the common threads so that strength is given to the participants and their life experiences.

At some point after completing the interviews their stories seemed to fuse together into one technicolour picture. I would be driving along listening to the tapes or in moments of silence remember some aspect of a story. The images created by the stories are powerful reminders that are important for this research and they have become part of me as a shared experience with fourteen very special emergency nurses.

4.5.3. The Verbal Transcriptions Quandary

There was a significant quandary developing that arose from the desire to be true to the words of my participants and not change the way their words were used. I became concerned about changing the intent of their stories and thereby losing the richness of their words.

The emersion in the transcripts was so complete that I do not see the grammatical or structural issues. To me they are complete in themselves. In their truly pre reflective state the language used is full of *emergency speak* and context. For the benefit of the reader who is not an emergency nurse I may at times smooth out the language used so that the full richness of their words can be understood.

4.6. ETHICAL CONSIDERATIONS.

Any research consideration must be given to the nature of the research and its effects on the participants. It is for this reason that prior to the commencement of any study an ethics committee must scrutinize the project for potential harms, appropriateness of the study to have meaningful outcomes. Therefore the issue of consent and right to privacy and freedom from harm need to be addressed (Denzin & Lincoln, 2000). The Ethics Committee at the University of Tasmania agreed that there was no psychological risk to the participants and those supportive services were not required to be notified.

Informed consent is a basic human right in all research. Denzin and Lincoln assert that there are two components of informed consent, voluntary agreement to participate without coercion and this agreement is based on full and open information (2000:138). To this end an information sheet and consent form were sent so that the potential participants could read the document at their own pace and make the decision to participate. The participants were also advised that if they want more information prior to signing the consent that I was available by phone; no calls were received for clarification.

The second ethical issue was that the researcher design studies that are free of active deception (Denzin & Lincoln, 2000:139). The authors acknowledge that in some research deception is necessary however it must not cause harm and have a clear value to society. There was no deception in this study as the participants knew the intent and nature of the study as this information was outlined in the package sent to participants prior to the interview (Appendix II).

The third issue raised by Denzin and Lincoln is privacy and confidentiality. Details were given to the participants on the information sheet that described the study

procedure and the steps taken to ensure confidentiality. These details included that all identifying information was to be erased following transcription of the tapes, names would be changed and information regarding hospital names would also be concealed. As the authors acknowledge, the participants would be able to recognize themselves and it is possible that others may as well. Steps have been made to prevent disclosure of the identity of the participants. Finally, participants were advised that they could withdraw from the study at any time; no-one withdrew.

The final ethical issue was accuracy. Denzin and Lincoln believed that accuracy in data recording is a cardinal principle in social science research. The participants were offered the opportunity to review the transcript of the interview for correction; only a few participants sought this opportunity. The tapes were transcribed by professional transcribers, reviewed by the researcher for correction then saved to computer disk.

4.7. THE STRUCTURE OF INTERPRETATION AND ANALYSIS OF TEXTS

Embracing both the philosophy of phenomenology and the research method suggested by van Manen, the key assumptions contained within both concepts became the starting point for analysis. The key assumptions previously identified are firstly that phenomenological research rejects the notion of an *objective researcher* and the claim of epistemology that the researcher becomes immersed in the life world. Research using this method needs to acknowledge ways in which they are positioned *within* the discourse. Phenomenological research seeks to acknowledge preconscious notions and put them aside.

This method encourages attentive awareness to the details and everyday issues.

Phenomenological research encourages an open un-constricting examination of the phenomenon of interest and it uncovers the uniqueness of each participant. Finally

and most significantly, phenomenological research focuses on researching conscious experience. Phenomenological inquiry rejects the dualistic traditional stance of the research and the subjects. These key analytical assumptions formed the basis of the analysis of the texts.

The research method remained true to van Manen's methodological suggestions however an unintentional deviation occurred resulting in a variation in the analysis of the texts. The deviation may be explained as follows: As part of my preparation for this study I spoke at length to other successful doctoral phenomenologist for guidance and advice on how to approach the study and the data. The consensus was that there are a number of ways to *immerse* in the data. One suggestion which suited my life style was listening to the tapes in the car on long trips. At least four tapes could be listened to in one journey. This listening process continued for some months. On the occasion of writing a conference paper on the study I was editing and revising the presentation when the extent of the immersion became evident. In my margin I had notated comments, thoughts and ideas. When reading what had been written the themes were there before me without being consciously aware of writing the words. In writing I found analysis and in immersion I found a fusion of horizons.

The movement away from van Manen to Gadamer was not intentional nevertheless an interpretive phenomenological event had occurred. In Gadamerian terms, the themes and the preceding fusion constituted the historical reality of intuition.

Gadamer (1975) has strongly indicated that the actual *work* of hermeneutics is not to develop a *procedure* of understanding but to clarify the conditions in which understanding takes place. In other words the aim of this study is to provide the conditions in which this type of depth of understanding takes place.

At this point in the discussion the decision trail was unclear however as Gadamer believed, language is an experience of the world (1975:397). On reflection however a naturalist decision trail did exist. Gadamer sees language as a horizon of hermeneutic ontology. Language is the product of metal power. Importantly Gadamer believed that to have an attitude towards the world which enables us to keep oneself free from encounters in the world so that the horizons are visible (1975:400-10). Gadamer holds that the connection of language belongs to our experience of the world and does not involve an exclusiveness of perspectives. The language in the tapes had not been transcribed to text at this point. The language enabled the horizons of the participants' intuitions to come into my view equally as individual horizons and as truly fused horizons.

The decision trail can be evidenced by the existence of the original tapes and transcripts and the notations on the attached notes from the interview process, the raw data. Unlike grounded theory where interviews are reduced and coded phenomenological analysis requires a level of emersion within the raw data. The stories became a vivid image in my consciousness. They were visualised as though I was reading (or listening to) a book for the first time creating the characters and their images in the stories. The reliving of the experiences as described by the participants as they lived it. They created for me a conceptualisation of their experience of an intuitive event.

In the analysis of the participants' stories two consistent components of the decision trail can be identified and there is a clear visualisation of their horizons and then their final fusion. This analysis was a reflection on the stories which involved an *emptying* of the mind of all other distractions to allow the stories to enter my consciousness without prejudice in a Gadamerian sense. Specifically the tapes were listened to on

country roads with little traffic. This demonstrates a commitment to the phenomenon of interest.

Once the themes were *visible* a constant reflection and focus was maintained to explore their nature and characteristics. As previously stated I found that with analysis with each page and revision of that page, the themes developed and gained shape and texture. Finally their relationship with each other revealed itself. It was a continual movement from the part to the whole or deconstructing the whole and reflecting on the parts before reconstructing to the whole again.

Lincoln and Guba (1985) explain this approach as an inductive method of data analysis. As the researcher I was making sense of the transcripts and was the developing themes without the support of a theoretical construct on intuition. This lack of a theoretical construct is dichotomously opposed to the manner in which an emergency nurse usually makes decisions; the use of a deductive method of decision making (Lyneham, 1999).

The final synthesis of the analysis took place over time, there was such an emersion in the data that it became part of me. The relative ease in which the themes found their own place within this study was the final result of immersion, thinking and reflection. The development of the final conceptual picture in itself occurred inductively and it was as though I became the messenger of the participants' desire for their intuition to be heard.

4.8. ESTABLISHING TRUSTWORTHINESS

The notion of the strength of any study rests with the ability of the reader to have a level of trust in what is written. In quantitative research this is in the form of validity and reliability however these notions cannot be applied to qualitative studies. Just by

the nature of the underlying principles of phenomenology, a replicated study may not produce consistent *findings* as it is viewed from a different horizon. There is no need for internal or external validity as qualitative research is not testing anything, it is merely identifying what already exists within its own contextual framework. What is needed to establish the trustworthiness of the qualitative study? In other words, is this study and its findings worthy of the time and effort (Lincoln and Guba, 1985)? To establish trustworthiness four criteria need to be considered, *credibility*, *transferability*, *dependability* and *confirmability* [Also known in some texts as credibility, auditability, fittingness and confirmability].

4.8.1. Credibility

As Schneider, Elliott, Beanland, LoBiondo-Wood and Haber (2003) note that credibility is judged by the participants and others within the discipline. Credibility was achieved in this study in a number of ways. The first was that the interview transcripts were returned to the participants for acknowledgement to ensure that they were a true reflection of the interview. However some participants did not respond or the transcripts found their way back via *return to sender*. On balance, those participants who returned their copy acknowledged its correctness.

It was therefore necessary to further establish credibility as not all participants received or responded to the initial check. Further evidence of credibility was established when the findings of this study were presented to emergency nurses at national and international conferences. There was overwhelming support for the themes, their definition and their relationship to each other. In addition to this credibility outside of the emergency paradigm was evident when nurses from other

specialities confirmed the themes and commented on *the logic* of the final relationships between the themes.

4.8.2. Transferability

According to Lincoln and Guba (1985) one method of establishing transferability is in the way a sample is chosen. Their recommended method is the purposive sampling as was used in this study. Schneider *et.al* (2003) developed this concept further into auditability, a concept addressed in the previous section.

4.8.3. Dependability

Lincoln and Guba (1985) link the issue of dependability with the use of multiple methods (eg triangulation). Multiple methods are not appropriate in phenomenology. It is more useful to examine dependability under the Schneider *et.al.* (2003) concept of fittingness or the ability of others within the discipline to evaluate the findings in light of their own practice (p149). In this concept it is essential to provide rich detail and to remain faithful to the reality of the phenomenon of interest.

Dependability has been achieved through the acceptance of other nurses of the findings and the discussions generated. This study was referred to by one practicing emergency nurse as '*der*' research meaning that *why you are studying what we as emergency nurses know to be part of our practice*. I was not offended by this comment but felt supported in that this nurse was able to find a place for the results of this study in her daily practice. She saw the truth within the study. Others emergency nurses in the room at that time saw the study as one which validated them and their practice.

4.8.4. Confirmability

Confirmability is intrinsically linked to the implementation of all of the above. Additionally Lincoln and Guba (1985) suggest that a reflective journal is one technique as this will confirm the audit trail and processes. A journal was started at the beginning of this process however there are gaps at times when I was so immersed in the transcripts that I was unable to reflect as to where I was in the process. My journal at some points deteriorated into notes made at 3am when I awoke with a reflection and at other times on the backs of receipts found in my car when I was compelled to pull to the side of the road and write, not the traditional reflective journal. However when put in order there is a visible pathway for this journey.

4.8.5. Conclusion

Has trustworthiness been established in this study? If I reflect on the reaction of other emergency nurses and the response received for this study the answer would be, yes. As I now write this conclusion as an amendment to the original draft of this chapter I can further add that the study's trustworthiness has been further supported and supports the work of Burton (1999) and Petitmengin-Peugot. (personal communication email 23 April, 2003). These two studies that used phenomenological methods and examined intuition (as discussed in the literature review) producing themes that are similar even though the sampled groups were different. However I am not entirely comfortable with that position as this study has once again raised more issues and questions outside of, but related to the phenomenon of interest.

4.9. SUMMATION

This chapter has addressed the approach used to examine the research question. It can be seen that although the van Manen approach was adapted to inform the direction of the method an unintentional movement to a Gadamerian analysis occurred. To ensure that academic rigor was maintained and that the process was transparent trustworthiness was established. Trustworthiness was achieved using the criteria determined by Lincoln and Guba (1985).

The analysis of data was viewed from Gadamer's fusion of the participants horizons and the hermeneutical analysis established that intuition is a reality of my participant's practice and within that reality six themes or natures were revealed.

Chapter 5. THEMATIC CONCEPTS AND INTERPRETATIVE LINKS

5.1. INTRODUCTION

The development of the thematic concepts in this study was to be found in the rich fabric of the texts that contained the stories of practice. It is the thematic concepts identified that provide the basis for an interpretive link from the study to the phenomenon of interest, the experience of knowing in emergency nursing practice. The thematic concepts developed from the participants stories of practice, this practice is an found in the unstable clinical environment of the emergency department. The nature of this environment creates a heightened awareness in which the nature of intuition was explored. The participants in this study place a strong emphasis on the relationship between *knowledge* and *experience*. These themes emerged as prevailing themes and pre-understandings for intuition.

The significance of knowledge and experience as critical themes became evident in that without them the other themes could not develop. Knowledge and experience are critical in all clinical areas as was established in the literature review. Therefore they are not new themes but rather a new vision of their position and value within the intuitive framework.

In the first two chapters of this thesis the lack of descriptive language for intuitive events was discussed. However, the lack of descriptive language for intuition did not prevent the rich descriptive accounts of experiences where intuition presented itself. Three new foundational themes emerged from these accounts; *feeling, syncretism, and connection*. These themes are the essential nature of the phenomenon of intuition in emergency practice. However, in all the identified themes there is one

quintessential theme, *trust*, for intuition to exist trust is conditional. This chapter will discuss the themes and their interpretation from the participant's stories.

One interesting development to be discussed in this chapter is the apparent ordering of the themes in practice development. That is, there appears to be a co-dependence between the themes in that each theme builds on the previous yet remains unique in its own existence.

5.2. INTUITION: THE PARTICIPANT'S EXPERIENCE

Intuition is a developmental aspect of clinical practice it comes as knowledge and experience in emergency work become entwined in our corporal being. As the emergency nurse becomes an expert there are a number of changes that occur in practice. I am, at this present time, in a unique position as my daughter, Amanda, is now a novice emergency nurse. As we have many traits in common I am in many ways looking at myself in practice some 20 years ago, through her novice eyes. She demonstrates a need to have rules to guide her practice, there is evidence of searching out the appropriate rules when something new presents. In many ways her practice can be described as an 'a + b + c = d' formula of practice. There is a need to know the underlying causes of the problems she encounters, why this drug was given and caused that response. From my observation Amanda conforms to Benner's description of novice practice perfectly and she has so many questions and new experiences before her. This is her beginning; she has taken the first tentative steps towards expert, intuitive practice. She is there, she is immersing in her practice, she is experiencing and learning new things every day. She has an exciting journey ahead to come to the point where my participants have now found themselves to be.

The participants in this study were self selecting on the basis that they believed their practice to be intuitive. This was an accurate assessment in all but one of the participants who did not demonstrate intuitive practice, but is able to recognise it in others when she says that;

when 'Mary' comes in from triage with a patient and says watch them – I get nervous as they usually go off.

I determined that she was not intuitive based on the description and stories of practice. I returned to both Benner (1984) and Dreyfus and Dreyfus (1984) and their definitions of practice development to make this determination. The descriptions given by this participant was at competent level only; she still used rules of practice and was able to view a situation in context. There was an absence of that level of comfort found in the proficient practitioner (level 4) and the expert practitioner (level 5). Specifically there was no evidence of analytical or fluid practice. Her stories lacked the notion of unimportant characteristics of the situation fading into the background. The choices made were the result of a deliberate thought process rather than an automatic response. Remembering this participant was describing what she thought was her highest level of practice.

Another participant was on the cusp of intuitive practice however had one major hurdle to overcome which has become a foundational theme:

I think because like I said I don't always tend to trust it [intuition] [a situation happens and then I think] No it doesn't make sense and then I think oh God I was right.

Often intuitive behaviour is recognised in others and not in ourselves. Many participants could tell a story of when they first notice this intuitive behaviour in others, usually a person senior to them. Their recognition of their own intuitive abilities usually came as a revelation:

Ohh well it was so subtle..... I was a new grad one day my preceptor ... walked into a room and just said oohh that person looks like he's going to hassle me and I remember thinking, oh no, like how could she know that? And like I said no, no, no, she's fine, her vital signs are fine and she talked to me, and what are you talking about? Anyway sure enough you know, something did happen to that patient later in the day and I remember thinking I'm never going to be like that. I had no idea. it wasn't until, I'd say, a good two years later,.....I was working here with a student nurse, I was her very first preceptor and I walked into that room that's how I felt, and I said oohh oohh,.....I'm going to check this guy out. I don't like that. We'll deal with him first.my student thought I was strange but he did go off [deteriorate] within moments of entering his room. Later I thought "that was what my preceptor had done all those years ago".

The descriptions of intuition varied from deeply personal to a statement of the obvious (for the participant). Demonstrating that for every person the meaning of intuition is different even though its nature is the same. It is similar to a personal tag we use to identify intuition which allows for its accommodation into our practice.

Intuition was described as a way of acting:

I worked differently to everyone else. I did things [in practice] that were out of place but to me they seemed normal.I have been listening to my sixth sense for years.

Martha described it using words that in themselves illicit a known experience such as:

[Intuition is my] conscious guide as it tells me those [patients] I need to worry about.

And supporting this Margaret described her intuition as;

a quiet voice that nags you until you do something just to shut it up.

Both of these participants were describing intuition in terms that others would understand. One participant had been in practice for a long period and moved into expert practice without realizing they had assumed that using their intuition was something everyone did, she made the following observation;

I thought everyone had these [intuitive] feelings so anytime someone was worried without any signs I just would believe them.

At times it was not this simple as the experience in itself was vague and not precise.

To the emergency nurse this experience is at times not a comfortable place to be;

[Intuition is] this awful feeling that something was not right.

Two participants spoke of an inner world that is trusted

*Knowing is my inner world that is more reliable. And
I have to rely on intuition, as at times there is nothing else.*

And another participant described the persistent quality of intuition,

[Intuition is] the inner voice that became very loud, I ignored it but then it started to shout at me, then I listened

Others just accepted the existence of intuition in their practice and used it as easily as they would an electrocardiograph (ECG) machine.

I just feel it's perfectly normal, for me it's a normal part of my life. I don't even question it any more, I just accept.

Stephen just simply described his intuition as,

You sort of just know

It is interesting to note that while each of the above statements reflects intuitive nurse behaviour, the depth and acceptance of intuition varied. For instance, Sarah for whom intuition is a human connection which became a way of life, referred to her practice as *truly holistic* – the mind, body and spirit as one. She described her anger and frustration when patients were compromised when her intuition was ignored by others;

...I had this big argument with this doctor; you know I really wanted her moved [to Intensive Care]. She may have lived ... I was upset more because I had twigged that something was going to happen. I think if I hadn't ... had that feeling I might have accepted it better.

This is not an uncommon event where an intuition is dismissed as not important. The frustration of dismissing intuitive practice is clear in the next story from Vickie.

I was working at this Hospital and I came on night duty one night. There was a lady who'd just been admitted. She'd been in cas, for probably for about eight hours. She'd had a history of being previously very well, never had a days illness in her life and she suddenly just collapsed in the supermarket. She'd just been fitting more or less continuously in cas I wasn't happy, I just got this bad feeling that she was going to die there because, I don't know, I just got this feeling that she needed to be in intensive care..... the night progressed she started fitting againI just knew that she was going to die if she stayed here [in the emergency department], so we got the VMO in, and I begged and pleaded for them to shift her and they wouldn't take any notice. They decided, they just kept pumping her full of valium, and then a Dilantin infusion, and I was still saying she needed to be in ICU. I was doing her oximetry and she was still fitting, at one stage her oximetry went down to about 66% and I was just, I just knew, And to cut a long story short, I probably spent five hours almost, arguing and begging and pleading for someone to do something..... and after a while she started to stabilise and they still wouldn't ventilate her and that was really upsetting me. And I went out for a cigarette and I came back and she'd arrested and died.

In general, the transcripts contain many such stories however in this story Karen remembers the anger she felt at her intuition being ignored;

*..... there was this man and I just remember that he wasn't quite right
..... I went to the doctors and said "I want him seen" and they said
"Well have you done a cardiograph yet?" and I said "No he's just
arrived and I want him seen". I was told to do the ECG first, well while
we were doing the cardiograph he arrested, so I mean I was proven right
but I was really annoyed that they didn't trust me....*

Although she said she was annoyed, her eyes told a different story. She had welled up with tears I asked if she was OK and she just said *he should never have died, they [the doctors] should have just seen him.*

There are many times when our intuition does not prevent harm or a negative event from happening however it does result in a heightening of awareness that can often minimise the extent of harm by early intervention. However, Anne's experience reveals that the consequences of ignoring intuition can be grave, not only for the patient but for the nurse as well. The knowing that a negative situation may have been prevented will cause distress and anger.

Other participants spoke of outside influences that have decreased their intuitive actions such as;

you're tired or something happens outside, it distracts you for that second.

Julia, who had significant emergency experience was credentialing in emergency nursing and felt that being a student diminished her ability to be influential when suggesting a course of action based on intuition;

...but I think when you have clinical concerns and the fact that I'm a student in a course now and so when something tends to go wrong I feel as though if I did say something they wouldn't take any notice any way.

Intuition does fail at times. Either nothing happens, (which does not appear to have a negative patient outcome) or a decision pathway is followed that may delay the appropriate treatment. The latter is not unusual in all types of decision making in health care. Nonetheless error is the main reason given for not relying on intuitive decisions. No participant said that failure of intuition would or does prevent them from following intuitive thoughts in the future.

Unlike traditional decision making, intuitive decisions tend to have been treated more sceptically by the participants.

I don't have this great need to prove myself right either. But that's why you need that healthy doubt I think, so you don't get too

cocky and too sure. I mean in as much as I am very confident, I think that there is enough room in there for me to ... it's sort of analysing yourself and your practice constantly.

This type of confidence in accepting error when it occurs in practice, learning from it and moving on is an element of maturity in practice and therefore practice development. As another participant noted;

...it [intuitive errors] doesn't happen quite so much now.

The acceptance of intuitive practice by peers is not critical for its expression. Those who incorporate it into their practice are confident in their experience and knowledge and are not bound by convention.

The use of intuition is not to the exclusion of any other forms of practice. It is just one aspect but one that has not been fully accepted as the nature and elements of intuition and the resultant decisions have not been fully understood. The following emerging themes provide a beginning point for the acceptance of intuitive practice in emergency nursing.

Although the participants and their stories so far support the use of intuition in emergency practice it does not reveal the nature or substance of the experience. Consequently a “deconstruction” of their experiences was required to capture the phenomenon. Though deconstruction is not reducible to one method of application, there is a focus within this thesis on the following recurring concerns: (1) Exploring the text for specific tensions and instabilities, (2) questioning the priority of things which are set up as original, natural, and/or self-evident, (3) identifying how key terms, are defined by within a text and that they are mutually dependent on one another and (4) examining the “rhetoricity” of a work and figurative language

(Derrida cited in Rice & Waugh, 2001). As a result of this deconstruction a structure emerged that incorporated six natures or themes.

The premise of intuition is supported by the themes embedded within each participant's practice. Without each theme existing the proceeding theme appears not to develop or remains underdeveloped. If examined using a purely structural format the gross structure of intuition is knowledge and experience, at the micro-structural level is feeling, syncretism and connection. To enable intuitive practice trust must exist, this is the life-force of intuition as without trust the other themes exist but are non functional.

5.3. PRE UNDERSTANDINGS OF INTUITION

5.3.1. Knowledge: All Encompassing Wisdom

Learning begins early in our existence. It is unclear when learning starts whether it be in utero or after birth nonetheless one learns. As time goes by and with each passing moment there are opportunities to learn and increase our knowledge. Every occupational and professional group has a knowledge base from which occupational behaviour is governed. In nursing, this base is broad yet specific as we have borrowed and adapted knowledge from other disciplines and modified this for our needs. A professional nurse cannot nurse without nursing knowledge. That is, a typical person off the street cannot walk into a hospital and recognise the specific clinical manifestations of raised intracranial pressure or know how guide a person to a good death. The participants acknowledged the underlying significance of knowledge. A common thought was:

[I didn't know that] this is what could be happening here [relating to a clinical situation] until I had gained a lot more knowledge.

This comment was describing the participant's first encounter with an emergency situation. The developmental nature of knowledge is reflected in the next comment;

... I think I was always confident in my assessment abilities – fairly confident that is – however I tended to be cautious early on and needed to rule out a few things first.

Here Elise was acknowledging her early behaviour and also recognising that there had been a change. Knowledge was implicit in the interviews and as Stephen said:

I just couldn't come from the general area and expect to cope in A & E – there was so much to learn you couldn't just amble along and hope to pick it up. That's why I did the A & E course so I would know what the hell I was suppose to do.

This need for specific knowledge was continually commented on by each participant. Each had at least one emergency post basic qualification. Julia was completing two emergency courses simultaneously (at different institutions).

I am getting towards the end of a Masters, doing research in the ED and I'm also doing this Graduate Certificate [in emergency] here.

The extent of post registration credentialing is evidence of the importance place on specific emergency knowledge. Knowledge tended to pail into the background when the relevance of experience was discussed in the interviews. The participants recognised that without experience knowledge was ineffectual:

You know they come in straight from uni thinking they know everything there is to know – they may know the A & P etc but what use is that when faced with a dart in the head.

In practice I continually hear words similar to those used by Gayle below. She too was relating a story when she was working with a new graduate. It sounds a little harsh on the surface but it also acknowledges the integrated role of knowledge and experience:

I worked with those, you know the ones that can rattle every sign and symptom off but couldn't recognise it in a real person if it whacked them

in the faceit will take time and seeing these things and all the variations that come in before she will be of any use in the department.

Benner (1984) and Dreyfus and Dreyfus (1986) support the importance of experience in practice development however experience from the participants perspective is more than a mere component of practice development. Also knowledge does not need to be an active process. Cheryl recalled,

especially traumas you know their mechanism but you get a sense about the survival of the patient. I once predicted that this trauma patient would crash which he did and this student nurse just said to me, the same thing that I'd said to my senior many years ago, like how on earth do you know that? And I sat there and I thought hmmm I do know. I think that learn so very gradually and you don't even know you're learning it.

The understanding that knowledge is only one component of practice was expressed as a paradox in one interview,

.....these things all seem very paradoxical but the more I live the more I realise that everything is just a paradox, you know, there is no right or wrong, it's just an interpretation of the facts at any given time.

It is this complex range of *understandings* that create our knowledge; it is partly formative and partly tacit. There is that knowledge that is unable to be articulated, unacknowledged knowledge. Knowledge is formative, as *knowing that* and applied *knowing how*.

Nonetheless knowledge alone is unable to have singular relevance to emergency nursing as it needs to be matured, developed and nurtured to be useful. The catalyst for this maturity is experience; emergency practice becomes a marriage of knowledge and experience. Such a union can be seen when I asked Melissa the question *how can you describe your practice*. She described her practice as one that is all encompassing, all knowing and experiential:

Everything. I'm using my experience, stuff I know about, you know that I've learnt. The main thing I use initially is my eyes and just looking at the person. I mean you can't treat someone just based on their observations – can you?

Melissa brings the person into her vision, she uses all tools she has available, she sees the person and uses her all encompassing knowledge.

Kaye attempts to bring together her perception of knowledge as more than the sum of its parts:

It's not just the text stuff it more, I think there is learning to be had in every situation both good and bad learning. Sometimes we need to unlearn. It is really I suppose the word is encompassing yes, all encompassing knowledge that means that everything is included, do you understand what I mean.

In the context of expert intuitive practice knowledge is more than its component parts. The participants spoke of traditional knowledge in terms of what they learn from time-honoured sources such as courses or textbooks. Tacit knowledge falls outside of the traditional paradigm a participant called this a paradox. The participants also recognized the understandings that come from non-traditional knowledge which support their practice. The relationship and utility between knowledge and experience was clearly articulated by the participants. One of the participants interestingly looked at the suppression of knowledge when using judgement as though there are times when knowledge may hinder our practice. This she related to experience. Knowledge is a pre-understanding necessary for practice development and necessary for professional experience to *shape* the expert nurse.

5.3.2. Experience: A Tacit Teacher

Experience is thought to be the greatest of all teachers but how experience is conceptualised is often multi faceted. Professional experience is a unique mix

utilising our life and work experiences as supports for each other. The integration of knowledge and experience was expressed by one participant as;

I guess my experience, as you progress on in life and all your different experiences, I am finding that the more experienced nurses get this uneasy feeling based on, maybe a little bit of sense of judgment. So we suppress our knowledge. I'm using my experience, stuff I know about, you know that I've learnt.

Experience teaches us not to accept the obvious at first sight but rather to stand back from the situation for a moment. The frustration felt by a participant when a less experienced person could not see the reason for concern is reflected in the next excerpt from Cheryl:

I think I nearly always have [practiced differently to others] and that's been the difference between me and people with less experience. They would be saying what are you worried about, [I would think] oh honestly you're just going to have to give me a chance.

The developmental nature of experience becomes evident during the journey towards expert practice. When approaching each stage of practice development there is a period of uncertainty that manifests itself in an “*I knew that!*” experience. Sarah described the pre-empting that occurs and the confidence she now has:

A very senior experienced person might come along and make a [clinical] decision but often I would have already made that decision before they had said anything, but I would actually put my week's wages on it [my original thoughts being correct].

Experience and its impact appear to have a dependant factor in that where the experience occurs influences your practice development:

I'd had excellent training in a big public tertiary place so I have seen things that other people never seen, good experiences.I don't know how I reached that point and I guess it's experience, a lot of experience, it is umm just dealing with things and eventually you get to recognise that look, that smell about the person, when everything else is laying there all OK, like statistically – well there you go – well everything physically is saying they're OK, but there's just something about them.

Sarah believed that her broad based experience had assisted her transition through the stages of practice development. To her the constant exposure of full time work was seen to be beneficial for her to gain the experiences that translated into the work she was doing in the emergency department:

I think given the length of experience in a job, working full-time in general areas, not only intensive care I've also done neurosurgical ward work and as you can see a lot of that was all full-time. Each experience was important in who I now am I think. I can think beyond the walls of the department.

However, there is an acknowledgement that experience does not always equate to a progression in practice development.

There are some emergency nurses who shouldn't be there and they don't know it – you often look at them and think “What are they doing here?” Skills fine – they just don't get it - you know? And it's not something experience can teach you. You can see new staff doing the course or whatever that have no emergency experience at all ... there are some who will never get it and there are others who you think have got no experience at all in emergency nursing and you think “No they're going to be alright.

Lyndall has succinctly noted that the symbiotic relationship between knowledge and experience does not always result in specific practice development, that is, the development of emergency expertise.

There is more to the emergency nurse and their practice than just knowledge and experience alone. However, combined with knowledge, experience is the foundation of emergency practice. Knowledge come first and can exist alone however it is of no use on its own. Knowledge needs experience so that it may have texture, context and shape. Experience shapes our knowledge so that the emergency nurse becomes functional and therefore useful within the department.

Nonetheless as the emergency nurse progresses from novice towards expert practice the shape of their knowledge and experience changes. Knowledge appears to become

embedded so that it is accessible when needed. Experience appears to mature the knowledge and a metaphysical space then becomes available for the other intuitive components to appear. The manifestation of the other components or themes have an inter dependence on each other. There is a pathway with regard to the intuitive practitioner, the themes appear in an order first is the connection then the feeling then syncretism and finally trust.

5.4. THE ESSENTIAL NATURE OF INTUITION

5.4.1. Connection: Beyond the Walls of the Department

All nurses make connections with their patients – it is an essential component of nursing care. Two essential factors are required for a connection; the patient who has a need and responds and the nurse who enters the patient space. The connection is occurring at a non-conscious level for the nurse. The nurse enters the patient space with each encounter however; to act within this space does require consent. The space is ethereal and delicate and when a knowing nurse enters this space a connection is made. The connection is not verbal or physical, it is an energy, a powerful force that draws the nurse to the patient. For example Sarah described it as;

.....you look at the person and you get goose it is a definite connection.

A connection can occur without touching the patient it can be just a glimpse is sometimes enough as Sarah described:

You do not have to physically touched them, [you see something] out the corner of your eye, you know that something is not right with the patient. It is not an immediate thing, it is not an in your face thing, it's just almost unconscious. I don't know what it is. It is just that thing that you know - it is as though you are drawn to them.

It's not an urgency, but almost like a, as if they are in a bubble. You are aware of it, it's not anything that you can touch, I don't know how to describe it. Not a light or anything like that, it's a discolouration or something about them.

Different areas of emergency practice require a distinctive type of connection such as working in some remote areas as Vickie recalls:

[the patients have a] strong independent nature and when they do come and see you they won't just come and sit down and tell you honestly what's wrong with them. It is as though you should know. I also think that these people will come in and say that they've got a headache or something when really they've got all these other problems that are going on but their strong sense of pride will not allow them to sort of admit any weakness. Or they will say that they've got a little bit of chest pain when actually they've got a hell of a lot of chest pain and I think it's it's being able to see through the façade of what is really going on underneath the surface.

Stephen, who has worked in areas outside the metropolitan departments, seemed to have a greater connection through knowing individuals on a personal level as well:

When you live and work in these small areas you actually become more involved on a personal level so maybe that helps to build up the intuitive thing too. it's that inner sense that you and that person connect, it's that connection thing you get the message relayed in a round about way you actually pick up what is going on.

Elise believes the opposite in that if you have an intuitive situation with someone you don't know, it is more trustworthy.

When it's somebody who's not known to me I trust it [intuition] more because I have no reason to invite a certain feeling or think a certain thought because you know, these people have no connection with me so why would I be feeling like that?

Some participants felt that the emergency department in itself created an environment where people connected quickly. It was frequently described as, *getting that link with other people*. The ability to make this connection in the middle of chaos also became evident in Stephen's comment;

I might be on a call, a patient enquiry, and I've got someone else talking in my other ear, and I'm putting blood in a tube – all at the same time but I can still make that connection even with all this other stimulus – so where does that come from? That's very interesting, how can you possibly do that? You know there is one part in your head that's

obviously being worked on or you have developed that ability because not everyone can do it.

The connection with others is often referred to as *picking up on the vibes* as Melissa relayed;

I pick up vibes – it's really great – you know it never leaves you does itthat sort of stuff, put a lot of credence on it, you know I don't ever write it up [in the notes] as it is too vague. I know I am right I suppose it is because I believe it is.

Martha believes that her connection is intrinsic and she cannot separate her ability to connect within the department and outside of the department. She describes comments from her family;

my family tell me – I didn't notice it – but my family tell me that I'm intuitive about what people are thinking but it's just feelings like I have with my own family its when you look at people and you start to worried about them you know if they are not well.

An interesting aspect of communication was raised by Margaret. She noticed that the ability to connect to most people was related to the ability to find the right level for communication just by being with them.

You'll find most emergency nurses with intuition could talk to anyone, anytime – drunk, manic from kids to geri's , they've got the ability to speak and relate which is really scary – they can relate certain things to certain people too, and be on their wavelength.

There seems to be another quality within connection these participants appear to be able to step outside ordinary boundaries. It was not strongly evident in the transcripts but my own notes and journal support the extraordinary spirit of my participants. It is more a essence within the nurse. There is a willingness of the nurse to go beyond normal behaviours, an ability to work outside convention and boundaries. The meaning that sits well with the knowing nurse is transcendence. Reed suggests that:

Transcendence is defined as a level of awareness that exceeds ordinary, physical boundaries and limitations. Transcend means to cross over or climb beyond. It is reflective of the human capacity to extend the self beyond common boundaries of the immediate context and achieve new perspectives and experience. (1996: 335)

The knowing nurse climbs beyond what is presented and looks beyond the physical boundaries in a patient situation. Miller (1995) cited a number of studies that support the unconventional nature of intuitive nurses and also their acceptance of non traditional modalities of treatment. Taking a non traditional road is not always easy as Melissa said:

The others I think just thought I was mental but they just wanted to be comfortable with the way they thoughtin some ways I was continually put down and I got to the stage where I really thought I was paranoid. I thought that they would get me to resign and yet, I usually got the confirmation later that I was right, It was so hard.

Vickie describes her transcendence using a television advertisement; she exposes her response to not going beyond ordinary bounds:

I think umm I am just more willing to think outside the square – you know that Freedom add. When you think of that that square is bloody constraining isn't it. If always in the square you would just keep running into walls.

It was difficult for the participants to describe what made them intuitive or what was different about them. Maybe the belief in self was fostered from an early age as

Melissa said:

You should talk to my mum, she has it too. I was never told not to think one way or the other, just to think. Maybe she nurtured my intuition that way. Umm I have never set myself boundaries and when others try I buck like hell, I use to think just for the sake of bucking but I am not comfortable with all the limits set. You'd remember back when in the old system you umm had to fold the bedspread back a certain way – der why? Isn't having a comfortable patient more important and having the wheels all facing the same way

The participants had a sense about them that in the notes made after the interviews was a description of the person, not a physical description but a comment on their qualities. I made comments like *there was a sense of calmness around her; nothing would take her by surprise*. I was also amazed by the space they created for the interview as in *I had the sense of space when talking to her*. Vickie's analogy painted a vivid picture for me – *the Freedom add, she would be the sort that would have a parachute if dining on that table*, (the advertisement referred to a group of people eating dinner on a table suspended on a platform over a cliff). These notations support the veracity of the connections they described.

Martha, the only immigrant Australian had placed a special value on thinking, believing and questioning the status quo. To be *free* to make the connection Martha needed to be free in a real and personal sense, safe within her physical environment:

*Connecting with your patient was hard in Poland, you didn't know who you could trust. It was not safe to let them in, you know what I mean. Umm I am not explaining this well am I? In the US I couldn't understand that it **was** safe to connect with strangers when I arrived here it was my patients who I think gave me permission to be with them in a way I had never done before I was scared at first that it would haunt me in the future, but it hasn't you know.*

I was admonished by Vickie when I suggested that she may enjoy being different to those she worked with but her final comment on that subject was an interesting insight:

We think differently to others. It's like having a bent telescope, you can see what's coming around the corner.

By moving beyond and outside of the *ordinary boundaries* the connection made with others forms an element of intuition. There is a transcendent component to this nature as it goes beyond that which is usual and conventional within emergency

nursing. It is the inter-relationship of the patient, their nurse and the needs of both parties.

A consequence of moving beyond ordinary boundaries is the ability to connect with people on a level that encourages the development of intuitive practice. By connecting at this level with another it is reasonable to assume that there is a reciprocal response. The response was noted to be physical, a feeling that brought a situation to our attention without actually defining the situation.

5.4.2. Feeling: The Physical Voice

The expression *I had a gut feeling* is a colloquial phrase many societies use to describe the uneasy sensation that pre-emptes an event or attitude. The participants in this study described such feelings in everyday life and how it affected their behaviour. When my participants were in the clinical area the sensation tended to be consistent regardless of the situation. This sensation was a physical sensation that occurred *out of the blue*. The sensation did not occur with every *intuitive* situation the sensation occurred with those situations that could not be rationalised in hindsight, those situations that could not be explained logically.

The participants described this feeling as different from the flight and fight response that they get when an emergent situation arises. Each participant described the feeling differently including an ice cold sensation and a nauseating sinking feeling in the gut. Significantly, the difference between the two reactions is that the fight and flight response appears once the emergency is identified and the knowing feeling occurs before the situation arise and disappears once the situation has occurred. Therefore the feeling inherent in intuition precedes the event and the fight or flight reaction in the response to the event.

Regardless of the physical response to the knowing, the sensation felt does not disappear until the event has shown itself. It is an interesting observation that the original feeling is replaced with a sense of satisfaction or contentment once the event has emerged – even though this may be mixed with a fight or flight reaction. The feelings experienced are real and physical. For Sarah;

It's like someone just walked over my grave, that feeling ...

Vickie is a visual person and needed to create the space that preceded the physical responses she said that;

*..... it's a visual thing, like a visual flash. It's like a free mind and . . .
When I get that picture my stomach turns over.*

Stephen had difficulty in trying to explain how he felt;

That's a hard one umm it's like a gut-wrenching I mean it's like an electrical current throwing you full on.

Elise's sensation was generalised;

for me that I get a strong feeling of heat or, cold.

Gayle had refined her feelings to the point where she could sense if the 'event' was to good or bad;

..... there are sort of two gut feelings, there's a gut feeling that something's going to be pleasant or it's going to be unpleasant and I got this strong feeling if it's going to be unpleasant and dangerous.

Cheryl, Lyndall and Kaye's responses were more generalised;

...it gives you goose bumps and your hair will stand up.

For Karen, Julia, Melissa, Margaret, and Martha it was all in the *gut*. This is the most common of feelings. Julia also remembers that the feeling was not there in the beginning, she said;

a scrunching stomach and then you go trying to find out, you know, like mentally why am I thinking this, why am I getting this feeling? And that depends; I never used to get this feeling when I was a student nurse.

Finally Manda, she has not yet reached the expert level and as a consequence is unable to describe the feeling, so she just said;

I just got this strange feeling.

It is interesting to note that many of the feelings are related to the actual *gut*.

Nonetheless it is a physical sensation that only exists when intuitive practice is to be experienced. It is a primordial sensation, at the foundation of this practice. It is the first physical response / experience of this level of expert practice.

The feeling is not seen for what it is in the beginning. To be able to understand the significance of the feeling comes later in intuitive practice. In the beginning it is just a feeling that is not acted on, not understood as it seems to be out of sync with all that is around us. We do not understand why we have these physical sensations; however they will not be ignored, as Margaret says;

.....quiet voice that nags you until you do something just to shut it up.

And Cheryl said;

..... that her inner voice became very loud, I ignored it but then it started to shout at me, then I listened.

These physical feelings are the departure point from the traditional decision process. Two parallel systems of decision-making now appeared to be evident. These feelings resulted in changes to the participants' assessment related behaviour. The participants were guided to investigate differently to normal assessment routines for the presenting symptoms. It is an unconscious searching for the direction of the action that is required at the time.

5.4.3. Syncretism: Outside the Rational Self

There is a comforting routine in the assessments for each cluster of presenting symptoms. However when a feeling as described above is perceived you find yourself behaving in a some what inexplicable manner. This is the nature of syncretism, that there is an attempted union of two opposing practices or beliefs. In the context of this study the two opposing practices are the assessments based in the patient's presentations and the assessments that are tangential to the clinical situation. Just like my experience (from the prologue) of taking that baby into the resuscitation area without known clinical reasons, my participants described similar situations. It is not just the assessment behaviour it is the persistence of the search for an answer. Participants' behaviour varied from repeatedly doing an assessment to keeping patients in the department after discharge.

After the initial assessment where all was well and the patient was just about to be discharged Karen found herself continuing to do assessments;

.....I had this sixth sense, I've got to go and take their blood pressure because it's low. it's was low,....

The feeling has been described as being out of the control of the participant for there are times when the participants were not actively aware of there actions. There were descriptions of finding equipment in their hands and not cognitively knowing why. There are also descriptions of reaching unconsciously for equipment and then thinking to use it such as an ECG machine. One such story was when a young person came in to the department following a simple fall and Kaye describes the following actions as: *you're on auto pilot*, she then thought when realising she had the ECG machine, *oh well I'll do an ECG anyway, she is not really of that age group, but*

what the heck. The outcome was the patient's cardiac dysrhythmia had caused the fall.

The emergency department does not lend itself to creating extra work as there is not enough time to do the work that is needed. A consequence of the limited time factor there appears to be an initial period of questioning as to why one is doing these out of synchrony assessments. Stephen described questioning well:

Initially I used to [question himself why he was doing an out of the ordinary assessment] but now I don't, mostly it just happens, it clicks and you just go yes, you sort of have that sixth sense of where you sort of go.

There is an underlying sense of urgency to find the source of the physical feeling, and not just the intuition of one person. The following situation describes how the intuition of two nurses worked in synchrony even though the outcome was poor.

That was when I was down umm south a bloody hoon had caused a car accident and it was a low speed car accident, [she presented with] nothing she shouldn't really have... ..Vital signs were OK. She was sitting up, chatting away to me, not complaining of any pain anywhere, we were just really waiting for x-rays and for a cervical spine to clearance and to treat her broken ankle and broken wrist we were chatting away but umm I had this awful feeling that something was not right with her and I kept asking her all the time, are you sure you haven't got any pain, are you sure you are all right, and kept checking on all her vitals and you know she was fine, and interestingly the triage nurse had a similar sort of thought and she put her in emergent care because normally she would have been out in the general cubicles so there just wasn't something right. The colour was right, then she sort of said to me I suppose I feel a little bit odd but she couldn't put anything on it and umm anyway in the middle of a conversation with her she arrested out of the blue and umm she started to become hypotensive but not dramatically so and then bang, she just ... just went off! She arrested, and umm and we never actually got her back but the outcome of it was that she had an aortic tear it just burst at the time. There was nothing, There was no reason to believe that she had this triple A or whatever it was ... we just kept interrogating her, are you sure

There were two separate actions (behaviours) in this story that can be considered unusual in this clinical situation. The first by the unnamed triage nurse who placed

the patient in a higher acuity area than her presenting signs and symptoms dictated. Karen's actions were to ask more probing questions even though the patient was deemed stable and the injuries were absolutely consistent with the accident. When these situations arise the nurse's thinking processes attempt to counter the intuitive thoughts and 'convince' the nurse to stay within the traditional modes of assessment. As the author of the above story said;

Initially I tried to talk myself out of it because I had check everything and I thought you're kicked in the head. But now I trust it because it's happened, you know too many times I've been right so ...

Expert nurses tend to trust each others' actions. This trust tends to be confirming the nature of their intuition, however medical doctors seem to need to experience the consequences of ignoring the ED nurses intuition before they may move towards acting on it.

I think amongst ourselves [nurses] we simply believe each other and it is accepted. I don't know what the doctors think, I haven't really discussed it, but my best friend is an intern and she said to me last night, I never used to believe in it [intuition] when I was med student. she's been in practice like six months, and she told me 'when the nurse's say to me Come and check this patient out, there is just something not right', I [the doctor] ignored it the first couple of times, She thought, yeah right the nurse has flipped it, you know, but sure enough something would happen so now she believes and she's started to pick it up as well. She can now stand at the end of the bed of a morning looking at a patient and again can't find any reason to but she becomes concerned.

At times it is the timing of the assessment. In another story the participant was describing a situation where a young woman was on frequent observations but she *needed* to go to this patient who was previously stable and receiving adequate care for her injury, however she thought;

..... we're losing her.....[I went in and] as I took it [her blood pressure] she had a hypoxic fit as it turned out and she was in big strife. no I had just thought I should go and check herShe went to theatre within 10 minutes and they saved her life.

What became evident is that the feeling would not subside. It stays with the nurse and influences the actions they take. These two components, feeling and syncretism are in some way symbiotic. One appears to drive the other and it *compels* the nurse to act.

Even though every time you measure something you just can't shake the feeling? I can remember many times when I've said to registrars I'm just worried and probably as many times they have said what's the answer? And I've said I don't know, but there is something worrying me about such and such [talking of a patient] he's been sitting there and you're thinking is he sitting on a bomb? I've proven to be right. I can always think back, umm about 9 or 10 years ago, when there was that young bloke young psychiatric fellow. It was not in what he said or did and when I was talking to him, but I didn't trust that he was in control, as there was nothing he said or did that you could pinpoint the fact that he was suicidal. I just kept talking to him..... a strange place to suicide in a hospital.

This story reveals the compelling nature of this case, the need to act, in this case to talk to the young man. There appears to be two components in this story. The first is the compelling need to 'talk' to the patient (an appropriate assessment for a mentally ill patient) and, the extra 'talk' that occurred to resolve her *worry*. Another interesting story was when one participant who was not, as she said, experienced, had her first overpowering intuitive experience;

when I was actually not that experienced, I'd been an emergency nurse for probably 2-3 years and this young fellow of about 45 who was a regular alcoholic who came in and used to try and get a bed for the night. And we would say no, go home, and just this one night I just had this one very strong gut feeling that it was not the right thing to do to send him home. And I knew if I got caught by management harbouring this person I would get in trouble but I just had a really strong gut feeling not to send him back out on the streets. He was fine, there was nothing wrong with him, so I put him in a room and kept him there for the night and I went home and he arrested and died at 15 minutes after I left the shift.

He died from a DIC but he did not look pale, he wasn't complaining of anything, he was just someone that I kept for the night because I felt there was something not right with him. And everything rationale in my thought was don't keep him here, you're junior staff, you're going to get in trouble from management for keeping a person like this because

he'll abuse the system and had done in the past. And I actually did do a base set of obs on him to maybe, in case I could justify ... Nothing? Blood pressure was fine, he wasn't tachycardic, his colour was good, everything about him was normal and it was the most bizarre thing. Yes, and as I said, I went home and apparently 15 minutes after I left he arrested and died. It wasn't irrational behaviour, it wasn't behaviour that you planned out and said right, I'll keep him here and I'll move him out before the morning staff arrive. It was like he was still there.

If he had been more pesky I would have probably tried to fight the sensation and made him go, like he was being really bothersome, but no, it was just, there was nothing about him that I could see. He didn't look sick or he didn't act any different. He didn't do anything any different and I had looked after him many many times before and sometimes he had had something wrong like he might have had, I don't know, he may have fallen over and needed stitches or something like that, but this night it was to everyone else it was obvious, he'd just come up to bludge a bed.

Her action was simple against all that she felt and 'knew' she kept him in the department where he died warm, comfortable and safe, a good nursing outcome. It is not always the patient who is presenting that ED nurses get a feeling about. The next story relates to the accompanying parent of the patient.

[This patient] wasn't even supposed to come through the emergency department, she presented to the psych unit after hours, and they sent her to Cas for us to do the psych admission. The mother arrived at the desk with her daughter [the patient] and the mother was quite elderly, heavily nicotine stained fingers, she had very little on, big gut, you know ... I didn't do oximetry at that stage but I just thought there was something wrong with her [the mother's] chest.we were so busy that night, it was just horrendously busy, and so I just grabbed a doctor to sign an x-ray form and I thought well I'll just get a quick chest x-ray while she's waiting for her daughter..... There were beds everywhere, it was choccas. There were infarcts, you could imagine – horrendous. Anyway the mother had been in the department for half an hour, the x-ray was done, when the son runs out to me, He said quick there's something wrong here, she's having a seizure, [we thought the daughter but it was the mother] so we dragged her into the resus room and she was fitting and carrying on, and it turns out that she did have some pneumonia but she had hyponatremia, secondary to her medication ...

There are times where the action of the nurses in response to the feeling is not assessment but to give the patient a higher acuity than their symptoms warrant or to place them in a higher acuity area, such as in the next story.

You've got a left arm injury in emergent care and you've written down "Looks unwell – query cardiac" and they just don't know why you've said that and what's going on. And I've said "I'm happy to be proven wrong but I'd rather get this person checked out first".

It appears that in some instances that the emergency nurse is doing assessment 'automatically' but cannot explain why;

... I would put someone on sats and you just don't know why you're doing it,

Vickie's abilities appear more refined she openly acknowledges the impact on her practice and allows herself to be guided by it as her story below reveals;

It's just I know, I mean the way I work too I'm intuitively guided to go to that part of a persons body where there's a problem and it's the case sometimes, well before I sort of trusted this and accepted it I would think what the heck I'm doing a handstand here when the person says they've got a headache – why are my hands going down here to a knee or something? Then you ask them later, oh yeah they have had a problem with their knee, they just didn't tell you about it.

Some actions Vickie described as instinct as a natural act;

I just instinctively put one hand on the child's forehead and I held her hands with the other, sort of across where her heart was, it just felt a really natural thing to do.I just thought, holy shit she's going to have a cardiac arrest, which she did a little time later.

There seems to be no external or rational controls on these actions, even though there is a search for the reasons for the behaviour

why am I doing this, does it feel right to do this or does this feel not right? And in that situation the gut feeling was, no I don't know why I'm asking this question but I still have to pursue this issue. OK with the lady that went on to die, the other situation, umm there was a thought there that something was wrong. I didn't know what it was. I don't know what was wrong with the second lady, it's was not that I got a feeling that there was, it was not a diagnostic thing, it was more just this intuitive thing, something is going to happen. And the gut feeling kicked in that it was the outcome going to be unpleasant

The fact that the actions of the nurse are not based in a conscious choice is seen in the story below and again the urgent and compelling nature emerges,

I was not conscious of going through this process of assessment, you know what to do when they initially present with, their signs and symptoms, but, you find yourself asking another question that you wouldn't normally, well you wouldn't consciously ask. Something compels you to ask another I felt compelled to ask about the slurred speech even it appeared unrelated to her limp, if someone normally presented with a bit of a limp I would not have started asking if they had slurred speech but it was this thought that came in.....she was diagnosed with a brain tumour

A similar story from Sarah demonstrates the ability not accept what initially appears to be the obvious problem.

A young girl came in with her husband and clinically she presented as having a DVT. And everything that she gave me in her history was that she had a DVT and she'd had surgery a couple of weeks prior for varicose veins, or something like that, but I got this overwhelming sense that there was more wrong. And I kept asking for more and more information, even though I had enough information to make up my mind that she possibly had a DVT but I still felt that there was something more. And I don't know what, something drove me on to just keep questioning her and to just keep pulling all these really weird questions out of the air, and then I said something about had she had any problem with slurring of speech or anything, and then her husband just started rattling off how she'd had this episode earlier that morning, and having the slurred speech and he said her eyes were funny and everything, and I just, I just knew that there was something not right, I just felt she had a brain tumour which I talked myself out of but said she would have to go to the doctor which was two hours away. And I sent her straight down to the doctor and I didn't really feel she had a DVT even though she had pain in the leg and she had a problem with her gait, I felt she was walking stiffly for some other reason but it wasn't a DVT. I still insisted and I really emphasised that they go straight away to the nearest doctor and that was early in the morning and after lunch the doctor rang me and said that she diagnosed this girl with a brain tumour and she'd sent her straight down to a hospital in Melbourne which it was really spooky for me. There are other instances too if you want me to relate to all of them.

The syncretism can be initiated by someone suggesting that we do something else and the thought to complete a certain assessment is often just there in our consciousness. This experience is exemplified in the following:

I remember just putting him in the cubicle because he really insisted that it wasn't chest pain he had it was just gastro as his wife had gastro the week before and it was one of those really really really awful days when people just kept coming up to the triage desk and because it was in the private sector, I was caring for other patients as well and someone said you need to go for your break, and something just made me say no I'm not going, I'm going to do an ECG on this man. And it turned out he was having an infarct and even ... yeah there's just nothing about the sort of pain he had or anything that indicated that he was but something just made me, but I can't say what it was, this seemed to be a logical thing to do I suppose.

Finally our actions and behaviours take us to illogical but relevant places;

... this chappie came in and his family were very concerned about him because he'd been very disorientated and he very umm very confused and had been up wandering in the middle of the night and things like that, and he'd had a chest infection recently and he was febrile, quite high temp. I started asking him about whether he'd smoked and he said 'no he didn't smoke', and then something just made me ask him did he drink and he said 'yes he did drink'. It turned out that he did drink a lot but he was being a good boy on his antibiotics and not drinking and this was the cause of his confusion ...I mean I didn't exactly look at him and thought this guy is a drinker and that's what it is but something just made me ask ...I just don't usually always ask people with chest infections whether they drink but something made me ask this guy.

The thoughts and actions of the emergency nurse are initiated by the feeling in the stories above. The non-conscious directs the ED nurse to observe and assess in a manner that at the time does not have a basis in the presenting history, signs and symptoms or the emergent condition. If you ask these nurses why they are doing that particular assessment the reply could be *I don't know, I just think it may tell me something*. It may not be the first observation/ assessment that is taken but one will be out of synchrony and be significant in validating their actions.

It is evident in the stories so far that the connections made with the patients are represented in every situation in that the feeling was present in some but not all of the situations. This difference becomes significant in delineating between the phases of expert practice. In clinical situations where a connection was made accompanied

by a physical response, the participants found themselves to be acting in a manner outside of the traditional paradigm.

The stories so far have also indicated that to follow the physical response and act in the ways the participants did there needed to be a level of belief in the direction that they were following. To have such faith is to trust personally and deeply in self. As explained in the first chapter, the emergency nurse has a strong sense of self and therefore it is argued trust.

5.4.4. Trust: Accepting the Inner Self.

Trust appears to be the heart of the experience of knowing. There is a confidence in the direction that the three themes are guiding the nurse. This trust develops over time as a component of practice development. In the nurses' personal life, trusting intuition appears to be easier possibly because it happens in a safer environment. The patient's environment is not as emotionally safe as there is very little room for error. In the patient's environment there is a different level of trust needed, it is more demanding as the patients have an expectation of professional care at all times.

Trust is complex and is evident at each stage of practice development. Trust and confidence builds the practice capacity of nurses. There appears to be a hierarchy of trust relationships and it is a learned process. As for Julia, (my participant on the cusp) for trust was a theme missing, at the time of the interview. I can picture the look of realisation on her face when she said for the second time that she did not trust what she was feeling;

[the feeling] probably just stays ... I think because like I said I don't always tend to trust it either this intuition.

Then an interesting string of comments occurred as she he tried to explain her lack of trust. First it was as a component of time;

I don't know. I don't know. I suppose part of it can be that maybe I feel that I haven't been in the area long enough to justify trusting.

And place;

I find I probably trusted it [intuition] more out in the rural sector.

And environment;

To a degree I think it is the physical environment umm when I first started because I was getting used to how the place worked and what was where and maybe I just wasn't able to think or listen to the intuition. I was too busy doing other things.

I met up with Julia a year after the interview and she said that the interview had made her think and slowly she had started to trust her feelings and synergism. She told me it was as though something that had been missing from her practice had finally *came home*. There was a new softness in her eyes and contentment in her voice. In the pre-reflective space of the interview she found a spark that changed her practice.

There are times when we trust another intuitive nurse before we are able to acknowledge trust our own intuition. Unlike Julia who was moved into the space by her reflection on the interview other nurses tend to see that other professionals trust their decisions before they themselves have that level of trust. For most nurses it is the behaviour of our colleagues towards us that first brings this level of trust to the fore;

...I think maybe when other staff start to trust you, you then start to trust your intuition, maybe that's when your confidence is boosted.

This type of trust is not the type found in the emergency nurses ability to competently practice as that has occurred much earlier. It is the tacit

acceptance of the statement *I am worried about him/ her, not too sure why.*

Melissa explains it as,

*other people start to trust you therefore you start trust your instincts.....
I think all emergency nurses are testing, testing it frequently not
necessarily in a life threatening situation, and to be proved right gives
you the confidence to move on. Maybe be it is part and parcel of
developing intuition.*

There is an effort needed to develop trust. The other components of the intuitive structure occur naturally within the context of reflective time. One participant said

*It takes a lot to develop and I think we have problems learning to trust
that skill [intuition] within you.*

Returning to an earlier story on page 199, the link between the theme of syncretism and trust is made.

*It's just I know, I mean the way I work too I'm intuitively guided to go to
that part of a persons body where there's a problem and it's the case
sometimes, well before I sort of trusted this and accepted it I would think
what the heck I'm doing a handstand here when the person says they've
got a headache – why are my hands going down here to a knee or
something? Then you ask them later, oh yeah they have had a problem
with their knee, they just didn't tell you about it.*

As with the other components of intuition there is a force within us that at times attempts to control the intuitive thoughts and actions which construct intuition.

However, there comes a point usually an incident, a clinical situation that finally allows the emergency nurse to trust their intuition. However it is a constant battle:

*You're left brain takes over and sort of gives you all of the reasons why
you are being silly or why this is not logical and what have you. And
yeah, I'm thinking of a third incident while I'm talking about this too
when I absolutely trusted my own belief and later I got my confirmation
of it, and I think that's what really clinched it for meEven though my
logical brain tries to tell me otherwise I fight that off and I tell myself
that I can absolutely trust myself to make that [intuitive] decision.*

This battle is a continuing issue and trust is easily damaged by the comments of others. If the nurses' intuitive ability failed or did not appear to prevent harm to a patient; they report doubting their feelings and action, as Vickie relates;

... I think it's, it's still going through that internal wrestle. Even though I trust it I would have to say there's still, that tiniest element of doubt which I think is actually healthy

This doubt is also confirmed by Sarah

And even with my intuitive stuff I can still joke about it, you know, because some people call you silly, and I mean I just laugh, Sometimes they say to you, you know I am actually learning from you and I think this is for me too, I kicked my intuitive side to billy-o because I had this thing, that it wasn't right and when all this intuitive stuff starting coming in I started to worry that I would be locked away in a convent

This sceptical period is then linked to the appropriateness to act on your intuitive behaviours. It seems that in order to trust, one must first doubt and then accept the truth in their own intuitive behaviours. It is a final piece in the mosaic of understanding the experience of knowing.

..... there are probably times when it's OK to let your logical mind to take over and have that bit of doubt because yeah, maybe you're not ready yourself to handle that truth. And also by not handling that truth at that time it means that the issue it will occur in another way, then when it comes it hits you in the face cause you think, oh yeah well this is actually showing me that the last time this happened shouldn't have doubted it.

The final acceptance is that the emergency nurse gives themselves permission to trust. There are times when a healthy doubt appears for a short period:

I was going through my acute sceptical thing and things were happening that's probably more appropriate for the permission thing because you don't give permission to trust yourself

Of all the components trust is the only one that requires a conscious decision. The other components appear to occur on either a non-conscious or unconscious level however there is a conscious and cognitive decision to trust our intuition. Kaye took this thought and linked it to a faith in ones own ability:

Yeah, I think, it's like you know what we were talking about before, you have to trust and have faith but you never get sent something you can't cope with.

Some areas within the department enable the emergency nurse to use and trust there intuitive ability with greater ease:

You see I can't actually pin it downtriaging I sort of knew this stuff before triaging but triaging sort of hones your intuition – your more confident with your assessments and things like that and you can do faster assessments too if you trust your intuition.

Contrary to evidence found in the literature, emergency nurses intuition work best when *stressed* and busy. In these situations, trust in your own abilities is essential;

.....you need to trust your gut reactions when your busy as well. Particularly if you're triaging and its absolutely frantic, you need to eyeball that person and know 'do you get the feeling or don't you get the feeling'.

As emergency nurses we have learned to trust our intuition but there are situations where others don't. The following story demonstrates the consequences if there is not mutual trust, as Lyndall's story reveals;

and the thing is on the whole you've had more experience than they've [the medical staff] had anyway um ... and you work closer with the patients anyway than they do in their quick assessment – “do this test”, or there was a bad run where they wouldn't see a patient until you've done the ECG and things like that. But when you say “No they need to be seen”. Um... but, and I used to find that disappointing. I can't see why they can't assess a patient while you're doing the ECG and things like that, but you know if you're genuinely worried I had this feeling and I keep picturing this bed in my head and its E5 in emergent care which is where the cardiac patients go and things like that ... But um there was this man and I just remember that he wasn't quite right and I went to the doctors and said “I want him seen” and they said “Well have you done a cardiograph yet?” and I said “No but he's just arrived and I

want him seen, TRUST ME". Well while we were doing the cardiograph he arrested, so I mean I was proven right but I was really annoyed that they didn't trust me....

Linking in and trusting other people's intuition is used as a confirming tool.

...maybe once you have a few wins then you start to trust it more than anything else. There's a lot of people who never ... I don't think ever got it [intuition].

Trust is complex, fragile and essential to the expression of intuition. It is developmental and fickle. It is the easiest to lose and the most difficult to regain. It appears that intuitive expert emergency practitioners are prepared to trust however, self doubt and doubt that comes from others can erode trust. When doubt is raised they are brought back when they do not act on the next intuitive situation as there can be a negative consequence, such as a delay in treatment or the uneasy internal question of *if only*.

5.5. CONCLUSION

The components identified from the participants' transcripts are not random in their presentation and their relationship to each other. The linked components are 'knowledge and experience', 'connection, feeling and syncretism'. The component of trust is present in each theme and yet exists independently; it exerts a power on the experience of being an intuitive nurse.

As pre-requisite conditions, knowledge and experience as a thematic dyad are linked as they contribute to practice capacity over time. As Benner (1984) and Dreyfus and Dreyfus (1984) acknowledged, the relationship between knowledge and experience changes over time but there is an interdependence. That is, practice capacity will not grow and develop if either factor is not present or is limited. In other words placing the person in the street into the emergency nursing situation without any emergency nursing knowledge will not produce an emergency nurse. Furthermore a person can

rote learn emergency knowledge but without practice application it will soon be extinguished. At the same time as quality practice grows the emergency nurse continues towards expert [intuitive] practice. It is in the time frame of expert practice that the themes reveal themselves to the nurse.

The substance of connection, feeling and syncretism underscore the qualities of the emergency nurse. The ability to be lateral in thinking and action and to be able to transcend the boundaries established by others indicates a nurse in touch with self and others. The participants have a sense of self and a sense of others. These qualities are not gained as part of the nursing experience as they are brought to nursing as an integral component of the person. One enables the other to exist; the ability to go outside of normal boundaries creates an environment that nurtures the capacity to connect with others.

The physical response experienced is sudden and acts as a warning of an impending patient situation. The physical response is distinctive in the intuitive situation and its qualities are not related to the adrenaline rush felt in emergent situations. It is unique to the individual unlike the adrenaline response that has common features in all humans, for example, tachycardia, dilated pupils, increase in glucose release and use and increased cardiac output. The intuitive feeling is not unpleasant for not one participant noted the feeling to be a physical discomfort but rather a physical feeling with an emotional discomfort. Once the feeling exists there is this urge to step outside the assessment boundaries to tangentially assess other areas. The acts taken cannot be explained at the time but later prove to be relevant. The actions are varied in that in some situations no tangential assessment occurs however the patient is placed in an area of the department that has, what is proven to be, the appropriate equipment for their actual problem.

Finally, trust is the quintessential theme. Trust is complex and has a developmental role which is recognised in the participants as a level of doubt seen and resolved during practice development. However, trust has a unique role in becoming intuitive and it is more than a trust in what is known and how experience has shaped and contextualised practice. In reports from these expert nurses appears to be an absolute trust in self as an intuitive being as one who does *know* and experiences *knowing* by the time the expert stage is reached. To trust self appears to be a more conscious decision than seen in the other components and final developmental phase so that the emergency nurse becomes embodied in their practice.

Chapter 6. NEW-FOUND CONCEPTS AND CREATING LINKS

This act of transcendence is first encountered in the acquisition of a pattern of behaviour, then in the mute communication of gesture: it is through the same power that the body opens itself to some new kind of conduct and makes it understood to external witness.

(Merleau-Ponty, 1945:193)

6.1. INTRODUCTION

The themes identified in the previous chapter explicate the nature of intuition however they do not explain how they link into practice development. Now that the component themes in the experience of knowing have been identified their significance and relationship to each other and the theory of practice development needs to be explored for closure. In this chapter it will be proposed that the concept of the expert stage of Benner's (1984) practice development theory consists of three phases. Each phase is sequential as well as developmental in that there is logic and form to the expert stage.

On the basis of the in-depth interviews with expert and intuitive emergency nurses, the three phases of expert practice have been named in order of emergence; *cognitive intuition, transitional intuition and embodied intuition*. It will also be purported that the practice development curve can be represented using basic mathematical principles, thus contributing a new and significant link to current theory.

6.2. CONTEXTUAL BACKGROUND

The intent of this study was to explore the nature of intuitive emergency nursing practice by using a phenomenological hermeneutic approach so that a greater understanding as to the components or themes embedded within this practice would emerge. As this intuitive practice had been previously identified in nursing by

Benner in her fifth stage of expert practice, it is cogent then to examine where the identified themes fit within this theory. The controversy as to the existence of professional intuition has surrounded this study. From personal experience, when presenting early findings and issues at conferences, there was at least one person who still referred to intuitive decision making as guessing.

Emergency nursing practice is clearly a form of pluralism as all aspects are related and interconnected. There is still no language to describe intuitive practice however there is now a greater understanding of the phenomenon. Benner's (1984) fifth stage of practice development can now be explored in more detail. Although there are some individuals who still do not accept intuition as one method of sound decision making, the evidence for its existence has been provided by the participants and demonstrated in the themes embodied in their stories.

The literature in nursing and medicine still either avoids the debate or negates the relevance of intuition; this is contrary to the actual practice of my participants. There is a powerful link between intuitive practice and theory which can be represented graphically. Returning to a segment from the literature review, practice development was represented as a simple graph that incorporates a practice development curve similar to the normal learning curve (Figure 4 in literature review & Figure 6 below). Taking this new representation of practice development and making additional adaptive changes posited from the themes identified in the previous chapter the following discussion will put forward new concepts and links in the theory of practice development.

The shape of the practice development curve is the combination of knowledge, reflective time raised to the power of experience. The curve exists along the time line from novice to expert practice. The curve does not represent a life continuum as a

nurse will be a novice many times in during a nursing career and a new curve will be needed. The curve on the y axis is directed in a positive upward movement indicating that practice capacity or the level of practice ability increases. There is no limit place on intuitive/ expert practice as the practice capacity curve continues throughout ones working life.

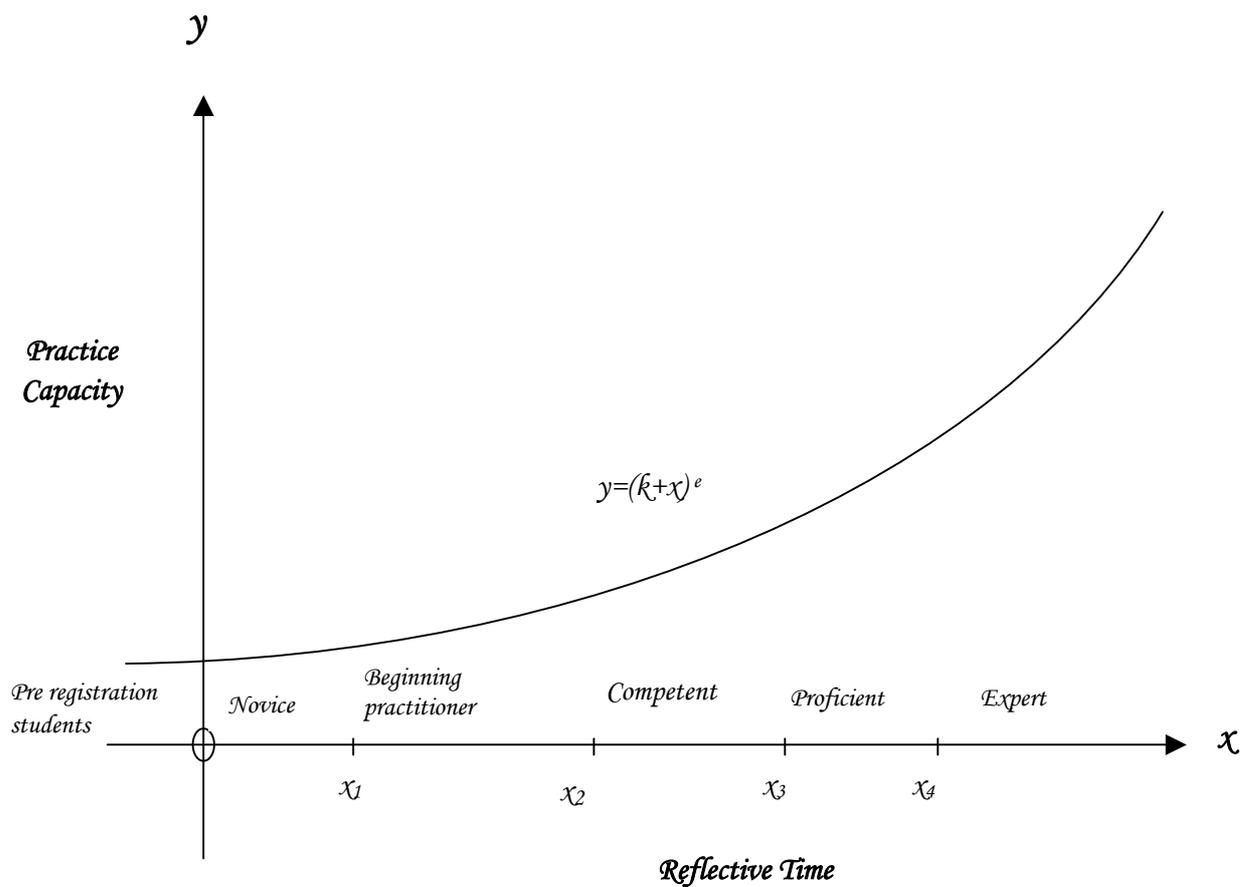


Figure 6: The Practice Development Curve¹

Intuition is not unique to nursing for it is a human quality that presents itself, with no explanation. This quality is strongly evident in philosophy and mathematics. All through the writings of Husserl, Heidegger, Sartre and others, intuition as a means of

¹ Undefined or indefinite points on the x axis are referred to as the point x_n where n = any sequential value

The O at the cross hairs of the x and y axis indicates the origin or beginning point

analysis is mentioned. Intuitive analysis is also seen in mathematics in the work of mathematicians such as Pythagoras, Einstein, al Khwarizmi, Karyam and even Cowen and his chaos theory. It is a form of professional intuition, for the philosophers an intuitive knowing of truth and Being, for the mathematicians an intuitive knowing of relationships, objects and numbers.

To see the connection a return to the ancients is required as did the phenomenological writers. Plato and Pythagoras are classic examples of mathematicians and philosophers, at the core of Platonism are the seven philosophical statements about mathematics

- *Mathematical objects are perfectly real and exist independently of us*
- *Mathematical objects are outside of time and space*
- *Mathematical entities are abstract in one sense , but not in another*
- *We can intuit mathematical objects and grasp mathematical truths*
- *Mathematics is **a priori**, not empirical*
- *Even though mathematics is **a priori** it need not be certain*
- *Mathematics is open to the possibility of an endless variety of investigative techniques*

(Brown, 1999:13-14)

If I remove the word mathematics (and where needed substitute Being) it can be argued that the following are the seven of the principles seen in philosophy

- Objects are perfectly real and exist independently of us
- Objects are outside of time and space
- Entities are abstract in one sense , but not in another
- We can intuit objects and grasp truths
- Being is *a priori*, not empirical
- Even though Being is *a priori* it need not be certain
- Being is open to the possibility of an endless variety of investigative techniques

In these principles we can assert that intuition is real if it is experienced, the participants in this study clearly expressed intuitions experience in their practice. Thus, intuition is real. Intuition is part of itself in that I know I can describe intuitions nature through the themes and that knowledge and experience are its supports; connection, its Being; feeling, its physical presence; syncretism, its influence, and finally its strength, trust. However what is the thematic relationship between these themes?

During a supervisory session my academic guide asked me this question “was the relationship an accumulation of the themes over trust, thereby singling the presence of trust as separate to the other themes?” Immediately and instinctively I said no, trust is not dividing these themes it is giving them power. I intuitively knew that there was more to this relationship than simple mathematics. I returned the practice development curve and knew that I was not looking at the line itself but the focus was contained within the space *under* the curve. When examining the area under the curve (known as integrated calculus) for $x_4 - x_\infty^2$ expert practice, at first two distinct areas became clear; cognitive intuition and embodied intuition (Figures 7 & 8). However on further examination another transitional area became evident and these will be discussed later in this chapter.

² When defining points of interest in mathematics the area is stated as from one x value to another, if the end value is unknown but continues in a positive direction it moves to the mathematic ‘non-end’ of infinity symbolised by ∞

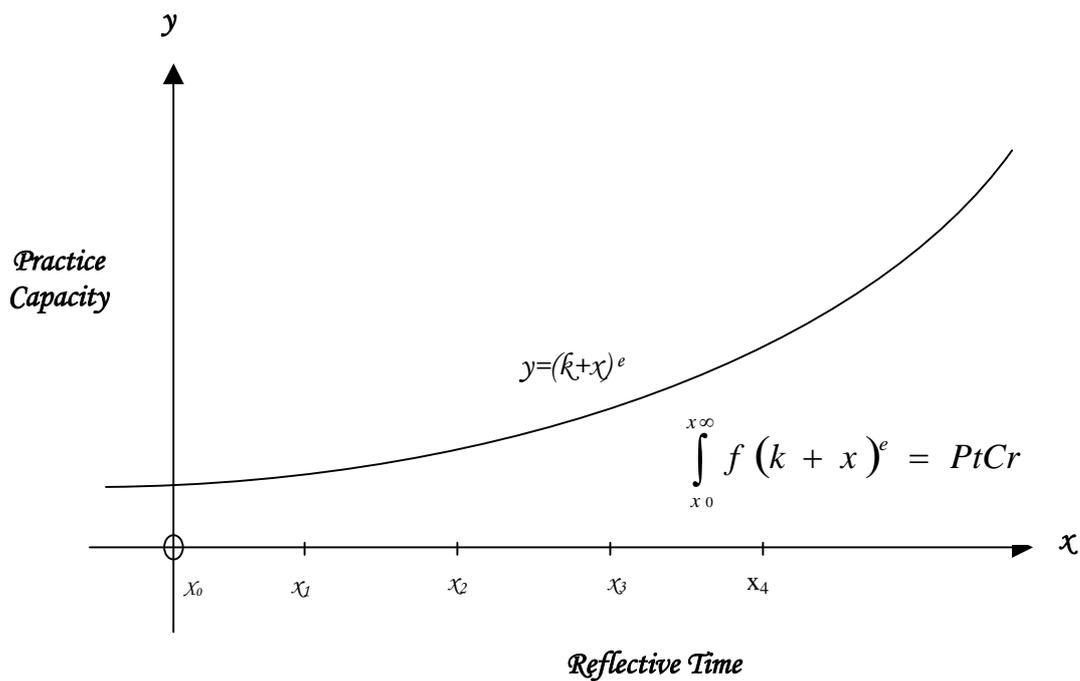


Figure 7: Graphic Representation of Practice Capacity

Before a discussion on these concepts can occur, further mathematical explanation of the area under the practice development curve is required. To represent the total area under the curve as an equation is to put forward a functional relationship between the factors of time, experience and knowledge. Therefore if patient care becomes a function of time, experience and knowledge and is bound by the shape of the curve

then the equation would be $\int_{x_0}^{x_\infty} f(k+x)^e = PtCr$ ³. To explain, patient care is

operational (or functional) when knowledge and time are given the power of experience. As each factor increases in size so does the area under the curve and the

³ the symbol \int represent the integration of the function which follows, or the value of the area under the curve.

The x value at the bottom of the integral sign is the value from which the area is measured and the top x value is the upper limit thereby defining the area to be calculated.

f mathematical is functional, the following equation is a function of a y value

ability of the nurse who *owns* the curve to provide patient care increases consistently with the shape of their curve. As the nurse *moves along their curve* and develops the shape of this curve, the shape and size of the area under the curve is representative of their practice capacity. If new experiences are not encountered or new knowledge is not embraced then that nurse's curve becomes stagnant and ceases to *grow*, therefore practice development is dynamic. The consequence of stagnation is that this nurse will not move along the practice development curve and not have the opportunity to reach their potential and expert practice.

The function of the practice development equation is for all values of χ and each stage of practice development between two points on the χ axis. The χ axis is a time line related to the practice development curve. However it is not time in the sense of seconds, minutes and hours but rather reflective time, as chronological time will not provide the impetus for the nurse to move from one stage to the next. It is a reflective period, therefore reflective time. To explicate the relationship of the practice capacity equation and reflective time a simple algebraic manipulation is required so that x become this mathematical subject of the equation (appears on the left hand side).

Therefore;

Where $y = \text{practice capacity}$

$k = \text{knowledge}$

$e = \text{experience}$

and $\chi = \text{reflective time}$

Then for $y = (k + \chi)^e$

$\sqrt[e]{y} = k + \chi$

$\sqrt[e]{y} - k = \chi$

$\chi = \sqrt[e]{y} - k$

In other words reflective time equals the experiential root of practice capacity minus knowledge. This in effect removes the knowledge not actively required in a situation thus supporting the use of heuristics and the factors (in a mathematical sense) of practice capacity become equal. Therefore reflective time requires a breakdown of practice capacity to its basic form and the creation of heuristics to move forward.

The stages of practice development, represented by its unique area under the curve, can be expressed mathematically for each stage of practice development. To explicate these equations is to return to the original descriptions of each level of practice. The novice or beginning practitioner ($X_0 \rightarrow X_1$) has basic knowledge (mainly theoretical in nature) however experience encourages learning, recognising situational facts and features relevant to a particular skill and their action is based on these objective facts and features. Knowledge and experience needs to be tangible, to be measurable and observable. In this *context* free stage of practice, the two most powerful influences are experience and knowledge. As Benner (1984:21) commented, rule governed behaviour is extremely limited and inflexible. She argued that following the rules may impede success, as the rules cannot tell the novice the most relevant task to perform in an actual situation. With experience in new situations knowledge becomes useable and real which begins to cultivate context. A consequence of cultivating context is that practice changes and improves to a marginally adequate level and the novice now moves to the next equation.

The advanced beginner ($X_1 \rightarrow X_2$) now has various experiences with real life situations and can cope with them. The area of practice capacity has then increased under the $y=(k+x)^e$ curve. The mathematical power of 'e' not only affects the nurse's ability to be reflective on what they know and have learned given the time to consolidate but they can also identify the functionality or usability of that knowledge.

Given the power of experience the nurse is beginning to identify meaningful elements and are now applying more sophisticated rules to situations.

The total area on under the curve continues to increase and consequently the ability to provide patient care also increases. According to Benner at this level, the nurse is able to identify global characteristics of a situation and that these can only be identified through experience with them, (1984:22).

There is a major integration between knowledge and experience to form practice. Experience has also resulted in errors and new types of learning are experienced. But there is still a rigid and structured order in the manner in which the advanced beginner practices. There is a gradual building of confidence given the increasing value of y and the nurse is ready to move on.

The increase in the area under the curve alters the function of the equation; in patient care the rigid and structured order seen in the previous stage is now seen as an impediment to practice capacity. There is a globalisation of the practice and an ability to recognise priority and urgency. Care is planned; the plan dictates which attributes and aspects are to be considered and those that can be ignored.

There is now sufficient area under the curve to support competent patient care ($X_2 \rightarrow X_3$). Experience has become contextual; knowledge is changes its form and shape and is also expanding. Outside this basic structural equation is the person who is the emergency nurse. Their practice capacity is now considered safe; at this point there is a change in the manner of reflection. Previously reflection was task based and aimed at increasing the proficiency of those tasks but now this has mostly been achieved a reflective examination of practice, as a whole is needed.

The proficient ‘performer’ is found for the value of \mathcal{X} from $\mathcal{X}_3 \rightarrow \mathcal{X}_4$ and this nurse can make conscious choices of both goals and decisions after reflecting on various alternatives. Practice is analytical and fluid; perception appears to be the key (Benner, 1984:27). There is a level of involvement that is deep and has meaning to the nurse. The area under the curve continues to expand – the area and context of practice has grown and developed.

On reaching $\mathcal{X} = \mathcal{X}_4$ expert practice is reached. The emergency nurse begins to explore an intuitive understanding as a precursor to detached decision-making. The triggering of memory from a single component of a situation, tapping into the repertoire of past experiences forms a basis for decision-making. This ability is called *holistic similarity recognition* (Dreyfus & Dreyfus, 1984:28-29).

Beyond the point of $\mathcal{X} = \mathcal{X}_4$ as \mathcal{X} moves toward the mathematical expression of infinity (∞) and further delineation can be made identifying two areas or phases of expert practice. This first area is cognitive intuition ($\mathcal{X}_4 \rightarrow \mathcal{X}_5$) as it relies on the ability to think and process in such a way that it appears into our reality without active thought. The second area is a higher level of expert practice where the cognitively intuitive nurse moves into a space of embodiment ($\mathcal{X}_5 \rightarrow \mathcal{X}_\infty$). In this space the physical, essence and cognitive processes of the nurse merge, embodied intuition.

The mathematical representation of practice capacity can be summarised in Table 5 and Figure 8 where each segment or stage of practice development has a unique equation.

Table 5 Mathematical Expression of Practice Development

Novice delivery of patient care can be expressed as	$\int_{x_0}^{x_1} f(k+x)^e = PtCr$
Advanced beginner delivery of patient care can be expressed as	$\int_{x_1}^{x_2} f(k+x)^e = PtCr$
Competent delivery of patient care can be expressed as	$\int_{x_2}^{x_3} f(k+x)^e = PtCr$
Proficient delivery of patient care can be expressed as	$\int_{x_3}^{x_4} f(k+x)^e = PtCr$
Expert practice can be expressed as	$\int_{x_4}^{x_\infty} f(k+x)^e = PtCr$

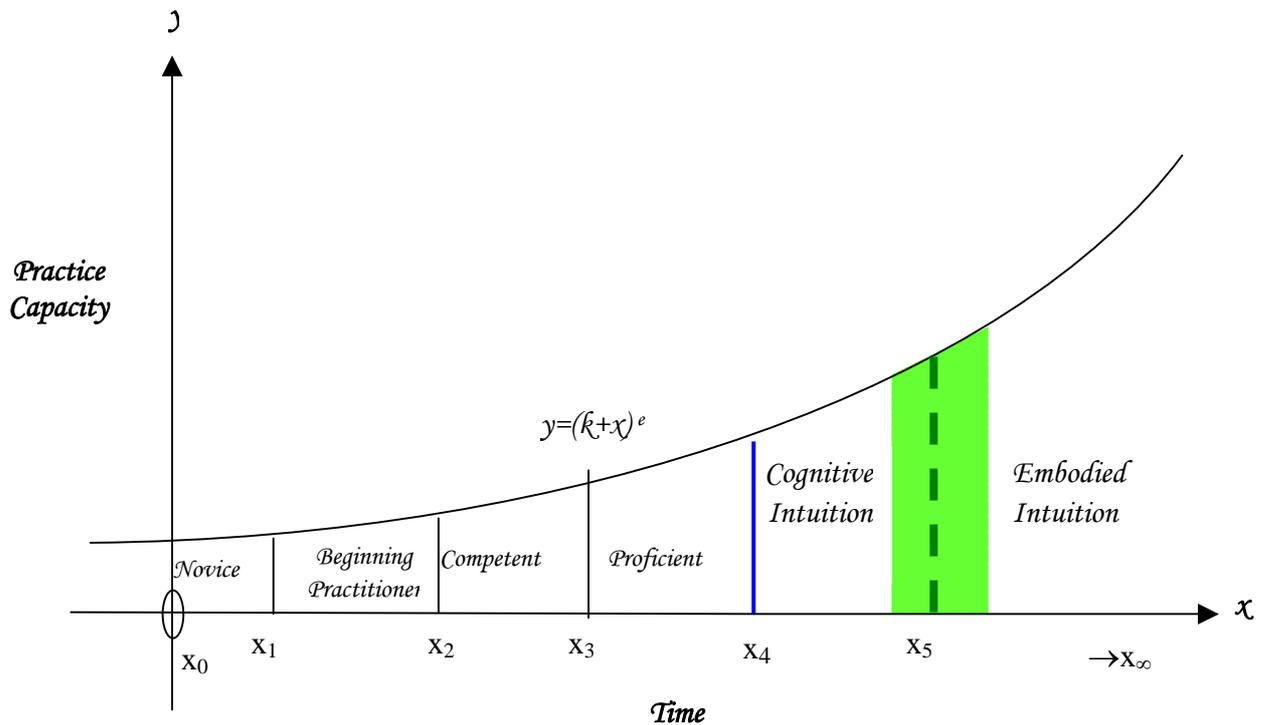


Figure 8: Practice Development Curve Explicating Expert Practice.

The transition from one stage to the next is often unremarkable especially as it has not been studied. However, in this study expert practice became further explicated by

two types of intuition, cognitive and embodied. This study has identified the components within the transitional period and the development and utility of the themes to practice. The transitional stage found within expert practice is represented by the shaded area. The beginning and end points have not been given an χ value as it is not known and is a variable within itself making it a mathematical impossibility to identify.

6.3. COGNITIVE INTUITION

Cognitive intuition is a level within expert practice that is associated with the ability to process information on both a conscious and unconscious level rapidly so that a thought appears in the consciousness without any evidence of processing. The expert's practice capacity has become so much a part of their being that they are unaware of it as much as they are unaware of basic bodily functions such as the heart beating. They are deeply involved in their environment and the expert simply experiences a situation and responds in a fluid automatic manner. However, this is able to be rationalised, explained and notated in hindsight or after the event such as the following:

Well, there's other times, it happens so often but then you can pinpoint it later they were sitting a funny way or I just didn't like the way the mother was with them, or their breathing was a little bit funny or, you know, some kids hit you in the face, and you think oh my god they're flat, they're sick.

Cognitive intuition is the ability to unpack or rationalise the decision after the event.

The immediacy of this type of intuition was expressed by another, as follows:

It's very rapid. It's immediate. It's like when you assess somebody you make a decision within a couple of seconds.

Another participant also recognised the speed and after thoughts:

All the times you'll be at the desk and someone will come up and say something or not say something and you think in your head, well this person is bleeding to death or this person is having an infarct or this person is whatever, but later you think yeah he looked off, odd, pale but at the time you don't think that you just react.

It is often a matter of drawing on the repeated experience of a certain condition that sets up a situation where the diagnosis is made before traditional thinking processes;

Oh yeah,I mean renal colic classic, isn't it? They're pale, they're walking a certain way, you know, before they even get to your desk, it's like they've got renal colic, so you're going to do blood pressure, temp, urinalysis, all that sort of stuff. But most of the time the observations back up what you thought before they opened their mouth.

The changes are very subtle and in these situations the cognitively intuitive nurse naturally and unconsciously looks for what has been seen before, the conclusions may not be the same but it does affect action. The cognitively intuitive nurse trusts what they know as noted by one participant;

I had a young intern and he was buggerising around, ahh and I was saying to him that this patient is going to arrest in a minute, this patient is going to arrest. He said, no they won't arrest, they won't arrest, so while he was mucking around I got the crash cart and got everything inside the door and I said you've got about two minutes, this patient is going to arrest, and in two minutes the patient arrested. After all the details were done and everything else umm he sort of said to me well how did you know? And it was just one of those feelings that you know and you sort of watch the patient umm watch the patients eyes and body language umm colour of course and all those sorts of things, can't tell you what's wrong with them so you have to use your brain a little bit and sort of figure it out.

The expert using cognitive intuition is so efficient that the clinical behaviour does not appear to be externally supported or the nurse cognisant of its effect. The comment made that *the observations back up what you thought before they open their mouth* is not only a common thought but it describes the nature of the experience of cognitive intuition. There would be very few detractors to this type of intuition as it involves using a part of stored memory, learning and analysis that only can be tapped when

the cognitive connections between each component is made. In itself it is explainable and acceptable within the *customary* body of scientific evidence. It is therefore purported that cognitive intuition is the area under the curve from X_4 to X_5 as knowledge and experience are now deeply embedded the movement along the curve becomes a function of reflective time (Figure 9). At the point $X = X_5$ the expert nurse moves fully into embodied intuition however there is a transition phase. The beginning of the transitional phase is indeterminable mathematically and is represented in Figure 9 as the shaded area.

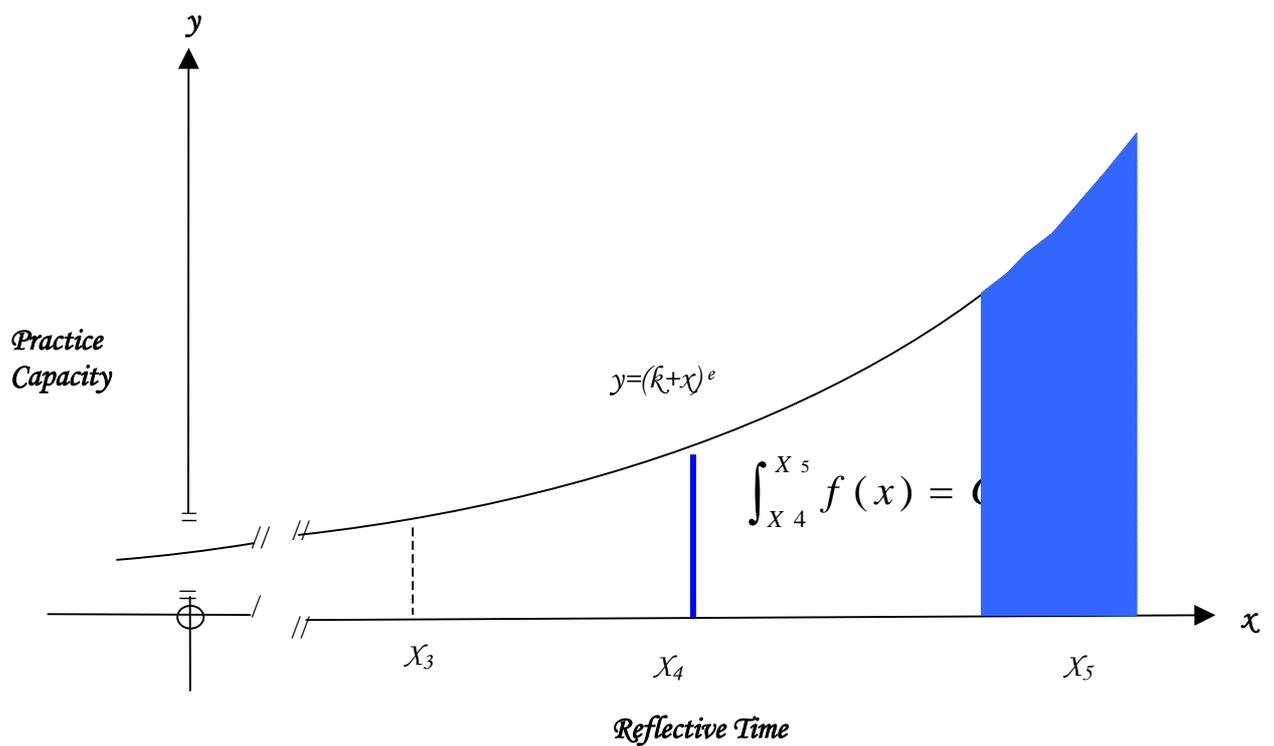


Figure 9: Cognitive Intuition⁴

⁴ // on a graph indicates that the whole graph is not represented just the section under discussion

6.4. *TRANSITIONAL INTUITION*

The transitional phase is a sequence containing four of the identified themes connecting cognitive and embodied intuition. A transition between the two main structures within expert practice is logically necessary. If the transitional phase did not exist it would then be assumed that the nurse would literally wake up one day and experience embodied intuition. This phase was developed from the premise that situation was implausible. The transitional phase is essential as it is developmental and the emergency nurse must first experience the components previously described, then understand their significance and finally, accept and utilised them in practice.

As depicted in the graphic representation of transitional intuition, the beginning and end are deliberately vague. The reason is that the cognitively intuitive nurse has connections with their patients and the actual point where trust is strong enough to embrace embodied intuition, are both unknown. It is in the reflection on practice that the transitional phase matures, however the reflection itself has also changed.

Reflective practitioners are always asking questions of themselves and their practice.

As was explained by one participant;

if we are honest you know how many mistakes we did make in the beginning but with everything you see and do you do thing differently until you reach a point where you don't think too much you just do what needs to be done. But this stuff is different. Probably not that scientific so I guess I use intuition. I don't know how to describe it, I think you use a variety of skills and different types of intuition I suppose..... It's just a nursing type thing. it is just something you do.

This participant was not talking about two types of professional intuition but rather a marriage of intuition used in every day life and her professional practice. It was a passing comment made by this participant that initiated the development of the two

types of intuition, in that she said *there are experts and then there are the experts those with that little extra pizzazz.*

This comment was not based on experience or knowledge just a vague feeling of difference. It is very similar to the feeling of instant dislike you get when you meet someone – there is no reason for it, you do not know them, inasmuch as these feeling are often validated at a later date. The question needs to be asked then answered as to what is different between cognitive and embodied intuition? One participant described the experience as confronting and in doing so unlocked the key to the difference:

No, the thought, the thought is not confronting it's the gut feeling that's confronting.

It is not the [intuitive] thought that is confronting it is the gut feeling – the physical that unique sensation that occurred before an [embodied] intuitive event. The feeling does not occur with cognitive intuition as it is exclusive to embodied intuition. The analogy of a car crash was used to further describe the physical sensation of embodied intuition:

You know that feeling you have, when something's going to happen and it's almost indescribable, it's physical, you know if you see two cars about to crash into either other, you have that physical [feeling] that gives you a feeling of discomfort.

The words used by the participants have power such as confronting and indescribable. During this transitional period intuition is often denied or fought;

I would have probably tried to fight the sensation and made him go [a participant describing her first experience of intuition] but in the end I just couldn't.

She went on to describe other feelings including the instinct of survival and consequences for the thought of potential error tends to be more prevalent in intuitive decision making:

Well, I thought it was very odd that I'd felt like that and I thought oh god I really am in trouble. But I just thought it was strange

The method of coping with this new level of practice is often done with a modicum of embodied humour, for example;

And I'd think about it from time to time but I'd talk myself out of thinking about it because it was too difficult to understand so I didn't think about it. The quick assessment is easy to talk about but the other is out there.

In this statement is a glimpse into the emergency nurse's self referent thinking that is, if it works then use it and sort out the understanding later. During the search for understanding emergency nurses turn to each other and the actions taken are sometimes questioned but rarely blocked and there is a tacit agreement for the existence of embodied intuition. A participant described such a situation;

...there was a fellow, that Asian chap, about 50 he was, we organised a shuffle back to cubicle 1 which was close to resus, and there was a bit of a fight about that, they didn't want to, I wasn't popular and he arrested in [cubicle] one I sort of wasn't surprised. I was sort of there hovering at the time and talking about it to Kate my mate when she said, he's not breathing very easily, get things moving, use the PA and get some help and I was a bit shattered as you are with any arrest but I thought, yeah well OK that's life, he died I knew he would and I've got no idea to this day but I felt it in my gut that squelching feeling. He had a post-mortem and they couldn't find a cause!

Quintessential nature of this form of expert practice is often expressed as a quandary by participants as *having no idea, a gift, confronting* or *strange* but is differentiated from cognitive intuition unconsciously:

If I think about it, it is just seeing things I don't know I am seeing that is different. I don't get the electric feeling with that but umm I am more confident with where I am going with it. Its not that I am not confident

when I get the other but I tread with a little more caution but I just know something is going to happen and I have to trust it. I don't care anymore if I get it wrong none of us are right all the time are we – it would be bloody boring if we were.

The area under the section of the practice development curve relating to expert practice, transitional intuition, includes the themes previously identified (Figure 10). The depiction of each of these themes is represented by the mathematical symbol δ meaning difference between two points on the x axis. Therefore $\delta x_1 =$ connection, $\delta x_2 =$ feeling, $\delta x_3 =$ syncretism, it is only when the final and most crucial theme, trust, δx_4 , is fully embraced does the nurse move fully and totally into embodied intuition.

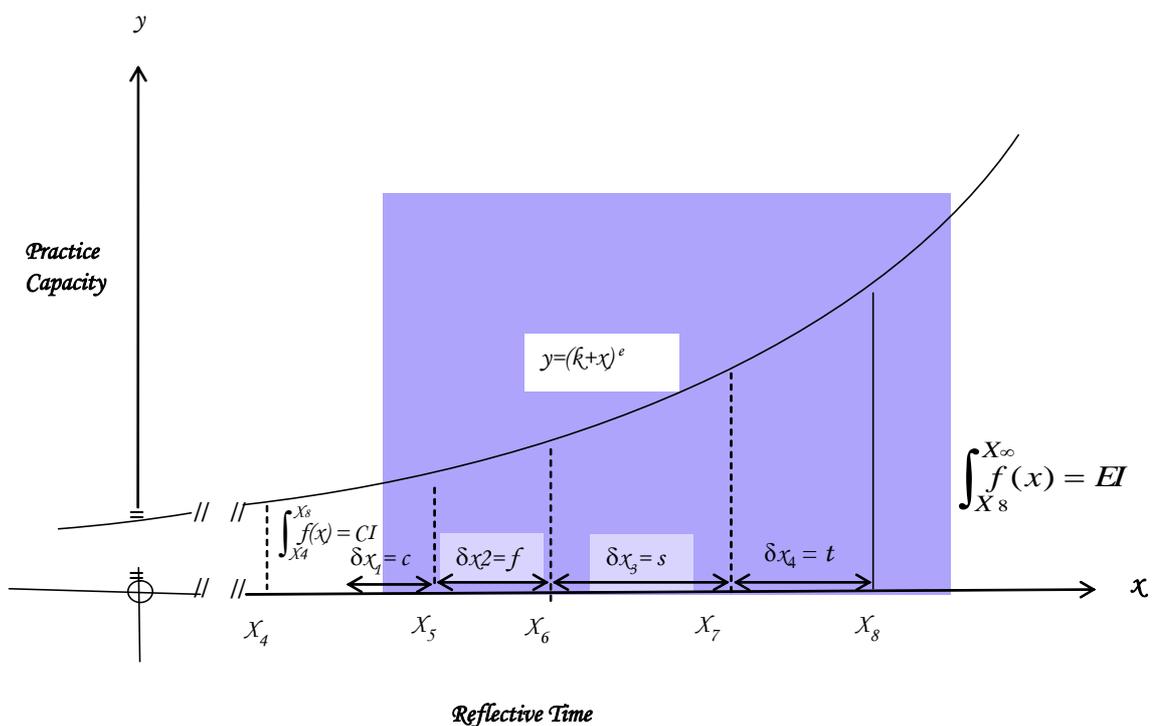


Figure 10: Transitional Intuition

6.5. EMBODIED INTUITION

It is difficult to know when the transitional stage is over and when practice incorporates embodied intuition. Embodied intuition occurs at the time when there is a complete trust in the experience of knowing. There is now thunderbolt of realisation as one participant said;

..... I mean I accept that when I get those feelings. I'm probably working at a different level of consciousness and maybe it's just the transition between that stage and the body.

An expert moves in around the area under the curve however the emergency nurse tends to find such linear movements restricting. At some point it must change and become three dimensional as the expert emergency nurse now moves within three functional axes⁵ (Figure 11). The first or y [for $y(u,v,t)=v$] axis is cognitive intuition, the z [for $z(u,v,t)=\sin(u)^* \cos(v)$] axis is embodied intuition and the x [for $x(u,v,t)=u$] axis remains time. Therefore in any given clinical situation the emergency nurse could be at a point $(x_1, y_1, 0)$, at this point in time the nurse is only using cognitive intuition. Conversely in another situation the point of care could be $(x_3, 0, z_3)$, here the nurse is only using embodied intuition. The reality is found somewhere in between these extremes for example *where* $x = x_3, y = y_1, z = z_3$ in other words using all the tools and skills at the nurse's disposal practice is now three dimensional. As Figure 11 demonstrates, practice surges into both the positive and negative areas for y and z

⁵ In a graphic three dimensional representation there are multiple point on each of the x , y and z axis. These are generically referred to as u , v and t so that the representative equation can stand alone

The shape of the graph is governed by the end values of u and v (represent the x and y point) in relation to the z axis. Therefore the equation for a three dimensional graph becomes expressed as z value.

Trigonometry gives depth and shape to the graph rather than a plane (straight surface) therefore in this representation sine [sin] and cosine [cos] values are used to give the undulating shape.

(cognitive and embodied intuition) however χ remains positive as time only moves forward.

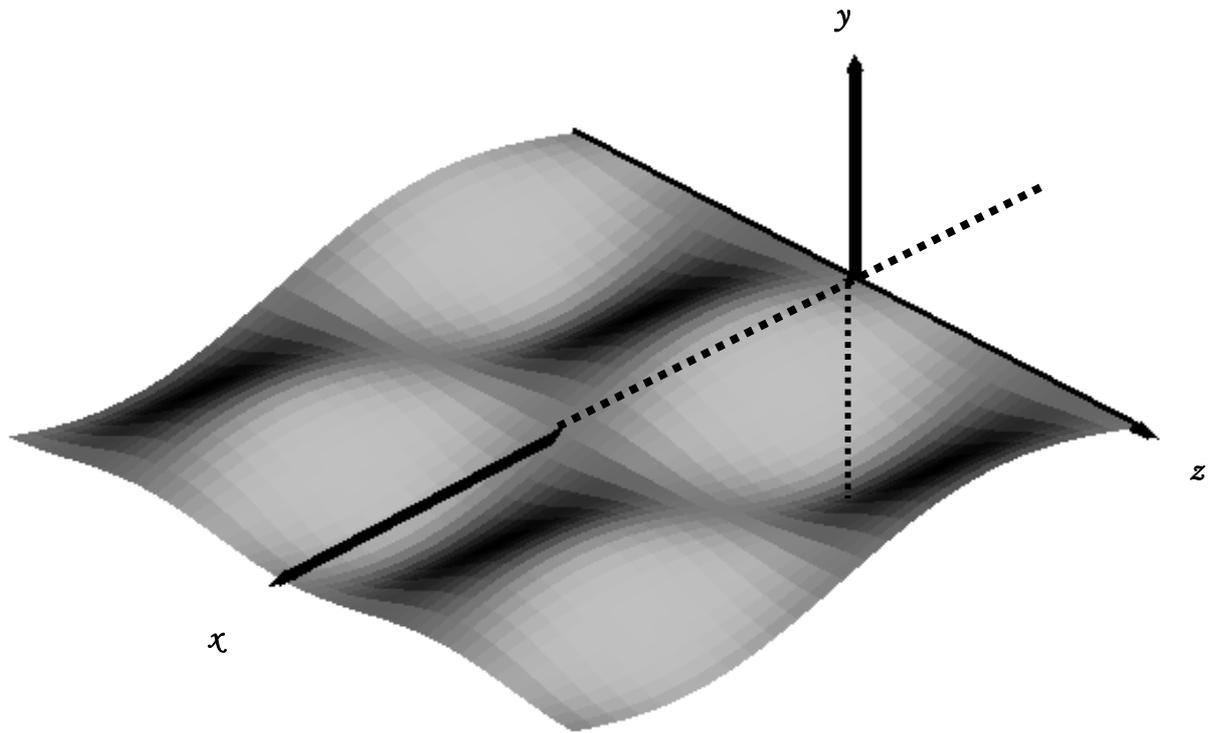


Figure 11: Embodied Intuition

Practice is no longer linear for it is complex, fluid. Emergency nurses at this stage do not stand out from the crowd in the conventional sense; they blend into the scene and are the ones that other nurses *like to work with*. When in a crisis situation working with these nurses expressions such as *we don't need to say anything we just know what each other is doing or needs* or similar were common.

A participant was describing a point in time at the beginning of her embodied practice and the beginning of the end of the transitional period. However like many unanswered questions they are always there waiting for the insight and then the acceptance. She spoke of a gift:

I'm now at the stage too that I can say I'm so grateful to have this gift. Because I see it as a gift, you know, it is not something that I misuse or umm manipulate with or anything like that, it's just an absolute gift which it's like having another tool, you know, it's like umm I suppose being a surgeon and being stuck with a rusty knife or a nice sharp scalpel. You know, it's just honing up your tools you know for me, working the way I work it allows me to umm to be of more service, I guess. Yeah that's the way I see it.

Embodied intuition is unassuming it has no superior attitude for it is a simple conviction that it allows the emergency nurse *to be of more service* using the *tools* that are available.

6.6. CONCLUSION

This chapter has described the purported relationship between the components of intuition found in transcripts. This relationship has extended the notions put forward by Benner in 1984. By using a mathematical model, Benner's fifth stage has been further developed. This development has been achieved through the mathematical representation of the phenomena as a number of equations.

The first equation $y = (k + x)^e$ describes practice development as a simple curve similar in nature to the learning curve. The definition of the two axes became critical as the notion of what it was explaining needed to clear. The participants revised knowledge and experience as pre-requisites of intuition. Traditionally, on the learning curve the x axis has been time, but on the practice capacity curve this required modification is needed to become reflective time. The y axis on the other hand was more than learning, therefore the question asked then answered was; what is the outcome of practice development? Simply the outcome is practice capacity. The conclusion to be drawn from this graph is that as the emergency nurse progresses through the stage their practice capacity grows.

Their stories elicited four significant new concepts; connection, feeling, syncretism and trust and provided further support for knowledge and experience. The participants brought the equation to a new point, the realisation as to what they had been expounding in their stories was not the line itself but the area under the curve. To calculate this area a move to integrated calculus was required. As a result each stage of practice development was able to be given its unique equation (Table 5).

The participants brought me to the point where expert practice as defined by Benner (1984) was bland. On entering the fifth and final stage the emergency nurse enters a cognitively intuitive phase (Figure 9) in which their actions were able to be deconstructed in hindsight. At some unknown point the expert nurse moves into a transitional phase (Figure 10), where the sequential nature of the components is noticed and addressed. At an unknown point when all the components were in place and trust the emergency nurse moves towards embodied intuition.

The participants talked of a continual movement around this stage therefore its linear nature became redundant. The nature of this movement is exposed in the final graph (Figure 11) when the movement around the phase was expressed as a three dimensional graph; visual depiction of practice capacity that captures its complexity and provides a structure that encompasses all phases of the expert stage.

Chapter 7. REVISITING CONCEPTS AND LINKS

*Since Tao is inside one's self
Without stepping outside one's doors
One can know what is happening in the world
Without looking out of one's windows
One can see the Tao of heaven.
The farther one pursues knowledge,
The less one knows.*

(Tao Te Ching: chapter 47)

7.1. INTRODUCTION

Loosely translated **Tao** is *the way*. Wisely, Tao recognises that knowledge does not always answer the question originally asked but brings one to the realisation that we know less as it (Tao) presents us with more questions. The foundations of this research are explicated in the decision making quandary and the existence of knowing *sic* intuitive decision-making within this structure. The resultant aim was to identify, extend and explore the nature of intuitive practice in the emergency department through the stories and experiences of skilled emergency nurses and to explore and extend the relevance of Benner's fifth stage of practice development, 'the expert practitioner'. In this chapter the concepts introduced in the literature review in light of the findings in this study and the potential for impact on practice will be explored.

The decision - making quandary still exists in that more is known however different questions now need to be answered. The journey of this study started with observing different decision making behaviour in other emergency nurses. Some emergency nurses appeared to make decisions with little or no information; these decisions anecdotally had a high level of accuracy. Although it has been well established that health care professionals use a particular decision making approach [hypo-deductive] the use of an intuitive process within this paradigm continues to be ignored (Bower,

1998; Elstein, 1976; Elstein & Bordage, 1979; Elstein, Shulman, & Sprafka, 1978; Elstein, Shulman, and Sprafka, 1990; Lawson, 1993; Lawson, Baker, DiDonato & Verdi, 1993; Lawson, McElrath, Burton, James, Doyle, Woodward, Kellerman, & Synder, 1991; May, 1991; White, Nativio, Korbart & Enberg, 1991).

A key aspect of the journey that followed took the form of the research for a Master's degree where the question of rapid decision making was not answered although the study did further confirm the use of a hypo-deductive method and its use by emergency nurses (Lyneham, 1999). The transcripts of the participants in this prior study described situations where they had no explanations for their thoughts, feelings or actions. Their words simply were *sometimes you just know* or *I felt it in the pit of my stomach*. A consequence of this was that *knowing* in a clinical sense became entwined in the decision-making process. This new knowledge resulted in more questions and one of these questions in this context was exactly what is *knowing*. The nature of this experience had not been previously explored and moving to an alternate method of research (phenomenology) provided a process which enabled the exploration of the experience of knowing.

The participants in this study have described the use of intuition in their practice. The stories and narratives provided an insight into expert practice that permitted a view not previously considered. The division of expert practice into cognitive, transitional and embodied intuition further develops Benner's (1984) notion of what is expert practice. The influence of these aspects of intuition is complex and still largely unexplored. As discussed in the previous chapter the literature in nursing and other health sciences fails to recognise what is actually happening in practice. It is a phenomenon that is experienced by expert nurses in their daily practice. The reality

of this practice will be discussed later in this chapter in the context of the public responses to the findings from study.

The findings can be divided into two main areas the six identified themes and the explication of expert practice into three distinct areas using the collective relationship of the themes. The first two themes (*knowledge and experience*) essentially explicate the first notion of expert practice or *cognitive intuition*. The remaining themes (*connection, feeling, syncretism and trust*) are sequentially lodged within the second notion of expert practice or *transitional intuition*. The final phase of the transitional period is when the practitioner completely trusts the notion they then become embodied in their practice and in their intuitive abilities (*embodied intuition*). It is proposed that the expert practitioner moves around expert practice; into and out of each phase. When periods of doubt and criticism arise the practitioner re-visits and re-evaluates the transitional period however doubt and criticism can affect the expert's ability to *trust* their knowing. Once embodied in practice there exists a freedom to utilise all the processes at the experts nurse's disposal. A consequence of this is the freedom to move around the expert stage which, as discussed in the previous chapter is three dimensional. The expert nurse will use what is appropriate at the time and freely, without conscious thought, practice within the cognitive and embodied intuitive paradigms.

7.2. DISCUSSION

Three main and three overlapping conceptual frameworks were put forward in the literature review to support this research, that is, *decision making, practice development, cognition and clinical decision making, knowledge and consciousness*. These conceptual frameworks now need to be revisited in light of the outcomes found in this study. Although this research has added new tiles to the mosaic and this

picture has now changed and matured, however, the very nature of research would dictate it is still incomplete.

7.2.1. Decision Making and Intuition

Returning to the principles of decision-making posited by Elstein, Shulman and Sprafka (1978) the question as to where does intuitive decision-making fit within the four stages of the process? The linear process purported by this model is not followed with all types of intuitive decision-making. Cognitive intuition for example may use a linear model of decision-making and the cognitive level of processing is non-conscious rather than conscious, this proposition is support by Au (1994) and McMackin and Stovic (2000). However, it is evident that embodied intuition is neither linear nor conscious.

The participants' reflections support the concepts presented by McMackin and Stovic (2000) in that their experience of cognitive intuition is rapid, immediate, automatic and identifiable in hindsight. As reflected by a participant:

Well, there [are] other times, it happens so often but then you can pinpoint it later

Another participant recognised the vagueness of the initial contact, and revealed the fact that the patient did not need to provide verbal information; the nurse is using other assessment tools that are more subjective and experiential. It is more a reaction to the situation rather than a considered response:

All the times you'll be at the desk and someone will come up and say something or not say something and you think in your head, well this person is bleeding to death or this person is having an infarct or this person is whatever, but later you think yeah he looked off, odd, pale but at the time you don't think that you just react.

The nature of decision-making using a cognitive – intuitive approach is summed up by a participant:

It's very rapid. It's immediate. It's like when you assess somebody you make a decision within a couple of seconds, without realising what is coming out of your mouth.

These and other aspects provide tentative support for Elstein and Bordage (1979) who, when studying the influence of intuition on decision-making determined that intuition was a cognitive process rather than an extra pyramidal event. It is evident that cognitive processes become a part of the intuitive process especially within cognitive intuition. The 1979 study examined this component of expert practice. However, cognition and/or cognitive process still fails to explain the embodied intuitive process. The participants stories also provide further support for the views of Shirley and Landon-Fox (1996) who believed that intuition in decision-making is utilised especially when uncertainty is high, variables are less predicible, facts are limited and little precedent exists.

Embodied intuition does not appear to follow the linear process as set out by Elstein, Shulman and Sprafka (1978) for it seems to originate somewhere in the middle of the process and move around either of the phases. In fact, participants often recognise that they are not in line with others.

I worked differently to everyone else. I did things [in practice] that were out of place but to me they seemed normal.I have been listening to my sixth sense for years.

Elstein's life long work has not deviated from the basic linear four stages of decision-making (data collection, hypothesis generation, cue interpretation and hypothesis evaluation). There is strong support for the majority of his work however, how does the expert emergency nurse fit into this process? It is argued that

sometimes we do and other times we are outside the process only using what is useful at the time. To demonstrate a brief review of the four stages is needed. The first stage (data collection) appears to have an immediate role in intuitive decision-making described by the participants. Data collection is primarily the character of assessments completed by the emergency nurse. However, in embodied intuitive decision making assessments are not bound by nursing convention. There is a change in the character of the data collection of the expert nurse when utilising their embodied intuition, data collection becomes tangential or appear to be out of place for the presenting symptoms.

The difference in data collection between the types of intuition is that when cognitive intuition is used, the assessments are bound by the convention of the presenting symptoms. Embodied intuition requires assessments that do not all meet the standards for the presenting symptoms. The standard assessments are included but there are those assessment that appear to have no relationship to or are unwarranted for the presenting symptoms. The transitional phase is where the assessments remain standard however an increasing number of tangential assessments being carried out.

Hypothesis generation is the second stage of traditional decision making. Inasmuch as the 'hypothesis' appears to exist before data collection in the cognitively intuitive, this is a misconception. The cognitively intuitive have assessed and processed the information at a higher cognitive level; it is that the first appearance of a cognitive thought is the diagnostic hypothesis. In contrast, a clinical hypothesis may or may not be a component of an embodied intuitive situation. When describing embodied intuition the participants describe a vagueness as to the cause of their experience.

The physical feeling they experience only seems to alert them to the potential situation and not direct them to a cause or hypothesis at first. This is the point where

tangential data collection becomes important as with an embodied intuitive situation. The evidence found in tangential data collection eventually leads to the clinical information that results in a hypothesis. However, the initial hypothesis could be said to be not a clinical one but a sensation of ill ease that may or may not have clinical significance.

It is from this point that the decision making process for all types of decisions follows a predictable pattern. That is, cue interpretation and hypothesis evaluation. Only Shirley and Landon-Fox (1996) supported the use of intuition in decision-making. Their view was that intuitive decision making was used when uncertainty is high, variables are less predicable, facts are limited and little precedent exists. This view was not well supported by the participants in this study as there appears to be a certainty about some of the outcomes;

.....there was this man and I just remember that he wasn't quite right and I went to the doctors and said "I want him seen" and they said "Well have you done a cardiograph yet?" and I said "No but he's just arrived and I want him seen". Well while we were doing the cardiograph he arrested.

The intuitive decision was to get urgent medical help, however as protocol had not been followed, the request was denied. If interventions were started earlier, the arrest situation may have been avoided. In this example certainty of a negative outcome was the instigator of action not uncertainty.

The development of the theme of *experience* is well supported in the decision making literature. Dene-Raj and Epstein (1994) and Bower (1998) support the simplistic view that *experience* has only one use in decision-making that is to eventually speed up the process by learning how to do skills more effectively. Experience has a more complex role in intuitive decision making as Klein (1997) believed that experience brings a contextual framework to a situation. Klein has

continued to develop contextual frameworks for decision making however he has moved more towards artificial intelligence of computers (Klein, 2003). Klein's original premise of a contextual framework complements and supports practice development. In supporting practice development there is also tentative support for cognitive intuition from both in Klein's original and his current work.

The role of *experience* is more than expediting a process or providing context.

Participants in this study acknowledge experience as a necessary bridge. Experience is all of the above plus it allows for links to theory and reflection on behaviour. This proposition is reflected in the manner in which *experience* is used more as a sense.

The expert nurse uses experience and the context in which it occurs to classify a knowledge hierarchy and to put into place a mechanism to resolve knowledge deficits. These nurses also acknowledged the limitations of experience. As one participant stated so aptly;

...it's not something experience can teach you...there are some that will never get it

There is a patent link between knowledge and experience. The decision making literature regularly assumes a knowledge base without adequate discussion of its role. This inadequacy appears to be consistent with the greater part of the literature; however the nurses in this study place a greater emphasis on a sound emergency nursing knowledge base. As an expert practitioner recognised;

[I didn't know that] this is what could be happening here [relating to a clinical situation] until I had gained a lot more knowledge.

Knowledge is part of the processes supported by cognition and becomes an important factor in practice development as put forward by Benner (1984) and Dreyfus and Dreyfus (1984). It appears that the two concepts, knowledge and experience, are

intertwined and it was difficult for participants to separate the two as they saw them as synonymous with each other. The participants were unaware of their own journey through the stages of professional development in that the journey was clearly evident in their stories and commentaries.

One participant did reflect on a component of her practice and did recognise an early caution as follows:

I was always confident in my assessment abilities I tended to be cautious early on and needed to rule out a few things.

By describing her caution and the need to rule out *a few things* this participant placed herself at the second stage of advanced beginner. Here, two themes (knowledge and experience), support the Benner's model of practice development (1984). The ability to classify participants by their stories also supports the Benner's theory.

Primarily the participants were operating at expert level and so their stories of practice contain shorthand language and implied context such as seen in the following;

it's a placid child or the laboured breathing or things, even the parents haven't picked up but you're quietly watching while you talk, a very tired child you know.

This disjointed statement demonstrates practice in context. The quotation aptly describes a behaviour that is fluid, by knowing how and what to watch for and to know what is significant, is high level practice. This skill also reflects the difficulty experienced in expressing and describing high level practice. There are no formal rules evident inasmuch as the expert nurse uses tacit knowledge. The key is not known however when the clinical link is made the expert nurse knows as one participant said, *there's always been some little trigger.*

Only one participant was not at expert level she described her practice in terms of formal processes as follows:

I look for the common features that match the presenting signs and symptoms. You know if they come in with side pain and they're male in their 40's etc you think renal colic.

However all participants believed that initially it was knowledge and experience that helped develop their practice. One participant acknowledged the change in the nature of the knowledge required:

It [the knowledge you need] changes as you change you know how an infarct presents most of the time it is now more with the odd ones why do they present the way they do – what is behind it or rather inside of it. Had a weird one the other day a bloated stomach with renal colic but for him it was normal – still haven't figured that one out.

In this situation the participant describes two levels of knowledge *need* which arose out of experience. This *need* supports the intrinsic link between the knowledge and experience. At novice practice we enter with knowledge and no formal nursing experience and as the novice moves through the stages a clinical experience can lead to seek new knowledge or knowledge that can support current practice. For example if a paper is published showing a more effective method of assessment or intervention, the expert nurse has the confidence to try it and to evaluate the effect of the new experience.

7.2.1.1. Summary

The results in this study have lent support to the claim that there is confusion in the literature concerning the characteristics of decision-making. Participant responses supported the link between knowledge and experience however there was some confusion surrounding the actual processes used. There is however, strong evidence that expert emergency nurses do use a cognitive, somewhat semi linear process when

in the first phase of expert practice (cognitive intuition). However when using embodied intuition expert emergency nurses reported they excluded the first formal stage of the process found in the psychological literature.

The issue of decision error did not appear *per se* in the narratives of the participants nonetheless they described the manner in which they *managed* an intuitive situation to reduce error.

7.2.2. Decision Error and Intuition

The issue of errors when making an intuitive decision continues to be used as a reason for discarding intuitive decision making. The use of heuristics, it is argued, result in decision error however, the participants in this study describe a process where corroboration is sought for the intuitive decision before action is taken. This outcome marks a significant difference in the previous literature based discussions of intuitive decision making. Participants in this study described a process where they believed their intuitive thoughts and took extraordinary lengths to either prove or disprove the intuitive thought. Thus, intuitive decision making as described by the participants was not high in terms of error *per se* as they searched for supportive evidence before acting.

Participants admitted to occasions when their intuition had not been correct but as they were also pursuing traditional assessments there was little or no negative consequence for the patient. However when supportive evidence was not available the participants acted in a manner that was protective of the patient. An appropriate example of this is seen within the story (p 197-8 of this thesis) of the ED regular who was kept in the department overnight. The participant, despite the lack of clinical evidence knew that she must *not send him back out on the streets*. Although the

outcome was death this patient died in a bed in a warm emergency department instead of on the street, in a nursing sense a positive outcome. There was no error in this decision.

The issue of experience as a limiting factor in decision error remains supported in the literature (Seigert, 1999) and by the participants in this study. Other issues raised within the confines of error such as anchoring and adjustment do not apply as the participants appeared to remain open to and aware of the potential of error when using intuitive decision-making. This heightened awareness in reducing error had not been tested as a component of intuitive decision making.

Decisions made by nurses in the emergency department under conditions where high levels of uncertainty exist and which could be attributed to overconfidence (Dumont, 1993; Schwartz, 1994) were not evident in this study. The participants spoke of situations where uncertainty was high and at the time intuitive decision making was neither strongly evident or absent. Interestingly participants commented they had little control over what type of decision process they used. These results further support the work by Johnson and Daumer (1993) who support the use of either heuristics (in traditional decision making) or intuitive decision making in similar circumstances.

Lipshitz and Strauss (1997) concept of using statistical methods and algorithms to reduce error was both supported and rejected by the participants. In the gaining of *knowledge* at the earliest stage of practice development where *experience* is minimal, basic strategies of coping with uncertainty such as statistical methods and algorithms provide new rules for the novice and advanced beginner. Their use is limited to that early stage of practice development however these algorithms become integrated into the themes of *knowledge* and *experience*.

There appears to be no support for Bowers, Regehr, Baalazard and Parker (1990) who argued that the research on uncertainty supports the belief that intuitive judgments are often misguided because they are over-determined by various cognitive heuristics. The use of informational heuristics during intuitive decision making was not supported. In fact, it appears that the participants in this study deliberately and cognitively did not use heuristic. Once the intuitive process had started the participants reported that it became a pedantic use of traditional albeit tangential information pathways to support their intuitive pathway.

The work of both Lipshitz (1997) and Klein (1997, 2003) in developing a naturalistic framework for decision making is strongly supported in this study. It appears that cognitive intuition uses this framework exclusively, although this will require further study. In *cognitive intuition* the expert cognitively processes information on a sub-conscious level identifying the hidden cues and the heuristics in the situation. They may be applying a known algorithm learned much earlier in their practice development. *Experience* of the variety of presentations and consequences appears to be significant as it supports the recognition-primed decision-making model put forward by Klein.

Rejecting intuitive decision making based on error remains unsupported. However the arguments persist. In Australia there are two significant proponents of this view Maria Gerdtz in Melbourne and a former colleague Margaret Fry in Sydney, who are currently examining triage decision making for their doctoral studies. Both use error and lack of supportive evidence as a reason not to use intuitive decision-making.

7.2.3. Opposing Views: Current Australian Critics of Intuition (based on error).

Fry and Burr (2001, 2002) recognised the changing nature of triage decision making. One such trend is the experience of triaging nurses; a concern was that 22% had less than 1 year emergency experience and 13% less than 4 years. Applying Benner's practice development concept, these nurses are between novice to advanced beginner level. This finding has resulted in a stance by the authors that cannot permit intuitive guidelines. Unfortunately it appears that this has also resulted in a total rejection in intuitive processes in emergency decision-making. Gerdtz and Bucknell (1999, 2000, 2001) also reject intuition as a valid component of nurses decision-making processes. In conversations/ debates at conferences and other venues with both Fry⁶ and Gerdtz⁷ their rejection of intuition in practice is founded on the error argument. Concurrent with this argument is a belief that intuition is another form of guessing and therefore cannot be supported on audit or legal grounds. This argument has never been tested or confirmed as a valid argument in the emergency department. The consequence opinion by high profile nurse researchers is to drive intuitive practice underground and not to either discuss or research the nature of this practice. However, Fry and Gerdtz support rapid processing of information and believe that this is developmental in practice. In supporting rapid processing it can be reasonably inferred that they are giving tacit support to cognitive intuition.

⁶ As a colleague of Marg Fry there were numerous occasions during this progression of my Masters degree and the early stages of this research that discussions on the foundational concepts found in both studies occurred. Comments made are based on these conversations and her published works.

⁷ I contacted Maria Gerdtz in 1999 when an article in a nursing journal identified her as a PhD candidate who had a similar area of research. Comments made are based on phone conversations and her published works.

There is no substantive evidence to support that intuitive decision making has a greater or even equivalent measure of error. Participants in this study discussed intuitive failures as those where there was no negative patient event as a result of their erroneous intuition. Participants did not discuss their actions as one that influenced their triage decisions per se but rather resulted in an action that allowed closer observation, for example, placing a patient nearer resources such as the *crash cart* [a fully equipped mobile station for use in cardiac arrest].

If participants had discarded usual practice in deference for tangential assessment their argument may have some validity. However, the participants in this study neither discarded nor ignored standard practice. In the nature of the intuitive experience as described by the participants their *syncretism*, an action that has been discussed as outside the rationale self, provides the evidence that would stand the test of an audit and the application of the reasonable nurse test legally. Gerdtz and Fry imply recklessness in their beliefs concerning intuitive practice, that is, the intuitive practitioner practices without thought.

The natural hesitations described by the participants and the existence of the transitional phase tend to significantly question Fry and Gerdtz's premise. Clearly, from this research the transitional phase of the practice development curve explicates an ordered cultivation of aptitude that enables the progression to embodied intuition. The final sub-phase of the transitional period, *trust* is by far the most complex of all themes. The expert emergency nurse by the nature of who they are and the speed at which they must practice needs to trust what they know and don't know. Therefore, when natural practice development moves them through the sub phases, the movement into embodied intuition becomes totally reliant on *trusting their feelings, connection, and syncretism* within that situation.

Embodied intuition is an uncontrolled deliberate process, this statement may at first seem at odds with itself but it is not. The initial *feeling* and the *resultant action* appear to be outside of the nurses control: the *connection* and *trust* are deliberate behaviours. Having worked with all levels of emergency nurse behaviour it is easy to understand how Fry and Gerdtz have come to their conclusions. Fry as a clinical nurse consultant and Gerdtz as a clinical educator mainly have contact with beginning emergency nurses. It has been an observation over the years in a multitude of emergency departments that new emergency nurses try to emulate the experienced staff. This behaviour is not a negative attribute however it may lead to the one behaviour fraught with dangers the emulation of intuitive practice. These new emergency nurses do not have the same level of *knowledge* and *experience* to enter into the transitional phase.

The work of Fry and Gerdtz cannot be underestimated for what it is; they have acted on a reality of the emergency situation as described at the beginning of this section and been instrumental in developing new rules for the novice emergency nurse at triage. However in doing so they have as Laughlin believed *the intuitive baby has been thrown out with the metaphysical bathwater* (1997:22).

7.2.4. Practice Development and Intuition

Benner and Benner *et.al.* (1984, 1987, 1992, 1999) do not explicate the characteristics of the first four stages other than their original description. The final stage of expert practitioner remains the most debatable. It is important to remember however that increasingly emergency departments are staffed by nurses with minimal practice – not only are they novice emergency nurses but novice general nurses. This does not allow the grace of gaining appropriate knowledge or experience and is

potentially dangerous for the patient. There is little doubt or debate as to the relevance or importance of the first two themes revealed by participants. However the remaining themes move outside of Benner's original (1984) and Benner et.al. (1987, 1992, 1999) later writings.

The participants in this study support earlier work by Miller (1995) who examined the qualities of intuitive nurses. There is further support for her findings in that Miller identified five characteristics as reported by the participants in her study. That is, willingness to act on intuition, skilled clinician, having a connections with clients, interest in the abstract and in being a risk taker. In the themes of *connection* and *trust* there exist similar characteristics embedded within these themes. Not only do intuitive nurses display these characteristics but tend to be extroverted and perceptual.

Clinical mastery was a characteristic found by Miller in the literature but not supported by her own findings. This study tends to support clinical mastery as a characteristic/ theme as the relationship of *knowledge* and *experience* as implied by the equation of practice capacity in any other words, is clinical mastery. The six conditions said to exist in the expert intuitive nurse as put forward by Benner and Tanner (1987) now appear to be weak in that they appear to describe the proficient nurse as described in Benner's original work. To review the characteristics of pattern recognition, similarity recognition, commonsense understanding, skilled know-how, sense of salience and deliberate rationality, it is noted they are still embedded in the behaviour of the expert nurse. It could be argued that these characteristics incorporate the characteristics required for reflective practice. These characteristics then underpin the strategies used by the cognitively intuitive nurse and are the precursors of entering the transitional phase.

In 1991 Rolf recognised there to be a tacit component in each stage of practice development but the strength of the tacit component may be changing as experiential learning occurs. The issue still exists where the expert nurse finds themselves coping with situations prior to a cognitive awareness of that situation. They *know* a situation exists intuitively and tacitly acknowledges its presence by *trusting* their instinct and following their internal *syncretism*.

A recent criticism of Benner by Paley (2002) is that even though her focus has recently moved away from practice development to the culture within nursing, the practice development theory was never fully articulated. He notes however that in her current writings that *she makes numerous allusions to it* [practice development theory]. Paley's original challenge in 1996 to Benner was to clarify the nature of the expert practitioner. The challenge to clarify the nature of the expert was never taken up by Benner. Paley originally demanded that expert practice be defined in such a way that the scientific community would accept the definition remains unrealistic however a clearer description of the expert nurse now exists. The issue of definition will be discussed later in the chapter. It is interesting to note that in the last five years, practice development has not been evident in the literature and in the same period Benner's work has moved to culture, ethics, philosophy and related controversies.

It is cogent at this time to revisit the criticisms of Benner put forward by academics such as Paley and English (1993) as no reply to these criticisms has been recently made (or at the time of their publication). English posed four questions:

- *How do we recognise the expert nurse in the first place,*
- *What is the relationship of internal and external criterion – do only expert nurses use intuition,*
- *What is intuition and how does it work, and*

- *How is intuition acquired?*

The first question asks how does one recognise the expert. The mantle of *expert nurse* is one that is insidious in nature in that most nurses who have reached that phase are not standing on a soap-box proclaiming their expertise. An expert nurse is one who *trusts* and is *embodied* within practice. They no longer have the need to refer to the rules of practice as they have become the rule makers of practice. They quietly float in and out of clinical situation and act tangentially to the mainstream of nurses. An expert nurse has a *connection* to practice and to their patients that has clarity as they understand the language spoken. Those at an earlier stage of their practice development easily recognise the expert nurse as they are the ones with whom they prefer to work as no matter what shape a shift takes, the expert nurse will cope.

The second question is more complex taking a step back, the questions that need to be considered are: What constitutes internal and external criteria and then *is* there a relationship between the internal and external criteria? Rolf (1991) has partially answered the last component of English's second question when he proposed and supported that there is a tacit component in all stages of practice development. The participants in this study spoke of unspoken concerns that start early on in their practice development but by reason of inexperience and the need to use the rules of practice, the concerns remain silent. This is tentative evidence of early undeveloped clinical intuition, however further investigation into this area is needed to completely answer that component of the second question.

With some latitude as English does not define internal and external criterion, the themes supported by this study can be classified similarly. Could it be argued that English did not know what the criteria were but intuitively knew that they must

exist? Using the themes from this study, *knowledge* and *experience* become external criteria and, *feeling*, *syncretism*, *connection* and *trust* are the internal criterion. In the previous chapter the relationship between the themes was explained. The external criteria form the basis of developing practice capacity as they *shape* the curve. The emergency nurse can reach the first phase of the expert phase with knowledge and experience alone if they are a reflective practitioner. However, movement to the transitional phase depends on the recognition of a physical response that is related to their unspoken concerns about a clinical or patient situation.

The relationship between the themes (criterion) is complex. Even though a relationship has been put forward in the previous chapters, it is untested as it is not the role of phenomenology to test relationships. To explicate the relationship of the criteria in light of English's question is to return to the previous chapter. The first stage of the explanation involves identifying that practice development is a generally upwardly moving curve gradually increasing practice capacity. If this explanation is accepted for the majority of emergency nurses then the equation $y = (\kappa + \chi)^e$ also becomes accepted. The external criteria provides *the shape of the line*, but the line in itself is one dimensional, therefore, by taking into account the boundaries of the line, one is moved into a two dimensional space. Practice capacity then becomes a function of the linear equation which, in its entirety has no upper limit. That is $\int f(\kappa + \chi)^e$, or the area under the practice development curve. In this two dimensional space the scope of patient capacity becomes evident. As the emergency nurse moves along the practice development curve, the greater the ability to practice emerges.

The remaining themes form the internal criteria and are found in the transitional phase. This phase does not answer English's final question as this question may be a non-sense in that intuition is not acquired, it is innate. There is support for presence

of an embryonic professional intuition from the earliest stage of practice development found embedded in the intuitively positive literature (Arvidson, 1997; Bowers, Regehr, Baalthazard & Parker, 1990; Goldberg, 1989; Johnson & Daumer, 1993; Osbeck, 1999; Rosch, 2000; Shapiro and Reiff, 1993; Shirley and Landon-Fox, 1996; Vaughan, 1979). This study did not explore this issue actively but the participants did comment on the origins of their intuitive practice. Typical of such comments;

...funny my mum always said I had away of knowing when things were going wrong. I suppose I took this into nursing but didn't really use it, it was a new situation so I suppose I thought it [intuition] didn't fit. Yeah you know thinking on it now I had it all along just didn't know I could use it [in nursing].

It is when embodied intuition is in full bloom that the emergency nurse can reflect on prior practice and recognise a portion of it to be developmental, for example;

...in as much as you allow your intuition to just develop and you accept it you can actually become more aware of the times in the past where you either did or didn't follow, yeah, even though you weren't aware of it at the time.

The third question posed by English (What is intuition and how does it work?) is like asking what is faith and how does it work. The participants each had a different way of describing their intuition. I do not believe that this study answered the definitional question. Rather this study has explained what intuition is to a group of participants. However the identification of the transitional phase begins to answer the – how does it work component.

The transitional phase begins to explicate the movement from Benner's expert nurse, those with cognitive intuition, through to embodied intuition. The transition appears to start with the recognition of the significance of the *feeling*. In the beginning of this transitional phase the unspoken concerns from previous experiences finally get a

voice when the feeling becomes overwhelming. This experience was described as an internal voice by two participants;

...[her inner voice] *became very loud, I ignored it but then it started to shout at me, then I listened.*

And a similar comment by another participant

[She describes a quiet voice] *that nags you until you do something just to shut it up.*

Both of these participants infer that they tried to ignore their inner voice. The voice is a result of the physical feeling that begins the intuitive process. Described by one of the above participants as:

The gut wrenching tells me to listen to what is there but I can't see, I think I never really thought about it.

In listening to the inner voice of concerns the next phase the transitional phase is entered. A participant describes the order in one of her stories;

... the gut feeling and then your own questioning I think, why am I doing this, does it feel right to do this or does this feel not right? And in that situation the gut feeling was there and no I don't know why I'm asking this question but I still have to pursue this issue

Each participant describes the situation differently however the order of events appears to be consistent. The tangential assessments are those that appear to be outside the range for the presenting condition and follow on from the initial feeling. This further explicates Benner's practice development. Not long after her theory became public, expert practice was tentatively outlined using six conditions for expert practice to exist (Benner & Tanner, 1987). Not all of these six features have relevance to the finding in this study.

The themes articulated in this study partially support this early work by Benner.

Pattern and similarity recognition are a function of knowledge and experience and therefore belong in cognitive intuition as is commonsense understanding and skilled

know-how. However the final two were not supported by the participants (sense of salience and deliberate rationality). As discussed in the literature review, this aspect of expert practice has never been developed or researched beyond Benner's initial work. These features do not mention the very real internal physical response or the connection with the situation / patient. It also does not explain the tangential assessments.

The final question posed by English relates to how intuition acquired. This question is based on the presumption that intuition is a learned or acquired response. Although not directly a component of this study the participants provided an insight into their beliefs upon discovering their intuition. The processes involved are complex and poorly understood. As previously referred to, a common comment of the innateness of intuition was brought into nursing and was initially rejected due to the presumption of lack of utility and then the final realisation, after some years, of its place within professional practice. Is the final realisation not acquired but an acceptance of its existence?

The ability to even describe what intuition presented some difficulty for some participants, for example, *I don't know how to describe it, I just know*. Whereas for others *it's a normal part of life*. Intuition was also describes as a link between personal and professional life and implies that her intuitive ability was nurtured by her mother. Intuition was also linked to a significant event in life such as the birth of a first baby; this participant did not understand how or why it [intuition] was just there.

If intuition is acquired why is there difficulty in defining it, as to teach a concept there needs to be a definition or description of what it is as a starting point. After a decade of personally trying to define and describe intuition perhaps that I have been

on the wrong page of inquiry. Is it possible that like faith intuition is not to be defined just accepted, and what we can know or investigate is its nature and impact? Expert practice is more than the sum of their component parts as it is a complex relationship between the themes. It is important to note that the components may not be the only themes contained within expert practice; these are the themes found within the stories provided by my participants and therefore reflect their reality.

7.2.5. Comparative Research

Research conducted by Claire Petitmengin-Peugeot (1999) remains the only comparative research as it investigated the experience of being intuitive in the general population. Petitmengin-Peugeot's study and this study supports the belief that intuitive experience should be studied *for itself*.

The definitional issues discussed by Petitmengin-Peugeot and in the literature review of this study remain. The participants in this study were asked to *define or explain* intuition and each provided a different view, some with difficulty as words failed to explicate what they had experienced. Petitmengin-Peugeot was acutely aware of the problem that phenomenological studies may be biased by definition. She, like me, started with a definitional statement rather than a traditional definition per se. Participants in this study were not provided with a definition and interestingly none asked. This action was to ensure that their experience (and stories) were not altered to *fit* a particular definition.

On the basis of this research it appears that intuition has common features found in both studies. This finding is significant as two different populations were studied a general population and a professional group. The implications of the common features are open for further investigation and provide support for the findings in

both studies. Petitmengin-Peugeot found that intuition can be classified into one of four areas, that is, concerning the state of another person, an event in the future, the behaviour to follow in a situation and the solution to a question or problem.

Professional intuition encompasses all of the above in one event. This partially explains the complexity of professional intuition. The stories provided a similar structure. The stories were concerning the state of another person, their patient. The emergency nurses were aware of impending harm or a difficulty in that admission, their tangential assessments or demanding of immediate medical attendance was the behaviour followed and, finally the solution to the original reason for the concern was identified.

Interestingly Petitmengin-Peugeot also mentions physical feeling felt by participants. It is not quite buried within her work but could be easily overlooked as it is found within her themes not as a theme per se. An instance of this is in describing her finding of perception of body and space in which she talks of a sensation of *strength and energy* [that is] *felt in the hips and legs* (1999:62). She calls this a feeling a unity. She describes two situations where her participants describe strong physical sensations, such as *it stings my hands* and *I have sensations that are his/her sensation ...in my body* and *I had a taste in my mouth* (p69). This is consistent with the similar physical responses felt by the participants in this study.

Petitmengin-Peugeot also identified a phase of connection that was strongly evident in this study. She described a phase as *defined by its object, the distance, its source, its sensorial modalities and the processes used* (1999:64). Although connection was slightly different in this study there was an acute association with a patient's *sic* impending situation that moved around the description by Petitmengin-Peugeot.

More interesting is the similarity, although differently named in the findings of Petitmengin-Peugeot's listening phase and the *syncretism* found in this study.

Petitmengin-Peugeot talks of the sensorial modalities of this phase, one of which is auditory and the participants in this study spoke of the *inner voice* to which they are compelled to listen. Such as the description of a *quiet voice that nags you until you do something just to shut it up* and a voice that *became very loud, I ignored it but then it started to shout at me, then I listened*. One of Petitmengin-Peugeot participants talked of *unconscious feelers* (p66) which is similar to the tangential assessments that my participants described. Further into this discussion, Petitmengin-Peugeot discusses internal and external attention that is an external perception or turning the connection inwards. An example is when the participants in this study found equipment in their possession that they had not consciously reached for and that was instrumental in discovering the patients real problem.

Burton (1999) also examined the intuitions of a professional group but her thesis did not examine the experience but the consequences of the intuitive experience. The themes identified by Burton of *the positive benefits of listening and following intuition* the benefits of this include better decisions, trusting the end result and that listening decreases stress. *Consequences of not following intuition* included decreased productivity and decreased creativity. The negative consequences described in this study were not the result of not following intuition but not being listened to by those who may be able to change the situation. Unlike Burton's participants emergency nurses do not possess the ability to make a medical decision. For example;

...I had this big argument with this doctor; you know I really wanted her moved [to Intensive Care]. She may have livedI was upset more because I had twigged that something was going to happen.

And in a similar situation

I just got this feeling that she needed to be in intensive care..... the night progressed she started fitting againI just knew that she was going to die if she stayed there, so we got the resident up, we got the VMO in, and I begged and pleaded for them to shift her and they wouldn't take any notice..... I went out for a cigarette and I came back and she'd arrested and died.

The positive benefits of listening to intuitions is also strongly supported in such stories as the woman with the traditional sequelae of a DVT, that is, leg pain and a history of surgery. The consequence of this participant's intuition initiated the diagnosis of a brain tumour.

Burton's participants experienced the weight of proof with their decisions. Decisions that are easily deconstructed are more likely to be given support than those that are sensed and cannot withstand analytical scrutiny. Participants in this study also felt this weight of proof. This is demonstrated in statements found in the story of the 45 year old who was kept in the emergency department despite having no clinical reason to do so and died in *comfort* not on the street. In this situation there was a burden of proof however the participant felt that the consequences of ignoring her intuition was greater than the burden of proof.

The connection between this study and the research of Petitmengin-Peugeot (1999) and Burton (1999) is surprisingly strong albeit contextually different. The strength of this connection was not evident until the writing of this section as it is usual practice in phenomenology to put aside that what we think we know and what we have read and allow the participants and their stories to emerge.

7.2.6. Intuition: A Reality of Practice

Intuition is a reality of the expert emergency nurses' practice, and it is more than a relationship between *knowledge* and *experience*. The participants clearly articulated that knowledge and experience alone are not enough. Participants in this study described both the novice:

You know they come in straight from uni thinking they know everything there is to know – they may know the A & P etc but what use is that when faced with a dart in the head.

And the more experienced nurse;

...you know the ones they just do it no fuss no mess type thing, they have such a depth about them, it is the fact that that have been at it for years, I like working with them.

Also describing those nurses who are functional but may never reach expert stage in the emergency department:

Skills fine – they just don't get it you know? And it's not something experience can teach you.

The first contact with an intuitive expert can be daunting and leave you thinking maybe for the first time about experience of knowing. A participant described her first contact:

She [the nurse] walked into a room and just said oohh that person looks like she's going to hassle me and I remember thinking, oh no, like how could she know that? And like I said no, she's fine, her vital signs are fine what are you talking about? Anyway sure enough you know, something did happen to that patient later in the day and I remember thinking I'm never going to be like that.

A different way of practicing was seen by that participant that day. She reflected on that day some years later;

[I thought] I'm never going to be like that' and it wasn't until, a good two years later, and I walked into that room and that's how I

felt, and I said oooh oooh, this man, and umm I'm going to check this guy out. We'll deal with him first.

This event was later deconstructed to be a situation of cognitive intuition in which there was no physical feeling and the participant was able to name at least three signs that alerted her to the problem at hand. At this point she had become cognitively intuitive.

This nurse just said to me, the same thing that I'd said to my preceptor that day, like how on earth do you know that? And I sat there and I thought hmmm I do know that and yes that man later on died that day. I came to the realisation like wow I was like that, like my preceptor all those years ago. And then I thought how did I reach this point? And I don't know how I reached that point and I guess it's experience, a lot of experience, it is umm just dealing and eventually you get to recognise that look, that smell about the person, when everything else is laying there all OK.

This story demonstrates how one emergency nurse came to a place of expertise slowly but surely. This pathway is a common story both from my participants and for other emergency nurses not included in this study. The support received as discussed above also authenticates intuition as a reality of practice. Not everyone's reality but a reality all the same. Many practicing emergency nurses acknowledge their *gut feeling* however nurses such as Gerdtz and Fry remain sceptical. However, as a colleague of Marg Fry I have found her to be cognitively intuitive, in that her practice is flawless and fluid, her knowledge is superior and experience vast. I have seen the reality of her practice.

Support for intuition as a reality in practice can be found in the recent works of King and Mcleod-Clark (2002) and McCutcheon and Pincombe (2001). King and Clarke (2002:327) clearly articulate that the intuitive component of decision making needs recognition. Interestingly they also acknowledge the importance of knowledge and experience however they do not enter a discussion on other elements that may be

involved. One cogent point made by the authors is that the beginnings of intuitive practice are found as early as advanced practitioner.

Further support for the themes knowledge and experience is seen in the work of McCutcheon and Pincombe (2001) where they describe a synergy between knowledge and experience which has an internal feedback system. These two studies cement the place of knowledge and experience as prevailing themes and pre-understandings for intuition as found in this study

It could be argued that as every emergency nurses will not develop to the point of embodied intuition then the concept is not valid. Benner (1984) and Dreyfus and Dreyfus (1986) also acknowledge that that not everyone will transverse all stages of practice development. The implication is that not all emergency nurses will reach the expert phase. Therefore not all emergency nurses will become expert. Nonetheless for those who do they can move through the three phases of expert practice.

The movement through all stages of the practice development curve could be related to core beliefs. This relates to a psychological theory where there is a gradual removing of belief layers until the core belief is found (Dolinski, 2000; Torrens, Thompson & Cramer, 1999). If a core belief is related to negative trust issues or beliefs that impede connection then this person is unable to complete the transitional phase of the expert stage.

The reality of practice is that no matter at what stage of practice development is reached, error will occur, both traditional and intuitive. Intuitive decision making is not foolproof but it appears to be as reliable as traditional decision making. The reality of practice is that embodied intuition exists and paying attention to the *gut feeling* and working within both the traditional and tangential boundaries is valid practice. Within the stage of expert practice three phases occur; (1) cognitive

intuition where clinical decisions are made based on rapid processing that is based on extensive reflective knowledge and experience. (2) a transitional phase where the themes become evident leading to nurses to be able to utilise their (3) embodied intuitive abilities. Without a clear pathway the emergency nurse experiences a heightened concern about a patient and searches for the problem that is not evident at the time.

7.2.7. Intuition: The Mathematical Relationship

Mathematics is an abstract concept, a visual representation of shape and form that signifies a theory or relationship. The learning curve and practice development curve have a similar appearance or the upward slope. The decision to have the practice development curve as an upward slope was a core belief that the principles of practice development are a growth of practice capacity. If practice capacity increases then the line must slope up to increase the area under the line the abstract representation of practice capacity. By acknowledging the area under the curve as the area of interest, it is then the formulas presented that represents this area. Another core belief is that learning (*sic* knowledge and experience) cannot be undone and even if minute, there is growth.

The mathematical assumption in the formula $y = (k + x)^e$ is that x is a time (or developmental) related function and relies on reflection to move in a positive direction as x changes (increases) so does y (practice capacity). Experience or e has a position of mathematical (and clinical) power. The participants in this study supported the power of experience as they reflected upon a significant growth in practice capacity based on their experiences.

The value of y (practice capacity) increases in line with k (knowledge) and more power is given to y by e (experience). There is innate logic in this assumption and there is support both from the literature and the participants that this is a true mathematical statement, consequently the mathematical theory (representation) of practice development is true. The principle of mathematical induction states that if a formula is true for x it is true for $x + 1$ in other word for all values of x

The next stage of developing the mathematical relationship was to examine the significance of the area under the curve or $\int f(k + x)^e$; moving from a one dimensional line to a two dimension area. As a function (f) of the practice development line the area becomes deeply embedded in practice capacity. The participants told of growth, of changes in the way they practice and the way they related to practice. To that end the participants formed the equation as simply as a function of the relationship between knowledge, experience and time related reflection.

It became evident that there was an order in the *appearance* of the themes for if no connection existed then all else failed to appear. Connection includes the ability to speak the patients' language as one participant said:

A good emergency nurse can talk to anyone from the child and the demented to the psychotic. When you can do this it is all downhill in the department [practices become less complicated].

Connection as a theme began a transition within the expert stage. The appearance of the other themes in the participants stories all show a consistent flow. Therefore the beginning phase of embodied intuition is blurred and a period between cognitive intuition and embodied intuition therefore must exist. This is the transitional phase, a

period where the expert emergency nurse begins to recognise the significance of the component themes within this phase.

The participants made it clear that not all their practice was practiced at the embodied intuitive level but rather a flow in and around the whole expert phase.

There is no two dimensional mathematical equation that permits such a movement.

To conceptualise embodied intuition was to acknowledge that it was more than the sum of its parts. Embodied intuition is all encompassing in that all of themes must be present so that it exists. On entering the phase of embodied intuition in expert practice the complexity of this phase is represented as a three dimensional graph.

To express this mathematically was to begin with a picture painted for me by my participants. This was not mathematically simple as the picture was undulating moving from cognitive intuition to embodied intuition with some periods where the transitional period was revisited. Therefore the final graph (Figure 11) reflected this movement. The resultant equation $[z(u,v,t)=\sin(u)^*\cos(v)]$ was not determined by its intrinsic components but rather the final shape.

In summary, there is not a significant difference between mathematics and intuition; both are abstract concepts, as with science and intuition and philosophy and intuition, each requires the other to exist. Therefore, as nursing embraces all of those disciplines it needs to also acknowledge the relationship nursing has to intuitive practice.

7.2.8. Challenges and Support

During the journey of this study there have been a number of opportunities to both present and discuss the research and its findings with a number of emergency nurses as well as other professional groups. During this time a number of challenges were

defended however there was significant support for the study and its findings. This section will discuss the challenges and responses and describe the level of support on the journey of this work.

The first challenge came at the beginning of the study when the concept of intuitive practice, based on literature was presented at a critical care conference. The chair of the session, the director of critical care raised the issue of intuitive failures. At the time I used the work of Johnson and Daumer, (1993) of stress factors, time constraints and lack of confidence as a defence. This was not entirely successful however, it did create the search for more solid arguments, hence the examination of decision error. A response to that challenge would now include the lack of evidence that intuitive decision making has an increased error than traditional decision making. There is not only support in the literature but the awareness of the participants' response to this challenge that provides a more solid argument. The participants actions are cautious as previously described and there is no evidence that one type of decision making is more erroneous than the other.

The following month a similar presentation was given to an audience of emergency nurses and the response was markedly different. They did not care for the literature as they just knew the reality of their practice. At this point and after the previous presentation there were many doubts as to the validity of the research, though doubt at that point is not a negative thing. This group provided stories of practice and shared similar experiences, and their reality of practice. It was a confirmation that this was an area in need of investigation as no support existed for the practice described by this group of nurses.

It was during the preparation for another conference presentation a year later in truly Gadamerian style a fusion of horizons occurred and the themes in their primitive

form *appeared* in my notes. It was these themes I tentatively presented at the international emergency nurses conference. By this stage the primitive relationships between the themes had also developed. However I did not intend to present this relationship but had a few slides available if questioned on the relationship.

The response to the presentation was not what I expected. The relationship was requested and as it was based in calculus I was not sure of the response it would receive. The audience was overwhelming in its support; comments such as *about time* were common. One woman's response was unusual; she stated that *I feel like dancing, about time someone had the guts to acknowledge what we know*. There was one dissenter in the crowd; an academic who said *isn't this really just guessing*. I was prepared for such a question however I never had the chance to answer. The audience answered for me and ended their comments with a challenge to her – *when were you last in practice*. At the following break I was approached by a number of nurses who not only supported and but related to the themes presented, the relationships made sense to them and provided validity to the findings. The phenomenological *nods* had begun.

Similar situations occurred in the strangest of social places, a veterinarian , a GP, a psychologist, a solicitor and a teacher. These professionals not only understood the phenomenon of interest but related strongly to the themes and the relationship. It appears that this phenomenon is widespread and remains largely ignored and acknowledgement takes place in safe surroundings; this is a concern as it is evident that this is a reality of practice in areas outside of emergency nursing.

I am still challenged; concerning the issue of error and lack of proof. The responses to these challenges now tend to silence the critics in that even though many are unchanged, there is less conviction in their argument and more in mine.

7.3. *CONCLUSION*

The experience of knowing for emergency nurses is a phase contained within the stage of expert of practice as first purported by Benner in 1984. This final stage has remained contentious as providing evidence of intuitive practice has not been forthcoming. The challenges and lack of evidence does not alter the reality of practice that there are emergency nurses who experience a knowing in their contact with patients that they act on this knowing. To open the door on this experience a phenomenological approach was used. The conclusions from this hermeneutical analysis can be divided into three main areas. First conclusion is that there are three phases existing within expert practice, second that each of these phases are a type of intuition and finally, that the components of the second phase are sequential in their appearance.

The phases found within expert practice are three forms of intuition, that is, cognitive intuition that which is basically rapid non linear processing using complex heuristics to arrive at a decision it is based in the first two themes/ components identified; knowledge and experience. The final phase is where an embodied intuition exists or one that is based on the components revealed in this study and form the sequential basis of the second phase. The second phase is transitional and the components appear in a sequence.

The first of these components is connection, the ability to move beyond the ordinary or to go beyond the walls of the department. Connection is the humanness found in the nurse patient relationship. The second is a definitive point in that it does not exist in cognitive intuition but it signals to the emergency nurse that an intuitive event has begun; feeling. This is the physical voice that compels the emergency nurses to take note and heightens awareness in regard to one person's condition. The next theme/

component was syncretistic in that it resulted in actions that appeared to be outside the rational self, tangential assessments. All the above needed to final theme/ component trust, an acceptance of the inner self to come to the full embodiment of intuition. Embodied intuition is the final result or a total and complete immersion in practice. Embodied intuition tends to explode into our Being, rich and colourful, confirming and confusing.

The strategy used to bring these themes and their relationships was a challenge however, the logic and intuitive nature of mathematics provided the answer. It is now put forward that those who challenged Benner's expert stage were hindered by only looking at the line formed by practice development when in fact it answers were to be found in the area under that line.

Chapter 8. FINAL CONCEPTS AND FUTURE LINKS

8.1. SUMMATIVE IMPRESSIONS OF INTUITION

Returning to the original intent of this study the following deliberation relates to the issue of the success or failure of this study to achieve the aims. Based on the findings in this research the following assertions can be made. The experience of knowing is for an emergency nurse an experience where they became aware of an impending clinical event before it occurs and with no understanding as to why they know. This type of practice does not appear until the nurse has been in the clinical area of a number of years; the nature of this practice develops over time. During that time the emergency nurse embraces new knowledge and experiences and converts prior knowledge and experience into practice capacity. The nurse moves from novice to expert practice and in expert practice discovers a level of clinical intuition not previously experienced.

The nature of this experience is complex as there appears to be a process of acquiring and acknowledging the features (or themes) required to practice at this level. The identification of the themes in this study uncovered new information as to the features of intuitive practice, being knowledge, experience, connection, feeling, syncretism and trust. Intrigue as to the use of the word intuitive by Patricia Benner and the Dreyfus brothers in 1984 when they described the final stage of practice development resulted in a search to determine if indeed it existed and in what form. This search required a deconstruction of the final stage of expert practice.

Throughout the development of practice capacity the first two themes, knowledge and experience are pre-requisite and central. The literature into cognition and consciousness support the development of informational pathways as well as the changes in processing speed and reliability. The progression through the stages of

practice development is ordered and sequential. The nurse's practice capacity gradually grows; new knowledge and skills are incorporated into the context of practice. This is a career long process, however, practice capacity will reach a point where there is little conscious processing and decisions are made instantly. These nurses are able to unconsciously process information based on exposure to prior clinical situations that include out of the ordinary as well as traditional presentations. On entering the first phase of expert practice the emergency nurse is not aware of the speed of their processing it just appears as a clinical decision. This is cognitive intuition for without this ability the nurse cannot move into the transitional phase in this stage. In the transitional phase the emergency nurse experiences new understandings based in their practice. They find themselves acting outside of traditional parameters. Finally they reach a point where when they are embodied in their practice, there is little or no separation between the nurse and the practice capacity. This then is embodied intuition.

This in fact was a deconstruction and reconstruction of Benner's fifth stage of practice development. Answers to the many of the challenges to this stage, especially those posed by English (1993) have begun to be answered. This study was an exploration of an experience noted to exist in practice. This experience was found to be real for all but one of the participants; however the non intuitive participant recognised intuition in others and so is progressing to that point.

This study has successfully explored the nature of intuition in emergency nursing and has uncovered six themes of expert practice. The relationship of these themes to each other reconstructed Benner's fifth stage of practice development. However, this study has not been able to offer a definitive definition of intuition and there exists a great tension as to the appropriateness of this undertaking. The original description

by Brown *the immediate sense that some proposition is true* (1999:180) does not entirely describe what intuition was to the participants in this study as they described a situations in which the proposition was not known and they appeared to concentrate on consequences. Vaughan's 1979 definition of *knowing without knowing how*, still leaves the question knowing what? The conclusion to be reached here is that there may be inherent danger in defining a concept that exists as an embodied component of practice as for each and every practitioner it will be ever so slightly different.

8.2. SIGNIFICANCE OF THIS STUDY

The study gave voice to an unspoken hidden component of emergency practice, that of intuitive decision making. Intuitive practice remains a dividing issue for many academic nurses but not for the practicing nurse. The significance of this study is threefold; it has demonstrated that intuitive practice is a common feature of the practice capacity in the expert emergency nurse, it has extended the understanding of the fifth stage of practice development by identifying the three phases contained within it and, finally, it provides direction for future research to test and confirm the validity of the themes and the relationships put forward.

8.2.1. Limitations

There can be no generalisations made from the results of this study; the methodology was not designed for this. Phenomenology is used primarily to uncover what is hidden within the experience of others and to identify themes that may latter be adapted for further study. As with all phenomenological studies the participant numbers are small and this fact may have limited the number of themes able to be identified. The limiting of participants to those who believed they experienced

intuitive practice and had at least five years of emergency practice may have limited the ability to deconstruct other stages of the practice development process.

This study only examined the experiences of one group of nurses that is those from the emergency department. If other clinical specialities were studied then greater strength to the findings may be applied.

8.3. FURTHER RESEARCH

Rather than answering questions, research traditionally leaves more questions in the mind of the researcher. Some follow on directly from the current study and others come from comments made during discussions. There are three categories of further research; associated with the consequences of the findings, associated directly with the findings and, questions that arose during the progression of this study.

8.3.1. Research as a consequence of this study.

The findings in this study partially support the work of Klein and his naturalistic model of decision-making especially in the nature of cognitive intuition. It appears that cognitive intuition uses this model exclusively but this proposition needs confirmation and further development.

The next suggestion relates to the *so what* factor At present there is only anecdotal evidence that there are positive outcomes associated with intuitive decision making. There has been no evidence that supports that intuitive decision making has any potential positive health outcomes. A study that establishes the relationship between an intuition decision and the outcome of that decision will determine if intuitive decision making is worthy of further investigation. If there is no positive health

outcome then one must question if further research only for the sake of doing so, is justified.

8.3.2. Research associated directly with the findings

A replication study in either another clinical area of nursing or other health professional group may further extend the nature of the themes and identify other themes not noted in this study. Further research into the themes put forward in this study is required to establish their validity and acceptance in the general nursing community. A study that can test the mathematical *truth* of the relationships is needed to confirm their validity and reliability.

The issue of error in intuitive decision making should also be actively pursued. There are a number of factors that can be examined separately. For example the level of error in intuitive decision making needs urgent attention to either confirm or dispel the common criticism of unacceptable high levels of error. Also the apparent heightened awareness of potential error that results in firm proof being required before action is taken also needs investigation. Finally in relation to error, a comparative measure of all types of decision making and the error associated with each type should be established.

8.3.3. Research questions that arose during this study.

The common features found in the studies by Petitmengin-Peugeot (1999) and Burton (1999) pose an interesting question of the experience of intuition between different population and cultural groups. The implication of these common findings provides a direction for further investigation.

The issue of psychological core belief system that underpins practice has not been investigated in nursing. Core beliefs have broad implications as a developmental issue in nurse education.

The factors that support and nourish an individuals progression though the practice development stages has not been investigated. These factors need to be identified and their educational implications explored.

8.4. *IMPLICATIONS FOR PRACTICE*

The implications for practice can be divided into two areas, clinical practice and education. The implications for research have already been discussed. This study does not relate to the clinical practice at the early stages of practice development it is expert practice. If intuitive practice is valid and real then it is essential that it is recognised. It should not be a component of practice which is secret like the participant who did not tell anyone of her involvement as she felt some reservations about talking openly about intuition. It is difficult to study an aspect of practice that the proponents feel unable to acknowledge therefore the true implications for practice can not be fully conceptualised until the practice is accepted. This study exposed existing practice previously either hidden or practiced without notice.

If anecdotal evidence is correct then negative consequences are being avoided in using the intuitive component of our practice. Although this type of evidence requires further investigation it should continue and at least be noted for what it is. The positive aspect of clinical practice is that positive outcomes also have been reported anecdotally. If a practice produces desired results then it should continue. Currently there is no recognition of intuitive practice in emergency nursing.

Educational implications are more difficult to articulate at this point as until the analysis of the stories and their consequences of that I believed that intuition could be taught. The literature tended to support this belief. However, the findings imply that education would have little value if its objective was to develop intuition. It is of greater significant to recognise the conditions that support practice development as suggested above. It is essential that from the pre-novice (during their university course) stage factors such as reflection, research (in its broadest sense) and clinical curiosity should be fostered. In my experience most students only want the information required to pass that subject. This approach to learning serves to compound the compartmentalising of knowledge; this is a cycle that needs to be broken. If it is not broken then the progress from novice to expert nurses will be significantly slowed as reflective practice enables the nurse to know where to direct their research and experience.

EPILOGUE

What has happened to my mosaic in the journey of this thesis? After a decade of trying to define and describe intuition so that it may be taught I realise I may have been on the wrong page of inquiry. Is it possible that like faith intuition is not to be defined just accepted and what we can know or investigate is its nature and impact? If I accept that in the beginning what I was searching for does not exist or that it should remain undefinable as because by defining it I may destroy it, then I have learned. Tao has guided me to a point of enjoying the mosaic for what it is, an intricate complex work in which I exist.

The participants have enlightened me as to the nature of intuition and the components (or tiles) that exist in their mosaic which are contained within their wonderful stories of practice. This is the true learning gained in this thesis, that intuitive practice exists and I now know in more detail some of its secrets. This journey has confirmed for me the validity of my practice, that I can and will move around expert practice, there are times where I will be cognitively intuitive and other times where my embodied intuition will be evident. It does not matter.

What does matter however is there are emergency nurses who cannot differentiate between truly intuitive practice and practice that is based on guessing and hunches. These are not expert nurses. These are nurses at earlier stages trying to emulate the expert. How can I guide these nurses (not to teach them) to be intuitive? I need to create an environment that acknowledges openly that intuition is a reality of practice and one that allows them the freedom to explore and reflect on their practice and by doing so they are slowly but surely moving towards expert practice.

Where have I placed that tile which fell out of the box that night? I have placed it somewhere in the bottom right hand corner of my mosaic. It has become a cornerstone of my practice, a sure and safe support from which I build a picture which is visible not only from my place within the mosaic but for all to see. I no longer look from outside onto the mosaic but have become part of it. I am now building my mosaic from the inside, a far more contented place, even though I now have many more questions than at the start of this journey.

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APPENDIX I TEXT OF ADVERTISEMENT

Text used in

“The Lamp”

“The Australian Journal of Emergency Nursing”

“The Australian Journal of Nursing”

Attention all emergency nurses here is your chance to be involved in an exciting study

There has been, and continues to be controversy as to the existence, relevance and importance in professional practice of *intuitive knowing*. I am looking for nurses who are willing to take part in a study which aims to identify, extend and define the nature of intuitive practice in the emergency department.

If you are an emergency nurse who meets the criteria for Clinical Nurse Specialist or have at least 5 years experience and have experienced a situation where you had intuitive feeling or thoughts about a patient, whether you acted upon them or not? Could you spare about an hour of your time to be interviewed? If you think you can please contact:

Joy Lyneham on **0417 487 505**.

APPENDIX II – INFORMATION SHEET



UNIVERSITY OF TASMANIA

Information Sheet

Thank you for your telephone call. Please read the following information carefully, if you would like to be interviewed for this study could you please sign the consent form and return to me with your contact numbers. You can keep this information sheet and a copy of your signed consent will be given to you at the time of the interview.

Title of investigation

The Experience of Knowing: A Hermeneutic Study of Intuitive Emergency Nursing Practice.

Name of chief investigator

Joy Lyneham RN., B.App.Sci., GradCert. EN., GradDip CP., M.H.Sci., F.R.C.N.A. will conduct the study under the supervision of Dr C. Parkinson and A/Prof. C. Denholm from the University of Tasmania

Purpose of the study

To investigate the nature of intuition in the professional practice of emergency nurses

The study aims to:

- uncover the nature of intuitive emergency nursing practice
- explore the relationship between experience and intuition
- identify the themes that may intrinsically exist in intuitive practice

Criteria for inclusion or exclusion

Emergency nurses who meet the Nurses' Registration Board's competencies for *Clinical Nurse Specialist* and have at least 5 years experience are suitable participants.

Study procedures

As a participant you will be asked to relate stories where you believed intuition played some part of your work as an emergency nurse, even if you did not act on it at the time. The interview will follow an unseen schedule which has been approved by the ethics committee of the University of Tasmania. The interview will take approximately 45 – 60 minutes. The tape will be tape recorded and then transcribed for analysis. At this stage all identifying information will be removed from the transcript.

The interviews will take place where it is convenient for you. You will not receive any remuneration for your participation and I do not foresee and risks or discomforts for you.

Confidentiality

Your interview and other professional information will be used in the final report but all identifying information will be destroyed after the tapes are transcribed. If you wish to view the final report your name and contact address will be kept on a file not associated with the study.

Freedom to refuse or withdraw

Participants who decide to take part in the study can withdraw at any time without prejudice.

Contact persons

The contact people for this study are:

Joy Lyneham, 02 63322802 or jlyneham@hotmail.com (Ph.D. candidate)

Dr C. Parkinson 03 6226 4895 or camillus.parkinson@utas.edu.au (Supervisor)

A/Prof C. Denholm 03 6226 2553 or carey.denholm@utas.edu.au (Co supervisor)

Concerns or complaints

This project has received ethical approval from the University Ethics Committee (Human Experimentation). If you have any concerns of an ethical nature or complaints about the manner in which the project is conducted, they may contact the Chair or Executive Officer of the University Ethics Committee (Human Experimentation). (In 1999 the Chair is Dr Margaret Otlowski, phone (03) 62 267569 and the Executive Officer is Ms Chris Hooper, phone (03) 62 262763.)

APPENDIX III - CONSENT FORM

Consent Form



UNIVERSITY OF TASMANIA

The Experience of Knowing: A Hermeneutic Study of Intuitive Emergency Nursing Practice.

I attested to the following , that :

I have read and understood the 'Information Sheet' for this study.

The nature and possible effects of the study have been explained to me.

I understand that all research data will be treated as confidential.

Any questions that I have asked have been answered to my satisfaction.

I agree to participate in this investigation and understand that I may withdraw at any time without prejudice.

I agree that research data gathered for the study may be published provided that I cannot be identified as a subject.

Name of subject

Signature of subject

Date

6. I have explained this project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

Signature of investigator

Joy Lyneham

Date.....

APPENDIX IV – INTERVIEW SCHEDULE

Thank you for participating in this study, I would like to remind you that I am recording the interview and that any identifying information will not be kept on the tapes or the transcripts of the tapes.

I would like to find out about you.

- how long have you been an emergency nurse
- what qualifications do you have
- are you a CNS
- (if not) do you meet the criteria set down by the NRB

Main focus

- Tell me about your nursing experiences in the ED
- Can you describe a situation where you experienced an intuitive moment
- What stands out in your mind in this incident
- What were you feeling
- What do you think your feeling was based on
- Why did you / didn't you act on your feelings

It depends on the nature of the response as to the remaining direction of the interview.

For example: If a participant's story appears to have elements of experiential intuition a follow on question/ prompt may include

Tell me more about this patient, what did he look like

What did this feel like

APPENDIX V – CONFERENCE PRESENTATIONS AND PUBLICATIONS OF THIS THESIS.

LYNEHAM, J. I. (1999). The process of decision-making by emergency nurses
Australian Journal of Advanced Nursing, 16(2):7-14.

LYNEHAM, J. I. (2000). The Experience of Knowing Refereed Conference
Proceedings AAEN: *International Emergency Nurses Conference*. Melbourne

Date	Title/ Conference
12 July 1999	<i>Australian Critical Care Association The Experience Of Knowing.</i>
8 August 1999	<i>Tasmanian Emergency Nurses Association Conference The Experience Of Knowing.</i>
7 October 2000	<i>Australian Critical Care Association INVITED SPEAKER The Experience Of Knowing.</i>
5 November 2000	<i>3rd International Emergency Conference. The Experience Of Knowing.</i>
14 May 2002	<i>INVITED SPEAKER Emergency Nurses and Mental Illness Conference. The Role of Intuition in Clinical Decision-making.</i>