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A Thesis Submitted in Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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Abstract

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Studies have shown that mental imagery is necessary for proper mental functioning. This dissertation critically analyses the history and perceived significance of mental imagery as a psychotherapeutic tool in counselling in both the United States and Great Britain. The different routes the two countries have taken in phenomenological and behavioural schools of psychology are also examined. Teachers of counselling in the United States and Great Britain are then surveyed in order to compare the perceived significance mental imagery has as a therapeutic tool in each country. There is no other research to date which has worked with this data.

The results suggest that due to the emphasis on behaviour therapy in the United States, although mental imagery is utilized in other historically significant psychological therapies, it is only referred to in the United States with reference to behavioural approaches. The most notable

approach being "systematic desensitization". Because of this, the perceived significance of mental imagery as a psychotherapeutic tool is high among American counselling professionals only when linked to behavior therapy. Consequently, the perceived significance of mental imagery as a psychotherapeutic tool is lower when considering any other therapies outside of behaviourism. The results further suggest that counselling professionals in Great Britain have a higher perceived significance of mental imagery as a psychotherapeutic tool. A reason for this may be because most counsellors in Great Britain are trained at institutes which often focus on particular theories rather than all of the historically significant ones. Further, Great Britain psychologists never rebuked the concept of mental imagery as psychologists did in America at the advent of behaviourism and "scientific thought" during the World Wars. Moreover, behaviourism, which initially rejected mental imagery, was not as widely appreciated in Great Britain during that time. Therefore, the mental image was still accepted as credible in the British psychological community.

The outcome of the survey suggests that in America the growth of mental imagery as a psychotherapeutic tool is inhibited by the lack of references to mental imagery usage within historically significant therapies. If the study of these therapies among American counselling students is to continue, a systematic examination on mental imagery usage could heighten the perceived significance among American

practitioners. This, in turn, could pave the way for the emergence of more imagery methods in American psychological counselling.

CONTENTS

Section I

SECTION II

SECTION III

Section I

Introduction

> To dismiss the most central fact of man's being because it is inner and subjective is to make the hugest subjective falsification possible - one that leaves out the really critical half of man's nature. For without that underlying subjective flux, as experienced in floating imagery, dreams, bodily impulses, formative ideas, projections, and symbols, the world that is open to human experience can be neither described nor rationally understood. When our age learns that lesson, it will have made the first move toward redeeming for human use the mechanised and electrified wasteland that is now being bulldozed, at man's expense and to his permanent loss, for the benefit of the Megamachine. (Mumford 1967 pp 75-6) .

This quote from Mumford's, The Myth of the Machine, affects our contemporary obsession with technology and exact quantification whilst withdrawing from consideration the significance of subjective operations in the mind. Mumford's thinking represented in this quote takes me back to when I was working as a counsellor in a crisis intervention centre in Roanoke, Virginia several years ago. During that time, there was a counsellor who was the most successful with the clients at the centre. His success was measured, in part, by his having the lowest rate of client recidivism among the counsellors at that centre. One day in the staff lounge, whilst the successful counsellor was not present, the other

counsellors began to discuss his achievements. "It's because he's so popular," said one counsellor. Another piped in, "Any therapy will succeed if you're popular; especially if it's fun like that 'guided daydream' and imagery crap!" A third counsellor replied, "If he's so popular, why don't any of his clients come back to the centre for more therapy? Surely his success isn't due to his popularity alone." The first counsellor responded, "Dunno. I just never learned about that type of therapy at my university."

At that point, I decided that the successful counsellor had found a method that worked with the patients. I wanted to discuss this untraditional type of therapy with the disputed counsellor himself. However, because of his worthiness and effectiveness, he was so busy. I never got the opportunity to learn from him why his methods were so successful.

If I were a dentist or a surgeon I would want to have the exact equipment, the adequate instruments to discover and treat a condition or problem. Some ailments are cured with treatment, others with surgery. If a health condition does not respond to one treatment, another is selected. Some patients do not respond to a treatment; a treatment which is a complete cure for another patient. It is the same with counselling. I wanted a "full bag of tools" for my trade.

Having received a two year postgraduate degree in counselling and psychotherapy from an American university, I wondered why there was so little emphasis on mental imaging as

a psychotherapeutic tool outside of traditional therapies such as psychoanalysis, gestalt therapy, and behavioural therapy. Mental imagery as a single approach in psychotherapy was not offered on its own in university instruction. Notwithstanding, the counsellor in the crisis intervention centre who used imagery approaches was known to be the most successful. Is it that mental imagery was dismissed in counsellor training because it was not adequately researched? Were its champions not influential enough?

One of its foremost American champions, Joseph Wolpe, a behavioural therapist, comes to my memory. Whilst studying the history and methods of behavioural therapy during my postgraduate degree, other students and I learned Joseph Wolpe's "systematic desensitisation" which was used for the treatment of anxiety disorders. I learned Wolpe's systematic desensitisation to be an approach which involved the learning of new responses to the feared or addictive stimulus. The new response was to be incompatible with the old response by intention so that once it had been learned the anxiety or addiction was extinguished. A hierarchical list of feared or addictive stimuli would be drawn up by the counsellor. The counsellor would initiate the training process with the least frightening or least addictive situation. At the beginning of a patient's treatment, this hierarchy was often composed of situations in which the patient was required to imagine these anxiety or addiction prone situations and develop a new response to them before travelling farther up the hierarchy.

Because the learning would happen gradually, with each stage building on the gains of the previous one, the new reaction bit-by-bit would come to replace the old one and the fear or addiction would subside or die out.

Other theories involving mental imagery were touched upon within historically important schools of psychology. However, systematic desensitisation was the only prevailing mental imagery method discussed in my graduate program in the United States. Its effectiveness was underscored as being standard for anxiety or addiction disorders.

Because other imagery techniques outside of historically important schools of psychology had not been addressed, and because the counsellor at the crisis intervention centre was seemingly so successful using different imagery techniques, I decided to do some research on my own regarding the success of the imagery based approaches he was known to utilise. Not only was I interested in discovering clinical evidence regarding the existence of mental imagery and possible reasons for its efficacy in therapy, but I also wanted to unearth why trained American counsellors and psychotherapists were not more acquainted with a method that seemed to have the potential to be so effective.

The aim of this dissertation is: to critically analyse the history and perceived significance of mental imagery as a psychotherapeutic tool in counselling, to examine

the different routes America and Great Britain have taken in phenomenological and behavioural schools of psychology, and to survey the perceived significance among teachers of counselling that mental imagery has as a therapeutic tool in Great Britain and America.

In an exhaustive and thorough review of the literature, no one else has studied this. It is my belief that this gap is a significant omission, for the failure to understand the reasons for the different applications of this useful therapy denies us today the capacity to see the full benefit of mental imagery in counselling psychology.

Pursuant to this goal, I have reviewed all the available literature on the preparation of counselling psychologists in both America and Great Britain, a type of study never done before. In addition, I conducted an email survey of counselling educators in both countries to determine how they use mental imagery as a psychotherapeutic tool in their training. It is clear from this survey work that no other researcher has contacted these people for parallel information. Further, gathering data through email is new to social research. A pattern of evidence is clear from the literature and a statistical analysis of the survey responses, and it suggests why there are such differences in the use of mental imagery as a therapeutic tool in counselling psychology.

I will first offer a critical analysis of the concept "mental imagery" as a psychotherapeutic tool using an

extensive literary review. I will begin by presenting literature which exhibits the initial fascination with clinical evidence of mental imagery among the psychological community. My first referral will be to Donald Hebb who wrote The Organization of Behavior in 1949.

Hebb theorised that perceptual stimulation was essential to our brain's efficiency. This led to research regarding the brain's efficiency when deprived of proper stimulation (sensory deprivation). It was found that when the brain was deprived of external sensory stimuli, the brain would produce its own stimulation in the form of hallucinations. As I mentioned, this will be dealt with later in the chapter, however, what can be said now is that not only was mental imagery accepted as being a real phenomenon in psychological literature, but it began to be seen as a necessary process for proper mental functioning due to Hebb's, The Organization of Behavior.

Another influence I will refer to as an emphasis for the clinical interest among psychologists in researching mental imagery, following Hebb's book, is dream and sleep research. Similar to sensory deprivation, it was found by researchers in experiments that whilst subjects were sleeping, thus experiencing a lack of external stimulation, mental images in the forms of dreams were present. Comparable to this could be the awake prisoner in the isolation cell experiencing hallucinations due to the lack of external sensory stimulation. I will present this as evidence to show

that mental imagery is essential when we are receiving no sensory stimulation from the outside, hence being essential to proper mental functioning. Studies by Krippke and Sonnenschein (1973) who researched dream and sleep experiences will be referred to later in the section.

Following the studies and literature which suggest that mental imagery exists and is a necessary process for proper mental functioning, I will proceed to give a definition of mental imagery as it has evolved following the research influenced by Hebb and dream research. Objective evidence involving clinical research will be presented in order to maintain that mental imagery is different from thoughts made up of words and sentences. How mental imagery relates to our stream of consciousness will be sustained and how, for this reason, it can be useful in psychotherapy.

Regarding mental imagery as a vehicle for information retrieval, scientific evidence concerning mental imagery with reference to learning, memory, and language will be introduced. An example of such evidence is Bower's (1970) study which shows that subjects can learn word pairs more efficiently if they make the words into interacting mental images. Furthermore, testing of the theory that mental imagery is a mental photograph will be presented which suggests that mental images are not stored as photographs alone, but have more associations connected to them regarding information. This will lead into Pylyshyn's (1973) "propositional network theory" where he asserts that mental

imagery is a proponent of an underlying code that is more complicated than verbal and visual representation. This is presented because I find it essential to establish that mental images are more than simply photographs in our mind which can be fragmented and meaningless. Rather, mental images are put together in meaningful, organised ways, and they fade in meaningful, organised ways. Thus, although mental images may depict how physical objects look, there is more to an image than just its pictorial characteristics. Establishing this distinction of mental images and presenting evidence which suggests that mental images can influence our mood and behaviour will be valuable in validating mental imagery techniques in psychotherapy.

Following the research which suggests that mental imagery is more than a mental snapshot, experiments are addressed which suggest that mental imagery is a credible representation of spatial information. That is, the time it takes to scan between mental images varies in a linear fashion with the distance between them, just as it would with real objects. It would take longer to scan mental images the further apart they were, just as it would when trying to scan actual spatial information (objects in real life).

The significance of presenting evidence that supports that mental images are dependable representations of reality further shows the potential that mental imagery can have in psychotherapy. For example, a stressed client in a

psychotherapy session could benefit from imagining a relaxing situation. Other findings regarding mental imagery's similarity to perception make its use in psychotherapy more clear.

For instance, mental images may be credible representations of perceptual, spatial experiences, but do they share other qualities of perception? Experiments are presented which suggest that not only are mental images credible representations of actual spatial information, but the manipulation of imaged objects and real objects share the same characteristics. For example, it is shown that when an object is rotated in the mind, it shares the same characteristics as if it is rotated in real life. This leads into mental comparison studies where the "symbolic distance effect" is discovered. The symbolic distance effect shows that the smaller the disparity in size between two imaged objects, the longer it takes for subjects to determine which is the larger of the two. To illustrate, it would take longer to determine if an imaged tangerine was bigger than an imaged plum than if an imaged tangerine was bigger than an imaged raspberry. The relationship between the two imaged objects being compared would be the same as the relationship between two real objects being compared.

Paivio's (1976) studies are then cited where he notices the symbolic distance effect when subjects are asked to decide which of two named objects was most round or angular. Paivio asserts that we process information through a

verbal and imagery code. He terms this theory as the "dual coding" theory, where he asserts that although the imagery and verbal systems are independent from each other, they are connected in terms of representing knowledge. For instance, Paivio discovers that comparisons of objects are faster with pictures than with named objects (words), which suggests that it takes more time for the subjects to switch from the verbal to the imagery modes when judging the size of objects from the words naming them. Therefore, it is maintained that mental imagery is responsible for the symbolic distance effect even when comparing words naming objects, because the labels of the objects are converted into mental images in order to compare them with each other.

This being said, if different objects are put into groups with labels, such as a "big" group and a "small" group, when comparing objects from each group it is understood which items are the small items and which are the big items. This is because of the words describing the groups. Mental imagery is not needed when labels are present. Such an example is presented in a study by Kosslyn, Murphy, Bemesderfer, and Feinstein (1977) regarding the comparison of objects placed in labelled groups. The findings suggest that mental imagery is not necessary in comparisons when labels exist.

The reason why mental imagery is used by the brain when comparing objects is because the comparison has not been explicitly made before. The *implicit encoding* principal

maintains that information obtained through mental imagery is accessible in the memory although it has not been deliberately remembered. Mental imagery is implicitly encoded whilst labels of objects, ideas, etc. are explicitly encoded. Having a separate imagery code from the verbal code, as Paivio suggested in his dual coding theory, would make it possible to recall information about physical objects that was not encoded using verbal coding (labelling). With this in mind, recognising that we have two different coding systems could aid in a psychotherapy session by the therapist acknowledging that verbally based sequential and stereotyped self-defeating thought patterns could be bypassed by introducing the distressing information in the other mode. Also, mental imagery would be beneficial in uncovering a client's past because it has been shown that pictures are better recalled over time, an effect known as "hypermnesia", whereas words tend to be forgotten (Payne 1986).

In order to inquire into Paivio's dual coding theory, selective interference studies are presented which query the modes being used for information processing by entailing a task which interferes with information being processed by one of the coding systems. It is found that the two coding systems work independently from each other when working through tasks. It is also found that perceptual tasks can interfere with mental imagery. It is then questioned if mental imagery can interfere with a perceptual task. The

"Perky phenomenon" shows that subjects report mental imagery only in the areas that are not processing perceptual signals. Simply put, if someone was listening to a washing machine, that person would be less likely to imagine listening to a washing machine. However, listening to the washing machine would not interfere with his/her ability to visually imagine even though it would interfere with his/her ability to imagine auditorily. Because of this result, it is suggested that mental imagery uses the same pathways to the brain as perception because mental imagery is only reported in the areas that are not processing signals.

Maintaining that mental imagery and perception use the same pathways to the brain, research is reviewed regarding the physical components of mental imagery as compared to the physical components of perceptions. Neuropsychological data is presented which supports that mental imagery uses similar mechanisms to perception. For example, visual neglect produced by brain damage is duplicated in similar neglect of visual images. Acknowledging that mental imagery is similar to perception regarding its effect on the brain, is valuable when considering how it can be instrumental in healing. This premise suggests that if illness influences mental imagery, mental imagery can influence illness.

The area of the brain which is associated with imagery is introduced by a reference to Ley (1979) as he addresses mental imagery, memory, and hemispheres of the

brain. Having established that mental imagery is a mode leading into stored associations, as was discussed in the above sections when referring to Pylyshyn's "propositional network theory", it will be asserted that gaining access to these memories and sensations can be made easier through imagistic means since mental imagery is capable of interacting with different information structures in the memory. This will be supported by referring to Ley (1979) who suggests that images are stored and governed by the right side of the brain (images, emotions) where childhood experiences, according to Ley, are stored before the full development of the left brain (verbal, logic). As maintained by Ley (1979) and previously by Tomkins (1970) childhood experiences are stored in images in the right side of the brain. In order to justify why unlocking these childhood memories through therapeutic imagery can be helpful in psychotherapy, it will be asserted that these memories are influential to human's mood and behaviour. I will approach this notion by first supporting the premise that the two hemispheres of the brain influence behaviour differently and that each half has different functions. One houses those functions pertaining to imagery.

Regarding the different hemispheres of the brain, Marc Dax, the discoverer of brain laterality, will be referred to as well as Paul Broca who was credited properly with discovering the hemisphere differences of the brain. Studies regarding split-brain patients will be addressed showing that when the corpus callosum (the band of neural fibers which

connect the two hemispheres together) is severed, there is evidence of the separated hemispheres in cognitive activities such as learning and memory. More recent studies are then overviewed as further evidence for brain hemisphere specification. I then refer to Gardner(1983) who maintains that imagery is visual-spatial synthesis as Pylyshyn (1973) suggested in the preceding section.

The literature review gives the history of the evidence towards the assertion that the hemispheres of the brain have different functions. Imagery, laterality (brain hemispheres having different functions), and emotion is then addressed to show pertinence to psychotherapy.

Clarification of Terms

Before proceeding, I think it is essential that I make clear the terminology regarding "imagery" throughout this dissertation. There has been controversy concerning the use of the term "imagination" and its cognates as polysemous terms (Strawson 1971). Annis Flew (1953), who wrote the first clear public paper on categories of "imagine", distinguished three specific elements: "have a mental picture", "think (perhaps mistakenly)", and "suppose". These, or slight mutations of them, along with "pretend" (Ryle 1949) have endured as well-liked appointed meanings. From this, it may be said that mental imagery is seen as a part of imagination.

In everyday English, "to imagine" means to have or form imagery in one way or another. The Oxford English

Dictionary gives this definition as the first and oldest interpretation of "imagine". With this in mind, if someone were to say, "I am imagining my house", it could mean little else than s/he was involved in a reverie of imagery of that place. Regarding this manipulation of "imagine", White (1990) maintained that, "From the earliest to the latest times philosophers, psychologists and ordinary folk have linked imagination to imagery and images (86)." Since I will be overviewing the history of imagery in a section of this dissertation, and in order to make this terminology less complex to the reader, I will regard imagery and images as divisions of imagination.

Before we delve into these previously unresearched objectives, it would be of benefit to ascertain if mental imagery as a phenomenon actually exists or if it is just an ideology. Before we develop a foundation on which to do research, it is essential to establish the reality of the element covered in the research.

The other counsellors at the centre where I interned while in my initial post graduate program may have exhibited a variation of professional jealousy with their unflattering reflections offered casually on their colleague who used mental imagery with his patients in his practice. Nonetheless, their comments did represent either a disrespect for mental imagery as a psychotherapeutic tool or an ignorance of the effectiveness and/or efficaciousness that can be gained

through the measured use of mental imagery as a psychotherapeutic tool in counselling interactions. Assuming that the opinions of the counsellors were charitable, their attitudes could have revealed the sparseness of focus upon mental imagery as a psychotherapeutic tool in the academic teaching of counsellors. This initial introduction has demonstrated that mental imagery exists and that it has been acknowledged as a valuable approach to understanding the function of the mind by many researches. The balance of this first section will be to establish the existence of mental imagery through the aforementioned literary review.

Chapter 1

A Critical Analysis of the Existence and Concept of "Mental Imagery"

A critical analysis of the existence of "mental imagery"

Before we delve into these previously unresearched objectives, it would be of benefit to ascertain if mental imagery as a phenomenon actually exists or if it is just an ideology. In order to develop a foundation on which to do research, it is essential to establish that reality of the element covered in the research.

The procedures of counselling or behaviour modification must be based on a reasonably concrete foundation of scientific research and theory. Without this firm footing in scientific research, there is a risk of increasing trendiness and denomination splitting which would leave mental health practice more extensively open to the claim of quackery (Horowitz 1970). If we are to take counselling psychology as an upstanding portrayal of behaviour science, we must realise that there is an acceptance of psychotherapy techniques among the people only so far as these techniques are supported by clinical evidence (Goldstein 1939). Therefore, in order to justify the investigation into the history of therapeutic imagery theories and techniques in Great Britain and the United States, we must first clarify that imagery exists. Afterall, one who is unacquainted with the meaning of imagery, may assume it is an ideology rather than a mental process supported clinically.

When we think of mental images we might immediately think of pictures because of the way we speak (talking in

everyday contexts of picturing objects). It might also be customary to see imagery as inferior to rational thought because of this notion which suggests that pictures are generated by language. Also, images are subjective inherently and are, thus, more open to intellectual accusations of imprecision or of being too idiosyncratic.

If one was to scan a transcript of a therapy session which involved imagery, one might initially think vocalisation of a memory by a client, such as, "I can see my home and my mother on the porch..." is merely subvocal thinking or inner speach. In the past, research pertaining to mental imagery in America was considered by many to be less than scientific particularly with the advent of behaviourism during the World Wars (Piaget 1971). Freud and Jung's insights into imagery and fantasy processes had little contribution into scientific knowledge in America during this time because of limitations of the clinical method, despite their acceptance in Europe (Singer & Pope 1978).

Prelude to sensory deprivation studies

Ironically, in America the significance of imagery as an integral human process came to be studied for use in psychotherapy only since the 1960s by behaviour therapists and behaviourally oriented scientific psychologists studying brain models, computer processing, and simulation models. The behaviour therapists were interested in treating abnormal behaviour by using conditioning techniques to modify

maladaptive symptoms and simulations. Computers were utilised to model or imitate an actual, real-life event for these practical purposes. The influence for clinical study in mental imagery came from a book by Hebb, The Organization of Behavior (1949) in which Hebb presented his theory of memory. In turn, Hebb's theory would lead to extensive studies in sensory deprivation.

Hebb's basic idea was to surmise that the brain is constantly making subtle changes in the "synapses", the points of connection where nerve impulses make the leap from one cell to the next. Hebb argued that these synaptic changes were in fact the basis of all learning and memory. A sensory impulse coming in from the eyes, for example, would leave its trace on the neural network by strengthening all the synapses that lay along its path. Much the same thing would happen with impulses coming from the ears or other mental activity elsewhere in the brain itself. As a result, said Hebb, a network that started out at random would rapidly organise itself. Experience would accumulate through a kind of positive feedback: the strong, frequently used synapses would grow stronger, while the weak, seldom-used synapses would atrophy. The favoured synapses would eventually become so strong that specific memories would be locked in; the general memory to be recalled upon demand. In turn, these memories would tend to be widely distributed over the brain, with each one corresponding to a complex pattern of synapses involving thousands or millions of neurons. Neurons are cells which receive or relay information

within the nervous system. Having said this, if we were to see Limburger cheese without ever having smelled it, once we did smell it, that sensation would be involved in our memory if ever we were to see it again. The synapses involved in smelling it would connect to the synapses involved in seeing it. Likewise, if someone was blind, according the Hebb's theory, the synapses from the eyes would be so unused, that the visual synapse structure would degenerate.

Hebb's second assumption was that the selective strengthening of the synapses would cause the brain to organise itself into "cell assemblies" - subsets of several thousand neurons in which circulating nerve impulses would reinforce themselves and continue to circulate. Hebb considered these cell assemblies to be the brain's basic building blocks of information. Each one would correspond to a tone, a flash of light, a smell, or a fragment of an idea. However, these assemblies would <u>not</u> be physically distinct. In fact, they would overlap, with any given neuron belonging to several of them. Because of that, activating one assembly would inevitably lead to the activation of others, so that these fundamental building blocks would quickly organise themselves into larger concepts and more complex behaviours. The cell assemblies, in short, would be the fundamental quanta of thought.

To Hebb, consciousness was a direct product of the neural complexity of the brain and, implicitly, the complexity of the environment: the evidence for requiring suitable early

experience could be found in the deficient mylanization of under-stimulated rats and in the absence of language in feral children (Hebb 1960). From Hebb's book, it seemed that stimulation was vital to our brain's efficacy. Regular and proper stimulation of our brain through our five senses permitted us to function on a stable, even keel most of the time as our brain related to us what was going on around us. It could be said from Hebb's theory that proper stimulation leads to the proliferation of more and more connections between brain cells, creating more efficient pathways of brain function. This theory led to the study of the importance that early social/sensory environment had upon the brain development and behaviour. What would happen to the brain's efficiency when the brain would be deprived of proper stimulation? Accordingly, this led to extensive studies of the lack of this social/sensory input or "sensory deprivation" with the repercussion that psychologists became largely watchful of just how much seemed to be going on inside our minds when perceptual stimulation from the external environment was drastically cutback.

From the implications of Hebb's book and coinciding sensory deprivation studies (Miller et al 1960), it was shown that sudden and nearly complete deprivation of stimulation through the five senses could lead to dramatic changes in the brain's efficiency. This decline would include not only a partial loss of memory and lowering of the IQ, but hallucinations, and, in some people even an abnormal

electroencephalogram, a picture not unlike what is seen in the mentally ill patient who becomes withdrawn and hallucinates. Mental imagery, regardless of a deficit of sensory stimuli, began to be seen as a necessary human process.

In addition to this, proposals with the same features as imagery began to become more observable in behavioristic writings, most notably in Wolpe's desensitisation, which will be discussed in more detail in section II (Wolpe 1969) (Paivio 1971) (Ahsen 1987). Concerning psychotherapy in America, desensitisation was the greatest influence championing the position of mental imagery as serving a functional significance in behaviour and harmonic mental functioning.

Dream studies that support the existence of mental imagery and claim that it is a vital part of the normal function of the brain

After Hebb's book, another influence of the revival in interest in mental imagery concerned the advances in the understanding of the psychophysiology of sleep and dreaming (Kleitman 1963) and the emergence of the interdisciplinary effort that depicted the membership of the Association for the Psychophysiological Study of Sleep (Chase et al 1972).

Of significant importance in the material being produced by the sleep research movement was the evidence that through much of the night, sleeping subjects appeared to be working through very complex information. Owing that noteworthy content was not only elicited from REM sleep (rapidly shifting, continuous movement of the eyes beneath

closed lids during the sleep characterised by dreaming) but other sleep stages as well, indicated that even in profound states of withdrawal from external stimulation, some degree of covert self-stimulation in forms of images or internal monologues seemed to be present. An implication of this evidence suggests that many kinds of private rehearsal in imagery or verbal modes is under way much of the time in adults and children as a normal component of sleep and as a vital aspect of mental health. It may be questioned if waking behaviour is characterised by a comparable complexity of covert information processing along with the kinds of directed thought or cognitive activities that we normally view as a part of consciousness. According to Krippke and Sonnenschein (1973), there may even be fluctuations in the degree of awareness of such processes or perhaps in their intensity or frequency as a function of a daily cycle. In other words, we could be using mental imagery everyday without our awareness as it could be an integral component of our normal mental activity and that this activity is a crucial aspect of normal mental operations.

Researchers with varied interests and perspectives have explored mental imagery. Their collective work has produced an interest in research on mental imagery and related processes on the part of experimental psychologists. It can been maintained that mental imagery exists within psychological literature. We are now ready for a definition

in order that we may understand the phenomenon before exploring the literature on its history.

A critical analysis of the concept, "mental imagery"

Mental imagery is defined as the mental invention or recreation of an experience that in some ways favours the experience of perceiving a real event or object, either in combination with, or in the absence of direct sensory stimulation (Corsini 1987). It is very different from the term "image", which is used in the visual sciences referring to the projection of visual scenes on the back of the retina (Marr 1982). It is also different from the term "iconic image" which refers to the short-term retention of visual information in sensory mechanisms (Sperling 1960).

Having said this, are mental images any different from other kinds of mental representation such as verbal descriptions? Because we may claim we can form mental images, and that these images can resemble physical objects, the subjective reality of mental imagery and its distinctiveness from verbal thinking cannot be disputed.

Individuals may describe images as "pictures in the head" (Neisser & Kerr 1973). However, the problem with the "picture metaphor" is that it fails to take into consideration the meaning system in which the image is couched. The mental representation or cognitive structures that generate and contribute to the image are overlooked. When clients are asked to engage in certain imagery techniques their internal

dialogue is also being affected; what s/he says about the image, the meaning system surrounding the image and his/her maladaptive behaviours. According to studies, mental imagery is more than just a mental snapshot, and is more than thoughts made up of words. Rather than placing mental imagery in a philosophical or ideological category where its meaning can be elusive, how can objective evidence show that mental images are distinct from thoughts made of words and sentences?

Let us look at the experiments that have been conducted involving mental imagery which may lead us to a more objective explanation of the phenomenon. Afterall, it would be expected, since one of the objectives of this thesis is to look at mental imagery in psychotherapy, that we could relate mental imagery usage in psychotherapy to some basic notions about the nature and function of imagery and stream of consciousness, and also to material that is to some degree susceptible to scientific evaluation. I also wish to note that when scientific investigation is addressed to the question of imagery, important findings on the makeup of imagery regarding the cognitive capacities of human beings can become possible. Additionally, the different effects imagery has in psychotherapy can be better understood.

If we move to works in mental imagery and cognition, we find ourselves in the midst of an area in which much information is being generated. Quite importantly, more systematic organisation of the phenomena and parameters of imagery in relation to a variety of adaptive functions such as

learning and memory can be represented. To begin the perusal of the scientific evidence which clarifies the distinctness mental imagery has from other forms of information retrieval, the function of mental imagery will be considered with reference to learning, memory, and language.

Imagery in learning, memory, and language

In order to better understand the role of imagery, let us now look at what part imagery plays in learning, memory and language. Studies of the function of imagery in learning plus memory and those regarding the language process have been documented by Paivio (1971). For instance, from a variety of experiments, it can be seen that one function imagery serves is to aid in particular types of recall where the vividness of an image prompted by a certain word can give it a higher probability of recall when compared to the kind of word that is less likely to arouse an image. Paivio cited studies that dealt with the question of interrelation of a concrete image to recall processes. In addition he also drew attention to the interrelations of meaningfulness and imagery in a variety of verbal processes. Paivio (1971) stressed that the mind uses different coding strategies and learning principles obtained from abstract or concrete information and involves visual as well as verbal imagery components.

In an attempt to evaluate the different implications of visual imagery and verbal mediation in a variety of learning situations, Paivio suggested that superior memory

depends on increased availability of a number of different coding systems for the effective storage and retrieval of perceived materials. Paivio (1971) asserted:

> The superiority of imaginal and verbal mediators over rote repetition presumably can be attributed generally to the discovery, under the mediation instructions, of higher-order visual-spatial or verbal-sequential units that incorporate to-be-associated items as components and from which the response can be decoded by a process of implicit labeling or associative responding. The decoding may involve a search process in which appropriate responding is dependent upon recognition memory once the mediator has permitted the generation of possible alternatives. Visual imagery, when readily generated may be more effective than verbal mediation because the information in the image is spatially organized permitting a rapid read-out of the relevant components whereas the information in verbal storage is sequentially organized as a string of 'mental words' that may take up more space in memory, or require longer search time with less efficient retrieval of the relevant response during recall, or both. In addition, a symbolic motor component may contribute to the transformational efficiency of mediating imagery. Where both systems are relevant to the task, however, they presumably interact continually in their mediational functioning, and imagery mnemonics may be especially effective because they enhance the probability that both symbolic systems will be brought into play in the learning task (391).

This quote by Paivio conveys the degree to which increased sophistication concerning the cognitive process is capable of including imagery into its construction. Mental imagery may have a faster recall, but it can also aid in verbal recall, which can be beneficial in learning situations. Mental imagery's role can be seen to be one of considerable relevance in the way in which we come to learn about our surroundings

and/or how we store information for effective retrieval when external situations demand such mindful searches of the stored material.

Some experiments have gone further in seeking to understand how imagery assists in certain learning situations (Bower 1970,73) Studying verbal and visual processes as separate representational systems for the brain has generated information on learning processes and has also proposed challenges for theorists about the nature of the underlying neurophysiological structures.

Bower (1970) showed that if a subject is to learn sets of word pairs, then free recall of such pairs was more proficient if s/he generated images about the pairs, such as cat and locomotive, and then put the two words to be learned in an interacting representation. Therefore, the image of a cat driving a locomotive would be more likely to lead to better recall of both words rather than trying to remember the words without generating images, or when the images of the words were generated independently. Studies like this (Seamon 1972) suggest that language processes are sequential (characterised by a regular sequence of words). Therefore, they are time consuming in their storage and retrieval qualities. Images are parallel in processing form, that is, one can scan all the details of an image at a "glance", rather than have to produce each in turn to the same degree, as is necessary in recall of a sentence. The interactive image takes advantage of the preferred parallel scanning

possibilities innate to the visual imagery system. Such information is useful when considering memorable advertising. Names of products or services will have a greater likelihood of being remembered by consumers, if visual interacting images are used in place of words naming the products.

Photograph metaphor

As mentioned earlier, one may think of imagery as "mental photographs", however, a similar study to the Bower's which was done by Neisser & Kerr (1973) addressed the question of the mental photograph metaphor.

Subjects were asked to read sentences with two major concrete objects portrayed in one of three ways: The two test objects were represented as interacting in some sense, the two objects were described as separate and not close together, or one of the objects was somehow hidden by the other object. After reading the test sentences, subjects appraised sentence vividness and were then given an unexpected free-recall test. Test objects were recalled with equal skill, regardless of whether they would be visible in a snapshot, whereas recall was best when the objects were depicted as interacting. Spatially remote objects were recalled with the least accuracy, suggesting that visual memory was not exclusively based on spatial information. In addition, the rated vividness of test sequences was not relevant to accuracy during recall, a result that was stubborn to appease with the photograph metaphor because images were not stored in memory

as photographs alone. Neisser and Kerr (1973) showed that mental images had more information connected to them than simply pictorial characteristics.

In agreement to the work done by Neisser and Kerr (1973), Pylyshyn (1973) also contended that mental images were more than mental photographs. Pylyshyn disagreed with the theory that mental images were depictive representations (a theory similar to the photograph metaphor) - that is, that mental images look exactly like the real image of the object (same size, shape, and orientation). Pylyshyn (1973) maintained that if mental images were depictive, a "little man" would be needed to look at the pictures to interpret them. However, if the man were to look at the pictures and interpret what he saw, how would we interpret what was going on in the little man's head? This was Pylyshyn's critique of mental imagery. For this reason, Pylyshyn supported the propositional network theory. The propositional network theory, asserts that verbal and visual representational mechanisms are epiphenomena (a less important by-product) of a more complicated underlying code that is abstract but not distinctly verbal in nature (1973).

For the imager, the identity of his/her image is determined by his/her verbal utterances. In other words, the identity of his/her image is determined by the explanation s/he attaches to it. This idea and its implications for comprehending mental imagery were addressed by Fodor (1975). On one hand, an image does not have to resemble what it

represents. Malcolm (1977) gave the example of cartoon caricatures and modern sculpture. Having said this, if it was necessary for an image to resemble what it represented, one would have to examine one's images to find out what they represented (Wittgenstein 1967). On the other hand, even if the image did look like what it was meant to represent, any pictorial representation could be construed in many different ways. For instance, a cube could be seen as either a plain figure or a three dimensional one, depending on from which angle it was viewed. Two pictures can also represent the same thing (a soccer ball and a basketball can both represent the notion of ball), whilst one picture can represent two things (a obscure figure can be interpreted as a duck or rabbit).

With this in mind, the object of a mental image is not specified by any of the pictorial properties of the image itself, but is carried by the description under which the image is proposed and retained in the brain. This is the idea of the propositional network theory expressed by Pylyshyn (1973). Mental images come to mind already interpreted. Fodor (1975) illustrated this in this way:

> Suppose that what one visualizes in imaging a tiger might be anything from a full-scale tiger portrait (in the case of the ideticist) to a sort of transient stick figure (in the case of poor imagers like me). What makes my stick figure an image of a tiger is not that it looks much like one (my drawings of tigers don't look much like tigers either) but rather that it's *my* image, so I'm the one who gets to say what it's an image of. My images (and my drawings) connect with my intentions in a certain way; I *take* them as tiger-pictures for purposes of whatever task I happen to have in

hand (191).

This contention implies that the functional basis of mental imagery lies in the explanations corresponding to the images which are created. With this point in mind, there could be a measureless number of comparable descriptions of one and the same state of affairs and any of these descriptions could be accepted by the imager as his intended representation. Consequently, the identity of a mental image can not be dependent upon any particular verbal statement, but in the abstract proposition which underlies the set of comparable descriptions. If someone were to describe his/her mental image to us, we would not be capable of reproducing his/her exact mental image as s/he experienced it because there would be more in the individual's rendering of the image and its meaning is greater than what could be put into words to describe it. The functional origin of mental imagery lies in the system of knowledge which is essentially conceptual and propositional, rather than sensory or pictorial, in nature (Pylyshyn 1973). Images would be "propositional" constructs (McMahan & Hastrup 1977). Even if it was difficult or infeasible for the imager to give a verbal account of his/her mental image; such as when contemplating the look or smell of something, the image would still maintain the same complexity without the interpretation or intention of the imager (Fodor 1975).

From this, it may be said that mental imagery is an inner depiction of our experiences (past or present) and our

desires. It is the flow of thought or perception which we can hear, see, smell, taste, and feel. As will be discussed in Chapter x, according to Freud, Jung and other early works by the European school of psychologists, images are a way to code, store, and express information. Therefore, memory, meaning, association, perception and thought may all involve mental imagery in one way or another.

Imagery as it represents real life

Although visual memory is not solely based on spatial information but on more information connected to it, as Neisser and Kerr (1973) discovered, Paivio (1975) maintained that it should be especially helpful in tasks that entail the spatial organisation of informational segments or the retrieval of spatial information from long-term memory because of the associations the information would have in memory. Pinker and Kosslyn (1978) made more specific suppositions:

> One desirable property of imagery would be that one could "move" one part or portion [of a pattern] and all of the spatial relations between that part and the others would "emerge", that is, would become evident to the mind's eye without specifically being calculated....Such property of images would be especially useful if images occurred in a three-dimensional structure, a kind of "work-space". The space which we perceive and in which we move about is three-dimensional, and it surely would be useful to have an internal three-dimensional "model" of space that we can manipulate mentally and in which the consequences of various contemplated actions can be visualized....(81)

With this in mind, it may be questioned if a mental

image constitutes a relatively trustworthy model of a real situation. Specifically, does the information in a mental image pertaining to external objects and events "bears a rather direct, isomorphic relation to the perceptual information given by those objects and events? (Paivio 1975 p.71)"

In order to discover if mental imagery is a faithful representation of an actual situation, which would be helpful to know for psychotherapeutic purposes, Pinker and Kosslyn (1978) asked subjects to form a mental image of a specific three-dimensional scene, and to move objects mentally within the scene. It was discovered that the time taken to scan between two objects in the scene increased in a linear fashion with the distance in three dimensions between those objects; and that, after an imagined uprooting of the object, the time to scan to and from that object was dependent upon the new distances in the mental image between that object and others.

Similar to this task, if a person is asked how many windows there are in his/her house, most people who are asked this question report that they have to imagine moving around the house, visualising and counting the windows. Meudell (1971) found that the time taken to answer this question varied in a linear fashion with the number of windows counted. Likewise when subjects are asked to name items on a map by working in a given direction (such as from east to west), they produce results comparable to that acquired by reading the items from an actual map, unlike when subjects are asked to

name states, counties, or cities of a certain country indiscriminately (Bousfield & Sedgwick 1944).

With this in mind, mental imagery would seem to be useful in situations which would require short-term retention of spatial-order information. How is this relevant to our daily living? Our everyday actions depend on our faithful perceptions of our surroundings. However, when we move around, objects inevitably leave our field of vision. When we are walking through a park or a store, any objects we pass which are no longer in our immediate visual field are recollected, without our constant watching of our position, through mental imagery. Milner (1971) described a task in which the subject was to recall a series of spatial locations on a display. The spatial memory span measured by this showed a result independent of a subject's verbal digit span.

The experiments discussed so far have furnished some evidence for the concept that mental imagery is an credible representation of spatial information. That is to say, the spatial relationships between the objects in an imaged display seem to coincide with the relationships which would be maintained between the same objects in a real display. It may now be questioned if the manipulation of imaged objects corresponds with the manipulation of real objects.

Shepard and his associates have carried out a large portion of experimental research on the manipulation of spatial information which involved mentally rotating objects.

Mental rotation experiments fundamentally entail the simultaneous presentation of two visual test stimuli which are the same in form but different in angular orientation with regard to one another. One form is considered the test stimulus against which a same-different orientation judgement is to be made.

The first study by Shepard and Metzler (1971) demonstrated that the time taken to match two different views of the same three-dimensional figure was linearly related to the angle between the two views. The further the angle of departure from the test object, the longer the mental rotation would take; much like if an object were turned physically. This suggested that the subjects were mentally rotating at least one of the objects until both objects had the same alignment. All of the subjects involved, reported using mental imagery in order to accomplish this process of mental rotation.

A more complex study was done by Cooper and Shepard (1973a,1973b) where alphanumeric (a combination of letters and numbers) characters were presented in their normal form as well as in mirror-images. The subjects were asked to produce mental images of the appropriate character in one of six different orientations. The stimulus was then displayed in that orientation or in one of the other five. The results indicated that reaction time increased in a linear fashion with the angular discrepancy between the anticipated orientation and the real orientation of the stimulus. Due to

this relationship, it was suggested that the subjects rotated their visual images at a constant rate until they were at the same orientation as the test stimulus. According to Cooper and Shepard (1973a),

> ...no matter what the effective rotation times may be between particular adjacent points...if the time required to go from any one point to any other nonadjacent point is an additive combination of the component times to go between the intervening adjacent points, then the average time to go between the points in all pairs...should increase linearly.... A finding of linearity would thus support, further, our claim that the process of mental rotation is an analog process (1973a p.143)

From this, it may be said that since the reaction time was dependent upon the degree in which the stimulus had been turned away from the imagined stimulus, mental representation works in a constant rate, much like the actual rotating of objects.

These mental rotation studies have shown that images use spatial information. However, it may be questioned whether similar patterns of performance could be obtained if subjects were required to carry out a series of different manipulations. Shepard and Feng (1972) explored this prospect by introducing patterns of six linked squares which result when the sides of a cube are unfolded onto a flat surface. The subjects were asked to determine if the two arrows marked on edges of different squares would come together if the sides were folded back into a cube. The results showed that reaction time differed in a linear fashion with the sum of the

number of squares which would be included in each fold, if the folds were attempted physically. As before, all of the subjects reported utilising mental imagery to accomplish the task.

Chapter 2

Mental comparisons

Besides studies of mental rotation and mental imagery manipulation, other types of investigations can also evoke mental images and and can be used to study imagery scientifically. For example, what is bigger, a plum or a cranberry? When asked this, we may claim that we imagine the two objects next to each other, rather than recall descriptions of them, to verify the answer. It might be quick and easy to determine the answer when the objects are very different in size. However, it might seem more difficult and may take longer to determine the answer if the objects are similar in size. For example, it would be easier to tell from a mental image that a hawk is bigger than a sparrow than to tell that a hawk is bigger than a falcon.

An experimental model which has been broadly used entails the comparison of pairs of objects in this manner. A substantial quantity of research has illustrated a number of basic findings, and these results have been seen to have significance regarding the nature of the cognitive representation which is involved in such comparisons.

When subjects compare real objects on some physical dimension such as size or area, the reaction times follow a reliable psychophysical function. That is, the responses are quicker (decreasing reaction time), the greater the difference in dimension between the two objects (Moyer & Bayer 1976)

Moyer (1973) considered whether a similar function would be found if subjects compared visual symbols which represented physical objects rather than the physical objects

themselves. He administered an experiment where he asked subjects to name the larger of two animals whose names were given verbally - such as *sparrown -elephant*. Evaluation of the data showed that the time required to make the decision paralleled the reaction time observed when real visual comparisons are made. Particularly, reaction time increased (slower responses) as the size difference between the two animals became smaller. Likewise, reaction time decreased (faster responses) when the difference in size between the two animals was larger. Moyer (Moyer & Bayer, 1976) theorized that this "symbolic distance effect" (when reaction time is longer due to similarity in the size of mental images) occurred because subjects had modified each animal name into an internal representation of the animal that maintained essential size information and then made the psychophysical comparison possible.

To the degree in which similar results are obtained from perceptual comparisons (actual comparisons in real life) and from symbolic, mental comparisons as those in Moyer's study, it can be suggested that the cognitive representation employed in mental comparisons is structurally similar to perceptual experience. The representations have analog or continuous characteristics in that they consider the relevant sizes of the objects they represent, instead of assorting the objects in separate linguistic terms, such as large, medium, or small. Shepard (1975) and others (Shepard & Chipman 1970) suggest there is a kind of second-order isomorphism (second-

order one to one relationship) between mental representations of objects and the real objects. Whereas the parts of internal representations may not have a one-to-one relationship with the parts of the real objects (first-order isomorphism), the relationships present among the real objects are exhibited in the relationships present among the mental representations.

Paivio made an assertion that mental comparisons were made on the basis of mental images of models of the two concepts being compared. Paivio's (1975) investigations included the use of questionnaires in which subjects reported the kinds of strategies implemented when considering the physical sizes of named objects and the results showed a reliance on the use of visual imagery. Although these were merely subjective reports, Paivio maintained with reference to the study of mental comparisons:

> The important point here is that consciousness is not viewed as a necessary defining attribute of the imagistic representations presumably involved in size comparisons and other tasks, although it often provides supplementary evidence that such a process is functionally activated (645).

Size comparison studies could be executed without subjective reports. However, personal accounts of the process strengthened the concluding data.

Paivio replicated Moyer's original results obtained with judgements of physical size and obtained similar functions when subjects were asked to assess which of two

named objects was most round or angular, or which of two named objects was lighter or darker in colour. Paivio (1977) performed an alternate to the mental comparison task by asking his subjects to compare clock times in terms of the angles between the hour and the minute hands. For instance, at which times do the hour and minute hands of the clock form the biggest angle: 4:30 or 8:15? Most subjects reported the use of mental imagery in order to compare the angles formed by the hands on visualised clock faces. Repeatedly, there was reliable symbolic distance effect so that the reaction times were longer (slower responses) with smaller differences in angle sizes.

Indications of a symbolic distance effect with abstract test stimuli (Kerst & Howard, 1977) led Paivio (1978) to suggest that the imagery system is capable of representing the abstract or affective attributes of *things* but not the language that described them. According to Paivio, mental imagery could be roused more easily by pictures of objects rather than by names of those objects. Afterall, if mental comparisons were based on the utilisation of mental imagery, it would seem consistent that such comparisons would be done more quickly with pictures than with words. Paivio carried out this idea by having concrete objects compared in terms of their size. Although both pictures and words presented a symbolic distance effect, responses were consistently faster with pictures than with words. The mind's dependence upon mental images to accomplish its daily tasks is clear.

Paivio argued that visual imagery is the mode in which such analog information exists concerning concrete objects and events. In Paivio's (1971) dual-coding theory, the imagery and verbal systems are viewed as independent from each other, yet are connected realms for representing knowledge. The imagery system is linked to perceptual knowledge whilst the verbal system works with linguistic representations. With this observation in mind, the subjects in Moyer's (1973) study could make judgements of size about the pairs of animal names by shifting from the verbal mode (in which the assimilation of the words in the descriptions took place) to the imagery mode in order to compare the sizes of the corresponding pictures of the animals in their head (analog representations).

With this observation in mind, referring back to Paivio's study which was an extension of Moyer's (1973), subjects' comparisons of size were effected faster for pictures of objects rather than for the words naming them. This makes sense if we consider Paivio's dual-coding model, because it would take more time for the subjects to switch between the verbal and imagery modes when judging the size of objects from the words naming them. Judging the size of the objects would involve the imagery mode. However, the verbal mode would be used when assimilating the words. When affiliating the words with what the subjects know of the objects represented by the words, the subjects would have to switch from the verbal mode to the imagery mode. Thus, due to

the time it would take to switch modes, it would take longer for size comparisons to be made from words rather than pictures.

Likewise, an opposite effect was noticed when subjects were asked to judge the pronounceability of words from words or from the pictures representing them. Judging the pronounceability of words would be faster, because pronouncing words involves the verbal mode; and this mode would be the single mode used when viewing words. However, judging the pronounceability of words when viewing the pictures representing the words would take longer because the subjects would have to switch from the imagery mode (the viewing of the pictures) to the verbal mode (assimilating the pronouncability of the words).

Findings like those unearthed when subjects were asked to compare the size of objects from looking at words that represented the objects, correspond to those obtained when people judge the larger of two objects when actually looking at the objects. The symbolic distance effect would be difficult to understand if what people did was simply retrieve verbal descriptions of the remembered objects. The consideration of the dual-coding model makes the symbolic distance effect more easily understood, since it postulates that we have both a verbal and imagery mode in which information is processed. Mental imagery is relied upon to make judgements regarding the objects and is responsible for the symbolic distance effect. With this understood, the

symbolic distance effect is more easy to grasp regarding our mental comparisons being similar to actual comparisons regarding the time it takes to judge.

Kosslyn, Murphy, Bemesderfer, and Feinstein (1977) carried out a following study which rendered even sturdier evidence that mental images, rather than verbal descriptions, are accountable for the symbolic distance effect. Subjects were required to learn a set of stick figures of different sizes and colours. The figures were labelled as "large" or "small" and half of the set were put in each size grouping. Two of the figures were then selected by naming each of their colors. From memory, subjects were then asked to judge which figure was larger. When the figures were taken from the same size group (both coming from the "large" group, or both from the "small" group), it took subjects longer to identify the larger of the two selected figures as the two figures became closer in size. This manifested the symbolic distance effect. However, when the two selected figures were taken from different size categories (one from "large" and one from "small") and the subjects overlearned the size labels of each group, the symbolic distance effect did not occur. In this case, the subjects were able to use the verbal size labels in order to make the judgements. Therefore, the actual difference in size between the figures did not matter.

Implicit encoding in mental imagery

Findings such as those just discussed can be accounted for by a principle that defines the part mental imagery plays in the retrieving of information from memory. This is the *implicit encoding* principle. Implicit encoding is the manner in which mental imagery aids in retrieving information about characteristics of objects or relationships between objects which has not been explicitly encoded before (Pinker 1984). In other words the information obtained via mental imagery is available in the memory although it has not been intentionally remembered. Characteristics of an image stored unintendly can be accessed by the brain to be compared with other characteristics tucked away similarly.

In order to further explain this principle, we may go back to the symbolic distance effect. The reason why mental imagery is useful when comparing objects is because the comparison of the objects has not explicitly been made before. For example, when determining whether a pumpkin is bigger than an apple, mental imagery will be used because few people have ever made this comparison before. Unless the information has been explicitly encoded, it may not be attainable as a "known fact", and generating an image would be essential to the retrieval process. Once the relationship between the objects is made explicit, verbal labels or descriptions are employed, thus making mental imagery less necessary.

Likewise, when asked the question, "How many windows are in your house?", since very few people have explicitly

learned this (unless they live in a small house with few windows), they would typically have to imagine each room whilst counting up the number of windows (Shepard 1966) However, if they previously learned how many windows their house had (such as 12), mental imagery would not be necessary. Another example that can be given is if someone is asked to describe a character or object over and over again. For instance, if someone was asked to describe the appearance of "The Joker" from Batman, imagery would be used at first in order to inspect the object in the mental image of the Joker. However, after the person would answer, if s/he was asked again and again, s/he would eventually report no longer using imagery; and would simply remember the words of the answer. Labels would then be employed, categorising the answer and imagery would no longer be necessary.

As mentioned earlier, according to Paivio, people use two codes - an imagery code and a verbal code - both to store and retrieve information. The experiments referred to earlier by Paivio showed that these codes could be used independently. Having a separate imagery code would make it possible to recall information about physical objects that was not encoded using labelling (explicit, verbal coding).

Selective interference

Now that it has been recognised that dual coding exists, let us find out more about the composition of these modes. In order to test the notion of dual representational

systems further, several researches have initiated studies separately in selective interference have been conducted. The basis behind selective interference strategies is that the structure of a representational system can be discovered by determining which events interfere with it. This research is founded upon the notion that the psychological mechanisms underlying perception and mental imagery are functionally overlapping.

Selective interference studies have used short-term information-processing tasks where the presentation of stimuli and the performance of tasks are differentiated by an "interpolated task" ,a perceptual task which is meant to interfere with the subject's ability to produce mental imagery. The assumption that perception and mental imagery are functionally overlapping has led to the prediction that these two activities will obstruct each other to a greater degree when they are in the same sensory modality than when they are in separate modalities. In other words, the impact of perceptual tasks on mental imagery should not only be selective in the sense that such tasks disrupt mental imagery more than other abilities, but it should also be modality-specific, meaning that visual tasks disrupt visual imagery more than auditory imagery.

Results of the following studies imply that dual representational systems exist and that any information which comes to the mind in is affiliated with the system that can best process it. Studies have shown interference effects in

visual (Brooks 1968) (Warren 1977) and verbal (Salthouse 1975) modalities.

Brooks (1967) carried out the original experiment concerning selective interference. This research was concerned with exploring the extent of conflict or functional overlap between reading, listening, and imaging. Brooks would ask his subjects to listen to messages describing the spatial relationships among digits in an imaginary display. A sample would be: "In the first square put a 1. In the next square to the right put a 2. In the next square down put a 3," and so forth. Some of the messages were typewritten displays shown visually. In addition to this, control messages of the same length and fashion were introduced where the words *quick, slow, good* and *bad* were substituted for the words *right, left, up,* and *down*. In each situation, the subjects were required to recall the message right after it had been read out. For the control messages, auditory and visual presentation presented simultaneously, generated better results than lone auditory presentation. However, with regard to the spatial messages which could be visualised, subjects found that with simultaneous auditory and visual presentation of the spatial details, it was more difficult to recall the visual presentation. In other words, the reading of the details interfered with the subjects' ability to visualise the spatial relationships. This was because both tasks required some degree of visualisation.

Concerning this conclusion that reading was

disruptive to the generation of mental images, Beech (1977) carried out a study where subjects were presented with a description of an array of objects and were asked to show when they had visualised the array. It was found that as the number of objects described increased, so did their response rates (slower responses). Beech found that when subjects read a visually presented description, the response rate was much longer than when they listened to a spoken description. The results of both Brooks' and Beech's studies seemed to coincide with the concept that reading interferes in a selective manner when we try to represent spatial details through the utilisation of mental images.

As mentioned earlier, mental imagery (implicit encoding) could operate as a means of preserving spatial data in short-term memory. The question remains whether there are tasks which can selectively interfere with the upkeep of mental images in memory. Two experiments by Healy (1975) were carried out where subjects were required to recall the spatial order in which a series of letters was presented. In between the presentation of the series and the request to recall it, Healy presented an irrelevant task. If this irrelevant task was a verbal task, such as naming a series of digits, it had little influence on the recall of spatial order. However, if the irrelevant task was a spatial task, such as naming the spatial locations of a series of digits, the recall of spatial order was disrupted. Hence, the processing of spatial information, such as that introduced through the irrelevant

task, seemed to interfere selectively with the preservation of mental images because both tasks required visualisation. Also, the experiment would seem to suggest that a "new" spatial task takes precedent over earlier spatial tasks.

One of the experiments by Brooks (1967) seemed to demonstrate a similar disruption between perceptual tasks and the retrieval of information from mental images. In one experiment, it was found that written recall of a spatial message took much longer than the spoken recall of the same message. However no difference was detected with non-spatial control messages. In other words, because the subjects had no need to visualise the non-spatial information in the control messages, mental imaging was not needed in order to recall the information. Hence, no interference was detected.

An ensuing study by Brooks (1968) pursued this idea by requiring subjects to maintain either a visual or verbal stimulus in memory, and to categorise the components of the stimulus by either a directional or an oral response. For instance, a visual stimulus was a diagram of the letter F, where the subject was required to identify from memory each vertex of the letter, either as a corner in the top or bottom of the letter, or as a corner in between. A verbal stimulus was a sentence such as, "A bird in the hand is not in the bush", where the subject was required to distinguish each word as either a noun or other part of speech. The subjects responded either by saying "yes" or "no", or by pointing to a

series of figures, "Y" and "N", printed on a piece of paper. It was found that the oral response of "yes" or "no" yielded faster responses regarding visual stimulus, whilst the pointing to "Y" or "N" yielded faster responses regarding verbal stimulus. The subjects reported that it was easier to visualise the letter diagrams when responding orally and said it was easier to recount the sentences verbally when pointing. Each was reported as being easier, because the subjects were using the different coding systems (dual coding) which work independently of each other. Interference was detected in this study and the others, when an attempt was made to use the same coding system for two different tasks.

In the words of Bower (1970) concerning the most typical interpretation of these results:

> If remembering in visual imagery utilises somewhat the same central mechanisms as are used in visual perception, competition for this limited capacity will result when the person must both visually guide his hand (to indicate answers to various questions about the memorised diagram) and simultaneously remember the spatial diagram in visual imagery. The general idea, therefore, is that two activities in the same modality will compete for a limited analyser or processing capacity, whereas two activities in different modalities will tend to be less competitive, less disruptive, and less interfering

Therefore, the results of the studies seem to suggest that if different tasks are attempted in the same modality (verbal or imagery), they will impede each other. However, this would not happen if different tasks were attempted in each modality. Phrased another way, the selective

interference studies cited suggest that neither the verbal nor imagery modality is capable of two different tasks being performed effectively in just one of them. "This modality ain't big enough for the both of us!" says one task to the other. Thus, Paivio's "dual coding theory" is supported. We have two codes of information processing which work independently of each other.

In these experiments the control tasks are usually verbal in some way. It would be speculated that they entail some kind of auditory representation in memory and the same functional systems which may operate in auditory imagery. Since these tasks were presumed not to interfere with the use of visual imagery as a representation of spatial information, the results seem to suggest that the effects of coinciding perceptual tasks upon mental imagery are modality-specific. However, Baddeley (1976) investigated the issue more systematically. Baddeley and Lieberman endeavored to separate the visual and spatial components of the disruption with the aim of distinguishing between those components in the interference patterns. Two novel secondary tasks were employed. One involved a visual, non-spatial task where the subject was required to make consecutive brightness judgements. The other was a non-visual, spatial task where a blindfolded subject was asked to follow a pendulum with a flashlight on the basis of auditory feedback heard through a photocell and tone-generator attached to the pendulum.

Baddeley concluded:

> The results were fortunately very clear. The auditory tracking caused far greater impairment on the Brooks spatial task than on the equivalent verbal task, while for the brightness judgement no such difference occurred. In short, it appears that, for the Brooks tasks at least, disruption is spatial rather than visual (231).

Thus, the use of mental imagery may be disrupted by a concurrent cognitive task involving the processing of spatial information.

The overall conclusion was that there would be competition between simultaneous tasks that draw on the same parts of short-term memory. As a consequence a verbal task and a spatial task could be executed perfectly well together, but not two spatial tasks or two verbal tasks. Any task which requires the processing of language or some arbitrary symbolic coding is considered verbal. With this delineation in mind, a visually presented piece of text would require verbal processing whilst the attempt to visualise a radio commentary of a football game would involve spatial. Therefore, the utilisation of either the verbal or spatial subsystems of short-term memory do not map directly onto the media of visual versus auditory presentation. One would need to appreciate that it may be surmised that maximum compatibility will be attained when auditory input and speech output are associated with a verbal task, and when visual input and manual output are associated with a spatial task.

As the studies already explored show that certain perceptual tasks can disrupt performance in mental imagery, it may be considered now whether mental imagery can disrupt performance in perceptual tasks. This question was investigated by researches, chiefly Segal and associates (1971), who were able to produce reliable results.

One such experiment conducted research on the "Perky phenomenon". This occurs if a subject imagines a certain object, such as a square, as if it is appearing on a blank screen. Then, if a picture of the object (the square) actually does appear through faint flashes on the screen while a subject is still imagining, the subject may not be aware of the "real" stimulus (what is being flashed) in his/her visual field. Segal examined many different parameters of the Perky phenomenon and was able to illustrate in experiments that it was a valid human experience. If one studied the role of detecting the external signal in the auditory, it would be shown that the blocking of the real signal was modality specific. This discovery would suggest that imagery and what we perceive in reality, share common brain pathways.

A comparable result was acquired by Antrobus et al. (1970) who used a different design. They found that subjects processing visual signals, at a given moment in time, were less likely to experience visual imaginings at the same time. However, whilst processing these visual signals in reality, they were still able to experience auditory imaginings. Likewise when processing auditory signals in reality, subjects

were less likely to experience auditory imaginings, but were still able to experience visual imaginings. For instance, if someone was hearing the ticking of a clock, they would be less able to imagine hearing the ticking of the clock. However, hearing the ticking of the clock would not effect their ability to visually imagine an unrelated phenomenon. This suggests that imagery uses the same pathways to the brain as perception of reality, because when processing visual or auditory signals, the subjects reported mental imagery only in the areas that were not processing the signals.

To make the richness of the concept of mental imagery greater and to continue on this theme of mental imagery and perception, not only have studies suggested that mental imagery uses the same pathways to the brain as perception, but mental imagery has been found by researchers to also have some of the physical components of perceptions. For instance, researchers have found correlations between a person's eye movements and the moment he was dreaming of climbing stairs (Roffwarg et al 1962). Another study showed that when people were scanning their internal visual images, they moved their eyes as if they were viewing an external picture (Richardson 1969). American physiologist Neisser has said of this phenomenon:

> Visual images are apparently produced by the same integrative processes that make ordinary perception possible...Visual memory differs from perception because it is based principally on stored, rather than on current

> information, but it involves the same kind of synthesis (31)

Because mental imagery is stored (remember implicit encoding - information regarding objects is stored unintentionally) it cannot be exactly like perception. However, according to Neisser, visual mental imagery and perception are created in the same manner.

When a person sees an external object, the person's vision begins with rays of light which are made up of photons. These rays come from a source of light, strike the object and are reflected onto the eye. The cornea and lens of the eye focus the rays to form an image on the retina. This image is then inverted vertically and horizontally. Two types of cells make up the retinal surface: rods and cones, named after what they look like under a microscope. Rods are stimulated by low levels of light and register only shades of grey, whereas cones are stimulated under bright light and register colour. Within these cells, a photochemical reaction takes place which triggers nerve impulses which are eventually conducted to the visual area of the brain's cerebral cortex.

Around this visual area is the visual association zone. Whereas the visual area registers electrical stimuli from the retina as insignificant patterns of light, the visual association zone decodes and makes sense of the impulses that are registered. However the visual association zone does not form an image from the impulses. The decoding process required in order to "see" a pictorial representation in the

brain is learned. We do not generally define objects by how they appear, but by what we know of the objects' uses. For our perception to be a true perception of an object, certain expectations must be fulfilled. For example, if a person was to sit on a chair and the chair then began to gallop like a horse, s/he would say that it was not a chair afterall.

The importance of this learned defining of objects can be seen in those who have been blind since birth and have had their sight restored through surgery. They cannot immediately make sense of the objects they see and must learn to turn light patterns into meaningful images. An example of this is provided by Von Senden (Hebb 1974) who removed the congenital cataracts that had blinded certain patients from birth. After surgery which restored their capacity for sight, initially the patients could not interpret with their eyes what they could interpret by touch. In order to label an object as a "square", in addition to looking at it, the patient might also have to count the corners in order to reason that four corners make a square rather than a triangle.

Next to the visual association area in the brain is a vast...

> relatively 'silent' area of the temporal lobe in which visual and auditory sensory experiences apparently are placed in storage as if they had been permanently recorded on sound film. It is here that the unknown mechanisms of memory, hallucinations, and dreams may be located (Gatz 1970 p.112)"

dreams may be located (Gatz 1970 p.112)"

This silent area was detected by Walter Penfield, an English neurosurgeon, when it was discovered that stimulation to a patient's temporal lobe would cause the patient to experience vivid visual images. They experienced almost lifelike visual images of scenes from their past. (Penfield & Jasper 1954)

Because the workings of perception and mental imagery are similar, much phenomena affiliated with perception may also apply to mental imagery. It has been found that if a person's gaze becomes fixed while looking at an object, the image of that object will fade in seconds (Hebb 1949). This is an unknown phenomenon to most people because when seeing normally, people are constantly moving their eyes. Studies show that we move our eyes in small, quivering, scanning movements even when we are looking at an object which is not moving (Yarbus 1967). Likewise, if we fix our gaze on a mental image, it also tends to disappear. However, if we scan a mental image as if it were a perception, we would find the image tends to be clearer and more secure.

The process of "looking" at objects in images shares some of the same properties as perception. For example, imaging a honeybee at a very small size and trying to decide what colour the head is involves having to "zoom in" in order to "see" the head, according to many people. This is not necessary if the object is imaged at a larger size (Kosslyn 1983). Also, more time is needed to "see" parts of objects

when they are imaged in smaller sizes.

Neuropsychological data supports the notion that image inspection is fulfilled by the same mechanisms used in perceptual recognition. For instance, patients who have damaged the right parietal lobe, the middle part of each brain hemisphere, ignore objects to their left side (the right side of the brain controls the left side of the body, and vice versa). In a study done by Bisiach and Luzzatti (Bisiach & Luzzatti 1978) asked these patients to image a scene that had been very familiar before the stroke. In one case, the patients were asked to image standing on one side of a plaza and were to report what they "saw". These patients were very familiar with the plaza and had no problem forming the image. However, in their descriptions of the scene, they described only buildings to the right, dismissing buildings to the left, just as they would do in perception. Bisiach and Luzzatti next asked the patients to image standing on the opposite side of the plaza from where they were and to face where they had previously been standing. When they reported what they "saw", they again mentioned only the buildings on the right, ignoring the buildings on the left which they had previously mentioned. Their mental imagery was behaving in the same manner that their perception would have behaved when asked to do the tasks.

Additional evidence to support the idea that perceptual recognition mechanisms are used in imagery was presented by Levine, Warach, and Farah (1985). They tested

patients who had lost the ability to perceive either shape or location on their ability to image the same characteristics. It was found that patients who could not recognise faces perceptually (when they could see the face in real life - either in person or by a picture) could not interpret faces in imagery (like when asked if George Washington had a beard). Likewise, patients who could not register locations perceptually could not do so in imagery (like when asked to tell how to get from one place to another).

Imagining looking at a bumble-bee or staring at a screen with a square flashing on it offers little indication as to why the brain bothers to whip out mental imagery in the first place. However, when we move around and accomplish routine, everyday actions, our internal renditions of sensory experiences demonstrate mental imagery's practical bent. As circumstances in our environment change, accurately scaled mental representations of our physical surroundings help us quickly regulate the force and direction of our walking, turning, and throwing. We move from one point to another, or recollect spatial relationships without constantly watching our position, through the use of mental imagery. Everyday we trigger constant mental updating of our perspective on remembered features of the environment. This continual working of the brain to create and store mental images is vital and seminal of normal mental activity and thus, of life.

For instance, a football player uses his/her

knowledge of a kicked ball's speed and trajectory, as well as the layout of the field, to intercept the ball at a suitable spot without having to watch its entire flight. When someone jumps over a puddle, s/he calculates the force and direction of a jump into the wind on the basis of his/her memory of physical sensations associated with prior leaps. Mental imagery involved in the calculation of accomplishing a successful jump would hinge on the size of the puddle, what the person was wearing, the state of the ground surrounding the puddle (slippery, dry, etc.) and so on. Whether or not to attempt the jump, would be based upon mental images of past experiences concerning these conditions. Also, an image of missing the mark in the jump would also be stored, assuming that the person involved may have failed to gauge properly the distance in the past. The two images of distance and force would be studied along with the displeasure of wet feet and soiled clothes.

When we plan the most efficient route from the pub to our home, we recall the layout of the surroundings by taking an imaginary walk through the area. Routine accomplishments such as these require accurate perceptions of one's surrounding and physical location. When objects leave the field of vision or get blocked from sight as we move about, mental imagery takes over by transforming sensory input into a reliable simulation of the immediate environment. Mental imaging makes it possible to update what has been seen and to sense the body's movement through space. The brain takes in a

mishmash of sensory cues that occur during movement and forms them into spatial and visual imagery of our body's speed, position, and direction. Loomis et al (1993) directed studies where people first stand in a field and look briefly at an object placed up to 40 feet away. When blindfolded, they are instructed to walk towards the object and end up an average of 22 inches from the object's location - or are able to point continuously towards the object when taking paths that veer off to the side.

Awareness that mental imagery is necessary not only for proper mental functioning, as sensory deprivation research suggests but for routine movement and action, leads to the question concerning how mental imagery might be instrumental in mental improvement. Certainly the vast number of stored images contain among their numbers certain images more vital than others, and among the vital ones, images crucial to one's sense of him/herself and his/her world.

Chapter 3

Imagery as a Psychotherapeutic Tool and its Relation to Brain Laterality

Imagery as a psychotherapeutic tool

In the preceding portions of this section, it has been asserted that mental imagery exists from sensory deprivation studies, dream studies, and Wolpe's proposals. The role of mental imagery has also been maintained as one to insure harmonic mental functioning. So far, it has also been maintained that mental imagery shares characteristics of perception and is necessary for our movements and activities. Since this dissertation additionally delves into mental imagery as it applies to human behaviour and counselling in America and Britain, it is integral to the dissertation that it is recognised why and how mental imagery can aid in counselling psychology. Before we look at the differences in the perceived significance of imagery therapy in the two countries, to show imagery's efficacy within behaviour itself is important in order that it may be seen why it can be a useful aid in counselling. First to be covered will be how acknowledgement of the stored associations of mental imagery can be facilitated in therapy.

Stored Memories

In spite of the clinical implications of mental imagery's utilisation in psychotherapy, according to Stosahl and Ascough (1981) there are few theoretical designs existing which account for the therapeutic competence of imagery.

To Ley (1979) imagery can be seen as a mode leading into stored associations, which sounds similar to Hebb's "cell

assemblies" which make up memory and experience, and Pylyshyn's "propositional network theory". Realising this, gaining access to these memories and sensations through imagistic means may greatly strengthen material available for inquiry during a psychotherapy session. Having said this, we cannot say all memories are stored imagistically. Therefore, it is useful to discover which memories, if any, are stored through images. It would also be valuable for psychotherapeutic reasons, if there is a purpose (pertaining to mood and behaviour) behind this type of storage and/or if there is a difference between these memories and those stored through other means.

An applicable theory (Ley, 1979) suggests that images are "stored" and governed by the right hemisphere of the brain. It is believed that childhood experiences (images, emotion) are stored in the right brain before the full development of the left brain (verbal, logic). Accordingly, our personality can unknowingly be influenced by these "unlocked" right brain memories because they are not based on the same symbols as are understood by the predominating left brain, and thus, cannot be controlled.

According to Tomkins (1970) many childhood experiences are less intricate and organised than that of the adult. When these childhood memories are forgotten, it is not due to active repression, but to the two different memory systems. Therefore, it is not that we are protecting the self by stifling certain memories or even that these memories are

uncomfortable. We simply do not have the imagistic "key" to unlocking them because we have traded it in for the verbal key as an integral part of our maturation process as we started learning language and came to rely upon our verbal skills.

Further evidence which suggests that memories are stored in images can be cited from studies executed by Penfield (1966). Some of his patients who had electrical exploration of the right temporal lobe cortex reported vivid and lifelike flashbacks of their lives. These combined vivid sensations of several modalities simultaneously. When the same point was stimulated again, the same event was usually repeated. Penfield asserted that some memory storage site was triggered and that certain memories were then rerun. He also speculated that this scanning of past experiences would typically be at a level subliminal to subjective consciousness.

From the psychotherapeutic standpoint, if our memories are stored in images, what good would imagery techniques be for "unlocking" these memories, if we could not ascertain that these memories were influential to one's mood and behaviour? In order to approach this notion convincingly, the basics should be articulated. Before delving into the supposition that these imagistic memories influence our mood, let us first verify the conjecture that the hemispheres of the brain have different functions; one of these pertaining to imagery.

Two separate realms

How might each hemisphere of the brain influence our behaviour? Although it is tempting to try to explain how each hemisphere regulates our thoughts, feelings, and actions, to proceed with this intention may result in an unsupported idea of the issue which goes far beyond any data base. Therefore, support will be given for the distinction between these separate realms, but, as would be the case regarding any research, the reader is left to make up his/her mind. My comments withstanding, the composite of these eclectic findings indicates a connection between the concepts of the right hemispheric functioning, emotions and imagery, and its facilitation in psychotherapy.

The discovery of laterality

Marc Dax, a country doctor, presented his first and only research paper to a medical society meeting in Montpellier, France (Bancroft 1987). His paper summarised his observations of patients who endured aphasia, the loss of speech due to brain damage. In more than 40 of these patients, damage had been done to the left hemisphere. This affliction never happened when damage was done to the right hemisphere alone. Dax concluded from this that each hemisphere had a certain function and that the left hemisphere controlled speech. Unfortunately, Dax's paper was not well received and he died the following year. The significance of

his discovery was disregarded (1987). Paul Broca was properly credited in 1861 (Buck 1976) when he noticed that lesions in the left side of the brain caused a loss of speech and damage to the right side did not. Later in 1886, Sir Victory Horseley experimented with the living brain in the treatment of epilepsy (Pietsch,P. www). Neurologists could see that the corpus callosum was involved in the seizures. When severing the corpus callosum first started being done with humans, these patients initially appeared quite normal. However, if an object was placed in the patient's left hand, he could not say its name. If it was transferred to the right hand, there was no problem in saying it. The reason for this seemed to point to a distinction between the functions of each brain hemisphere. Since our left brain controls our right sided body, and our right brain controls our left sided body, the inability of the patient to speak the object's name when placed in the left hand, suggested a deficit of language capabilities in the right brain. On the other hand, this experiment showed the left brain to be language competent.

This was further shown in tests where the patient was only able to read simple words when put in his right visual field and could not read the words when put in his left visual field. Again, the left brain could recognise the words and the right brain could not. The right brain appeared simple and incompetent. Finally, Gazzaniga performed an experiment where he showed the patient a picture off his left visual field (right hemisphere) and told him to match it with one of

ten objects the patient, with his right visual field, could not see which lied behind a screen. The patient performed as well as any normal person.

It seemed the right brain was speechless, illiterate, yet highly imaginative and intelligent. It was used to process certain kinds of memories, and before the right and left hemispheres had been separated, evidently the right would simply rely on the left when it needed help verbally. Sperry summarised the hemispheric disconnection as follows:

> The most remarkable effect of sectioning the cerebral commissures continues to be the apparent lack of change with respect to ordinary behavior. [The patients]...exhibit no gross alterations of personality, intellect or overt behavior two years after operation. Individual mannerisms, conversation and bearing, temperament, strength, vigor and coordination are all largely intact and seem much as before surgery. Despite this outward appearance of general normality in ordinary behavior...specific tests indicate functional disengagement of the right and left hemispheres with respect to nearly all cognitive and other psychic activities. Learning and memory are found to proceed quite independently.... Each hemisphere seems to have its own conscious sphere for sensation, perception, ideation, and other mental activities and the whole inner realm of gnostic experience of the one is cut off from the corresponding experiences of the other hemisphere - with only a few exceptions... (1968, 730)

In other words, according to Sperry, although on the outside, split brain patients seemed normal, their cognitive activities, such as learning and memory, showed a separation of hemispheres. Each hemisphere seemed to possess its own way

of perceiving and thinking.

To continue on this theme, recent findings in the field of cognitive psychology, due largely to improvements in electronic imaging techniques, indicate that mental processing of distinct types of functions, such as mathematical calculation or pattern recognition, occurs in highly localized areas of the brain (Gardner 1985).

Left hemispheric functions are primarily linear and sequential (you will recall that language is sequential and mental images are parallel, which makes mental images faster to recollect) ; it is this "logical" side of the brain that executes mathematical calculations, processes language, and presents parts of elements as distinct from an unlimited number of possible patterns and relationships. Right hemispheric functions are primarily non-linear and paralogistic. This intermixed side of the brain processes visual-spatial information, listens to music, and establishes patterns and relationships (Williams 1990). Many researchers contend that cognitive functions are not simply separated between left and right hemispheres, but that the brain is further arranged into a number of associated but semi-autonomous regions, each subprocessing a particular set of operations (Gardner 1988).

If the case for regional specialisation is accepted, then one can surmise that certain subfunctions, due to either environmental or genetic factors, or both, might develop

disproportionately in relation to others, and that one or more areas could eventually become dominant, thus resulting in a distinctly modal-based set of conceptual protocols. Gardner asserts that this may explain why some individuals seem to be musically or mathematically gifted or why idiot savants display such unbalanced skills. It is his contention that humans have several types of intelligences, each related to various modal orientations, and that this largely determines the best circumstances under which learning for each individual can take place. This theory is reminiscent of Hebb's theory that when knowledge escalates, more cell assemblies develop. Gardner posits that there are six distinct types of intelligences that we possess: linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, and inter/intra - personal, though he admits that these categorisations are somewhat inexact and that there may well be other unidentified types. Imagery comes under the auspices of spatial intelligence. Gardener refrains from using the term "visual-spatial", since he contends that these separate intelligences are not necessarily dependent upon specific stimuli:

> From some points of view, it would be appropriate to propose the descriptor visual because, in normal human beings, spatial intelligence is closely tied to, and grows most directly out of, one's observation of the visual world...But just as linguistic intelligence is not wholly dependent upon the auditory-oral channels and can develop in an individual deprived of these modes of communication, so, too, spatial intelligence can develop (as we shall see) even in an

> individual who is blind and therefore has no direct access to the visual world.(Gardner, 1983, p.174)

In support of this contention he cites studies in which subjects, blind since birth, were able to organise the attributes of tactile forms into spatial representations and extrapolate from these to perform various tasks such as mentally rotating objects and navigating through unfamiliar locations via maps. (Gardner,1983)

Spatial intelligence, as with other intelligences, surfaces as a combination of abilities roughly delineated as:

> ...the ability to recognize instances of the same element; the ability to transform or to recognize a transformation of one element into another; the capacity to conjure up mental imagery and then to transform that imagery, the capacity to produce a graphic likeness of spatial informational; and the like (178).

Imagery can be distinguished from the general realm of spatial intelligence as entailing visual recall and permutation rather than operations of direct perception. Imagery is visual-spatial synthesis; that is, the formation of complex mental images through recall and reconfiguration of elementary or archetypal spatial forms. These archetypal forms constitute a kind of "visual vocabulary", with which one can assemble innumerable visual "statements" or "propositions", yet this vocabulary is not essentially imagistic. For example, if one is asked to imagine a field, no particular field needs to come to mind. Rather, an archetypal field which embodies the qualities of "field-ness"

is typically depicted. If more specific imagery is required, such as a field surrounded by trees, one then assembles these visual elements into a new image. However, this new image may still be considered archetypal since it lacks definition in other areas (size, style of the ground, etc) and may be conceptually amorphous. According to the Kosslyn account, images have two major components:

> the surface representation is the quasi-pictorial entity in the active memory that is accompanied by the subjective (Kosslyn's term) experience of having an image. The images are likened to displays produced on the athode-ray tube by a computer program operating on stored data. In other words, the images are temporary spatial displays in active memory that are generated from more abstract representations housed in long term memory. These initial abstract representations consist of propositions and other kinds of non-imagistic information, such as that embodied in concepts (p.327-328)

In Kossyln's words, images have other information connected to them in our memory, which goes back to Pylyshyn's propositional network theory.

There are limits to the types of images that can be produced (as opposed to recalled). For instance, if asked to envision a manuscript, one can usually conjure its shape, the image of the dark print across the white pages, perhaps even the colour and texture. However, if asked to read the print which appears on its pages, one can not do so. This is because the image was synthesised from a recalled set of visual components which correlates with most manuscripts, but not any particular one. Since there is no visual category for

most written passages, the page contents must be synthesised from its components, words which come under the domain of linguistic intelligence. The synthesis protocol of the imagery process can not accommodate such a long string of contingent variables due to its non-linear orientation, thus if one attempts to visually type the passage as it is composed, they will discover that their sentences fade into illegible scroll and they will be left with their initial archetypal image. The archetypal forms or properties and the rules concerning their interrelatedness must be acquired through experience. This imposes another type of limit upon visual synthesis. For instance, a person born blind can not imagine the colour blue, since he possesses no archetype for colour, and a sighted person can not imagine a colour beyond the scope of human perception since no rule for producing such a visual can be experienced.

Although there are certain limits to the types of images that can be synthesised, there seem to be no such limits to visual recall. If one can visually perceive it, then ultimately it can be reproduced. Though most do not recall the complete details of any given image, it has been demonstrated by certain individuals possessing photographic memory that such ability exists (Gleitman 1983)

How is this relevant to counselling psychology? From the experiments and investigations related to brain laterality, we may say that the right hemisphere, has stored

memories differently than the left. Although it cannot recognise words, as discovered in the earlier studies, it can recognise objects. Having said this does not imply that because the left seems more prominent in our lives due to everyday communication, the right is not needed. It seems that before maturing, if we used the right side before we learned language to store information it would have little function today. However, the fact that it is still processing information in the same way shows that we will always require the right brain's coding as well as the left brain's.

One may say that the right brain continues to code regardless if we need it or not, and will not shut off even if we do not use it. In other words, it is a stupid spare for the left. However, with split brain patients, after the right brain realised that it could no longer communicate with the left brain and had to get its information from the outside world, it was able to, just as the left brain had always done. An analogy may be made with a tooth. When a mature tooth falls out or is pulled, the opposite tooth (whether above or below) compensates for for this absence by growing taller, taking up the empty space.

When the right brain becomes severed from the left, despite its illiteracy, it can be well on its way to literacy within six months (Sperry, 1968). This suggests that it is never incapable of learning to read in the first place. Obviously, it is not necessary for the right brain to learn how to read whilst it is connected to the left brain. The

fact that the right brain can grow intellectually if it needs to, suggests that if we did not benefit or need the right brain's assistance, it could possibly reduce its responsibility and serve us less. Afterall, thanks to the left brain, the right brain does not learn to read even though it has the ability to do so. However, the right brain does not decrease its responsibilities due to lack of use; which implies that our behaviour is somehow still governed by it and we still use its services. It might be contended that the right brain continues to be as active as the left but that its activity is more private.

Although the controversy which surrounds cerebral asymetrics continues, a relatively secure affiliation between imagery and cerebral laterality has surfaced. Regardless of the diverse definitions of what imagery is and does, it is most probably doing it in the brain's right hemisphere (Ley 1983). It has been shown that damage to different parts of the right hemisphere results in a loss of visual memory, visual dreaming, and lucidity of imagery (Humphrey & Zangwill 1951). On the flip side, restitution for deficiencies in verbal memory as a result of left hemisphere injury, can be accomplished through the teaching of imagery mnemonics which are assisted by the undamaged right hemisphere (Jones-Gotman & Milner 1978). Mnemonics uses association of facts in order to increase recall.

When researching how this is applicable when discussing the function of the right hemisphere, we can point

to several studies. We will recall Penfield's experiment which involved stimulation of areas of the right brain which commonly resulted in reports of hallucinatory sensations and profuse memory images (Penfield & Perot 1963). Electrophysiological (EEG & GSR) studies of normal subjects have found that during imagery experiences, there is increased activity in the right hemisphere (Robbins & McAdams 1963). Visual recognition tests of laterally presented abstract and concrete words have indicated a right hemispheric ability to read, store, or otherwise mediate the processing of high-imagery words (Ley 1983).

Imagery and affect

In short, science recognises the relationship the right hemisphere has with imagery. It has also addressed how this is relevant to memory. However, one may question the relevance of the discussion of brain laterality when discussing psychotherapy if we can not equally say that in addition to certain types of memories, the right cerebral hemisphere mediates both imagery and affect.

According to Donald Hebb, who inspired sensory deprivation studies with his writings of the functions of neurotransmitters in The Organization of Behavior (1949), memories are based on the interactions of the cell assembly, each one of which appertains to one of the five senses. Most of these assemblies are generated in childhood, while others develop as knowledge escalates. With this in mind, dialogues

have meaning when we connect them with other shreds of knowledge. This knowledge which entails association with our senses involves our emotions. Memories are stored impressions of experiences which have been received through one or more of the five senses. Associated with each of these impressions is the feeling encountered at the time, good or bad. When memories are recalled, they can make us either happy or emotionally disturbed depending on what they are. Strong emotions are the key variable that make us bother to remember things. For instance, when I was a child, I once started a small fire. Even though I was only two years old, I still remember the look of horror in my mother's face as she put it out with a towel. The stronger the emotions experienced, the more likely the experience's development to long term memory. The experience becomes stored where we need it for survival.

Perhaps the reason that it is often impossible to tell memories and emotions apart, is because they are so closely linked. Having said this, we may speculate that the imagery memories of the right hemisphere involve emotion. Therefore, we can surmise that unlocking the right hemisphere through imagery techniques has the potential to be beneficial in the psychotherapeutic setting since unlocking memories can unlock emotions as well. Also, if the right brain can be rendered less "cluttered", the potential for continual strong mental health might be increased.

In order to have a more substantial consideration regarding the right hemisphere's involvement in emotion, since

it has been maintained that imagery takes place in the right hemisphere (Ley, 1983) and childhood memories are stored in images, it would be useful to consider some of the following studies. Although some debate continues as to the contribution of each hemisphere to emotional perception (Tucker 1981), most experiments of normal subjects have found predominantly right hemisphere dominance for processing an assortment of emotional stimuli.

Research with neurologically intact subjects have generated results representative of the right hemisphere's importance to emotional experience and behaviour. Observing lateral eye movements in reaction to questions requiring internal consideration, Schwartz, Davidson, and Maer (1975) found that emotional questions roused an elevated frequency of left lateral eye movements, suggesting right hemisphere workings of the emotional matter.

A task entailing judgements of sentence content and the speaker's tone of voice was conducted monaurally via the right or left ears to ordinary college students by Safer and Leventhal (1977). A left ear superiority for the emotional judgements was interpreted as further indication of the right

hemisphere's importance to affective comprehension. Photographs and drawings of faces depicting different emotions

seem to be more promptly and correctly recognised when they are displayed to the left visual field, and hence assimilated by the right hemisphere (Safer 1981).

There is also evidence which supports that emotionally stimulating music has a right hemispheric superiority for such information processing. Tonal sequences eliciting both positive and negative feelings were found to be rated more accurately and judged as more emotional when listened to on the left ear (Bryden et.al 1982).

In addition to these experiments with neurologically intact subjects, research on brain damage and psychiatric disorders has shown the significance of the holistic and non-verbal facets on the right hemisphere (Bryden & Ley 1983). In 1973, Wechsler found that damage to the right hemisphere impaired story recollection particularly when the story had emotional themes. Heilman, Scholes, and Watson (1975) asked patients with right or left temporoparietal lesions to appraise the content of spoken sentences and the mood of the speaker. Although both groups did well on the sentence's main idea, those with the right lesions were profoundly impaired when it came to emotional judgement. According to Heilman, Scholes, and Watson, "It is clear from these experiments that patients with right hemispheric dysfunction...have a defect in the comprehension of the affective aspect of speech (71)".

This same kind of deficit in recognising and communicating emotion was demonstrated in a study (Tucker et al 1976) showing the limitation of those with right hemisphere damage in communicating emotions through tone of voice. In this study, six subjects had right tempororparietal lesions and six had left temporoparietal lesions. They were presented

with 32 tape recordings of sentences. In 16 of the trials, the subjects were asked to judge the emotional mood of the speaker, and in another 16 trials, the subjects were asked to judge the content. Line drawings exhibiting the four emotions (happy, sad, angry, indifferent) or line drawings coinciding with the four key contents were displayed with each sentence and the subjects were asked to point according to appropriateness. On the emotional portion of the test, the right hemispheric subjects scored significantly lower than the left hemispheric group. This further suggests that those with right hemispheric dysfunction had a defect in the comprehension of affective speech.

According to MacLean (1970), referring to these studies, fairly solid evidence has indicated that the right hemisphere is particularly important to the understanding and communicating of emotion. MacLean maintains that at least primitive emotional responses involve the limbic system, which is the ring of interconnected structures in the midline of the brain around the hypothalamus involved with emotion and memory.

Having said this, the experiments cited here have largely studied the lateralization of emotional *perception*. There is also evidence which suggests that the right hemisphere is asymmetrically affiliated with emotional *expression*. For instance, several experiments have found that emotions are portrayed more passionately on the left side of the face (Borod & Caron 1980). Other clinical evidence

indicates the distinct role of the right hemisphere in emotional expression. Studies of psychosomatic symptoms (Axelrod et al 1980) and studies of hysterical conversion symptoms (Galen et al 1977) have found distinctions in symptom features which connect with the right hemisphere.

There is also clinical evidence which shows operative hemispheric differences in the emotionally disturbed. Outcomes of neuropsychological studies of clinically depressed patients are relevant for the grounds associating laterality, imagery, and healing. It has been indicated that some kind of disorganisation within the right hemisphere is involved in depression (Ley 1979). Data on relative hemispheric performance capacity during hypnotic induction of a depressed mood in normal college students have shown that right but not left hemisphere performance was impaired by a depressed mood state (Tucker et al 1981). In addition, when the individual's mood level was elevated with successful treatment, the right hemisphere's capacity was regained.

Conclusion

Why Use Imagery?

Considering the research presented concerning emotions and imagery and their association with the right hemisphere, most psychotherapeutic approaches, whether psychoanalytical, gestalt, or nondirective, are endeavours at decoding the accumulation of experience within the right hemisphere. The imagery mechanisms characteristic of the

right hemisphere determine much of the client/therapist procedure as well as more customary therapeutic change.

Appraising the potential that imagery can have in therapy, why would a therapist choose to use imagery rather than another technique? If it is true that there are deviations in teaching imagery methods in British and American counselling institutions, why would this be important to the quality of counselling that a client might receive in each country?

The prospect that functional hemispheric differences are associated in holistic rehabilitation is reinforced due to the evident integration of imagery, affect, and disease in the field of psychology. Employing imagery has been found to arouse the right hemisphere (Robbins & McAdams 1984). It has been found that electrical stimulation of the right hemisphere, as is produced when taking part in mental imagery, leads to increased levels of norepinephrine (NE) and dopamine (DA) metabolites (1984). Since the depletion of NE and DA results from unavoidable stress and is associated with depression, these studies suggest that engaging in mental imagery techniques can activate the right hemisphere and relatively inhibit the left, that is, if the hemispheres have a relationship of reciprocal inhibition. Keeping their point as a reference, imagery could reduce the rate at which NE and DA are used in the left hemisphere, and by conserving these substances could reduce the chance of depression and mental illness.

According to Sheikh and Panagoitou (1975),

> images may have a greater capacity than the linguistic mode for the attraction and focusing of emotionally loaded associations in concentrated forms: verbal logic is linear; whereas the image is a simultaneous representation. The quality of simultaneity gives imagery greater isomorphism with the qualities of perception, and, therefore, a greater capacity for descriptive accuracy (557)

Simply put, Sheikh and Panagoitou maintain that imagery is closer to perception than language and is thus linked more to emotion due to the quality of the recollections.

With this premise in mind, Klinger (1980) and Kosslyn (1980) maintain that experiencing something in imagery is the same psychologically as experiencing it in actuality. A simple example of this can be seen in our dreams. Although dreams are far from reality, during nightmares, we can get as scared as we might in real life. Because experiencing something in imagery affects us psychologically, our body responds with an increased rate of heartbeat, more rapid breathing, butterflies in our stomach, and excess sweating. What affects us psychologically can also affect us physiologically. Blushing is also a common example of how our bodies can respond to an psychological situation. Our bodies react whether the experience has occurred in the external world or is an image held in our minds. Scientists have long been aware of the neural connections between the brain and the body:

> All parts of the body are connected directly or indirectly with a central governing system and function under the control of the central organ. The voluntary muscles as well as the vegetative organs, the latter via the autonomic nervous system are influenced by the highest centres of the nervous system (Alexander 1950 p.36)

Our psychological state influences the workings of our body. Therefore, if imagery therapy is the most effective for accessing memories and emotions, as Sheikh and Pantagoitou (1975) claim, it can help our physiological functions as well as our mood:

> All emotions are accompanied by physiological changes: fear, by palpitation of the heart; anger, by increased heart activity, elevation of blood pressure, and changes in carbohydrate metabolism; despair, by a deep inspiration and expiration called sighing. All these physiological phenomena are the results of complex muscular interactions under the influence of nervous impulses, carried to the expressive muscles of the face and to the diaphragm in laughter, to lacrimal glands in weeping, to the heart in fear, and to the adrenal glands and to the vascular system in rage (38)

Recognising how our emotions can affect our bodily functions, and mental imagery's association with emotion, let us consider how it can influence the healing process.

Since 1900 medical scientists have explored the role the mind plays in healing. An example is physicians recognition of the efficacy of placebos, which are substances with no known pharmacological action. Placebos have been found to work in both physical and mental illnesses. In one study of placebos, "patients hospitalised with bleeding peptic ulcer showed 70 percent 'excellent results lasting over a

period of one year' when the doctor gave them an injection of distilled water and assured them that it was a new medicine that would cure them (Frank 1961 p.68)"

In another study, an effective method for removing warts was discovered by painting warts with a brightly-coloured, standard dye and telling patients it was an effectual medicine:

> Apparently the emotional reaction to a placebo can change the physiology of the skin so that the virus which causes warts can no longer thrive....In this connection it may be worthwhile to recall that until the last few decades most medications prescribed by physicians were pharmacologically inert. That is, physicians were prescribing placebos without knowing it, so that, in a sense, the 'history of medical treatment until relatively recently is the history of the placebo effect'(1961. p. 66)

Recognising the link between emotions, memories, and mental imagery is valuable when discussing such situations where the body responds to what we believe to be real over what is real. Such examples imply that the material world is only as real as we make it. Paracelsus, a Renaissance physician whose medicine embraced the link between occult mysticism and science, said of the power of our internal processes:

> Man has a visible and an invisible workshop. The visible one is his body, the invisible one is imagination (mind)...The imagination is sun in the soul of man....It calls the forms of the soul into existence....Man's physical body is formed from his invisible soul (Hartmann 1973 p.111)

Paracelsus asserted that the body was nothing without

the mind. Concerning the mind's power in the healing process Paracelsus expressed:

> The spirit is the master, imagination the tool, and the body the plastic material....The power of the imagination is a great factor in medicine. It may produce diseases in man and in animals, and it may cure them....Ills of the body may be cured by physical remedies or by the power of the spirit acting through the soul (112)

We emotionally live in our right brain. This existence is housed in images.

As maintained by Sheikh and Shaffer (1979), images act as sources of motivation for future behaviour, whilst Klinger(1980) showed that goals and solutions rehearsed through imagery during therapy apply outside the therapy session. As hit upon earlier, imagery seems to be the main access to important events occurring early in life prior to the predominance of language (Sheikh & Panagiotou 1975). According to the Adlerian personality theory, early recollections have great potential because they are indices of present attitudes, beliefs, and motives (Mosak 1958).

When imagery is centred on, it usually uncovers intense affective states or produces emotional reactions (Horowitz 1970; Shapiro 1970). Although language allows better communication of experience, as maintained by Horowitz (1970) and Shapiro (1970), it loses direct contact with the subjective meaning of the event. Images, however, bypass the defences and usual inhibitions that may arise in verbal obstruction, hence opening up wider avenues for exploration in

therapy (Panagiotou & Sheikh, 1977). This is in accordance with Paivio's dual coding theory,

Barber (1978), Sheikh & Shaffer (1979) showed that imagery has the ability to generate a variety of physiological changes. Miller (1972) alleged that imagery may be the only sensible way to gain control over the autonomic nervous system - the system of nerves and ganglia that innervates the blood vessels, heart, smooth muscles, viscera, and glands, and controls their involuntary functions, consisting of sympathetic and parasympathetic portions. Perhaps Miller's claim is excessive, but the evidence presented in this section establishes that mental imagery exists. The evidence suggests that mental imagery is a vital part of how the brain functions, that it appears to be housed in the right hemisphere of the brain, and that association with the right brain, the brain of emotion, permits a counsellor and patient to explore images as an effective method to explore one's emotional life.

In the subsequent section, imagery in human social and cultural history will be addressed. Although there was no scientific evidence to support the existence of mental imagery, it was utilised as well as deliberated thousands of years ago. Mental imagery's emergence into psychological thought will then be reviewed followed by a discussion of the different paths taken by British and American psychologists during the period of the world wars regarding the significance of mental imagery as a psychological phenomenon. This will

then lead into the first ever comparative study of the perceived significance of mental imagery as a psychotherapeutic tool: with reference to Britain and America.

SECTION II

Historical Vicissitudes of Mental Imagery

Looking at the important role imagery has played in literary and cultural traditions is crucial to an understanding of the role of mental imagery in human thinking and contextual referencing. It is also important so as to help us see the extent to which it has distinguished humans from other non-human primates. Before we critically analyse mental imagery's background in historical psychology, this probe must be done.

Chimpanzees can use tools and can be taught to use computers and sign language for uncomplicated emotions or desires. Wenke (1984) contends, however, that chimpanzees are different from humans in their usage of images. To Wenke, chimpanzees cannot use images at a complex level that would give them any comprehension of notions of higher level thinking, such as "Bible" or casting a vote (1984). Wenke claims that human finesse in manipulating images is most clearly exemplified by human aesthetic capacities. Though chimpanzees can smear canvasses in a fashion not unlike that which is characteristic of some modern art, they are deficient

when it comes to more representational painting; they cannot respond to aesthetics (1984). The various smears of paint to a chimpanzee are but smears of paint, not patterns or configurations with artistic merit and meaning. In contrast, human expression and understanding since 60,000 BC would have been impossible without the rich use of images, for it is through images that seminal aspects of western civilisation have been preserved. Human use of images is unique among primates and is at the core of what makes humans the beings we are.

Early societal artistic and representational imagery

The earliest record of imagery phenomenon is in the form of visual images. During the Ice Age - 60,000 to 10,000 B.C. - cave dwellers in France, Spain, Africa, Scandinavia, and perhaps elsewhere, painted representations of what they saw using on the walls of their caves as their canvas. Most of these images drawn by these early humans were animals that they hunted or other animals holding significance to their very existence. The images were of necessity, of creatures vital to their lives and to their sense of themselves.

One of the most striking representations of this form of human imagery can be found in the Lascaux cave paintings in Dordogne, France (Ruspoli, 1987). First investigated in 1940, the cave consists of a main cavern and several steep galleries, all of which are decorated with engraved, drawn, and painted animals. Some of the most notable paintings

include three large aurochs (ancestors of most breeds of domestic oxen), their horns portrayed in a twisted perspective; a strange unicorn-like animal, possibly a mythical creature; red deer; horses; and the heads and necks of stags which seem to be swimming across a river. These 17,000 year old Lascaux paintings manifest humans' imaginative powers as well as human's ability to replicate images from memory. These reproductive images allow us to examine human behaviour in the past in times before there was written history. From these images, we can speculate about beliefs and values from what subjects were chosen to be painted. In addition they can also provide information about the artistic abilities of early man. An explanation of cave art is that of "sympathetic magic" (1984). In magic, a sympathy is a term used to describe the links between symbols and icons and the things they describe. The closer the image to the real object, the greater the sympathy. To Gowlett , the images of animals within special places in the cave would assist humans in hunting them, and humans could feel a greater sense of control over the environment after etching these pictures from their minds. Certainly the need for images suggests that these early men found comfort and some sort of assurance from visual images in their dwelling places.

A second kind of imagery display which has been found in other caves involves pictures of men wearing animal masks. It has been theorised that these paintings portray tribal shamans - priest-magician-healer figures common to many non-

literate cultures. It is believed that in some cultures that the shaman becomes one with the animal and that putting on the mask of an animal give the shaman power over it (Jung 1968). Contemporary anthropologist, Levy-Bruhl, has called the state in which the subject does not separate himself from the object or image "participation mystique"(24). He contends that this state of societal development is characteristic of primitive man who did not separate himself from the plants and animals in his environment. Carl Jung stated, "Plants and animals then behave like men; men are at the same time themselves and animals also, and everything is alive with ghosts and gods (Wilhelm 1969, p.123)."

For the American Indian, similar to an earlier primitive man, animals, cornstalks, stones, and mountains were all alive and were symbols of spirits that gave form and life. Images like these linked the people to the earth and substantiated there place in the universe. Like early humans, Native Americans gained a security through images. Indian chief, Ochwiay Biano of the Taos Pueblo expressed it to Carl Jung in this way:

> We are a people who live on the roof of the world; we are the sons of Father Sun, and with our religion we daily help our father to go across the sky. We do this not only for ourselves, but for the whole world. If we were to cease practising our religion, in ten years the sun would no longer rise. Then it would be night forever (Jung 1963 p.252)

Jung said of this remark, "Knowledge does not enrich us, it removes us more and more from the mythic world in which we

were once at home by right of birth (252)." Knowledge, meaning rational empirical thought, was separate from understanding.

Originally, language was based on images. Words functioned to elicit certain images; words made it possible for people to share experiences with others who had not been present at the event concerned. Like the images, the words of the American Indians were originally considered to have the power to invoke action. For this reason, they were considered sacred (Robinson, 1972). Ishi, the last of the Yana Indians of northern California, blended words together, evoking images:

> Winter was also the time for retelling the old history of the beginning of the world and of how animals and men were made, the time to hear over again the adventures of Coyote and Fox and Pine Marten, and the tale of Bear and Deer. So, sitting or lying close to the fire in the earth-covered house, and wrapped in warm rabbitskin blankets, with the rain falling outside and the snow moon bringing a light fall down Waganupa as far even as Deer Creek, the Yana cycle of changing seasons completed another full turn (Kroeber 1961 p.39)

The surplus of concrete words increases humans ability to evoke images from them (Paivio 1971) as well as increase recall.

As language evolved to become more complex, words came to aid not only in the evoking of images and experiences, but in the separation of humans from their experience. Language helped in externalising the experiences of an individual from his peers. In turn, he enriched his

experiences through language. With this evolution, words no longer carried the physical suddenness of a situation but instead became vehicles which were so removed from experience that they no longer activating the sensations of objects to which they referred. Words became implements which made it possible to categorise objects, a key component of modern, rational thought. According to John Locke in his vital work, An Essay Concerning Human Understanding: Book 3, chapter 9, "The chief end of language in communication being to be understood, words serve not well for that end, neither in civil nor philosophical discourse, when any word does not excite in the hearer the same idea which it stands for in the mind of the speaker(6)." Moreover, Bishop Berkeley (1710), another scholar on the subject, maintained that a word was necessarily more general and abstract than any mental image could be. This position is reminiscent of Pylyshyn's "propositional network theory", which states that describing personal mental images verbally to another person does not insure that s/he will understand the depth of that mental image.

Communication was an internal referencing system directed to oneself, and understanding through perception became a matter of labelling objects. The New York psychoanalyst Ernest Schachtel put it in this way:

> The usual perceptual experience is one of recognition of something either already familiar or quickly labelled and filed away in some familiar category. It does not enrich the perceiver, but it may reassure him -

> usually without his awareness - that everything is 'all right'...Compared with this the fullest perception of the object...is characterized by an inexhaustible and ineffable quality, by the profoundest interest in the object, and by the enriching, refreshing, vitalizing effect which the act of perception has upon the perceiver. [The] perception (especially of nature, people, and great works of art) always breaks through and transcends the confines of the labeled, the familiar, and establishes a relation in which a direct encounter with the object itself, instead of with one or more of its labeled and familiar aspects, takes place (Schachtel 1959 p.177)

Beyond the labelling of words, the understanding of the representations through our senses is inevitably appreciated whether consciously or unconsciously. It is vital to the thinking processes that define us as humans separate from other primates. The desire to break through the labelling has been an inspiration for literate humans in discovering the influence imagery can have on our perceptions. We can see this exemplified as we subsequently consider the importance imagery has had in creative culture.

Chapter 4

Creative Aspects of Images in Culture

Since the time of cave paintings, humans have projected their spiritual visualisations into art. Art allows others to participate in the artist's vision and perception. Beginning with the river-basin cultures of Assyria, Babylonia, and Summaria from 4,000-1,000 BC, images of fertility gods were externalised through sculptures. Supposedly the presence of these sculptures would encourage the fertility needed for rich fields, prosperous harvests, and healthy children - all representations of prosperity. The images presented that which was vital to the existence of society.

The more whimsical and other aspects of imagery have also been recognised for their human value. The many religious references regarding dreams and visions, need not all be reviewed in order to gain an adequate understanding. In the Old Testament, for example, it is written that though humans could not open their ears when God spoke, "In a dream, in a vision of the night, when deep sleep falleth upon men, in slumberings upon the bed; Then He openeth the ears of men, and sealeth their instruction (Job 33;15-16)." This implies that nocturnal imagery is seen as powerful by Biblical Jews and Christians for it was through these nocturnal images that their god guided them. The importance of dreams can also be found in other religious scripture. In the Quran, the holy book of Islam, Joseph is asked to interpret the king's dream:

"Joseph! O truthful one! Explain to us seven fat kine which seven lean ones devoured, and seven green ears and (seven) others dry, that I may go back to the people so that they may know (240)". Although the different meanings associated with certain dreams need not concern us at this time, emphases have been placed on dreams as a symbol of man's status in life or as a manifestation of events to come. These dreams/images were the vehicle of instruction, perception, and understanding.

Some image-making in religious traditions can carry complicated teachings. For example, in Judaism and Christianity, the idea of an intangible God is upheld and "graven images" or statues are condemned: "What are these images to whose worship you cleave?" Abraham asks before he destroys all the idols but one. This story illustrates responsibility to scorn the magnetism of external imagery, such as fertility gods, and defend the more advanced notion of an abstract monotheism. However, according to Loretta Vidos, "God didn't say we shouldn't make any images at all....What is forbidden is the worship of images or the worship of false Gods represented by images". Vidos cites Exodus where God commanded the Israelites to make images which reminded them of him: "You will model two great winged creatures (angels) of beaten gold, you will make them at two ends of the mercy seat....The winged creatures must have their wings spread upwards protecting the mercy seat with their wings and facing each other, their faces being toward the mercy seat

Ex.25:18,20". It can be said that this was commanded in order to foster an internalised image of God, and to defeat any "external" idol worship. The order to create certain images and to destroy other images speaks to the power of images in society, human interaction, and human values. With this in mind, external and internal imagery is seen to be a major component in religion. For a religion that fears certain images vests importance in all images.

In addition to using visualisation for spiritual aspirations, humans have also used it for more materialistic ones. The cave paintings addressed earlier in the chapter are believed by some anthropologists to have been believed to have been an aid in hunting by early man. Likewise, the fertility gods of ancient cultures were believed to aid in plentiful harvests.

A common use of conscious visual imagery is that of healing the body. For instance, the shaman, or healer in American Indian culture would commonly visualise himself going on a journey, finding the soul of the ill, and returning it. From the Egyptian followers of Hermes, disease was believed to be cured by visualising health. Holding the image of a healing god in the mind was presumed to bring about good health (Jayne, 1925). This rationale of healing with the mind influenced Greek, medieval, and some modern forms of healing. The physical well-being of a human was an integral part of a whole; as state in which mental processes, including mental images, played a crucial role. The Greek healer had patients

dream of being healed by the gods (web/dreams) . Dreams as a source of healing, were a vital part of life, as bear witness the hundreds of dream temples surviving today. Paracelsus, a Swiss alchemist and doctor of the sixteenth century stated, "The power of the imagination is a great factor in medicine. It may produce diseases in man and it may cure them" (Hartmann 1973 p.129)

In the late 1800's Mary Baker Eddy founded Christian Science, which is based on the idea that God is infinite, divine Mind. Disease is a product of the mind, and through prayer and concentration the intervention of divine Mind can brought to bare so that humans can be healed. From Science and Health with Key to the Scriptures(1875/1994), Mary Baker Eddy defines some of her theology: "Science not only reveals the origin of all disease as mental, but it also declares that all disease is cured by divine Mind (169)". On how to heal oneself or someone else, Mary Baker Eddy states:

> To prevent disease or to cure it, the power of Truth, of divine Spirit, must break the dream of the material senses. To heal by argument, find the type of the ailment, get its name, and array your mental plea against the physical. Argue at first mentally, not audibly, that the patient has no disease, and conform the argument so as to destroy the evidence of disease. Mentally insist that harmony is the fact, and that sickness is a temporal dream. Realise the presence of health and the fact of harmonious being, until the body corresponds with the normal conditions of health and harmony (Eddy, 1934 p.412)

This implies that our mind is more powerful than anything in

the physical world, as was spoken of in the preceding chapter with reference to psychosomatic medicine. According to Mary Baker Eddy, we can "think" ourselves back to health. As Ms. Eddy has followers today and has had followers for over a hundred years, we can assume that many have received solace from her opinions.

Contemporary western medicine is rediscovering mental imagery as a tool for healing. For example, American physician and physiologist, Edmund Jacobson did experiments in the 1920's which showed that when people pictured themselves running, the appropriate muscles in their body contracted in slight but definite amounts (Jacobson 1942). In addition, J.H. Schultz invented a healing method call "Autogenic Training" which used visual imagery and relaxation in the treatment of diseases (Luthe 1969). Since then, many people have used visualisation in healing.

Imagery in classical poetry

In the rationalist tradition which reigned in Europe since Plato, imagination was considered chiefly to be a faculty which translated sense impressions from the outside world into mental images. Imagination was seen as an intermediary between sensation and reason, therefore, imagination is an integral part in our appropriation of empirical knowledge and understanding. However, as Francis Bacon attested, imagination had a tendency to get out of control:

> Neither is the imagination simply and only a messenger; but is invested with or at leastwise usurpeth no small authority in itself, beside the duty of the message. For it was well said by Aristotle that the mind hath over the body that commandment, which the lord hath over a bondman; but that reason hath over the imagination that commandment which a magistrate hath over a free citizen; who may also come to rule in his turn (Bacon 1889-92 p.382)

Nonetheless, Bacon contended that the extent to which imagination could be released without harm could be found in poetry; for poetry was "rather a pleasure or play of imagination, than a work or duty thereof (1889-92: III.382)." Here Bacon rejected Aristotle, who did not allocate imagination as a role in the poetic process.

During the Renaissance, imagination was seen as a productive or creative power which independently framed and assembled its own image of reality, not simply a reproductive faculty which forms images from pre-existing phenomena. Mental imagery was seen, in Baudelaire's words as, 'la reine des faculte's', 'la reine du vrai' ('the queen of faculties', 'the queen of truth') (Baudelaire 1955 p.111). Imagination provided a pathway to understanding, a vital pathway essential to and complimentary of rational thinking. Writers such as Dante and Shakespeare made a notable impact during this time owing to their large range of tangible words in combinations likely to arouse clear sensory images that would enhance the value of their written words to their readers.

One of the greatest of all mental imagery utilisers

was William Shakespeare. Spurgeon (1935), who analysed Shakespeare's imagery expertise in literature, wrote of literary imagery, "...it is only by means of these hidden analogies that the greatest truths, otherwise inexpressible, can be given a form or shape capable of being grasped by the human mind (7)". She contrasted Shakespeare's imagery to other writers such as Marlowe and Bacon. Spurgeon claims that Shakespeare created, to a greater extent, images relating to certain senses such as smell, touch, taste, and audition (1935).

According to Middleton (1931), the poet's "constant accumulation of vivid sense-perceptions supplies the most potent means by which he articulates his spiritual intuitions (68)". This implies that poetic imagery can reproduce, to some extent, the same images the poet supplies, which can bring us closer to the scene depicted to enrich the value gained from the poem.

In English literature, as maintained by Miner (1971), the use of imagery was perpetuated by Donne and Milton and because of their efforts, it endured at least through part of the seventeenth century. Due to the outburst of scientific enquiry and the insistence of the new Royal Society on the need of a clear and plain style for scientific exposition during the seventeenth century, a hundred years followed the period of Donne and Milton where imagery became replaced by wit and rationality in the more classical era of English literature (Sampson 1946). Although Milton stood outside the

mainstream of writing of this time, his poems showed the effects of the rising tide of science on literature.

Sir Philip Sidney (1966) praised the inventive powers of the Renaissance in contrast with the more rational thinkers:

> Only the poet, disdaining to be tied to any such subjection, lifted up with the vigour of his own invention, doth grow in effect another nature, in making things either better than nature bringeth fort, or, quite anew, forms such as never were in nature, as the Heroes, Demigods, Cyclops, Chimeras, furies and such like: so as he goeth hand in hand with nature, not enclosed within the narrow warrant of her gifts, but freely ranging only within the zodiac of his own wit. Nature never set forth the earth in so rich tapestry as divers poets have done; either with so pleasant rivers, frutiful trees, sweet-smelling flowers, nor whatsoever else may make the too much lovely earth more lovely. Her world is brazen, the poets only deliver a golden.(Sidney 1966 p.23-4)

From this, it can be gathered that Sir Philip Sydney saw the poet's subjectivity of imagination as capable of making life more fascinating than it actually was, and in so doing, could create a reality greater than is possible through rational inquiry.

Bachelard (1960), who will be discussed when covering influences on the utilisation of mental imagery as a psychotherapeutic tool, viewed imagery in poetry as its own reality:

> If a Poetics of Reverie could be constructed, it would uncover examination procedures which would allow us to study the activity of the imagination systematically....Through poetry, reverie becomes positive, becomes an activity which ought to interest the psychologist.

> Without following the poet into his deliberately poetic reverie, how will one make up a psychology of the imagination? Will he take documents from those who do not imagine, who forbid themselves to imagine, who "reduce" the abundant images to a stable idea, from those - more subtle negators of the imagination - who "interpret" images, ruining all possibility of an ontology of images and a phenomenology of the imagination at the same time? (Bachelard 1960 p.209)

Bachelard maintained that the psychologist needed to consider images in poetry as their own reality rather than recourse to the image-destructive methods of reductive analysis. To Bachelard, when an image was a poetic image, it was not simply a free-floating reverie, but was given positive value due to its controlled use within the poem. The image was a core nugget, one that carried the meaning and value of the poem, not just a vehicle to reintroduce to the reader a visual representation of a known item, such as "boat", etc.

The beginning of the nineteenth century reintroduced concrete imagery, fantasy, and dreams as dominant traits of literature (Sampson 1946 p.1026). We can see an example of this in John Keats' famous "Ode to a Nightingale" (1946 p.642)

The employment of words which evoke mental images can be seen in Keats' "Ode to a Nightengale":

> My heart aches, and a drowsy numbness pains
> My sense, as though of hemlock I had drunk,
> Or emptied some dull opiate to the drains
> One minute past, and Lethe-wards had sunk:
> 'Tis not through envy of thy happy lot,
> But being too happy in thine happiness, --
> That thou, light-winged Dryad of the trees,
> In some melodious plot
> Of beechen green, and shadows numberless,

Singest of summer inthroated ease.

O for a draught of vintage! that hath been
Cool'd a long age in the deep-delved earth,
Tasting of Flora and the country green,
Dance, and Provencal song, and sunburnt mirth!

O for a beaker full of the warm South,
Full of the true, the blushful Hippocrene,
With beaded bubbles winking at the brim,
And purple-stained mouth;
That I might drink, and leave the world unseen,
And with thee fade away into the forest dim:

Fade far away, dissolve, and quite forget
What thou among the leaves hast never known,
The weariness, the fever, and the fret
Here, where men sit and hear each other groan;
Where palsy shakes a few, sad, last gray hairs,
Where youth grows pale, and specter-thin, and dies;
Where but to think is to be full of sorrow
And leaden-eyed despairs,
Where Beauty cannot keep her lustrous eyes,
Or new Love pine at them beyond to-morrow.

Away! Away! for I will fly to thee,

Not charioted by Bacchus and his pards,
But on the viewless wings of Poesy,
Though the dull brain perplexes and retards:
Already with thee! tender is the night,
And haply the Queen-Moon is on her throne,
Clustered around by all her starry Fays;
But here there is no light,
Save what from heaven is with the breezes blown
Through verdurous glooms and winding mossy ways.

I cannot see what flowers are at my feet,
Nor what soft incense hangs upon the boughs,
But, in embalmed darkness, guess each sweet
Wherewith the seasonable month endows
The grass, the thicket, and the fruit-tree wild;
White hawthorn, and the pastoral eglantine;
Fast fading violets cover'd up in leaves;
And mid-May's eldest child,
The coming musk-rose, full of dewy wine,
The murmurous haunt of flies on summer eves.

Darkling I listen; and for many a time
I have been half in love with easeful Death,
Call'd him soft names in many a mused rhyme,

To take into the air my quiet breath;
Now more than ever seems it rich to die,
To cease upon the midnight with no pain,
While thou art pouring forth thy soul abroad
In such an ecstasy!
Still wouldst thou sing, and I have ears in vain--
To thy high requiem become a sod.

Thou wast not born for death, immortal Bird!
No hungry generations tread thee down;

The voice I hear this passing night was heard
In ancient days by emperor and clown:
Perhaps the self-same song that found a path
Through the sad heart of Ruth, when, sick for home,
She stood in tears amid the alien corn;
The same that oft-times hath
Charm'd magic casements, opening on the foam
Of perilous seas, in faery lands forlorn.

Forlorn! the very word is like a bell
To toll me back from thee to my sole self!
Adieu! the fancy cannot cheat so well
As she is fam'd to do, deceiving elf.
Adieu! adieu! thy plaintive anthem fades
Past the near meadows, over the still stream,
Up the hill-side; and now 'tis buried deep
In the next valley-glades:
Was it a vision, or a waking dream?
Fled is that music:-- Do I wake or sleep?

Keats'(1814-1821) declared, "O for a Life of Sensations rather than of Thoughts!" As can be seen in "Ode to a Nightengale", poetry, to Keats, was the home of sensation. Clarence Thorpe (1926) writes of Keats concept of sensation, "feelings or intuitions, the pure activity of the imagination (64)." According to Coleridege (1960), who researched Shakespeare, a poet is, "as it were, hovering between images. As soon as it is fixed on one image, it becomes understanding; but while it is unfixed and wavering between them, attaching itself permanently to none, it is imagination (103)".

Keats' fusion of representational images may be seen to be meaningful to the reader in the same way that objects are meaningful when we perceive them. We develop an understanding of the meaning of something through a set of associations stored in our memory. Keats verbalises his images to us and, as readers, we are allowed to generate our own interpretations of the relationships between these images. Referring to the different meanings we may take from the poem, Wittgenstein (1967) expresses, "A poet's words can pierce us. And that is of course causally connected with the use that they have in our life....28e"

When examining the words used in "Ode to a Nightengale", it is noted that Keats used an abundance of concrete nouns. In this separate research, Paivio (1971) showed that concrete nouns are words high in value as words carrying meaning through imagery. As such, concrete nouns are more easily remembered generally than abstract nouns. Visual recognition tests of laterally presented abstract and concrete nouns indicated a right hemisphere ability to read, store, and otherwise mediate the processing of the high imagery, concrete nouns (Ley, 1983). This having been said, the concrete nouns used by Keats are not meant to be taken as is, but are connected to concepts. In The Philosophy of Rhetoric (1936), I.A. Richards remarks of these connections of the concrete with the abstract:

> What discourse "always endeavors" to do is to make us apprehend, understand, gain a realizing sense of, take in, whatever it is

> that is being meant - which is not necessarily any physical thing. But if we say "a realizing sense", we must remember that this is not any "sense" necessarily, such as sense-perception gives, but may be a feeling or a thought. What is essential is that we should really take in and become fully aware of - whatever it is.
> ...words cannot, and should not attempt to "hand over sensations bodily"; they have very much more important work to do. So far from verbal language being a "compromise for a language of intuition" - a thin, but better-than-nothing, substitute for real experience, - language, well used, is a completion and does what the intuitions of sensation by themselves cannot do. Words are the meeting points at which regions of experience which can never combine in sensation or intuition, come together. They are the occasion and the means of that growth which is the mind's endless endeavour to order itself (130-131).

Poetry indirectly compares objects and aspects of objects with each other. According to Richards, words are representations of images and are the vehicle through which disparities or resemblances between images come about.

For example, a nightengale, the bird, can be seen as a pure and unsullied image in contrast to the inherent compromises of daily life and mortality presented repeatedly throughout the poem. In stanza #7, Keats uses the two lines, "The voice I hear this passing night was heard; In ancient days by emperor and clown" which suggests the call of the bird to be unchanged over time. The pairing of the words, "emperor and clown", using two concrete nouns, are compared to imply a range of populace in any society so broad as to include everyone in any period of history. The comparison would include all of society. The comparison of those two words

creates a comparison of two images representing all mankind without the necessity of an inventory of all classes.

In the opening stanza, Keats uses the word "Dryad". A Dryad is a nymph of the woods, a being with powers. Comparing this word to the bird associates the bird with status above a fowl. The bird becomes a creature, perhaps more than a creature, that belongs in heaven. This relationship is not made directly by Keats. Rather, the use of a concrete word associated with the bird creates an image of a divine creature with special powers. After all, Keats reminds us in stanza 7, less the reader missed his point, that "Thou wast not born for death, immortal Bird!"

In stanza #2, Keats uses the word, "Provencal" to identify with a song. The word connotes Provence and the south of France, which in itself can evoke images of red wine, maybe rose wine, Mediterranean cuisine, warmth, and so on. "Provencal" is greater than Provence "Provencal" as uses the image of the pleasure and indulgence an Englishman would expect to experience going to the south of France. This sensation is elevated through the images evoked from the word than any sensation which might be gained through spelling out a list of specifics about the song and the south of France.

A poetic image has a greater degree of independence than the prose image. Coleridge (1930) defines poetry as "the production of a highly pleasurable whole, of which each part shall also communicate for itself a distinct and conscious pleasure (10)". Each image in poetry bears a weight in which

the prose image is free. Whilst the prose writer is judged by the effect of his whole work, the poet must be judged not only for the effect of his whole work, but of each individual part as well.

The meaning of "Ode to a Nightengale" depends on the interpretation the reader makes of the comparisons between the different images encountered. The relationship between the high-imagery words within the poem create the option of meaning for the reader. Moreover, the meaning gained by the reader can change over time through additional readings with a new sorting of the various images.

In Europe, the leader of Romanticism was Goethe, whose plays, novels, and poetry rekindled curiosity in imagery, dreams, and fantasies (Boyle 1991). In one of his *Conversations with Eckerman*:

> It was altogether not my manner as a poet to strive for the embodiment of something abstract. I received impressions - impressions that were sensuous, vital, lovely, motley, hundredfold - whatever a lively power of imagination offered me: and as a poet I did not have to do anything but round out and form such visions and impressions artistically, and to present them in such a live manner that others received the same impressions when hearing or reading what I offered. (506)

In other words, Goethe regarded his creations as links to his imagination. He held that he could connect the audience to his dreams and musings through his words.

Perhaps Shakespeare and Goethe are quoted so

prominently because, like with Keats, the concrete references are the most easily remembered and evoke the most imagery. According to Paivio, "organization (in recall) as measured by subjective organization or intertrial repetition indexes should be higher for concrete, high-imagery nouns than for abstract, low-imagery nouns(Paivio 1971 p.217)."

To continue examining the utilisation of imagery in historical literature and art would extend us farther than this dissertation intends. Rather, it seems fitting to emphasise the significance of imagery in literary history before we turn to inquiries into philosophical considerations of internal imagery. It is through the images essential to certain literary practices that we today connect with our cultural past. Chateau (1967) suggested that our memories and fantasies are a part of our reality. As Shakespeare expressed of this reality:

> Our revels now are ended. These our actors,
> As I foretold you, were all spirits , and
> Are melted into air, into thin air:
> And, like the baseless fabric of this vision.
> The cloud-capp'd towers, the gorgeous palaces.
> The solemn temples, the great globe itself.
> Yea, all which is inherit, shall dissolve.
> And, like this insubstantial pageant faded.
> Leave not a rack behind. We are such stuff
> As dreams are made on: And our little life
> Is rounded with a sleep. (Shakespeare 1623/1936 p.1319)

Here it is suggested that our lives revolve around our internal realities and that the greatest of humans' creations have come from them. Philosophers had their own explanations regarding the significance of mental imagery. This will be

overviewed next in order to appreciate the initiation of mental imagery in psychological thought and psychotherapeutic practice in Britain and America.

Chapter 5

Early Studies of Mental Imagery

In discussing imagery's emergence into psychological thought, I intend to illustrate some of the ways in which imagery became situated in the fabric of the surrounding society, and also to overview some of the biases and traditions that created imagery's present position in American and British psychology today. Aspects of the history of psychology will be discussed in order to show how the psychologies of Britain and America reflect the characteristics and values of the society in which they have been fashioned.

As was accounted in the previous chapter, the importance of imagery in psychology was not taken seriously scientifically until early after Hebb's book, The Organization of Behavior (1949) which activated studies of sensory deprivation. These studies suggested that without sensory input, humans could not have proper mental functioning and would consequently hallucinate. Although Hebb introduced to psychology the potential of mental imagery in scientifically based research, musings in this area began with Plato while systematic thinking regarding mental imagery can be traced back to Aristotle.

From Philosophy to Psychology: attempts at the demystification of mental imagery

In order to trace historically the two separate avenues taken by Europe and America regarding mental imagery in psychology and the use of mental imagery as a

psychotherapeutic tool, it would be beneficial to first examine the development of imagistic thought in philosophy which instituted the onset of psychology. This portion is essential for mental imagery is valued separately by both psychology and philosophy.

Even though many credited Plato with the theory of imagination, Crombie (1962) claimed that all of Plato's disperse comments regarding poetry, music, and painting had an inclination to move from the natural to the civilised, from the instinctive to the disciplined. As his view on poetry shows, Plato allowed his intellect to control any spontaneous feelings he may have had:

> If the mimetic and dulcet poetry can show any reason for her existence in a well-governed state, we would gladly admit her, since we ourselves are very conscious of her spell. But all the same it would be impious to betray what we believe to be the truth. (*Republic* 607c)

Owing to Plato's opposition to realism, we can see that Plato could have been a champion of imaginative art. However, the art which Plato esteemed came closest to the philosophical truths of an event or experience, for example. This art of truth, which he conveyed in the Republic and the Laws is moral truth. Beauty was the beauty of ethical conduct (Lodge 1953).

Bundy's book, The Theory of Imagination in Classical and Medieval Thought (1927), Illinois, gives Plato credit for the Romantic belief in imagination as a way to truth. However, G. Watson (1988) shows that part of Bundy's method in

coming up with this conclusion was his translation of the Greek word *eikasia* into imagination and *phantasia* into fancy. Bundy put much merit on the passage on the "divided line", in the *Republic*, where *eikasia* is the awareness of shadows and reflections. *Eikasia* can, be interpreted as imagination, but in the sense of 'accepting unreal appearances as real'; some translators may interpret the word as 'illusion' (1988). According to G. Watson, there is no conception of truth through imagination in Plato, and no position in his realm for imaginative art or even the concept of imagination itself. The use of *phantasia* and *eikasia*, and the framework of the 'divided line' give inadequate reason to attribute Plato with forming a theory of transcendent truth through symbols (Raven 1965). With this in mind, the significant contributions concerning mental imagery began with Aristotle.

Aristotle: mental imagery in the midst of thought and sensation

J. Cocking (1991) found Aristotle to be much more interested than Plato in the different types of *phantasia* that could occur in the mind. Aristotle was not satisfied with Plato's account of them, especially in perception. As related by Cocking (1991), in Plato's most characteristic descriptions of perception, Plato saw the appearance of the person or object we acknowledged as coming after the recognition process. This, however, was not acceptable to Aristotle who used Plato's own vocabulary to avow his own

by Cocking (1991), in Plato's most characteristic descriptions of perception, Plato saw the appearance of the person or object we acknowledged as coming after the recognition process. This, however, was not acceptable to Aristotle who used Plato's own vocabulary to avow his own distinction: imagination, *phantasia*, he asserted is not 'opinion plus sensation' or 'opinion mediated by sensation' or a 'blend of opinion and sensation' (*De Anima*, 428a). Aristotle held that imagination was neither sensation nor thought but somewhere between the two (432b). In Republic, Plato talks of the philospher as "making no use whatever of any object of sense but only of pure ideas moving on through ideas to ideas and ending with ideas (511c)"

Although Aristotle also held that reasoning was the manipulation of pure ideas, to Aristotle these ideas were not descendants from a supersensible domain, either through the soul's reflections of the ideas it knew in heaven before its incarnation, or by intuition. By abstraction from the sensible world itself, images became the imperative mediator between perception and understanding. As with Plato, Aristotle believed that the best thinking would rise above images. However to Aristotle, the best thinking could only transpire by rising *through* them:

> Since it seems that there is nothing outside and separate in existence from sensible spatial magnitudes, the objects of thought are in the sensible forms, viz. both the abstract objects and all the states and affections of sensible things. Hence no one can learn or understand anything in the absence of sense,

> and when the mind is actively aware of anything it is necessarily aware of it along with an image; for images are like sensuous contents except in that they contain no matter (*De anima*, bk.3 ch.8 432a)

Aristotle declared that concepts are not images even though they are necessarily comprised of them. Aristotle maintained that the purpose of sensation (external perception) was to take the form of the object, minus its matter, into the heart, where the soul resides and where 'common sense' works on sensations to form imaginations and dreams. Sensation antedated imagination, and imagination consummated in thought. Aristotle, as quoted in Yates (1966), claimed, "the soul never thinks without a mental picture (32)". As referred to by Stark (1861) in *De Anima*, Aristotle asserted that, "imaginative phantasms are to the intellective soul as sense objects. But when it affirms or denies good or evil, it pursues or avoids. Hence, the soul never understands apart from phantasms (442)".

Aristotle found motivated action to be the product of phantasms which confirmed pleasure or pain to the soul. Through this, motivated action was a Jeremy Bentham like pursuit of pleasure and the avoidance of pain in reference to the prime motivating force: the image in the soul. As cited by McKean (1941) from the *Rhetorica*, Aristotle expressed, "Pleasure is the consciousness through the senses of a certain kind of emotion; but imagination is a feeble sort of sensation, and there will always be in the mind of a man who remembers or expects something, an image or picture of what he

Aristotle linked motivation to imagination: "All sensation is connected with pleasure and pain; conation is directed toward the removal of pain or attainment of pleasure, and ultimately becomes the progressive movement toward higher perfection (127)". Both impulse and will were subsumed under conation, or striving which, to Aristotle, was the basis of all activity (1967). To Stark (1861), Aristotle saw the goal desired as the basis of motive force, as the mover itself:

> For the object of appetite causes motion; and it is for this that reason also initiates movement, the desirable being its principle. And when imagination moves, it only does so with appetition. Therefore there is one single mover - the object desired (468).

This contention implies that Aristotle thought that the object of desire caused motion without itself being moved, simply by being imagined. Aristotle seemed more interested in all the manifestations of imagination than Plato, but Aristotle was just as wary of wish fulfilment and goal-seeking beyond the regulation of sound judgement. Aristotle asserted that an animal "is not capable of appetite without possessing imagination, and all imagination is either 1)calculative or 2)sensitive. In the latter all animals, and not only man, partake (1941, p.599)."

To Aristotle, an act was seen to be voluntary if reason exerted control. An animal, being without reason, was not able to perform voluntary action. Aristotle consequently differentiated between "sensitive" and "calculative" imagination. Aristotle alleged that calculating whether to

choose one alternative from another was a result of reason, and since animals were thought not to have that which came from reason, they were without calculation.

Aquinas' imagination as a path to fulfilling desires

Thomas Aquinas is often regarded as the greatest of the scholastic philosophers and the most influential. His teachings became the semi-official philosophy of the Roman Catholic Church. Although Aristotle held intellect as being a form of sensation, Aquinas did not (Rand 1912). However, Aquinas reintroduced Aristotle's doctrine of imagination, omitting only the belief that the shift from mental images to 'concepts' was the shift from the realm of sense to that of intellect (1912). The fundamental outlook endured: "The final cause or the good is the object of the will (1912, p145)." To Aquinas, the will was "directed toward" an alluring good, the object of which was in the reason. Insofar as the good was established by reason, it moved the will to the point of fulfilment of the object (1912). To Aquinas, the object of the will was what was imagined.

Nemesium and the "vitall spirits" generating imagination

During the seventeenth century, Nemesium, a physician, believed that when imagination conceived an object pleasing or repellent, spirits carried activation from the brain to the heart, via nerves, and induced arousal. In 1636, he wrote: "The Instruments of Imagination, are the former

Panns of the braine; the Vitall Spirits, which are in them; the sinewes proceeding from the braine; The nerves moistened by the Vitall Spirits, and the very frame of the places wherein the Senses are seated (McMahon 1976 p.180)". That which made up imagination was an indispensable component of our makeup.

Descartes: mental imagery as physiological influence

Likewise, the famous French mathematician and philosopher, Descartes (1637) held that when the mind wills to image a thing, notwithstanding whether the thing has been seen before, the will has the ability to "cause the gland to move in the manner requisite to impel the spirits toward the pores of the brain by the opening of whith that thing can be represented (280)". When the mind wills to move the body in any way, the resolve to do so causes the gland to induce the "spirits" toward the proper muscles (280). Descartes was known as the father of the mind-body problem. He claimed that beings are made up of two substances, mind and body and that the mind and its processes were an integral component of normal functioning of the body.

Descartes asserted that the soul's faculties of imagination, reason, and passion were of the body, but were 'bestowed' on the mind insofar as body and mind were connected. Mental imagery is involved here in that a passion could function when the object of desire or aversion was not present. The passions were thus regarded as contents of the

mind. Descartes wrote:

> I am a thinking thing. And although possibly I have a body with which I am very closely conjoined....in so far as I am only a thinking unextended thing, and ...in so far as it (my body) is only an extended unthinking thing, it is certain that I am truly distinct from my body and can exist without it (Descartes 1641 p.237)

A mind was considered a conscious or thinking thing, that is, it understands, senses, and imagines. A body was seen as a thing extended in length, width, and breadth: the general viscera of the machine. Descartes considered minds indivisible, whereas bodies were infinitely divisible. The "I" of Descartes', "I think, therefore I am", was the mind which could exist without being extended, so that it could in theory survive the death of the body.

Descartes maintained that imagining an occurrence was equivalent in importance to the occurrence itself, because our body would respond in the same way. According to McMahon (1976), imagination was the "*Medium deferens* of passions, by whose means they work and produce many times prodigious effects (180)." Thomas Wright reiterated the process as follows:

> When we imagine any thing, presently the purer spirits, flocke from the brayne, by certaine secret channels to the heart, where they pitch at the dore, signifying what an object was presented, convenient or disconvenient for it. The heart immediately bendeth, either to prosecute it, or to eschew it: and the better to effect that affection, draweth other humors to help him, and so in pleasure concurre great store of pure spirits; in paine and sadness, much melancholy blood; in ire, blood and choller...(Wright 1604 p.45)

The power of mental imagery that such a theory conveys suggests that we can be affected physiologically by our internal processes. This can be seen in an example of stigmata: "And thus did the contemplation of Christ nayled on the Crosse imprint certaine strakes, stampes, and markes upon the hands and feet of Saint Francis (Lemnius 1633 p.150)." This suggests, along with the citing from Wright, that our body reacts not only to externally real situations, but to those situations which are real in the imagery in our minds.

Thomas Hobbes and mental imagery motivation

London born Thomas Hobbes, who was interested in human nature and particularly why people allow themselves to be ruled, considered mental images to be weaker than sensations, similar to Descartes' theory. However, he held that in the absence of the object, the organism could be moved by the presence of a mental image of the object (Rand, 1912).

To Hobbes, mental images were 'conceptions' that proceeded far "from the action of the thing itself (162)". Concepts and apparitions were nothing but "motion in some internal substance of the head (163)" which progressed to the heart, where it either helped or hampered what Hobbes termed 'vital motion'. If an object caused a motion that helped, it was attributed to pleasure; whereas an object that caused one that hindered, was attributed to pain. If an object or its

image spurred the anticipation of displeasure, fear was experienced. On the other hand, pleasure could be experienced from an object or its image which aroused the expectation of pleasure as Hobbes asserted:

> this motion, in which consisteth pleasure or pain, is also a solicitation or provocation either to draw near to the thing that pleaseth, or to retire from the thing that displeaseth; and this solicitation is the endeavour or internal beginning of animal motion, which when the object delighteth is called appetition; and when it displeaseth, it is called aversion (1912, p.162)

According to Hobbes, mental images differed from senses in that they were less powerful. In Leviathan (1651/1962), Hobbes expressed his view that mental imagery was a "decaying sense" and went on to say, "...when we would express the decay and signify that the sense is fading, old, and past, it is called memory (12)". Hobbes viewed memory and mental imagery in the same way in that they would carry equal importance to a person and his/her mental health.

Hume's impressions of sensation

Similar to Hobbes' theory, Hume, the eighteenth century Scottish philosopher, surmised that because mental images were 'feeble impressions' (weak copies of the actual impressions), their effects should be identical to those generated by real impressions (Hume, 1912). Hume tried to describe how the mind works in acquiring knowledge. He contended that no theory of reality was possible; there could be no knowledge of anything beyond experience. In Hume's An

Enquiry Concerning Human Understanding (1758/1912) he attempted to define the principles of human knowledge by posing significant questions concerning the nature of reasoning in regard to matters of fact and experience. He answered them by recourse to the principle of *association*. The core of his explanation was a twofold grouping of objects of awareness. First, objects were either *impressions*, data of sensation or internal consciousness, or *secondly ideas*, derived from such data by compounding, transposing, augmenting, or diminishing. In other words, Hume claimed that the mind could not create any ideas unless they were derived from impressions and would thus be stored as images. Hume argued that "there is no thought or mental activity unless there are impressions of sensation (6)". According to Hume, impressions occurred in the presence of an object; mental images are faint copies of original impressions. He also maintained that our experience must interact with our imagination in order to produce our belief or understanding of what exists. That is to say, thoughts are generated through the association of reality and stored images readily related to that reality.

Conclusion

Over an extended period of time, philosophers had promoted the theory that in order for us to ever really know anything we must experience it directly through our senses. Their clarifications concerning images in the mind were

various. However, all of them contended that images existed and that images played a crucial role in thinking and for the "normal" operation of the mind. As will be learned in the following section, the forebearers of psychological thought were influenced by the convictions of these philosophers with regard to mental imagery. However the paths of psychological thought in America and Great Britain would diverge during the twentieth century, particularly the period of the World Wars.

Chapter 6

America's fall from imagistic thinking to scientific psychology

In the late nineteenth century William James in America and Wilhelm Wundt in Germany started applying some of the theories by philosophers concerning internal processes to factors in human behaviour. These two men were considered to be the founding fathers of psychology (Gross 1992). Although Wundt was credited with setting up the first psychological laboratory in Leipzig, Germany in 1879, James claimed to set up the first psychological laboratory in America established at Harvard University in 1875. Whether or not James established the first psychological laboratory is a point of interest but not one crucial to the issue of the perceived significance of mental imagery as a therapeutic tool. The fact remains that James' book Principles of Psychology, published in 1890, set the tone for American psychology for years to come (Mandler 1969). James' main interest was the nature of human consciousness, and how it was changing constantly. Like Wundt, James was interested in an approach more objective to the studying of consciousness than that which could be provided by recourse to philosophy. His book, Principles of Psychology was a mixture of thoughts, speculations, and facts, but the book was infested with the idea of keeping in touch with the practical, objective world.

In Holt's account of America's banishment and recent return of the importance of imagery in psychology, "Return of the Ostracized", he tells of the "new psychology" in Europe in the 1890s and its emphasis on experiments rather than solely observation. For example, in order to query the process of

introspection, Sir Francis Galton in Great Britain made a natural-historical study of mental imagery through his invention of the first questionnaire employed for a large-scale investigation in psychology (Heidbreder 1935). This questionnaire surveyed individual differences in the ability to experience mental imagery. According to Heidbreder (1935), Wundt took over Galton's method and simplified it in order that the results could be measured in time, classified, and treated quantitatively.

At the turn of the century, practically all influential psychologists were students of Wundt's or in turn, students of his students. Experimental psychology was defined by experiences at his Leipzig laboratory and American laboratories. Interestingly, the American laboratories contained instruments imported from Germany. These American laboratories usually were opened by Wundt's students.

At Leipzig, Titchener, one of many students of Wundt's, came to know Frank Angell (an American student). Angell was responsible for Titchener's emigration to the United States. Having completed his doctorate at Leipzig, Titchener wanted to go back to Oxford where he received his A.B. However, scholars in Britain had no interest in the new objective, experimental psychology from Leipzig. Titchener had no choice but to accept a position at Cornell University. At Cornell, Titchener separated the psychology from the philosophy department. Titchener's model of a separate psychology department from philosophy became a model for other

American universities. One commonly adopted at first and universally later by all institutions of higher learning in the United States. As Titchener became more influential in the American psychological community, he began to restrict the experimental Wundtian psychology to a psychology concerned with internal processes of the brain.

As maintained by Carlson (1987), there was much deliberation concerning mental imagery and thinking but little effort made to go beyond an investigator's private experiences at this period of time. Even after Wundt's emphasis on experimental psychology, the greatest emphasis was still placed upon the personal experiences of the subject in a study (Carlson, 1987). Titchener employed methods which were more partisan than that of the more scientifically minded Wundt (1987), and Titchener was responsible for classifying Wundt with a psychology concerned with introspecting the mind's contents. Titchener trained introspectionists to "observe" the mental contents which he claimed to be building blocks of mind (1987).

As mentioned earlier, one of the major problems faced by psychology throughout most of this time was how to acquire a reasonably objective appraisal of the presence or absence of mental imagery and its vividness. Wundt concluded that inspecting the mind's contents was of little use when studying consciousness. He maintained that it was only reliable if

self-observation took place in an experimental situation where the introspector was subjected to a particular physical stimulus. His view led to two options concerning psychological methodology: either limit psychology to introspective evidence or use other means to study the mind. Whilst Wundt chose the latter, Titchener chose the former. However, Titchener elaborated on introspection's role when he rejected Wundt's criteria regarding the introspector being exposed to physical stimulation:

> The experimenter of the early nineties (when Titchener was a student at Leipzig) trusted, first of all, in his instruments....it is hardly an exaggeration to say...(that they were) of more importance than the observer....Now twenty years after we have changed all that. The movement toward qualitative analysis has culminated in what is called, with a certain redundancy of expression, the method of 'systematic experimental introspection' (Titchener 1912 p.427)

In other words, Titchener argued that introspection, when merged with suitable conditions, could be as precise and faithful as observations of physical phenomenon. Titchener maintained that if the introspector postponed his introspective analysis until after the tested mental sequence had run its course, it would prevent any distortion of the mental event. A sample of an introspective report of a repeated experience of recognising a selection from the opera *Il Trovatore* is as follows:

> The first note seemed to draw my body over toward it. I experienced a motor tendency to keep time, an innervation of the throat a in humming, and kinaesthetic imagery of swaying

> with the rhythm. Then when I went back in memory, to my first sitting here for a name - this in visual imagery of the situation here. A momentary search, attitude of listening, and 'Trovatore' came to mind in auditory imagery (Woods 1915 p.340).

Holt(1964), author of "Return of the Ostracized", an account of America's banishment and recent return of the image in psychology, contended that there was an extensive controversy concerning the nature of mental imagery and if any aspect of mental imagery was required in thinking. Titchener argued in favour of the cruciality of mental imagery in the thinking process, whilst the opposition composed of "imageless thought" activists was favoured by Kulpe, one of Wundt's students, from the Wurzberg school in Germany (1964). In the end, the dispute seemed decided in favour of the Wurzberg school due to a succession of studies in which the school claimed to have introspectively discovered cognitive mental contents which were not mental images (Humphrey 1951). For example, subjects at the Wurzberg school were given word association tests (such as, "What word comes to mind when you think of 'table'?"). Although some subjects reported mental images, others reported none. If thinking could occur in the absence of mental images, then Kulpe and others at the Wurzberg school maintained that "imageless thought" existed and, therefore, mental images were not regarded for the normal thought processes.

Titchener snubbed these results, not only because thought could not be introspectively observed, as Wundt

asserted, but because he insisted that their observations were faulty in both practices and theory. When thought was analysed at Cornell, images were always reported. Although the controversy was never settled, the major effect the imageless thought debate had among scholars in psychology was to crush any confidence in introspection among the majority of psychologists.

Nonetheless, the introspectionistic psychologists insisted that the imageless void be filled, so the term *Bewusstheit* was created to stand for a "vague, intangible, conscious content that is not image or sensation (Boring 1950 p.405)" Regarding *Bewusstheit*, Holt maintained (1964):

> ...it seems irrelevant whether one invokes a *Bewusstheit*, or follows Titchener in filling the gap with earnest and meticulous descriptions of fleeting kinesthetic and somesthetic sensations; the essential point was that introspection cannot give a full explanation of mind and its accomplishments....that the introspective method gave different results at Cornell and at Wurzberg misses the point...the end of the line had been reached at a point where introspection yielded nothing that made any sense. A psychology that was not founded on the study of consciousness was clearly demanded (256).

From this it appears that Holt believed that a change to a more objective psychology in America would aid in future mental imagery research. That change would be the movement towards behaviourism.

Behaviourism Alters the Course of American Psychology

Donald Hebb (1960) paralleled the "psychological revolution" in America towards a more objective psychology, to a political revolution where things can go to extremes. Hebb ascertained that this revolution, like the political kind, would have two stages of development:

> In the psychological revolution, the second phase is now getting under way. The first banished thought, imagery, volition, attention, and other such seditious notions. The sedition of one period, however, may be the good sense of another. These notions relate to a vital problem in the understanding of man, and it is the task of the second phase to bring them back...(736).

According to Hebb, America is presently in the "second phase" of the revolution, which implies that internal processes are now being considered regarding the influence they can have on behaviour and mental functioning. However, let us look at how America first fell from the study of internal processes in psychological thought.

The intellectual paradigm in psychology which began America's fall from imagistic thinking was behaviourism in its various forms with the standard-bearer of behaviourism being J.B. Watson. Watson grew up in Greenville, South Carolina, and even from a young age his life was tainted with controversy. His teachers described him as troublesome and argumentative. In his early adolescence, he was arrested twice - once for firing a gun within Greenville city limits (Bakan 1966). Despite his notorious background, Watson entered Furman University with his future intentions based upon attending seminary at Princeton after his scheduled

graduation in 1899. However, during Watson's last term, one of his favourite teachers announced that any student who turned in an essay with the pages backwards would fail his class. As Watson later recounted it, "Although I had been an honor student the whole year, by some strange streak of luck, I handed in my final paper of sixteen pages in Civics backwards (Watson 1936 p.272). True to his word, Watson's teacher failed him, and Watson repeated his last year at Furman. After his mother's death, Watson changed his plans for seminary and went to University of Chicago to pursue a doctorate in philosophy. He later changed to psychology, and his studies of physiology and biology stirred his interest in animal psychology. When describing his research career as an instructor in psychology at the University of Chicago after obtaining his doctorate, Watson wrote:

> I never wanted to use human subjects. I hated to serve as a subject. I didn't like the stuffy, artificial instructions given to subjects. I was always uncomfortable, and acted unnaturally. With animals I was at home. I felt that, in studying them, I was keeping close to biology with my feet on the ground. More and more the thought presented itself: Can't I find out by watching their behavior everything that the other students are finding out by using [introspectors]? (Watson,J.B. 1936 p.276)

This statement indicates that Watson's interest in animal behaviour fuelled his aim in the development of an objective psychology which did not feature humans' reports of internal processes. Interestingly, a colleague also recalled that Watson never learned how to give consistent introspective

reports during experiments and regarded this failure as an influence in Watson's motivation to create an objective psychology (Creelan 1974 p.101).

Watson's ideas about behaviourism were fully developed by 1912 when he gave a series of talks at Yale and Columbia. The next year, his paper, Psychology as a Behaviorist Views It was published, and behaviourism was officially born. An excerpt from the paper describing the theme of behaviourism read:

> Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior. Introspection forms no essential part of its methods, nor is the scientific value of its data dependent upon the readiness with which they lend themselves to interpretation in terms of consciousness. The behaviorist, in his efforts to get a unitary scheme of animal response, recognizes no dividing line between man and brute. The behavior of man, with all of its refinement and complexity, forms only a part of the behaviorist's total scheme of investigation (158).

Watson rebuked analyses of consciousness and theoretical invocations and adhered to that which could be observed, both in environment and behaviour. Watson instantly connected behaviourism to broader American concerns by emphasising behaviourism's national character - that it was "purely an American production"(Watson 1919). Esper in 1964 regarded how absurd Watson's xenophobic assertion was, coming from a student of the German-born proto-behaviourist Jacques Loeb, as well as a student of the British, Sherrington, who accumulated much of his experimental method from the Russians.

So much for the "myth of the immaculate conception of American behaviorism (Esper,1964, p.v)."

In his books, Watson never made clear his distinction between objective and introspective observational data clear. However, it was not hard to read between the lines his true intent. It could be said that the reports of muscular and glandular responses to stimuli were objective because several people could notice them and report them. On the other hand, reports of subjective experiences, such as mental images, could be made only by the person experiencing them. Therefore, they were not objective. One can observe his/her mental images, but not someone else's. Hull (1943) asserted that the difference was that the events reported in objective data were public and those reported in introspective or subjective data were private.

In saying this, sometimes individual reporters working in a public situation can produce contrary results. For example, independent witnesses could have different accounts of the same event. Two individuals observing an automobile wreck might well report different versions of the wreck to police. However, there can be a high degree of consensus regarding individual reports of subjective events, such as the size and shape of after-images. The behaviourists, in their emphasis to stress objectivity, tended to ignore consensus and, rather, stressed tightly controlled experimental data. Because of this, little use was made of subjective data even when there was noted consensus among

separate observers (Graham 1965). Watson even tried to explain away common hallucinations in terms of improper responses to "sinuous shadows on the wall (Watson 1913 p.816)"

Watson (1924) pushed toward the growth and acceptance of an objective psychology, one which he termed as an attempt "to apply to the experimental study of man the same kind of procedure and the same language of description...as the study of animals lower than man (ix)". His efforts produced fruit for gradually psychologists drifted away from the study of inner experience.

Mental images, Watson declared in 1913, are ghosts with no functional significance whatever (Deese, 1965). The belief that mental images existed, and that thinking was processed in the brain rather than in the muscles was admonished by Watson as unscientific, "mediaeval" (Watson, 1930. 5-6) debris from religious belief (1913, 424). In a footnote attached to his "behaviorist manifesto":

> There is need of questioning more and more the existence of what psychology calls imagery....I should throw out imagery altogether and attempt to show that practically all natural thought goes on in terms of sensori-motor processes in the larynx (Watson,1913 p.816)

Watson maintained that there was no evidence that mental imagery existed through experimental data, and that it was, therefore, a pointless supposition. Watson anticipated the founding of a psychology which would "never use the terms consciousness, mental states, mind, content, introspectively verifiable, imagery, and the like (1913, p.808)."

From Watson's Behaviorism of 1924, he wrote:

> By 1912 the behaviorists reached the conclusion that they could no longer be content to work with intangibles and unapproachables. They decided to either give up psychology or else to make it a natural science....[And so] in his first efforts to get uniformity in subject matter and in methods the behaviorist began his own formulation of the problem of psychology by sweeping aside all medieval conceptions. He dropped from his scientific vocabulary all subjective terms such as sensation, perception, image, desire, purpose, and even thinking and emotion as they were subjectively defined (6).

He regarded the idea of any centrally aroused sensation or mental imagery as the most serious obstacle to the organisation of thoroughgoing behaviourism of a "truly scientific" psychology (Watson, 1924). Watson even referred to the human thinking process as "subvocal talking" (268). He asserted that it was produced by contractions of the muscles involved in the production of speech. He also saw people's accounts of imagery as "sheer bunk" (Watson, 1928,p.7).

Subsequently, work by experimental psychologists in the United States dealt almost exclusively with linguistic and behavioural operations which these psychologists maintained yielded controllable information for laboratory studies. The main reason, according to Hunt, author of The Story of Psychology (1993), that behaviourism became so popular in America was because of its claim to be the first scientific psychology.

As noted previously when addressing philosophical views of mental imagery, before the nineteenth century,

psychology had been largely philosophic speculation. Even though Wundt stressed objective methods in psychological research, unverifiable introspections often had to be relied upon. However, Watson said a psychology could be constructed of purely visible, measurable events. Watson maintained that such a psychology would be based on reactions as precise and undeviating as those of physics.

Another reason for behaviourism's popularity among psychologists in the United States was because it limited them to behaviour that they could see. Thus it disposed of all the intricate questions of the mind that philosophers and psychologists had laboured over for so long. Watson's behaviourism said that not only could they never know what goes on in the mind, but they would never need to know in order to explain behaviour. Hence, mental imagery was seen to be unacceptable in empirical work (Deese 1965).

Concerning the imageless thought controversy referred to earlier which had been boiling between Titchener and the Wurzbergers, Watson attributed it to reliance on introspective data by investigators (Watson 1913). The main reason why he disregarded the controversy was because the Wurzburgers and their supporters were willing to accept reported awareness of association and meaning in cognition. On the other hand, Titchener was rejecting their ideas on the basis that such reports disregarded the significance of sensation and imagery (Boring 1950).

Watson' s expectation that these disputes would be

thwarted if only objective observational data was used was nullified. In some experiments there was a wealth of objective data, but no clear path without controversy existed on the interpretation of the data (Sherman & Sherman 1929). For example, Watson claimed that his own studies of infant emotional responses illustrated that there were three distinct emotional responses: fear, rage, and love. Investigators later showed that to discover the emotional responses the observer needed to experience the same stimulating situation as the infant (1929). Regardless, Watson's theories held much weight and effected the history of American psychology immensely. His work was pivotal to the decline in the study of and work with principles of mental imagery among the psychologists in the United States.

Skinner: a pacesetter in the American behaviourist movement

B.F. Skinner, a student of behaviouristic psychology at Harvard, developed an interest in behavioural thinking after having read Watson's explanations of emotional behaviour (Skinner 1953, 1959) . Skinner, similar to Watson, believed that internal states and dispositions were not of any use in understanding human behaviour, but rather, human behaviour could be investigated by studying an individual's behaviour in response to his environment. To Skinner, as to Watson, what needed to be determined was the relationship between stimuli and responses. Skinner maintained that nothing could be gained by assuming the existence of personality structures

within the individual.

Skinner analysed behaviour in his work. In his interpretations of human behaviour and culture (1953), Skinner often formed hypotheses on causal relationships that had not been observed, based on sparse empirical material - sometimes by analogy with animal studies (Medin 1992). It was not unusual for Skinner's hypothesising to touch on cognitive phenomena, and one of the things that made radical behaviourism radical was its acceptance of thinking as behaviour (Skinner 1974). Both Skinner (1988) and Catania agreed that private events may be called intermediate causes of behaviour; in other words intervening variables in the classical sense.

In a historical account of the developments that led to the birth of modern cognitive psychology, Medin & Ross (1992) cited as a main weakness of behaviourism that:

> Skinner's analysis also failed to take into account the role of the organism in organizing and theorizing about its experience. This neglect of internal processes mediating between stimulus and response eventually led experimental psychologists to move away from behaviorism (26).

Medin and Ross maintained that disregarding what went on in a subject's mind was senseless when studying behaviour. For instance, one's perception of a situation might influence behaviour.

Paivio (1971) regarded the 1920s and 1930s as the most arid period for the mental image, and Holt (1964) dates the first reawakenings of interest to the mid 1950s, but even

through the 1940s and 1950s, *Psychological Abstracts* recorded no more than five references to imagery. However, contrary to America's situation, Great Britain was experiencing a slow development into a scientific, objective psychology from their original subjective, philosophical psychology. Internal processes did not encounter the hostility in Britain as they did in America's history of psychology.

Chapter 7

The British Psychological Movement: detached from the objective, behaviouristic crusade.

With reference to British psychology and especially mental imagery in psychology, it is essential to address the influence Francis Galton had in order that Britain's acceptance of internal processes can be better elucidated. As mentioned earlier when addressing the beginnings of psychology, Wundt was influenced by Galton's questionnaire concerning individual differences in mental imagery. Although Galton was not a psychologist and was not associated with any university, the mark he left on British professional psychology and psychological thinking was profound (Misiak & Sexton 1966).

Galton's first book, Hereditary Genius was published in 1869. His interest in different types of genius led him to the study of individual differences, the use of tests, and ultimately the study of mental imagery. He contended that demonstrations of the presence of mental imagery would establish a difference in the mental operations of various men (Galton 1907). He assembled a questionnaire which included specifications for different situations for which the subjects were to try to rouse images. From the results of this questionnaire and other studies, Galton declared that different types of mental imagery existed among different people. A discussion of imagery types would not be relevant

to the focus of this dissertation, which concerns a comparative study of the perceived significance of mental imagery as a psychotherapeutic tool in Britain and the United States. Yet, the issue to stress here is that from the late 1800's British psychology was influenced by Galton's work which included the study of mental imagery. Having said this, his influence was gradual due to Britain's belated participation in the psychological movement.

Whilst America was encountering a psychological revolution against the subjectivity of the study of internal mechanisms, Great Britain was undergoing a slower development into a scientific, objective psychology. As Hearnshaw wrote in A Short History of British Psychology (1964), "The slow development of experimental psychology in this country (Britain) can be attributed to a number of reasons - the conservatism of British universities; the philosophical resistance to the human sciences... and our general backwardness in the organisation of science and the establishment of laboratories (168)."

In Britain, the academic development of psychology between the wars lagged behind that in the United States (1964). When World War II broke out in 1939 there were six chairs of psychology in all the British universities, three of which were at University College, London. The total lecturing staff in psychology departments at the beginning of World War

II totalled about thirty[1]. To Hearnshaw, "This academic starvation and emaciation of psychology must be kept in mind in any critical evaluation of British psychology...(208)."

This famine, according to Hearnshaw, was due mostly to the traditionalism of British universities and their resentment of new disciplines and technologies but was also partly due to the cynicism on the part of many philosophers. A view held mainly by philosophers in Britain was to accept an abridged psychology where psychology was not allowed to delve into higher levels of the conscious mind, but where it could study certain inferior functions. Ergo The Boundaries of Science: A Study in the Philosophy of Psychology (1939) by John Macmurray professed that psychology could study unconscious mental processes but not conscious ones since natural science was unfitting to quiry consciousness as such. R.G. Collingwood, Oxford philosopher and historian, asserted in Essay on Metaphysics (1940) that psychologists could study feelings but not thought. He maintained that the idea of psychologists to study thought was fraudulent and corrosive to Western civilisation.

Unlike with American psychologists, rarely did a British psychologist of standing take the road of

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[1] It should be noted that the number of universities in the United States was much greater than the number in Britain. The difference in numbers is explained, in part, by the size of the populations and by the public policy of the United States to foster higher education through the land grant university program. There were more chairs for every discipline in the United States.

behaviourism. As will be discussed in more detail in the following section concerning mental imagery in American psychotherapy, there was not enough interest in England for (behaviourist) Joseph Wolpe's methods in order for him to develop a centre for his brand of behaviour therapy. Bertrand Russell's Analysis of Mind (1921) alleged to be influenced by behaviourism, but the view he put forth was more like a rekindled Humian atomism of sensations and images. One should recall that Hume held that mental images, sensations, and ideas pertaining to an object occurred when that object was absent. Russell's extreme suggestions recruited no supporters, and neither did they stay secure in Russell for long (Hearnshaw 1964). Russell's concepts would not have been embraced as classic behaviourism in the United States. Although British scholars were aware of behaviouristic methods, Hearnshaw (1964) maintains that between the wars, most British philosophers and psychologists would have concurred that behaviourism was a frivolous theory with no assertions to be taken as significant. Both philosophers and psychologists in Britain agreed that psychology was meant to study consciousness or experience in some way or another (1964). It was the scepticism generated by this philosophical debate during the first half of the twentieth century which impaired the growth of British psychology and hindered its academic development (Hearnshaw,1964).

Undergraduates were aware of the disapproving musings of the philosophers towards psychology, and had to show an

adamant self-reliance before taking it up. Referring to the growth of psychology in British universities, Hearnshaw declared:

> Psychology was saved by its applications, educational, industrial and medical. Here indubitably, and beyond the boundaries of philosophic controversy, progress was being made, new disciplines were being forged, new professions created. The academic world could not indefinitely refuse to recognize these developments (211).

Although British academics were trying to ignore the advancement of psychology elsewhere as a credible field of study, wider acceptance of psychology in Britain was gained through practical considerations. These considerations included the need for psychological services in industry, mental health, war, and in education. It was mainly these practical needs that overcame the hindrance of the philosophical sceptics and launched psychology into a more reputable place in British universities (1964). A great deal of psychological thought in Britain was taken from Freud's psychoanalysis, which will be overviewed when addressing historically significant psychological theories. Introspection was still regarded by British psychologists as the basic method of investigation.

By 1940, theoretical trends led to a vast divergence between British and American psychology. While British psychologists remained loyal to the older ways of thought, American psychologists showed a rising curiosity with methodology problems, and traditional concepts were exposed to

severe criticism. Ultimately, in America there were aspirations to put scientific procedures into the study of personality and social psychology, which in Britain still remained mostly observational and verbal (Hearnshaw, 1964). According to Hearnshaw, if the gap was bridged between British and American psychology after World War II, it would be due to British psychology moving towards the American methods and ideas.

Despite this gap between America and Britain in experimental psychology, when it comes to searching for statements that apply today concerning the nature and function of imagery, an Englishman held a carefully devised view 70 years ago. Bartlett (1927) deemed imagery to fall within the context of the thinking processes: "Imaging and thinking possess alike the general function of enabling us to deal with situations at a distance (25)." F.C. Bartlett, a British psychologist who trained in philosophy in London and taught at Cambridge, thought that although the image may vary in its stage of completeness from passing particle to the most authentic reinstatement, it could aid in the process of recall:

> In general, the image is a device for picking bits of schemes, for increasing the chance of variability in the reconstruction of past stimuli and situations...By the aid of the image, and particularly the visual image - this is the best of its own trype - a man can take out of its setting something that happened a year ago, reinstate it with much if not all of its individuality unimpaired, condense and combine it with something that happened later (1927,p.27)

Bartlett saw images as manoeuvrable from past to present which could aid in the recollection of events. Bartlett also emphasised the elasticity of imagery and implied that "invention, the bringing in of totally new details, is particularly prone to occur in the course of the use of sensory imagery (Bartlett 1921 p.327)". Although he linked imagery to the thinking process, Bartlett also suggested that mental imagery had "its numerous defects which are the price of its peculiar excellences (1927, p.27)." He held that the fabrications of imagery were apt to be "relatively wild, jerky, and irregular compared with the somewhat orderly march of thought (27)".

Bartlett maintained that thinking could only transpire when the arrangement of past events had been broken down by mental images. Regarding imagery's facilitation in thinking, Bartlett expressed:

> An interesting chapter in genetic psychology yet remains to be written on how words actually come to supplement, and, in some cases, to replace, direct sensory imagery, and how, at the same time, the sensory image is not only normally retained as an element in mental life, but may develop along lines of its own, which lead to types of human response of the very greatest psychological interest (1921, 336-337).

This quotation shows that Bartlett claimed that images could induce responses, thus influencing behaviour. Bartlett not only possessed views of mental imagery that were markedly similar to writers after his time (Neisser, 1970) (Horowitz 1967), but he guided a less rigid scientific inquiry, than was

found in America, into British psychology.

In his book, Thinking (1958), Bartlett gave his report of how experimental scientists should work. In it, he accounted how he went about scientific inquiry and those he trained. He claimed, "The scientific experimenter is by bent and practice an opportunist...(he) must be able to use specific methods rigorously, but he need not be in the least concerned with methodology as a body of general principles. (58)" Bartlett's experimentation therefore involved no methodology, no statistics and no theory, which in turn diminished the criticism by psychologists regarding subjective research on mental processes.

Bartlett's donation to experimental psychology, which can be found in his two books, Remembering (1932) and Thinking (1958), involved mainly perceiving, remembering, thinking, and imaging. In the foreword of Remembering, Bartlett told how his demonstration of different forms and pictures when exposed to visitors in his laboratory led to an array of interpretations given by them. This led him to question the different ways of perceiving. To Bartlett perceiving was made up of imaging, valuing, judgement, and an inferential element. This led to Bartlett's experiments on remembering. Bartlett used pictures, pictorial symbols, and prose passages in his experiments. His subjects were asked to give repeated recollections after certain lengths of time, sometimes a series of subjects being involved in the transmission of material. From this he was able to observe the changes which

occurred in remembering. Bartlett's explanation was that perceiving, recognising, and recalling were psychological operations belonging to a common group. All of these were not only determined by sensorial data, but by schemata and viewpoints. Also, each act of recall included novelty; it was reconstructive, not simply reproductive. Recollections were built up as new each time in order to meet what was required for each situation.

To Hearnshaw (1964), the power of Bartlett's work was its ability to explain how complex functions such as consciousness affected social behaviour. The second part of Remembering was attentive to social elements: "the passing fashion of the group, the social catchword, the prevailing approved general interest, the persistent social custom and institution" which was the framework to human behaviour and experience in society.

Bartlett made a natural progression from the mechanisms entailed in remembering to the study of thinking. In Bartlett's book, Thinking (1958), although he made provisional suggestions for experimental inquest and gave examples of case studies of thinking, he paid little attention to the body of work on thinking done outside of Cambridge and was, therefore, a sparser contributor to its theme than was Remembering (Sahakian 1975). Nevertheless, Bartlett's impact on British psychology was pivotal. Above all of his influential positions, including his help with psychological research in government research organisations and his editing

the British Journal of Psychology for years, his influence has been felt most through his pupils (Hearnshaw, 1964). One pupil being Donald Broadbent, who would be an instigator of the cognitive revolution in America after the wars.

In 1960 over half the chairs of psychology in Britain were held by Cambridge graduates whom had been trained by Bartlett, including prominent chairs at Cambridge itself. Over a period of almost forty years, Bartlett significantly developed not only a bright-eyed enthusiasm towards psychology, but rigid ideas concerning what was scientifically and ethically acceptable, and studying mental processes was at the summit (1964).

The main fields in which research was carried out between the wars in British laboratories were those which required little scientific basis and experimentation. These fields mainly aimed to present facts as far as possible without theoretical justification (1964). Noticeably there was a significant difference in the scientific considerations regarding the study of psychological concerns in Britain and the United States. Whilst Britain was less interested in clinical evidence for psychological phenomena and more interested in internal processes, America valued the ability for psychological theory to be supported scientifically, thus suspending attention in mental imagery.

Chapter 8

World War II: A New Mode Emerges

For almost 50 years in this century, as Robert Holt (1964) documented, American psychologists under the persuasion of behaviourism largely ignored the study of mental imagery processes. An American essence was reflected in the technology of mass production and the empiricism of the business world. Britain never repressed inner experiences to the same degree, but lingered behind in the development of a scientific technology for studying behaviour (Hearnshaw 1964).

However, the war period contributed in part to the changes in psychological theory and research. The war between 1939 and 1945 quieted serious theoretical activity as the most industrious people in psychology were engaged in applied work in support of military needs and goals (Mandler & Mandler 1968). This gave way to other developments in the arena of psychology.

Events of the 1930's and 1940's drove many academics from Germany. Included among them were the Gestalt psychologists. Most of these psychologists settled in the United States where they were assigned to minor positions in universities and colleges at the edges of the American establishment (1968). In Germany, Gestalt psychology had been the only real opposition to Wundt's experimental psychology. Kurt Koffka, who was the first representative of Gestalt psychology in America had taken his doctorate with Carl Stumpf at the University of Berlin in 1908 where he wrote a thesis entitled, "Experimental Investigation of Rhythm". Stumpf's passion was music. His passion finally gained prevalence when

Stumpf conducted an experimental investigation of music and tones. This finally led to an cantankerous debate with Wundt:

> The clash seems to have arisen because Stumpf leaned heavily upon his own musical sophistication, while Wundt relied on the laboratory results with apparatus and the psycho-physical methods. Whatever is obtained under unprejudiced, carefully controlled experimental conditions must be right, Wundt virtually said. If the laboratory yields results that are obviously contrary to expert musical experience, they must be wrong, was Stumpf's rejoinder (Boring 1950)

Wundt stressed objective experimentation and Stumpf asserted that that was not indispensable when studying mental phenomena. This clash between Stumpf and Wundt, led Koffka to consider the most effective method of observing conscious phenomenon. Koffka was lead to believe Max Wertheimer's (one of the founders of the Gestalt school) conclusion that nature could not be understood without comprehending its parts. For instance, we hear a melody first and only then may perceptually divide it up into notes. Likewise, we may see the form of a circle and only after this immediate perception, we might notice that it is made up of lines or dots.

In 1927 after teaching at Cornell and University of Wisconsin, Koffka was appointed to a chair at Smith College. Koffka served as the primary spokesman for Gestalt psychology through his lectures and articles. He ventured to integrate different areas such as perception, memory, learning, and personality into gestalt theory in his book, Principles of Gestalt Psychology (1935). This showed America an alternative

to behaviourism.

Like behaviourism, Gestalt psychology was a protest. However, unlike behaviourism, it was not a protest about consciousness, but a protest of what other psychologists believed made up consciousness. Gestaltists were convinced that Wundt had started psychology off on the wrong foot by trying to identify elements of consciousness. They also held that Watson was mistaken to reduce complex behaviour down to a stimulus-response association. However, it was difficult for gestalt psychology to gain a stronghold over behaviourism.

As Kohler, another supporter of Gestalt psychology, maintained in his presidential address to the American Psychological Association:

> Almost from its beginnings, American psychology has given more attention to questions of method and strict proof than gestalt psychology did in [its early] years. In this respect American psychology was clearly superior. Secondly, sometimes the gestalt psychologist did make mistakes. Not in all cases was the reliability of their findings up to American standards, and some concepts which they used were not immediately clear (Kohler 1959 p.729)

By "American psychology", Kohler was referring to behaviourism. Although he rejected the behaviouristic rule that conscious experience was not considered scientific (1925), Kohler accepted that some theoretical claims were difficult to prove through conscious data alone. While recognising the behavioural measures in psychology, Gestalt psychologists maintained that it was integral to psychology to employ methods concerned with conscious, internal experiences

in order to understand behaviour. The Gestalt psychologists theorised that without the consideration of the workings of consciousness, attempts to understand behaviour would fail. Although Gestalt psychology was rejected initially by most behaviourists, its receptive audience included clinical and personality psychologists who would launch a more "internal" approach to American psychological evaluation and experimentation (Gilgen 1982).

Owing to the academic pause impelled by World War II, the Gestalt psychologists were able to establish a structure of thought that stood in opposition to the behaviourist pre-eminence in the United States (1968). However, in 1949 a major alternative to popular behaviourism surfaced. Donald Hebb's The Organization of Behavior found enough support to become the centre of a small counterrevolutionary movement(1968). As mentioned in Chapter 1, Hebb's book tore down the barrier between physiology and psychology.

It is a peculiar irony of scientific progress that imagery and fantasy as basic human processes have been rediscovered in America only since the 1960s for use in counselling psychology and for general study as important psychological phenomena. This has evolved largely through the convincing, not of cognitive psychologists, but of the behaviour therapists and the scientific psychologists studying brain models, computer processing, and simulation models.

Being a physiologist from the beginning, Hebb introduced the phrase CNS, the conceptual nervous system,

noting that the invocation of pseudo-physiological ideas, such as cell assemblies, was a halfway house between the disciplines, where such concepts could be used as theoretical terms by psychologists. As mentioned in section I, the instrumental efforts by Hebb (1949) to systematise behaviour in relation to possible neural organisation of the brain led to extensive studies of sensory deprivation. These studies led psychologists to become increasingly attentive to just how much seemed to be going on internally when the impact of stimuli from the external environment was radically reduced.

A barrage of additional scholarly activity rarely seen before in America turned psychology around between the 1950s and 1960s and instituted a solid basis for the "new" cognitive psychology (Baars 1986). Findings of neurophysiology in relation to the sleep cycle (Aserinsky & Kleitman 1953) reported a new direction for the study of human mentation during sleep which could bring the dream out of the limitations of the consulting room and into the scientific laboratory. The advances in the use of the computer and the possibility of simulating the range of human processes by this method could aid psychologists in the systematic study of long-term memories, expectations, and hierarchies of plans (Miller et al. 1960), (Tomkins & Messick 1963).

Another influence towards a psychology which focused on internal processes was the need for psychologists after the Second World War to come up with answers to problems which were related to how humans processed information, with

reference to attention. Operators of communications systems in planes, ships, and air-traffic control towers were required to process large amounts of information and often had to do two things at once (Moray 1970). Although Titchener regarded attention as being of the utmost importance in psychology, he clarified it little. After the rise of behaviourism, the knowledge of consciousness and attention was denied for the first half century in the United States. Even though in Hebb's Organization of Behavior (1949), he said, "We all know that attention and set exist, so we had better get the skeleton out of the closet and see what can be done with it (p.5)". Although Hebb initiated research into consciousness through his theories, Donald Broadbent was the one who began the actual scientific research into it.

It is notable that the psychologist in the forefront of the study of attention and consciousness in America was British, since Britain never got as involved in rigid, objective psychology as did America. Donald Broadbent helped free America from the constraints of behaviourism by making the study of consciousness respectable (Gilgen 1982).

Subsequent to the studies of attention, research concerning vigilance also aided in the passage away from America's objective psychology where consciousness was seen as unscientific. Vigilance is the ability to stay attentive in mundane settings. This research was also motivated by World War II when personnel were required to monitor electronic devices for long periods of time, such as sonar and radar.

Vigilance research aimed to discern what conditions were most conducive to the capacity of an individual to maintain attention towards a task (1982).

Such research on consciousness, attention, dreams, and sensory deprivation created many questions which, in turn, led to many significant findings. Not only were these studies producing valuable results, but the inherently subjective self report was seen once again as necessary in psychological inquiry.

The paradoxical manifestation of imagery methods in behavioural approaches

The development toward a cognitive psychology had started earlier in Britain, as reported in the last portion. However it had less instant general influence than it did when it reared its head in America. This lack of influence may be due to the shortage of a highly motivated opponent in the behaviourist tradition which, according to historical accounts, was missing from Britain.

British work was mainly seen in the experimental and theoretical contributions of Bartlett, who kindled the study of inner experiences (Hearnshaw 1964). Broadbent was influenced by Bartlett while at Cambridge, and it had been Bartlett who pursued Broadbent to pursue applied psychology (Moray 1995). There is literature concerning the psychological history of Britain. However, what can be appreciated from the sparse accounts, is that British

psychology never denied the study of consciousness as the Americans did during the same period of time. When Americans were only accepting objectively obtained information in psychological research, the British psychologists were accepting observation and self-reporting of internal processes as testimony of information processing. Although from a British standpoint, Broadbent's research into cognitive operations was seen as an evolutionary advancement in experimental psychology, to Americans, still influenced by behaviourism during that time, its influence was much more radical (Moray 1995). Through the quality of Broadbent's research and the manner in which he conveyed his ideas, emphasis was placed on the speculative internal mechanisms rather than on the stimulus. Behaviorism was forced to make room for his ideas (1995).

Internal processes were being taken seriously in American psychology once again. With this in mind, since this thesis focuses on comparing the perceived significance of mental imagery as a psychotherapeutic tool in Britain and America, how did American counselling psychology come to accept mental imagery as a valid tool in therapy?

After emphasis was placed upon cognitive mechanisms in American psychology, the greatest influence concerning the use of mental imagery in counselling psychology has been in behaviour modification approaches (Ahsen & Lazarus 1972). What is notable with this approach is that despite the focus of the

behaviourists upon objective responses and denial of internal mechanisms, the most widely used and most thoroughly studied behaviouristic method depends upon mental imagery. Although Watson was the leader of the American behaviourist movement, Joseph Wolpe, a South African who was a fellow of Stanford University, popularised the utilisation of mental imagery in therapy through his method of "systematic desensitisation". This was considered as a method to treat phobias and anxiety. Inspired by the good results that Wolpe was achieving through desensitisation, and heartened by the technique being suitably repeatable, American psychologists who were used to various forms of behaviourism, began to examine his methods.

Imagery in systematic desensitisation

The popularity of Wolpe's systematic desensitisation germinated from its simplicity and its straightforward approach to dealing with a common problem - anxiety. The main feature of Wolpe's method was the forging of a hierarchy of fears/concerns. If a patient had a phobia of spiders, s/he would be asked to picture a range of settings where this fear would be likely to arise. For instance, the first session could involve the individual imagining a spider in a jar across a room. The next session would involve something which would be more likely to elicit a fear response, such as the patient looking at an actual spider in a jar across the room. The following session could involve the patient standing next to the jar with the spider in it, and so on. According to

Lewis, who wrote on Wolpe's desensitisation:

> Individuals who have vivid imaginations and who respond to images of a situation in the same way they respond to the situation itself can be re-educated at the home or in the office. It is still important, though, that the individual not imagine situations that are too intense; to do so would risk eliciting and reinforcing the old reactions instead of practicing the new. Instead, a hierarchy of imaginary situations must be developed so that the individual can effectively evoke the beneficial reactions at each level (Lewis 1989 p422)

If patients imagined situations related to their anxiety that were too powerful for them to handle and they became fearful, the desensitisation would not work. The point was to imagine situations minor enough each time so that the patient did not become afraid. However, the situations gradually continued up the hierarchy towards the anxiety-provoking event in order that the original deluge of fear associated with it depreciated. In Wolpe's Life Without Fear (1988), Wolpe cites results of his methods:

> Alone among the systems of psychotherapy, behaviour therapy yields a percentage of recoveries significantly above the baseline: 80 to 90 percent of patients are either apparently cured or much improved after an average of twenty-five to thirty sessions (114).

To Wolpe, methods such as desensitisation were the most effective for curing anxiety disorders. The idea of attending to events connected to symptom development tended to be disregarded by therapists who assumed that phobias were simply a symbolic portrayal of underlying turmoil (Hunt 1993). Consequently, it seemed needless in many cases to explore the

behaviour of a patient in a variety of settings and the range of severities of anxiety related to the settings. Hence, Wolpe's procedure was seen as a move forward not only because of its theoretical implications, but because of its accommodation to the client's anxiety-provoking situations. Later in 1979, Wolpe was recognised with the "Distinguished Scientific Award for the Applications of Psychology" from the American Psychological Association:

> For his outstanding contribution to the understanding and modification of abnormal behaviour, and in particular his pioneering work that led to the establishment of behavior therapy. He played a vital role in developing the theory and practice of behavior therapy, currently one of the most widely employed of the therapeutic procedures. Wolpe's therapeutic methods, especially desensitization, have been successfully used to reduce fear and distress in thousands of patients. His achievements are all the more remarkable for having been accomplished while in geographical and intellectual isolation (D.S.A. 1979).

Despite this honour owing to systematic desensitisation and his other works in the United States, Wolpe was unable to develop a centre for his therapeutic techniques in Britain as he had hoped. Other than an article (Wolpe 1963) that was presented in the first edition of Behavior Research and Therapy, Wolpe had little to show for his British endeavours. Perhaps this lack of enthusiasm was due to the general disinterest in behaviourism, which was evident in Britain during the World Wars.

However, with the aid of Wolpe's utilisation of

imagery in therapy as well as the imagery debate that arose in America between Titchener and the Wurzbergers, imagery once again began to be appointed a position in theoretical and empirical work in the United States. This opened the way for many inventive methodologies to be developed in order to capture the continual behaviour of both humans and animals (Holt 1964). Behaviour modification techniques spread amply through the 1960s and influenced almost every phase of psychotherapy in America and approaches to social change (Ashen & Lazarus, 1972). Wolpe's methods compelled behaviourists to look at their own private experiences and to welcome human's inner experience back into the realm of science. Theories were no longer germinated from the personal experiences of analysts who simply wrote down their case material. Wolpe's methods along with the growing uncertainty concerning sole objective methods in psychology also paved the way for anyone to question theories which could not be backed by observable and replicable information. The criticism aimed at the imageless behaviourists forced American psychologists towards greater creativity and more serious examination of processes in study. Heidbreder explains:

> Since the rise of behaviorism, introspection and the results of introspection are less likely to stand alone; they are supplemented and even supported by objective data. Not only among its adherents, but in American psychology generally, behaviorism has enormously increased the emphasis on objective methods in research (Heidbreder 1935 p.263).

Imagery processes were on their way to becoming a

component of scientific inquiry. Having said this, since this dissertation's research involves the comparison between Britain and America regarding each country's perceived significance of mental imagery as a psychotherapeutic tool, in the field of counselling psychology today, there is much information on the uses of imagery techniques. However, before these can be understood and evaluated, it is essential to have some ground for comparison with what has gone before in psychotherapy.

Chapter 9

The Image in Psychotherapy: Benefits and Historic and Contemporary Approaches

As you will recall in section I, according to Paivio (1971), an image is more likely to generate recall than a word. He also maintained that any part of an image could be elicited instantly without apparent loss of intensity. For example, if one was asked to imagine entering his/her home, s/he could recount what was to the left of the door upon entrance or what was to the right. All the images would adjust and interchange depending upon the request of the person doing the asking. However, if one was asked to recite a poem, one could recite it forwards but would have more difficulty reciting it backwards. Imagery, unlike verbal material which must follow sequential patterns to make sense, can occur between and among many images at the same time. According to Paivio (1971), since visual imagery is spatially organised, the read-out of relevant components is faster. Because the information in verbal storage is sequentially organised it takes more retrieval space and requires longer time for the mind to complete the search. Likewise, the competence of retrieval is lower than with visual imagery.

Moreover, Ley (1979), as mentioned in section I, maintained that imagery was a mode leading to stored associations and gaining access to memories and sensations through imagery could enhance material available for examination during psychotherapy. Also, as discussed in section I, mental imagery is similar to perception. With this

in mind, a patient in a psychotherapy session could image a desirable situation - or, as systematic desensitisation is reached, a person could image situations which may cause anxiety in order to get over a fear.

When or if psychotherapists choose to use mental imagery as a tool in therapy is their decision. However, all psychotherapeutic approaches and techniques, whether employing mental imagery or not, have the benefit of theoretical foundations upon which to depend. It is from this capacity and under this groundwork that the practitioner may utilise those techniques which are most appropriate for him/her as well as the client. Since it is sound to assume that no one school of thought is sufficient (Berenson & Carkhuff 1967), it would be valuable for the psychotherapist to be cognisant of several noted theories. One school of thought would not necessarily encompass the best techniques for every condition presented by a client. A psychotherapist's scholarship would be expanded as s/he learned different trends and theory. Whereas, to Berenson and Carkhuff (1967), the foremost part of a psychotherapist's competence can be accounted for separately from his/her theoretical orientation, to assume that theory plays no part in the effectiveness of therapy would be a mistake. Even in the most theoretical approaches a good relationship between the therapist and client is essential. However, the productive use of those approaches depends on the therapist's awareness of theory.

Boy and Pine (1983) clarify the practical value of

theory by suggesting that theory is the *why* behind the *how* of psychotherapist roles - that theory furnishes a framework within which psychotherapists can operate. Boy and Pine (1983) specify six functions of theory that make psychotherapy practical:

1. Theory helps psychotherapists find unity and relatedness within the diversity of existence.
2. Theory compels psychotherapists to examine relationships they would otherwise overlook.
3. Theory gives psychotherapists operational guidelines by which to work and helps them in evaluating their development as professionals.
4. Theory helps psychotherapists focus on relevant data and tells them what to look for.
5. Theory helps psychotherapists assist clients in the effective modification of their behaviour.
6. Theory helps psychotherapists evaluate both old and new approaches to the process of psychotherapy. It is the base from which new psychotherapy approaches are constructed.

Additional theoretical models of psychotherapy other than the previously reviewed behaviourism must be noted to establish the forces underpinning current theories. This will be done in order that the position of mental imagery techniques within these basic theories can be distinguished. This will also discern if the elements of mental imagery as tools in psychotherapy are sufficiently broad to find a haven in more than one historically significant theory.

Freud's Contribution to Psychotherapy

Like Wundt, who was interested in the study of consciousness and the analysis of the different elements which went into making a conscious experience, Sigmund Freud's emphasis was on analysing the unconscious mind and how it affected a person's thinking and well being. In 1900, Freud introduced imagination into therapy as a means of explaining mental functioning and the rationale behind behaviour in his book The Interpretation of Dreams. Although a number of scattered instances of the use of imagery did occur, psychoanalysis therefore was unconcerned in specifying the structural characteristics of fantasies, daydreams, and affect. Nonetheless, this introduced a new emphasis on the unconscious mind's influence on behaviour.

Although Freud tried to develop a model of the affiliation between neural events and the organisation of thinking in chapter 7 in The Interpretation of Dreams, few of his followers showed much interest in developing conceptual models of the nature of attention, memory, and thought (Peters 1962). In psychoanalysis, a reason for the little emphasis placed on the study of the structure of mental imagery might be partly because, although his techniques implemented imagery, Freud did not address the utilisation of mental imagery in therapy alone. Rather, his concern lay in the proper application and employment of his techniques. Although he did not examine the properties of mental images to the

degree that Wundt did, Freud did underscore in his work the significance of these inner experiences in psychotherapy.

Initial hypnosis and imagery association

For the purposes of our present emphasis on the uses of mental imagery in psychotherapy, it is helpful to remind the reader that psychoanalysis was, in fact, an offshoot of hypnosis. The extent to which imagery is a main feature of hypnosis influenced the development of the psychoanalytical method (Wolstein 1954).

Freud became interested in hypnosis as a result of studying under Charcot, a French neurologist, and later Joseph Breuer. It was Breuer who in the early 1880s had treated a woman by hypnosis and obtained dramatic effects when she emotionally relived an incident in her childhood (Carlson 1987). In The Origin and Developement of Psychoanalysis (1910), Freud credits Breuer with being the first doctor to utilise the formation of images in patient treatment and also credits him as being the creator of psychoanalysis. Freud, along with Breuer, believed that describing images roused during hypnosis aided in emotional healing. Freud also discussed the existence of "memory symbols" during hypnosis. He maintained that it was not enough to simply unearth images of the past, but one needed to find out what those images represented in an individual's personality.

The connection of hypnosis and imagery techniques is intricate and merits handling further, yet the point to

emphasise here is that much of the standpoints Freud brought to psychoanalysis came from his initial experiences with images through hypnosis (Wolstein 1954). Sheehan (1972) maintains, "Experientially speaking, hypnosis is easily recognisable as a change in consciousness, and the emergence of imagery in altered states of consciousness is well acknowledged (Sheehan 1972 p.297-8)" Sheehan also likens the changes involved in hypnosis to those associated with sensory deprivation. As mentioned in section I, sensory deprivation is known to evoke vivid mental images.

According to Wolstein (1954), psychoanalysis has never lost its earliest connection with hypnosis. The couch along with positive transference in order to increase suggestibility, are some recognisable aspects of hypnosis which have been preserved in the psychoanalytical setting.

Although Freud initially stressed hypnosis as a means of uncovering repressed memories, he found some patients difficult to hypnotise. In order to unearth the meaning of hysterical symptoms. Freud would ask the patient to form an image appropriate to the time when the symptom first began (Heidbreder 1973). The patient would recline on a couch and Freud would press his hands firmly around the patient's head. He then requested that the patient search his/her memory in order to form a visual image, the image to appear as soon as Freud lifted his hands from the patient's head. Freud gave a description of this method in the case of Lucy R. (Freud 1955). As accounted in Studies on Hysteria (1955), when Lucy

R. demonstrated that she had no idea how the symptom began, he took her head between his hands and told her that as soon as he lifted his hands, "you will see something in front of you or something will come into your head. Catch hold of it. It will be what we are looking for (110)."

In these early stages of Freud's practice one can recognise today his utilisation of a mental imagery technique and a string of associated images in his therapeutic endeavours. Suggestion was used in this technique through Freud's insistence that the patient would see an image when Freud placed his hands on his/her head.

However, according to Horowitz (1970) Freud later rejected this "hands on" method because he believed it led to increased resistance among patients (296). Evidently it was abandoned before 1900 since there is no mention of physical contact in his explanation of free association in the second chapter of The Interpretation of Dreams. During this time he also began to move from imagery association to a more free association technique which has become the basis of psychoanalysis. In the second chapter of The Interpretation of Dreams, Freud mentioned the way in which he persuaded patients to report whatever came into their heads and to employ an outlook free of criticism so that the association could surface almost spontaneously. Freud did not stress visual imagery association methods any longer. However, he did regard the patient's situation as comparable to that of preparing one's self for sleep at the point where one can

evaluate one's own thoughts, thus giving way to a more calm realisation of the emerging "visual and acoustic images (102)."

Emphasis began to move from visual association to verbal association when Freud would examine dream content. However, despite Freud's shift to verbal association, during this time he still required that the patient recline with his *eyes shut* (173). It appeared that not only was Freud carrying over characteristics from hypnosis conditions, but was also basing much of the patient's material on the production of visual imagery. By 1903, the shutting of eyes had been terminated (Freud 1962). Freud stressed that the patient lie on the couch while the therapist was out of his field of vision. The session would progress "like a conversation between two people equally awake, but one of whom is spared every muscular exertion and every distracting sensory impression which might divert his attention from his mental activity (250)."

Freud acknowledged the cognitive makeup of the activity as well as the importance of avoiding external stimulation. Yet perhaps because of his reduced concern with visual imagery he was willing to let patients keep their eyes open in order that they may verbalise their thoughts and experiences. The shift was towards a more verbal free association. In fact, he even referred to the situation as one of a rambling and disconnected conversation (250). Although Freud displayed less interest in conjuring up visual

imagery and was more concerned with verbal associative methods, this change in approach did not mean that visual imagery was not used in the analytical sessions at all. The reliving of dreams, the examination of daydreams, and the evocation of early memories when the patient transferred his or her feelings towards a dominant childhood figure to the therapist involved visual imagery. Nonetheless, there was a turning point where the precise course of imagery was altered (Peters 1962). Freud labelled mental imagery as a more primitive, primary-process function associated with regressive features in the patient (Peters 1962 p.716). This could be why Freudian theory was not completely dismissed in America during the anti-imagery period of behaviourism, although Freud's other theories concerning the unconscious were regarded as unscientific (Hunt 1993) According to Peters (1962), Freud's meaning of imagery was a complete contrast to that contemplated by Jung who considered imagery as a creative process of the psyche to be used for finer individual, interpersonal, and spiritual synthesis (730).

Jung's Theories of Imagery

Jung's psychoanalytic theories and practices regarding widespread symbolic interpretation were fused into the foundation of European thought which, like Britain, was more concerned with internal processes than was the psychologist in the United States (Rycroft 1966). Jung believed that we carried a great amount of symbolism

reflecting cultural experiences of our past and, in fact possibly the culture of our ancestors in associating themselves to the chief issues of family background and the nature of humans in the universe (Matarazzo 1985).

Eastern philosophy and psychology during this time inspired the theories and practices of Jung. According to Samuels and Samuels (1975), Tantric Yoga practised in the sixth century India was "the most highly developed system man has achieved for holding images in his mind to achieve an affect (57)." Both the Hindu religious philosophy and Tantric Yoga embrace the idea of the unconscious mind which links the self to all creation. This shows much similarity to Jung's "collective unconscious" in which the unconscious entails the symbols which are inherited from each generation (1975).

Jung assigned mental imagery as the dominant role in the design of the psyche. In The Structure and Dynamics of the Psyche (1926/1960), Jung stated:

> The psyche consists essentially of images. It is a series of images in the truest sense, not an accidental juxtaposition or sequence, but a structure that is throughout full of meaning and purpose; it is a 'picturing' of vital activities. And just as the material of the body that is ready for life has a need of the psyche in order to be capable of life, so the psyche presupposes the living body in order that its' images may live (325-326).

This acknowledgement of the interrelation of psyche and body suggested that mind-body unity is a life process and imagery is a way of perceiving and encountering this life process (1926/1960).

Jung's technique "active imagination" represented one of Jung's applications of mental imagery in therapy. During this technique, a client was directed to reflect, remaining free from any program or aim. One may mingle with images one had evoked by talking to them and asking questions. Although there was little written of a technical nature on this method by Jungian analysts, which centred more on the meanings of symbols with relation to cultural, religious, and aesthetic experiences, "active imagination" influenced many of the techniques used in psychotherapy. According to Jung:

> When you concentrate on a mental picture, it begins to stir, the image becomes enriched by details. It moves and develops...and so when we concentrate on an inner picture and when we are careful not to interrupt the natural flow of events, our unconscious will produce a series of images which makes a complete story (Jung, 1935/1976, p.172).

To Jung, images alone could aid in success in therapy. Jung germinated interest among scholars regarding the role of imagery in psychotherapy and his concepts not only served as a link between Eastern and Western approaches to psychotherapy, but influenced therapists.

During this period, the United States was going through a movement towards a more objective psychology as a backlash to the more phenomenological, subjective schools of psychological thought that had evolved from the philosophers. Although Freudian theories were not entirely disputed, as previously mentioned, possibly due to his later views of the "primal" role of mental imagery in behaviour, Jungian

philosophy in psychoanalysis barely acquired any ground in the United States despite its being an element of the cultural environment in Europe (Shorr 1974). It is possible that the World Wars thwarted scientific development in Europe when scientists left, leaving it open to more speculative features that distinguished psychology during that time. The migration of many clinicians from Europe to the US must have left Europe destitute for some time afterwards (1974). Regarding American psychology during the behaviourism period, Jung said in "The Complications of American Psychology":

> It would never occur to the naive European to regard the psychology of the average American as particularly complicated or even sophisticated. On the contrary he is rather impressed by the simplicity and straightforwardness of American thought and manners. He likes to think of Americans as being a very active, business-like, and astonishingly efficient people, concentrated upon a single goal, and a bit handicapped by what certain English magazines call "Americana" - something on the borderline of mild insanity, "colonials are liable to be a bit odd, don't you know, like our South African cousins". Thus, when I have to say something serious about Americans and their peculiar psychology, my European audience is not shocked exactly, but at all events somewhat puzzled and inclined to disapprove. (Jung 1959 p.502)

Although Jung showed admiration for the American way of life despite the dubious attitudes towards America displayed by Europeans, he ended his essay with, "...the most interesting of all is that this childlike, impetuous, 'naive' America has probably the most complicated psychology of all nations (514)"

Both Freud and Jung stressed the importance of

working through past experiences which otherwise may have been beyond the client's awareness. Although the term "mental imagery" is not remarked on regularly as a tool in psychotherapy, and Freud even refers to it as "primal", their techniques demonstrated the use of elements of mental imagery in psychotherapy.

The Use of Imagery in Gestalt Therapy

Gestalt therapy is derived mainly from the influence of Frederick (Fritz) Perls, a German-trained psychoanalyst. In 1951, after his arrival in America, Perls published his most famous work on Gestalt therapy (Perls 1951). This work was significant because it ventured to criticise Freud's theories - alternatively utilising a more humanistic approach. Moving to California as a change from the conservatism of the East coast, Perls emerged as one of the most dominant figures in psychotherapy in the late 1950s and 1960s (MacKewn 1994).

Since we are concerned with Gestalt therapy as it relates to mental imagery techniques, the most relevant to this would be imagery attributed to body orientation as seen in the Gestalt techniques. With Perls' view of body-mind wholeness, it seemed that bodily tensions, cramps, facial demeanours, and posture would not only depict body language, but would portray oppressed fantasies or memories. Gestalt therapy was one of the first to get the patient to pretend in front of the therapist. In addition to patients being encouraged to alter positions and try opposing postures, they

were also encouraged to try acting out fantasies (1994). The patient would also be encouraged to think about an upcoming event with positive expectations and would then be asked to imagine it with uneasiness. The purpose behind this was to discern if there were any real misgivings about the situation. If negative images did not come forth, this would be a sign of the patient's confidence that his/her positive expectations were justified and that s/he was genuinely looking forward to the occurrence. Mental images were a vital part of the exercises essential to Perls' approach.

In examples presented in accounts of Perls' workshops (Perls 1970) the dream is not dealt with through analysis, but by a form of Jung's active imagination. Active imagination, as we will recall, involved the patient reflecting without any aim and mingling with images. First, the patient is asked to describe the dream in detail like free associations, which can add in uncovering information. As part of this report, the patient is asked to re-experience the dream "here and now". Next the patient is asked to act as if s/he is each aspect of the dream content, again in the immediate present (1970). For instance, if the patient had a dream of a man killing his wife with an axe, the patient would be asked to speak as if he was the man and to say what he feels in that role as he plays it. He would then be asked to consecutively asked to repeat the process while playing the role of the wife and the axe. To Perls, this method allowed the patient to speak more clearly about the ideas and feelings manifested unclearly in the

dream. Unlike free association, Gestalt therapists do not interpret, they allow their patients to interpret for themselves.

Another method involves the patient moving from reality to fantasy. The patient is asked to imagine a place where s/he feels safe. The patient then returns to his/her present situation and compares the two. The therapist asks what was different about the two situations. Then follows a fast shuttling back and forth between the two, until the difference is elucidated and the "here" situation feels as good as the "there". To Perls, this method not only showed an escape from unhappiness, but suggested ways in which the patient could sense his/her own happiness. Although Perls was dubious about the genuine effects generated in some of his workshops - impulsive weeping and dramatic displays - the popularity of Gestalt methods showed a desire for freedom from the rigidness of logical thought and careful analysis. Gestalt therapy could function within a framework in which mental images were essential.

Transactional Analysis

Another therapy which utilises fantasies in group and individual therapy is the transactional method most commonly associated with the work of Eric Berne. It surfaces as an elaboration of Freud's psychoanalytic theory which Berne transformed into an interpersonal framework. Like traditional psychoanalysis, transactional analysis gives a depiction of

how people are structured psychologically using a three-part ego-state model. These ego-states are: Adult (behaving, thinking, feeling in response to what is going on in the here and now), Parent (behaving, thinking, feeling in ways that are a copy of an individuals parents), and Child (behaving, thinking, feeling that an individual used as a child). Free association is used in order for the therapist to speak to each ego-state independently without interference from another.

Transactional analysis uses the concept of a life script to explain how a client's life patterns originated in childhood. This life script begins from birth when humans are confronted with the questions, "Who am I?", "Where am I?", and "Who are all these others?", and then search for our own answers. Berne maintained that individuals could relive the experiences from childhood and evoke the same emotions by the activation of certain external stimuli. The support for Berne's theory came from Penfield's(1952) experiments which showed that electrode stimulation of the brain's temporal lobes not only roused images of past events, but the emotions associated with them (Roberts 1975). With regard to Penfield's findings, Berne remarked, "Here it is not the Adult talking to the Child, but the Child itself talking (1961,p.226)."

According to Berne, individuals lay down their personal life scripts with these answers to childhood questions which lead them to engage in a variety of self-

defeating games whilst luring others to play along with them (Berne 1966). The goal of therapy is to recognise these games and have them played by the group so they can clearly be classified as games and distinguished from the practical behaviour of the adult. The script, frequently a conscious one on the part of the person, depicts a set of expectations and wishes for certain pleasures or securities that have endured from early childhood.

The client may try to get others to take part in the game s/he is playing, just as s/he tried to do with parents, friends, or his/her children. Typical organisational games are: *Yes, but..., NIGYSOB,* and *Uproar* (Hewson & Turner 1992).

Yes, but involves an interaction in which helpful advice is rebutted with reasons against it. In this situation, someone mentions a problem they have, yet when solutions are put forth, they respond by pointing out why each suggestion will not work, beginning with the words, "Yes, but...". One of the players consequently becomes annoyed and makes unflattering comments about the other person.

The underlying message is about who is the most intelligent. The individual with the problem is bolstering a belief that s/he has thought of every possible solution, and that s/he knows more about the pitfalls of the job than anyone else. The solution-offerer holds the opinion that s/he can improve on whatever has already been considered. Only one can surface from the situation as the victor.

NIGYSOB stands for, "Now I've got you, you son of a

bitch" and involves an individual asking questions until s/he catches a person out. In this game, whilst an individual is explaining her/his ideas, the game-player begins asking many questions encouraging elaboration of the individuals comments. Just as the individual begins to feel proud with his knowledge, the game-player illuminates an apparent contradiction the individual has said, making him/her feel confused or embarrassed.

NIGYSOB is about being one-up. The game-player wants to be seen as the cleverest person by onlookers.

Uproar involves a discussion inducing an argument. From a seemingly sensible sharing of views, the atmosphere turns negative as the game-player begins to tell the other person what s/he really thinks of his/her views. As the game-player's insults multiply, the conversation escalates into a heated argument.

As with NIGYSOB, Uproar's secret dynamic is about winning and losing. If the game-player ends up on the losing side, the alternative to Uproar is *Kick Me*.

From Berne's viewpoint (1961), the purpose of a transactional analysis is the analysis of life scripts - analysis of the hierarchy of plans and programs of the individual - to introduce a bit of information terminology. Unlike Freud and Jung, the difference with Berne's approach is the emphasis on the material as presented in relation to other people, rather than emphasis on the assumption of an ongoing intersymbolic sphere or symbolic language in which the script

is carried. The focus is not on the unfolding of the symbolic system, but on its identification and its systematic alteration through different types of role playing either between members of the group or between therapist and patient. Mental imagery is suggested in performing the role play and from the influence Penfield's study on memory images had on Berne's theory of reliving memories with emotion. Berne refers to dreams and fantasies as internally programmed behaviour, in "The Classification of Behavior" in the appendix of Games People Play (1964). However, as with most of historically significant theories of counselling, although mental imagery is utilised in transactional analysis, it is not formally mentioned as a therapeutic tool.

Reality Therapy

William Glasser, an American psychiatrist, founded reality therapy in the 1960s (Glasser 1965). Denying the concept of mental illness, Glasser asserted that individuals were responsible for their behaviour. His developed system called for people to face reality.

The theoretical framework of reality therapy is based on control theory which sustains the principles and practices a therapist implements to help in the changing process. Reality therapy focuses on what clients are cognisant of and helps them increase their level of awareness. Clients are invited to judge if their behaviour is helping them and to

assess if their wants are realistic. This is done through investigating the client's needs, wants, and perceptions. Glasser (1965) maintained that there are two basic needs: to love and be loved. This exploration of the client's needs aids in understanding ways in which their behaviour is focused and how these perceptions of the outer world can be moved into their inner world of needs. The client can then take action.

As with person-centred therapy, reality therapy involves acceptance of the client in an unbiased manner in order for him to reveal his inner desires. Questions the therapist might ask could be, "If you were the person you wanted to be, who would you be?" or "What would you be if you were living your ideal life?" After clients explore their wants and needs, they can then determine if their behaviour is getting them what they want.

Unlike psychoanalysis, the practitioner of reality therapy works in the present and towards the future. The past is not dealt with, because to Glasser, the client can neither change the past nor accept the fact that s/he is controlled by his/her past (1965). Also, dissimilar to psychoanalysis, reality therapists relate to clients as themselves rather than transference figures, and, therefore, do not accept unconscious reasons for behaviour.

With regard to mental imagery as a tool in reality therapy, Parr and Peterson (1983) address the notion of mental imagery application in "The Use of Imagery in Reality Therapy". A reference to William Glasser's Stations of the

Mind(1981) is presented. Although this is referred to within their sentence: "It (imagery) assists the client to clarify and alter perceptual errors and helps make all the steps of the counselling process more concrete (2)", Stations of the Mind(1981) does not give a direct endorsement to mental imagery utilisation in the practice of reality therapy. The most that is mentioned regarding mental imagery is in Glasser's chapter entitled "Meditations".

Among other techniques, Glasser refers to the methods of a doctor, Carl Simonton and his social-worker wife, Stephanie. The Simontons believe that through visualisation, patients can feel as if they can fight their diseases. The closest reference to mental imagery that Glasser conveyed, reads, "Whether or not visualisation of the immune system attacking the disease actually activates the immune system we can't say, but what probably does help is the patient's new belief that they can do something to combat the disease (261)." Although mental imagery may be utilised when the client describes to the therapist what s/he wants and needs, Glasser's Stations of the Mind citing of mental imagery in Parr and Peterson's article seems a bit lacking. I did not find any endorsement of imagery utilisation to help "make all steps of the counselling process more concrete (Parr, Peterson, 2)." This is not to say it does not take place, but Glasser does not refer to it, nor does he refer to any related terms. Whether mental imagery is utilised in reality therapy or not is irrelevant to the fact that its usage is not

advertised. Therefore, it is difficult to regard reality therapy as a sturdy foundation which fosters the application of mental imagery in psychotherapy. That is not to say mental imagery cannot be used in reality therapy, but reality therapy does not emerge to be a champion of mental imagery which can limit any endeavours to do so. Likewise, because there is no mention of its utilisation, if mental imagery is used, practitioners may not be aware of it.

Person-Centred Psychotherapy

Empathy, which is defined as the "imaginative projection of one's own consciousness into another being" (Webster's 5th ed.) is the chief component in Carl Roger's person-centred psychotherapy. Rogers maintained that the atmosphere in a client-centred session focuses on the counsellor/client relationship (1951). The psychotherapist becomes aware of the verbal and non-verbal language of the client, and the psychotherapist reflects back what s/he is hearing or observing. Neither the client nor psychotherapist knows what direction the sessions will take or what goals will emerge, but the psychotherapist trusts the client to develop an agenda on which the client wants to work. Methods that would help promote the psychotherapist/client relationship include active and passive listening, accurate reflection of thoughts and feelings, clarification, summarisation, confrontation, and general or open-ended leads (Poppen & Thompson 1974). Due to the emphasis on the

psychotherapist/client relationship rather than emphasis on specific techniques, person-centred therapy is viewed as an approach without clearly defined terms or techniques. For this reason, despite the implication of imagery in the definition of empathy, mental imagery is not stressed as an aid in client-centred therapy.

Historically important theories in psychotherapy have been discussed in order to recognise the foundations that most therapies have today. Although most of the therapies mentioned utilise mental imagery, such as role playing, dream interpretation, hypnosis, and the playing out of fantasies, the term "imagery" is rarely used if used at all. It is important to know that when students of psychotherapy are taught the previously mentioned techniques, they may be learning techniques using mental imagery even though the student may not know explicitly that it is crucial to a given technique. Therefore, whether mental imagery is utilised within these therapies or not, the perceived significance of mental imagery as a psychotherapeutic tool will be low. The only historically significant technique familiar to this author that has mentioned and stressed the solitary use of mental imagery has been Wolpe's systematic desensitisation within behaviour therapy. There is even a book entitled, Hypnosis and Behavior Modification: Imagery Conditioning (1976). In the foreword, it reads, "The bridge between hypnosis and behaviour therapy is the use of guided

imagination, perhaps most central to this volume. This technique is widely used in behaviour therapy and basic to all hypnotic approaches (viii)"

Chapter 10

Initial Interdisciplinary Models of Imagery Based Psychotherapies

There are numerous contemporary approaches which stress the use of mental imagery in psychotherapy in addition to historically significant theories which have just been discussed. Some of these contemporary approaches should be noted so as to provide a suitable context for the use of mental imagery as a psychotherapeutic tool.

Bachelard: Imagination as fundamental experience

During the time of Freud and Jung, Bachelard, a physicist, who separated from the more established psychological methods of self-analysis of the Jungian and Freudian schools, called our attention to the world as our home and as a vessel for the images of human intimacy (Bachelard 1964, 1969, 1971). Bachelard was devout to examining the affiliation between the material world with its physical properties and the conversion of that material into our imagination. Bachelard argued that "the creative imagination" was a fundamental human experience, and that indeed, it was as much a part of human's reality as the stored reproductions of external events and stimuli. Bachelard's 1938 essay, The Psychoanalysis of Fire, identifies conditions under which images of fire are created. Similar to Freud, the goal of Bachelard's "psychoanalysis" was that once the subconscious, image-producing processes were revealed, the rational mind would be liberated from their influences. His intention was therapeutic, as he tried to separate scientific

abstraction from the ailment of subjectivity by determining whether a text was meant to be interpreted subjectively or objectively:

> This determination of the axis of explanation, whether it should be subjective or objective, appears to us to be the first diagnosis required for a psychoanalysis of knowledge. If, in a particular field of knowledge, the sum of personal convictions exceeds the sum of the items of knowledge that can be stated explicitly, taught, and proven, then a psychoanalysis is indispensable. The psychology of the scientist must tend towards a psychology that is clearly normative; the scientist must resist *personalizing his knowledge;* correlatively he must endeavor to *socialize his convictions* (76-77)

Bachelard was not interested in establishing a conventional therapy. Despite his Freudian terminology, Bachelard's "psychoanalysis" was concerned with norms for a rationally based objectivity.

Bachelard (Bachelard 1948) also wrote of labour and the psychological value of mental images, "Work is an inventor of hostility (59)"; "...as soon as the imagination actualizes its images, the center of being loses its substance of unhappiness (20)". Mental imagery was seen to make work more pleasing. Such reveries gave virtue to work. "Take away the dreams and you stupefy the worker....Without reveries of will, the will is not really a human force, it is brutality (93)". Bachelard envisioned fancifully "a time when each trade will have its certified dreamer, its oneiric guide, where each factory will have its department of poetry (93)". This implies a helping professional knowledgeable in internal

psychological processes. This suggestion might have well been whimsical, but its message is one that requires an appreciation of the vital role of mental imagery in normal thought processes and to one's emotional health.

Bachelard examined the modes imagination appropriated as a part of our phenomenology; that is, how we use our imagination to ready ourselves for all we perceive, expect, defend, and act upon. Regarding the effect images can have on humans, Bachelard described it with respect to a poem:

> In the resonance we hear the poem, in the reverberations we speak it, it is our own. The reverberations bring about a change of being. The multiplicity of resonances then issues from the reverberations' unity of being... The image offered us by reading a poem now becomes really our own....It becomes a new being in our language, expressing us by making us what it expresses; in other words, it is at once a becoming of expression and a becoming of our being. here expression creates being (pp.xvii-xix)

The implications this has for psychotherapy are noteworthy. To Bachelard, images had the capability to affect humans. However, unlike Freud and Jung, Bachelard was less concerned with reducing images to hidden meanings than with exploring how shared images cluster around a common phenomenon or event. This association could tie the individual to society. Despite Bachelard being neither a psychotherapist, nor the leader of any school of thought, his work influenced the approaches of clinicians in France, Germany, and Italy.

While there are many other influences besides Jung and Bachelard upon European psychology and psychotherapy, the

seriousness with which so many leaders of the intellectual community in Europe had taken the works of these men opened the way for a readiness to employ imagery methods in psychotherapy.

Desoille's Directed Daydream

A leading influence to the development of mental imagery techniques was the work of Desoille (Desoille 1938, 1965). The influence of Desoille's oneirodramatic technique, also known as the directed daydream, is evident in the writings of a other European researchers such as Leuner (1969) and Fretigny and Virel (1968). Some of Desoille's methods can be compared to behavioural desensitisation techniques or adaptations to what Lazarus (1971) called "emotive imagery".

Not a psychologist, but an engineer, Desoille's procedures do not bear any likeness to conditioning techniques and appear to be predominately analytical. Due to the lack of psychological theory presented in his work, we shall instead regard the methods themselves and some of their clinical implications.

Desoille (1961) maintained that the use of images had a special ability when it came to circumventing resistances. He believed imagery furnished the patient freedom in expressing, which was virtually unattainable in the mode of conventional language. Concerning this freedom, Kretschmer (1969) who wrote about directed daydream and other meditative techniques, expressed that the therapist:

> suggests to the patient a symbolic means of changing his (the patient's) situation by climbing or descending. The therapist does not suggest the whole fantasy; rather, he gives only a direction and maintains control of the fantasy by offering helpful symbols which can serve as points of crystallization for the fantasy (Kretschmer 1969 p.229)

The client would self-govern his exploration through his daydream. Patients under Desoille would be taken through a series of symbol-image dramas used for projective psychodiagnosis to ascertain the style of the patient's perceptions, reactions, and areas of misinterpretation, and for psychotherapeutic direction and reeducation. Standard images would be employed as initiating stimuli. Six themes were developed, which covered the major problem areas in human experience.

The first theme used in Desoille's approach had to do with one's own personality characteristics. These personal characteristics were aroused by initiating the patient with an image of a sword (if male) or a container (if female) (Desoille 1965). The second experience, which represented the repressed personality, was developed by persuading an imagined descent into the ocean or underground. The third domain assimilated the relationship with the opposite sex parent; a witch representing the mother and wizard representing the father. The fourth stage entailed the relationship with the same-sex parent while using the previous symbols for the parents. The fifth phase, which concerns the limitations society places on the individual, was represented by a descent

into a cave to face a dragon or monster. Lastly, Desoille's sixth theme, centred on the Oedipal conflict, which suggested the palace of Sleeping Beauty located deep in a forest for both sexes. These starting images could then be developed into an ongoing adaptable oneirodrama in order to resolve the patient's maladaptive habits and distortions.

Regarding this method, Desoille explained (1965):

> The basic procedure of this experiment is quite simple: It consists of having the subject engage in a daydream while he is stretched out on a couch as comfortably as possible. We give the patient a starting image, for example a sword, or possibly, a seashore where the water is very deep. We have him describe this image as thoroughly as possible, and ask him questions so as to evoke details, if necessary. During the course of the first session, it may be necessary at times to remind the subject that in a dream anything is possible (p.1)

The proficiency of colourful language which Desoille's patients used to detail their accounts while experiencing his treatment, along with the intricacy of the images they described, makes one wonder whether or not his techniques were predominantly winning to those who were prone to encounter robust fantasies anyway.

While implementing Freudian and Jungian symbolism, during this time Desoille can be seen as influential with regard to the advancement of mental imagery techniques in psychotherapy. However, due to his lack of background in psychology or psychiatry, a clinician of either of these disciplines may prefer to regard Fretigny and Virel and Hans

Leuner, all of whom had formal medical or psychological training. Despite this, Desoille's influence can be seen in their procedures. The main point here is that with adoption and revision of methods by Freud, Jung, Bachelard, and Desoille, and their elaboration in various clinical settings by formally trained scientific investigators, the way could become open for active research of mental imagery in psychotherapy.

Fretigny and Virel's Onirotherapy

Fretigny and Virel, who believed in guiding the patient's imagery and, as mentioned in the preceding section, made use of Desoille's techniques, were more concerned with allowing the patient's imagery to roam free after giving the initial direction, rather than continually suggesting directions as Desoille required in his approach (1968). They aspired to relate *onirotherapy*, an approach concerned with "orinic" or quasi-dreamlike images, as opposed to guided daydreams of Desoille, to research on electrophysiological functions of the brain, night dreaming, and the sleep cycle. By using the term onirotherapy, they hoped to differentiate the specific guided daydream method of Desoille between techniques directed around the use of conditions halfway between wakefulness and sleep. Fretigny and Virel classified different types of mental imagery in relation to assorted degrees of consciousness, which was based partly on literature and partly on research done by Virel and reported in their

book (1968). Though bridging their theoretical thought to Jungian theory and psychoanalysis, the method presented by Fretigny and Virel developed out of their experimentation, and they even claimed to have been an influence on Desoille in some of his formal imagery stages mentioned earlier (1968).

After beginning treatment with details of family background and the case history of a patient, Fretigny and Virel would encourage the patient to relax and to begin imagining a sword, climbing a mountain, and so on - similar to the style of Desoille. Being more within the customary therapeutic tradition, they additionally would require information from the previous session to discuss and would try to gather relevant dream material from the patient. The central process in onirodrama was the confrontation through imagery of crucial problems of the patient by allowing the imagery to unravel as freely as possible once a certain direction was suggested.

Fretigny and Virel stressed the entwining of symbolism at the cultural level with the early arrangement of experience of the child, which accounted in great part for the complexity of imagery, its intensity, and its connection to private experience. Their research showed, that during imagery sessions, there was no evidence of sleep rhythms found and the rapport with the psychotherapist was of a more dynamic nature than could be observed through hypnosis (1968).

A dominant part of Fretigny and Virel's work has been their attempt to produce experimental work regarding their

mental imagery techniques. As mentioned earlier in this section, they tabulated the relationships between psychological states and levels of arousal as well as what they considered to be modalities of consciousness (1968). However, they also commenced psychophysiological study in order to become more familiar with the concomitants of mental imagery (Fretigny & Virel 1967). Experimental studies were accounted regarding responsiveness to internal and external stimulation while subjects where hooked up to a polygraph. Nine of the subjects had their physiological responses measured whilst undergoing therapeutic sessions. In keeping with their classification table of mental imagery, Fretigny and Virel asserted that although the electrophysiological qualities of ongoing mental imagery favoured those of hypnosis, the conscious presentation was altogether different from that of hypnosis. Fretigny and Virel determined that this reflected the fact that richer and more colourful imagery with immediate description of this fantasy process and the preservation of close rapport with the psychotherapist of an active nature, contrary to the more inactive role observed in hypnosis. Although today Fretigny's and Virel's electrophysiological research may appear primitive , they did draw attention to the fact that the mental imagery method can be studied more scientifically and that mental imagery as a psychotherapeutic tool is worthwhile.

Hans Leuner's Guided Affective Imagery

In 1946, Hanscarl Leuner began his educational psychoanalysis under the Jungian psychotherapist Professor Dr. Schmaltz. Schmaltz facilitated Leuner's interest in the action of dream symbolism and the power of transference in psychotherapy. This initiated Leuner's curiosity in mental imagery. As a prominent German psychiatrist from the University of Goettingen, Leuner developed a therapy called Guided Affective Imagery in the 1950's and 1960's.

Closely associated to the approach of Desoille and Fretigny and Virel, as well as Freudian and Jungian psychoanalysis, was Leuner's (1969) unique *guided affective imagery* technique. Leuner described this technique as:

> a method of intensive psychotherapy which can be used in conjunction with any theoretical view of personality dynamics that acknowledge subconscious motivation, the significance of symbols, resistance, and the therapeutic importance of the mobilization of affect. Under suggestions of relaxation the recumbant patient is encouraged to daydream on specific themes which are offered by the therapist. The daydream process typically takes on an autonomous direction. It evokes intense latent feelings that are relevant to the patient's problem. Techniques for the guiding and transformation of imagery lead to desirable changes in both affect and attitude toward life situations (Leuner, 1969, p.21)

Guided affective imagery (GAI) represented a system of graduated methods and management models for manipulation of the daydream in psychotherapy.

Leuner's method was close to Desoille's, but more

systematised in terms of bringing the unconscious portion of psychological problems into focus. Leuner explained the advantages of this altered state of consciousness experienced by the client:

> It is essential to understand that when the patient is in this state of induced relaxation, the mind is functioning differently than in situations of alert consciousness. During GAI, the patient's state of consciousness is similar to that which occurs in meditative states. It is often surprising to hear him excitedly describe vivid colors and detailed forms which are experienced as parts of a totally new world. The patient paradoxically seems to be living in this fantasy world while he simultaneously knows that he is doing this with his therapist for purposes of treatment (1969 p.23).

Although going through a world of fantasy which seems like reality, the client remains aware of the goal of the process.

GAI represents a broad psychodynamic concept. Its scope covers unconscious motivation, the interpretation of symbolism, resistance mechanisms, and the role of transference and countertransference, as well as the therapeutic significance of releasing affective impulses. It makes use of psychoanalytic symbolism as found in the dream theories of Freud (Leuner, 1974). The images in the subject's optical fantasies are understood as phenomena of regressive psychic functions produced by an altered state of consciousness. Therefore, they follow the functional laws of the primary process (Freud, 1923).

However, it also allowed freedom for the patient to develop his/her own fantasy. The patient would recline on a

couch relaxes with Dr. Schultz's, a psychiatrist and neurologist (Schultz & Luthe 1959) autogenic training imagery involving a fixed image. Autogenic training imagery was to "facilitate autogenic (brain-directed, self-generating, self-regulatory) processes of self-normalizing nature...which normally participate in homeostatic, recuperative...processes (Luthe 1969 p.1)"

External stimulation was reduced and the room was dimly lit. Leuner's initial endeavour was diagnostic, yet it was also a form of training in order that the patient could experience what would be expected of him in the course of psychotherapy as well as showing him that he was capable of vivid imagery. To Leuner, a close correspondence of the images to even trivial fluctuations in emotional states enabled "micro-diagnosis" which was the observance of the workings of emotional reaction and change in minute detail (1969).

The basic method included what Leuner called *different tools* within the approach (1969). Leuner first used ten standard imagery situations leading to distinctive daydream trips which, like Desoille, corresponded to both broad and fine spheres of the personality. Each of these ten situations were designed to move the course of therapy along systematically and to also provide a foundation for investigation of the amount of potential conflict and possible personal growth.

Leuner's oneirodrama always began in a meadow which may

have represented a new beginning, the mother-child relationship (signifying emotional life), or the Garden of Eden. Next, the patient was asked to imagine ascending a mountain and describing the view. This, according to Leuner, was related to the patient's feelings of competence and opportunities for success. In the third situation, the patient was encouraged to follow a brook upstream to its source or down to the ocean. The brook may have been regarded as an experience of energy or a reviving experience for the fatigued. Leuner considered these first three stimuli to be the basic working tools: additional training were likely required through these techniques to move the patient into other areas. The remaining seven stimuli were slightly more specific and entailed visualising a house, a close relative, a lion confronting its enemies, a person representing the ego-ideal, a situation arousing sexual feelings, a swamp in the corner of a meadow, and a dark forest or cave. During the diagnosis the images progressed too quickly for potent emotional reactions to develop; but the diagnostic material could progress into therapeutic imagery or could be used as data for a psychoanalytic method. In the precise therapeutic approach, the intensification of emotion was the most meaningful ingredient.

Conclusion

Throughout history humans have exhibited a preoccupation with mental imagery whether through cave paintings, poetry,

literature, or philosophy. Although American psychology manifested an inquisitiveness towards mental imagery in the late 1800's to early 1900's, the movement towards behaviourism during the period of the world wars stressed more "objective" approaches and shunned the significance of internal mental functions such as imagery.

During this time, however, Britain was encountering a slower progression into a scientific psychology. Internal mental processes were still considered credible indications of proper mental functioning and behaviour, among the British community of psychologists. Internal processes such as mental imagery were not discounted in favour of more scientific methods as they were in the United States.

Although behaviourism at first rejected the study of more subjective methods in psychological research in the United States, the greatest influence regarding mental imagery as a psychotherapeutic tool in America was systematic desensitisation as a treatment for anxiety disorders. This technique was introduced by behaviourist, Joseph Wolpe (1958).

In the following section, the administration of a comparative study with reference to Britain and America will be described regarding the perceived significance of mental imagery as a psychotherapeutic tool. There is no literature available concerning a distinction between the United States and Britain regarding the perceived significance mental imagery has in psychotherapy among counselling professionals. The goal of the study is to discern if a divergence still

exists, as was present during the world wars, within the psychological thought of the two countries. The goal is also to determine if the behavioural movement in the United States contributed negatively to professional estimations of mental imagery as a psychotherapeutic tool among the American psychological community.

SECTION III

Investigation

As presented in the previous chapters, interest in the psychological implications of internal processes in Britain never encountered the conflict that they experienced in America during the period of the World Wars. It was further developed that the influx of renowned European researchers to United States universities during this period can explain why approaches to counselling psychology changed more quickly in the United States than Britain. The movement of continental researchers to the United States instead of Britain might have been responsible for the belated scientific development of psychology in Britain. The result for British counselling psychology was to keep it open to the somewhat more speculative, quasi-philosophical features characteristic of that time. Meanwhile, in the United States, changes in approach within counselling psychology did not emphasise mental imagery as much as might have been expected in light of Hebb's work, in part, due to the incitement into experimental science by the behavioural movement and a lack of interest in internal mental events such as imagery.

The differences between Britain and the United States

in relation to mental imagery in counselling psychology in the past are clear, regardless of the reason. By conducting a questionnaire concerning the perceived position imagery has acquired in counselling psychology today, the data elicited can be analysed to discover to what extent, if any, the United States and Great Britain are still discordant when it comes to the perceived significance of imagery therapy and its therapeutic benefits. The particular emphasises involved in the teaching of therapeutic mental imagery will also be distinguished between the two countries.

Chapter 11

Aims of the Study

This research project focuses on the perceived significance of mental imagery methods in taught post graduate courses of counselling psychology/psychotherapy in America and Great Britain. As described in the previous sections, understandings of the uses and benefits of mental imagery have varied with different authorities and have varied some over time. The approach within this research project is to see if these different approaches as mentioned in previous sections, have varied sufficiently by country and have these variations produced different approaches and attitudes towards the use of imagery in psychotherapy. Its first aim is to ascertain a representation of those within this field who are fully conversant with imagery as a therapeutic tool and applications in the counselling setting. Secondly, other examples of mental imagery utilisation in the counselling setting can be realised. Thirdly, this research aspires to establish a comparison between British and American counselling training institutions pertaining to their awareness and teaching of therapeutic mental imagery methods. The methodologies involved will consider:

-the country of the university

-respondents' biographical details

-definitions of imagery

-respondent perception of the efficacy of imagery usage regarding specific mental conditions.

In considering mental imagery as a psychotherapeutic tool, the various preceding chapters have examined early psychological and neurological studies of imagery. Imagery's cultural and philosophical background has been presented as well as historical events which have influenced therapeutic mental imagery's development in America and Britain.

Present day attitudes and implications of therapeutic mental imagery in America and Britain are context specific in that the merit associated with mental imagery varies with the idiosyncratic nature of the program, location, and professional staff. Also relevant in the current situation, is the perceived significance of mental imagery to the past uses and values within the community of scholars of influence over the current professionals.

Instructors in schools and institutes offering instruction in counselling psychology were used in the research sample in order that an analysis can be made regarding imagery's perceived significance in therapeutic psychology today. These instructors were those who work in counselling psychology departments of universities in the United States and United Kingdom. The reason for choosing a population of educators is that these individuals can be regarded as having more knowledge concerning which theories are being taught in counsellor training. Moreover, they are most likely to be the first to know of any new methods or theories which have recently surfaced in the field. The responses of these professionals to the questionnaire on their

attitude toward the perceived significance of mental imagery as a psychotherapeutic tool within counselling psychology in America and Britain were the foundation for the data study gained by this sample. In order to critically analyse their opinions regarding imagery and possible correlations with such preferences, individual characteristics involving nationality, level of counsellor training, therapy preferences, and knowledge of imagery therapy will be included within the final analysis.

Rationale used in Selecting the Questionnaire Method of Study

There are many kinds of data-collection in social research that could have been chosen for this study. Quantitative methods were chosen to be implemented in order to ensure that a representative sample of counsellor educators from Great Britain and the United States will be used in the critical analysis. Qualitative methods attempt to discover the meanings towards phenomena as seen by those who are being researched. The qualitative method was employed to interpret imagery in therapeutic psychology in terms of the meaning and value counsellor educators give to mental imagery. In other words, qualitative methods can discover the subjects' appraisals of therapeutic imagery. I used both methods, using qualitative in a generic sense using words to answer questions and quantitative using correlations and counts. For instance,

historical research is very often more qualitative than quantitative in nature.

Interviews are transactions between two people (respondent and interviewer), yet unlike an ordinary conversation, the respondent is probed for a relevant response in order to obtain a proper answer to the question as worded in the interview schedule (Sudman et al., 1986). Since the interviewer can make sure the respondent has understood the questions, the responses of the respondent may be more relevant, spontaneous, and rich. However, the rapport and communication between interviewer and respondent which can beget deep responses, may also be a source of error in the questioning process. Since respondents are motivated to give the best responses they can, and to be good people by providing the information asked for, they may be tempted to represent themselves to the interviewer in a way that reflects well on themselves or is designed to please the interviewer. The relationship between interviewer and respondent can influence the responses, thus leading to error (Oppenheim, 1966).

Although there are many benefits with the interview method including the fact that I could obtain more elaborate responses, such an interview schedule would have required additional time than a more remote inquiry, such as a questionnaire. The physical requirement of my presence at an interview would have required an involved and lengthy schedule of interviews, one falling over two continents and thousands

of miles. Because of these difficulties, my sample would likely have been smaller which would result in data less reliable when discerning the perceived significance of imagery in counselling.

Phone interviews can be as lengthy as face-to-face interviews and longer and more intricate than mail surveys. If pictures must be used in the phone interview, they can be mailed to the respondent beforehand (Sudman, et al, 1986). Although phone interviews can encourage rich responses, as do face-to-face interviews, screening procedures that involve sensitive information, such as income, may be difficult because of respondent suspicion or general concerns related to privacy (1986). The reason I was against the employment of the phone interview method was because of the potential expense of calls around Great Britain and America and because of the likely smaller sample population contacted due to the limitations of time and money. Also, one can never be sure in a telephone interview of the total circumstances of the respondent at the time of the interview.

Participant observation is a data collection method where the researcher literally becomes part of the observation (Kane 1985). It is a technique to use when one wishes to learn from people's actions and their environment by experiencing it directly rather than by learning from what people say about their situations. For example, one who is doing research on street people may try to live on the streets

in order to experience what it is like. A researcher interested in the motivation of political campaign workers might join a campaign staff in a campaign similar to the one to be examined.

Direct observation is when one selects certain kinds of behaviours to observe and records anything that fits into these categories. On the other hand, indirect observation looks at the results of people's actions in a given situation (57). For instance, rather than looking at the behaviour of someone while s/he is driving a car, indirect observation places emphasis on inspecting the car for differences to the vehicle after s/he has driven it. This way, the observer does not bias the actions of the observed since the observation takes place after the actions have been performed (57). As this research will not involve determining a person's actions by physical traces left behind, indirect observation will not be used in this research.

Because I am interested in mental imagery's perceived significance as a psychotherapeutic tool, gathering data through observation methods could not tell me how many educators in the United States and Britain value mental imagery's utilisation in the counselling setting and why they do. Observing a situation in counselling where mental imagery methods are used could tell me what is done when implementing imagery, but because of time, I would have been unable to observe enough counsellors to portray a representative sample

of counselling in the United States as well as Britain. Also, as noted in earlier chapters, some counsellors who use aspects of mental imagery in their practice do not, in and of itself, subscribe to a philosophy of mental imagery as a psychotherapeutic tool (see introduction to section I)

Data can also be gathered through case studies. A case study was not used because the research question is the perceived significance of mental imagery as a psychotherapeutic tool: a comparative study with reference to America and Great Britain. A case study would be useful when analysing the effect mental imagery as a psychotherapeutic tool has on a client. Likewise, a case study could be done concerning a trainer of counselling who teaches mental imagery methods. This would entail a detailed study of the person in study for a considerable amount of time. The greatest benefit of a case study is the potentiality of depth. The intense probing characteristic of this method can lead to the discovery of relationships that have been overlooked in the past (Ary et al. 1990). However, shortcomings lie within these benefits. Although a case study can have depth, it can lack breadth, which is why it was not employed for this research. If case studies were employed with a counselling trainer in Britain and with a counselling trainer in America, the dynamics of each individual would not necessarily be representative of the dynamics of other counselling trainers from each country. Case studies would be most constructive in

studies concerning exceptional individuals rather than individuals meant to be representative of a population (1990). Case studies, by their nature, are idiosyncratic, making comparative studies difficult without arbitrary definitions being inserted into the study, arbitrary definitions that might distort the data.

The questionnaire method was chosen for this study to elicit the respondent's (the counselling educator's) perceived significance of mental imagery as a psychotherapeutic tool and to determine how it is associated with his/her background and/or level of counselling education. Questionnaires are used in an exploratory fashion to get an idea of trends. Although one survey cannot identify a trend, it can give an idea of the perceived significance mental imagery has as a psychotherapeutic tool in America and Britain today (McNiff 1988). Through a questionnaire, one can obtain information in a structured format without the presence of an interviewer and this information can be designed to accommodate prearranged techniques for analysis (Wilson & McClean 1994). According to McClean and Wilson (1994), the questionnaire method is "a favourite by many in the field of social research where social surveys are regularly conducted to gather information on many aspects of a community (3)". It should also be noted that though the questionnaire method limits the scope of questioning, it has the advantage of letting respondents express themselves candidly and honestly. Since the purpose

of this research is to discern the perceived significance mental imagery has as a tool in counselling psychology today, an email questionnaire seemed a suitable choice for data collection.

I initially chose to use an email questionnaire for several reasons. There are cost and time savings. Therefore, I surmised that a larger portion of the population in the United States and Great Britain could be surveyed than could be approached in a face-to-face or phone interview. All respondents would receive their questionnaire at the same moment. Their attitudes would be current with no time lapse. There would be less likelihood that any might contort another over time to compare or co-ordinate answers.

Significantly, there is minimal research on the subject of email as a data elicitation method, which is also why it was chosen. The research question which is the focus of this thesis (Mental Imagery as a Psychotherapeutic tool: a comparative study with reference to Great Britain and America) has never before been investigated. To further the theme of originality, email was the choice method from which to acquire data because there is so little information concerning email and data elicitation.

Email was also chosen due to the access of universities on the Internet. Also, responding to the questionnaire does not require postage, or finding a mailbox, or any personal inconvenience. As email can be answered and sent in the same sitting, there was a strong possibility that

the response rate would be higher. The email questionnaire was to be presented with a personalised introduction of the research. Despite Scott's (1961) research on mail surveys which suggests personalised introductions make no difference in response rate, I am interested in exploring whether personalization in the address heading is needed with email since, with the typical form email, all other recipients names are listed in the address block and this may appear even more impersonal than a form posted letter. If someone were to receive an email with their email address along with many others in the "to:" box, it would obviously not be personal and could be an advertisement or mail from a listserv (if they are members of a listserv). For this reason, it could be overlooked or disregarded because it would appear that no effort was made or care involved. Therefore, I addressed these email questionnaires to individuals rather than addressing them to a group where each respondent would see that they are one out of many on the recipient address list. Naturally, they would not assume that because it was addressed personally to them they were the only recipient of the questionnaire. However, if the email was addressed to them alone rather than with many others, it would likely be "opened" and a more exclusive quality to the questionnaire would be reached, possibly causing the respondents to feel more tempted to answer.

Email used as a data elicitation method seems to be relatively new to social research today, and I have found no

literature outside of the Internet concerning its use in research. In addition to the information my questions aimed to elicit, this critical analysis could also be useful for learning the competence email has as a method of data collection. I hope that in the course of my main analysis I shall be able to contribute to our understanding of this tool for social scientists in the foetal stage of its development.

According to *The Research Spectrum* which has seven years of online research experience, "Online surveys are one of the most interactive, self-administered methods of data collection. They are very convenient and unintrusive to those willing to give information...." Email surveys are high quality data collection for the following reasons:

- When people check their incoming emails they often do it when they have time to respond. It is common that most people check their email once a day.

-Respondents can be more objective when they type in their responses. There is no interviewer influence.

-Email questionnaires are less likely to be intercepted by someone else than a mail survey, because they go directly to the respondent's personal email address.

-Up to 50% of responses are received within 24 hours.

-Email questionnaires are cheaper than mail questionnaires and phone interviews.

(The Research Spectrum)

It will be of significance to research methodologies

to discover in this study the extent to which the conclusions of The Research Spectrum are valid. The results of this study will shed light on the merits of email questionnaires.

Chapter 12

Participants

Sampling is a statistical technique which is used in large-scale survey research for the sake of economy and accuracy. More accurate estimates of popular attitudes may be obtained by interviewing a carefully selected sample of a few thousand than by interviewing millions.

Although I would not be involving as many as a thousand in the email questionnaire, I wanted to select a group which was as much like the entire population of counsellor educators as possible. Since I did not wish to overrepresent any portion of this population in the sample, I initially chose to employ *random sampling* (Weisberg & Bown 1977). Not only does random sampling aid in collecting a representative sample of a population, but it is also a part of the protection against selection bias (Moser 1958). In other words, I could not pick respondents whom I knew used imagery; nor could I pick universities where I knew imagery methods were taught. Moreover, there is no way, in random sampling that any of the respondent's demographics can be known.

When choosing each university, I had initially planned to use the *systematic selection* procedure, which would involve a list of the types of universities from which I wanted to obtain respondents (those universities with graduate programs in counselling psychology). This list would then be divided into equal sections; the number of sections depending on how many questionnaires I chose to send out. From each

section made within the entire list, one university would be picked at random.

Although *stratification* is seen as more accurate than random sampling (Moser 1958), due to its sections (made from a list) representing different strata in the population, I did not need to use this method because members of the list I would choose from would have the same characteristics. That is, the list would only consist of universities with graduate programs in counselling.

When these universities in the sample would have been chosen randomly from each section, members of the faculty within each university's counselling department would be selected at random, excluding the department head. Department heads would excluded because they may negatively affect response rate considering the frequency department heads may accumulate other types of questionnaires, or depending on their overall responsibilities. Also, it would be impossible to know how much, if any, a department chair would be involved in teaching him/herself.

The rationale behind using American and British universities in the survey was my expectation that it may be more common for imagery methods to be taught in British universities and/or for those in the counselling field in Britain to be more familiar with imagery techniques. This was predicted because Britain did not disregard internal mental processes during the period of the world wars, as did America. Additionally, since mental imagery methods in historically

significant counselling theories surfaced most prominently within behaviour therapy, it was anticipated that American respondents would be familiar with mental imagery methods only within this school of psychology. This was expected because the behavioural movement had more of an influence in America than in Britain. Also, the choice of the two countries seemed a logical one, since I have studied counselling in both countries and am interested in determining possible conclusions for the differences they may show regarding knowledge, utilisation, and implications of mental imagery as a psychotherapeutic tool.

Results

The sample, in the end, was comprised of 38 British respondents and 60 American respondents. The actual sample obtained differed from the intended sample mainly amongst the British respondents. Unlike my intended sample, most of the British respondents were counselling educators from British counselling institutes rather than from British universities which taught counselling. This is because I discovered that unlike in the United States, most counsellor education in Britain is taught at counselling institutes rather than universities. Other than this, the biggest difference between my intended British sample and actual British sample was the procedure I used in which to obtain the respondents.

The ultimate procedure of acquiring the American respondents did not deviate significantly from the procedure

initially planned. Naturally, it was important to maintain balance within both samples, however, acquiring British respondents in the same manner as I acquired the American respondents proved to be more of a challenge. Because of this, the procedure which I intended to use had to be modified. These changes in procedure and reasons behind the changes will be discussed in the following sections.

Conduct of the Research

Data elicitation: procedures and difficulties

In order to contact the respondents, the teachers of future practitioners in counselling psychology, I first tried to find the e-mail addresses of these instructors from the appropriate webpages on the internet. I looked for e-mail addresses in this fashion in order that I would be able to send these respondents the e-mail questionnaire. To find these webpages, I used "Infoseek", "Yahoo" and "Excite" net-searches looking under variations and combinations of the keywords: counselling, counseling (American spelling), training, British, American, universities, psychology, psychotherapy. The purpose of looking under different net-searches was due to the variation and depth of information which each net-search unearths. Some pages of institutions listed by one server would not necessarily be listed by another. The reason for picking the particular net-searches I did was because I found them to be the most serviceable in

giving different information essential to this survey search. I found the other net-searches to overlap in information retrieved from the ones I chose.

From the different pages outlined to me through these searches, I found "The Merlin Falcon Postgraduate Course Guide" to be the most helpful in finding British university courses appropriated to the teaching of counselling. However, although information concerning the specifics of each course could be obtained by e-mailing from this page, webpages of these universities along with e-mail addresses of the course teachers could not be acquired. Considering that my research entailed contacting teachers of counselling via e-mail, I needed to find each university homepage where I might find e-mail addresses of the faculty. After noting the universities from the Merlin Falcon page which had counselling courses, I then proceeded to find the university webpages from "Colleges Universities: United Kingdom" in order to obtain the e-mail addresses of the counselling faculty at these universities. From this page there were links to the universities with counselling courses along with every university in Britain . Clicking the mouse on a link would bring up the university homepage.

Although it was quite easy to link to the university homepages, finding the department page which taught counselling within these universities took several minutes to half an hour. In some instances I never found the department page from the main university homepage. In other instances,

when I did find the department page, I could not find the counselling page. The times when I would find the counselling page, it seemed that the faculty were rarely listed on that page, and if they were, they were not listed with their e-mail addresses. Often I would find the e-mail addresses of the faculty of the counselling courses listed on text-only pages which were not directly linked from the counselling page. Text-only pages are those pages on the internet which do not have links which connect to other pages on the internet. These text-only pages I would find by chance whilst looking for the counselling page or e-mail addresses of faculty members who taught counselling.

Most of the time the counselling staff e-mail addresses were listed with all the staff of the university without any sign of what each staff member taught. Although these lists of staff would usually include research interests, it was difficult to tell if they taught courses related to these research interests or whether or not the courses offered were offered with any frequency. For example, a teacher of clinical psychology might have a research interest in psychoanalysis. This would not necessarily mean that s/he taught modules in this school of thought.

When finding e-mail addresses for counselling trainers in America, I used "The Counseling Web: Counseling & Counseling Psychology Programs & Resources". On this page were listed the American universities which have degrees in counselling education and counselling psychology. There is no

difference concerning the counselling courses which can be taken in counselling psychology and counselling education. The difference lies in other aspects of the programs. For example, in the internships available, independent studies possible, and the other specialities offered within the courses. The counselling theories in the courses which are taught are the same. Therefore, responses on the questionnaire of a counselling education teacher versus a counselling psychology teacher should have the same results as if they were under the same speciality (both "education" or both "psychology").

Those programs approved by the American Psychological Association (APA) were listed on this webpage as well as those in Counselling Education (CED). The APA guidelines for defining a doctoral degree in counselling psychology are as follows:

> 1. Programs that are accredited by the American Psychological Association are recognised as meeting the definition of a professional psychology program. The criteria for accreditation serve as a model for professional psychology training.
>
> **or all of the following criteria, 2 through 10:**
>
> 2. Training in professional psychology is doctoral training offered in a regionally accredited institution of higher education.
>
> 3. The program, wherever it may be administratively housed, must be clearly identified and labelled as a psychology program. Such a program must specify in pertinent institutional catalogues and brochures its intent to educate and train professional psychologists.
>
> 4. The psychology program must stand as a recognisable,

coherent organisational entity within the institution.

5. There must be a clear authority and primary responsibility for the core and specialty areas whether or not the program cuts across administrative lines.

6. The program must be an integrated, organised sequence of study.

7. There must be an identifiable psychology faculty and a psychologist responsible for the program.

8. The program must have an identifiable body of students who are matriculated in that program for a degree.

9. The program must include supervised practicum, internship, field or laboratory training appropriate to the practice of psychology.

10. The curriculum shall encompass a minimum of three academic years of full time graduate study. In addition to instruction in scientific and professional ethics and standards, research design and methodology, statistics and psychometrics, the core program shall require each student to demonstrate competence in each of the following substantive content areas. This typically will be met by including a minimum of three or more graduate semester hours (5 or more graduate quarter hours) in each of these 4 substantive content areas:

a) Biological bases of behaviour: Physiological psychology, comparative psychology, neuropsychology, sensation and perception, psychopharmacology.

b) Cognitive-affective bases of behaviour: Learning, thinking, motivation, emotion.

c) Social bases of behaviour: Social psychology, group processes, organisational and systems theory.

d) Individual differences: Personality theory, human development, abnormal psychology.

In addition, all professional education programs in psychology will include course requirements in specialty areas.

According to the APA guidelines to counselling psychology programs, in adjunct to the basic counselling

coursework, internship, supervised practicum, and field training involved in a counselling degree, non-departmental courses must also be taken as mentioned in guideline 10. With this in mind, even though psychology courses must be taken, the basic counselling courses concern the historically significant theories and practices of counselling in America. Counselling education and APA approved counselling psychology degrees entail the same courses concerning the counselling section of the degree.

On the "Counseling Web" page, unlike on the page for programs offered in the United Kingdom, the links for university programs in the United States went directly to the counselling pages of the universities listed. After linking to a given university counselling page, the faculty of the course was typically listed on the same page along with their email addresses. If it was not listed on the same page, there would usually be a link to the faculty page from this page. Whereas it was taking around an hour to obtain an average of three UK e-mail addresses of counselling trainers (due to the many different links involved and the time it was taking the computer to load each one) it was taking only a few minutes to acquire three US e-mail addresses.

Sample by E-mail

Out of 17 British universities I e-mailed (17 because these were the only universities out of the ones listed on the Merlin Falcon page for which I could find e-mail addresses for

appropriate faculty members) I received one legitimate response within a day of sending the e-mail questionnaire. Within the next two days I received three messages from potential respondents explaining why they would not participate in my research. For example, one of these messages said "I teach psychoanalysis and therapy, not counselling." These were my only responses in my survey which suggested that faculty's e-mail addresses may have been published on the web even though they were not being used. The response listed above also suggests that psychoanalysis and counselling are seen as different domains among some British teachers.

Counselling Institutes in Great Britain

Counselling training is attained differently in the United States, as compared to Britain. In the United Kingdom, counselling training is gained mostly in institutes rather than universities. With this in mind, I contacted the "Therapy WWW site" via e-mail in order to find other counselling trainers' email addresses online. In the reply I was informed that their was no place on the web to find British counselling trainers' email addresses, and it was suggested that I try the Booklet of Training in Counselling and Psychotherapy (1996) to find postal addresses. After the lack of British responses via email, I decided that the next most economical method would be by post.

British Sample by Post

For the first posting, I selected 25 British institutes which did not train counsellors in specific therapies. In other words, individuals in these institutes would gain training in general counselling. The reason for this approach to survey recipients is that my research interest concerns the perceived significance of imagery therapy in basic counselling courses. The reason for picking 25 institutes was to test if posting the questionnaires in this manner was effective. If I were to have many responses, I would send out more questionnaires to make sure the findings were reliable. After choosing 25 institutes in different locations throughout Britain, I then enclosed the introduction letter personalised to the head of the institute along with the questionnaire and a self-addressed stamped envelope. The purpose behind choosing institutes in different areas throughout Britain was in order to receive responses from a representative British population. It was hoped that this approach would make sure that certain techniques only taught in certain places within Britain would not colour the data received though a response set from randomly cast sample. The self-addressed stamped envelope was enclosed not only to make responding to the questionnaire easier for the recipient, but to invoke a sense and feeling of obligation to responding.

Results of Postal Sample

Two weeks after sending out the postal questionnaires, I received two responses in which one respondent informed me that she "does not teach counselling psychology, but teaches counselling", and the other made it known that she "is the head of training for psychotherapeutic studies, but not counselling". As mentioned previously when reviewing the earlier British email responses, it appears that counselling psychology, psychotherapy, and counselling are seen as different specialties. This is an unexpected outcome, due to the interchanging of this terminology I have witnessed in America. As I alluded to before, when comparing counselling psychology degrees and counselling degrees in America, the difference does not lie in the taught courses in counselling theory and technique, but in the specific courses taught in adjunct to these counselling courses. Four weeks after sending my questionnaire by post, after I had already considered other methods of data collection, I received one reply which was applicable to my research.

Concerning the issue of the difference between counselling and psychotherapy, I looked at "The Work Specification for Counsellors Working in General Practice" and "Training Requirements of UKCP (United Kingdom Council for Psychotherapy)". I reviewed these two documents in order to discover if training of a counsellor was distinctive from a psychotherapist. According to the work specifications for counsellors, it is desirable to have a British Association for

Counselling (BAC) accreditation or be eligible for accreditation. Next to this, it says "Or United Kingdom Council for Psychotherapy registration", which suggests that the two specialties are seen as similar. Concerning essential knowledge, a counsellor must have a developed understanding of at least two theoretical approaches to counselling, and it is desirable for the counsellor to have an understanding of a variety of counselling theories and methods. In the training requirements for the UKCP, one requirement listed states: "An introduction to the range of psychotherapies and counselling so that trainees may have an awareness of alternative treatments."

With this in mind, regarding the therapies mentioned in my questionnaire, it is reasonable to assume that both the counsellor and the psychotherapist would be familiar with them. At any rate, the chances of them being familiar with them would be relatively the same. This does not mean they would know each therapy in detail or practice the therapy, but it is not unrealistic to assume they would be capable of answering the questions. This having been said, because psychotherapy and counselling are viewed differently in Britain although the knowledge of significant therapies is the same, perhaps these respondents did not even look at the questionnaire because I had referred to their profession incorrectly. On the other hand, perhaps they did not want to fill out the questionnaire and were annoyed that I had assumed psychotherapy and counselling were interchangeable, as they

are in America.

In Counseling and Psychotherapy: Theory and Practice (1959), the first two sentences of the first chapter reads, "The terms counseling and psychotherapy are both widely used often more or less interchangeably. While there seems to be general agreement that they are not exactly synonymous, there appears to be no general agreement regarding the differences between them (3)". The Committee on Definition of the Division of Counseling Psychology of the American Psychological Association stated:

> Because it aims to contribute to the personal development of a great variety of people counseling psychology does not concern itself only with the more extreme problems presented by individuals who are in need of emergency treatment. In other words, counseling psychology does not place special emphasis upon the development of tools and techniques necessary for intensive psychotherapy with individuals whose emotional growth has been severely distorted or stunted....The counseling psychologist wants to help individuals toward overcoming obstacles to their personal growth, wherever these may be encountered, and toward achieving optimum development of their personal resources (American Psy.Assoc., Division of Couns.Psy., Committee on Definition. Couns.psy.as a specialty. Am.Psychologist. 11. 282-285. 1956)

It sounds as if counselling is meant for the "normal" client. However, Super (1955) indicated that counselling cannot only be for the normal person. He applies counselling also to working with the handicapped, abnormal, or maladjusted person. According to Patterson (1959), whether or not there is a difference in the clientele of counsellors and psychotherapists, there is no distinction regarding their knowledge of therapies. Therefore, even though the British

see counselling and psychotherapy as different from each other, the knowledge of the practitioners in both fields in regards to therapies is matching. That is, a trainer of counselling would be equally able to answer my questionnaire as a trainer of psychotherapy. If this is the case, the questionnaire was applicable to all the trainers to whom I sent it in all the attempts to gain significant numbers of responses.

Acquiring Sample through Internet Mailing Lists

Whilst the questionnaires were being sent in the post, I also posted a notice on 16 psychology related mailing lists on the internet. According to "Internet Mailing Lists: Guides and Resources" (www):

> Electronic mailing lists provide forums for Internet users to participate in discussion or receive information on thousands of topics. The software responsible for the management and distribution of these mailing lists to thousands of subscribers are commonly called "list servers". A list server automatically distributes an e-mail message from one member of a list to all other members on that list.

According the above citing, listservers are an avenue which can be used to communicate to hundreds if not thousands of people with concern in different topics. I chose the list servers I did, because out of the 50+ psychology related listservs I found, they were the ones which would most likely attract those interested in counselling and were the listservs which had the highest response rate. Response rate can be determined on a listserv by viewing the number of messages

sent within a day. From the postings that I submitted to these listservers, I received seven responses, five of which were helpful. However, four of these five were American. The other was British and was fitting to my research question.

Sample through Phone Interviews

The phone interview method with the email questionnaire modified to reflect oral interaction was chosen to provide data sufficient and of a parallel nature for the completion of this study. The oral interviews were a success for they provided the information necessary to complete this study. Sensitive modification of the email questionnaire was done in the following manner.

Since I had not obtained the number of responses needed in order to be representative of the British population of counselling teachers, I gained the phone numbers of counselling institutes throughout Britain from the Training in Counselling and Psychotherapy guide and asked teachers questions over the phone. According to Parten (1966), refusal rate in telephone work tends to be quite low. However (1966), it is difficult to obtain specific or lengthy information by telephone, as most people will expect a phone call to be brief. Respondents may quickly lose their motivation to participate if the interview is very lengthy. Parten (1966) notes that a long interview may easily prompt someone to hang up or give misleading responses as a way of "getting even" for bothering them. Like the mailed

questionnaire, the telephone interview does not make it capable for the interviewer to notice anything about the respondent (besides voice tone.) Often (1966) the interviewer is placed at the mercy of the respondent to take part, since people may be suspicious of getting a "sales pitch" over the phone and have little motivation to stay on long enough to allow the interviewer to confirm his/her credibility. This being said, in order to have a British sample comparable to the American one, a phone interview was the chosen method and a recourse essential.

All in all, the interview process worked as I had anticipated. The telephone interviews produced a body of data for each of the salient questions of a nature sufficient to this study.

Outcome of Phone Interviews

Within a few weeks, I had a total of 38 British responses and 60 American responses. Due to the pattern which I could already see in the initial responses for each country, the fact that I believed each sample to be representative of each country, and with the fact that there were no more institutions of general counselling that I could contact, I concluded my sampling. I maintain that the sample is reliable.

Chapter 13

Methodology

Types of questions asked

The ten questions within the questionnaire were short answer and multiple choice. I began with biographical questions which ask the respondent's gender, country where s/he works, and country of education. Factual questions start the respondent out on simple answers which could entice him to continue through the questionnaire (Oppenheim, 1966). Additionally, from these first questions, it could be detected if a respondent's country of education had an influence on his/her knowledge regarding mental imagery despite where one is working. For example, a respondent may be working in America but may have learned mental imagery methods from his/her education in his/her country.

The goal of the questionnaire

The questions asked in the email questionnaire were derived from the object of the research which investigates mental imagery as a psychotherapeutic tool: a comparative study with reference to Britain and America. The goal was not only to ascertain if the perceived significance of mental imagery as a psychotherapeutic tool was different amongst counsellor trainers in America as compared to Britain, but to determine reasons behind this perception. In order to obtain this information, the topics of the questions included such things as the respondents' awareness of imagery as a therapeutic tool, the branches of counselling psychology they found most effective with certain mental conditions, their

rating of imagery work with specific mental conditions, and the hours devoted to the teaching of imagery methods in each degree at their institution[1].

According to Bowley (1946) there are four rules to guide designers of questionnaires. In order to initiate discussion, these will be given below:

1. Ask for the smallest amount of information needed.
2. Make certain the questions *can* be answered.
3. Make certain the questions *will* be answered honestly.
4. Make sure the questions *will* be answered and not rejected.

Rule 1, which states to ask for minimal information needed, implies that any information which may be obtained from sources other than the questionnaire should not be asked of the respondent. This rule requires that only information crucial to the core purpose of the survey be solicited. In accordance with this, in this questionnaire, asking the respondent which country or at what university the s/he teaches in, although relevant, would have been unnecessary since that is information which could be acquired elsewhere. Moreover, as mentioned earlier when discussing the method of sampling, among other factors respondents were to be chosen by, they would be chosen depending the country in which they work. Therefore, although the question would be valid, it would be superfluous and a waste of respondents' time.

Bowley's other three points may be taken together since they concern the fashion of the questions themselves.

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[1] See Appendix A for a copy of the exact questionnaire used

Asking questions which would require difficult calculations or unrealistic feats of memory would not only take up too much of the respondents' time, but could result in an inability to answer the questions truthfully. It is paramount that questions can be easily answered in order that they *will* be answered and answered truthfully. According to Mann (1986):

> "To receive truthful answers from respondents is an expectation upon which all interviews are based. But truthfulness cannot be assumed in every instance....In other cases we must be careful that questions will not result in refusals to answer....Actual refusals to answer questions are always, in practice, fewer than might be expected...of course, some people will refuse to coorperate at all...(136)"

All in all, the goal of the questionnaire was to ask questions which could and would be answered with information that reflected the respondent's views and his/her sense of the truth. In order to accomplish this, in this questionnaire, the types of questions to be asked were short answer and multiple choice.

The Questions

The first question asked the respondent's gender. Although this does not appear relevant to the research question, it would initiate the respondent into a simple response which could entice him/her to continue through the

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for this survey

questionnaire (Oppenheim 1966 & Mann 1985). Although I have read no literature which suggests a correlation between one's sex and one's perceived significance of imagery therapy, responses to this question could show any relationship which might exist although any inferences would lie beyond the breadth of this thesis. The second question queried the respondent's country of professional counsellor training. Not only was this a straightforward question to answer which would lead the respondent further into the questionnaire, but for those who had been trained in the country of comparison (U.S. or U.K.) to where they now work, this question could show any relationship regarding the country of training and the respondent's perceived significance of therapeutic imagery.

The third question concerned what specific field the respondent received his/her degree in. This was to verify if there was any correlation between the respondent's knowledge or lack of knowledge concerning mental imagery to what field his/her degree was taken in at university. Question four explored the level of training in counselling a respondent had had in his/her formal education. This served to distinguish which respondents in each country had had more opportunities to learn about therapeutic imagery. British and American degrees would not be seen as comparable. Rather, determining the level of training in each country would ascertain the respondents who had been exposed to more education in counselling, and had had a higher chance of learning about imagery. By determining this, it could be shown whether a

lack of knowledge in therapeutic imagery was associated to a lack of training or if it was correlated to a respondent's country of training.

The purpose of question five was to disclose the orientation of the respondent's therapeutic practice. The reason for this question was to allow the respondent to express his/her preferences. It let the respondent feel that s/he was seen as a credible colleague, and it indicated an interest in his/her judgement. This could aid in eliciting a positive feeling from the respondent which could help with overall rapport (Oppenheim, 1966). It could also be determined if there was a correlation between certain orientations and a respondent's perceived significance of imagery therapy. Although mental imagery techniques can be said to be found in most therapies (Horowitz 1970) (Fanning 1988), the respondents would not necessarily be aware of this if they had not been apprised of the utilisation of mental imagery in their counselling training. Therefore, the perceived significance of mental imagery would be lower because there would be no knowledge of its usage in the historically significant therapies discussed earlier in this dissertation in chapter 10.

The reason why I chose the therapeutic schools of thought that I did for this question is because they are historically significant and are the foundations for all contemporary approaches. For this reason, they would most likely be familiar to the respondents. However, it may be

questioned why a cognitive-behavioural therapy was not among the choices. Even though cognitive-behavioural therapy is also historically significant, I hypothesised that if it was included, American respondents would choose it over behaviour therapy. This being the case, it would be difficult to discern if the American acceptance of behaviour therapy was associated to the acceptance of imagery throughout the questions. Afterall, systematic desensitisation is a behavioural method and is the only method in counselling textbooks which refers to imagery in its description (Patterson 1986 ch.5). Without the inclusion of cognitive-behavioural approaches, I anticipated that it would be less complicated when ascertaining whether or not the American respondents' perceived efficacy and knowledge of mental imagery was hinged on behavioural methods.

Questions six and seven aimed to disclose which respondents knew about imagery therapy and, out of those, whom among them had a credible definition. These questions were open in order that the respondent would not be influenced by any possible answers which would be available in multiple choice questions. The answers could be expressed in the respondent's own language. According to Oppenheim (1966), "..this spontaneity (of open questions) is often extremely worthwhile as a basis for new hypotheses (41)" Question eight's purpose was not only to obtain respondent's attitudes towards imagery through personal ratings, but to also reveal if there are any other implications for its usage. Lastly,

the goal of question nine was to determine how much emphasis, if any, is given to mental imagery methods throughout the different degree programs available at the respondent's university. The reason specific course titles were not asked was because titles of courses may be broad and teach different methods of counselling within them. Because of this reality, it may not be evident, from looking at the title of a course if these courses teach imagery methods.

The goal of the questionnaire was to obtain the information essential to permit me to arrive at some conclusion as to how the past of mental imagery in psychological thought in Britain and America has become the present concerning the use and knowledge of mental imagery as a psychotherapeutic tool.

Chapter 14

Results and Discussion

When reviewing the results of the questionnaire, considerations had to be made for questions which were not answered according to plan. For instance, when asked to relate three things the respondent knew about imagery, most respondents did not list all three. With the American responses, which were done by e-mail, 42 out of 60 did not list three things they knew about imagery. Instead these respondents would often list one or two items but would then expand these into a few sentences. In the phone interviews, 17 out of the 38 questioned replied similarly to the e-mail questionnaires. If I would ask for a third, if only two were given, I would often get the response, "I don't know" or "that's all I can think of right now". In these cases if they would give a third, it would be very similar to one of the other two. For example, a third response for one respondent was, "imagery helps to reveal emotions" although he had already informed me that imagery helped to uncover feelings. However, as with the e-mail responses, the information concerning imagery that they did maintain, was detailed. Although three answers were not always given in either sample, it would nevertheless be valuable to note the most common answers given for each country in order to see distinctions for each.

Another unforeseen result found among the responses, was the lack of specification with all the questions which contained the choice of "other". In the American responses, for question 5, which concerned branches of counselling

psychology paired with conditions, in all there were 58 responses of "other". (The respondents could choose more than one answer.) Out of these 58, 24 specified a different approach. In the questionnaire results, it became evident that certain respondents would choose "other", and most of these would not be specific. The British respondents would describe alternate therapies they would use, perhaps because it was faster for them to tell me than it was for the Americans to write it down. However, these cannot be comparable to the Americans alternates, since they had so few. Although Americans were inconsistent in their specifying of "other", question 4 showed frequent additions of their degrees which were not listed as choices. In this case, 9 of the 60 listed Ed.D after choosing "other".

Having said this and understanding the inherent vagaries of all questionnaires, the research question, which has never before been studied, remains, "What is the perceived significance of imagery therapy among counselling trainers in the United States and Great Britain?" Viewing the results of the survey, it appears that both countries recognise imagery as being a therapeutic tool. Responses for this question, question 5, were consistently "yes" for all respondents in both countries. All respondents from each country were capable of describing what they knew of imagery in the therapeutic setting. However, if the replies which address the respondents' knowledge of imagery are viewed, there is a contrast between the most common characterisation of imagery.

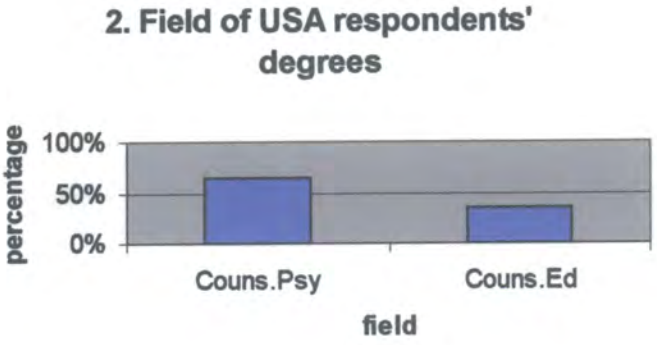
The data gathered from this question suggests that American trainers of counselling, link therapeutic imagery to behavioural methods, namely, systematic desensitisation. This is consistent with the history of American psychology, as stated above in section II, in that in the beginnings of American psychology, behaviourism was dominant.

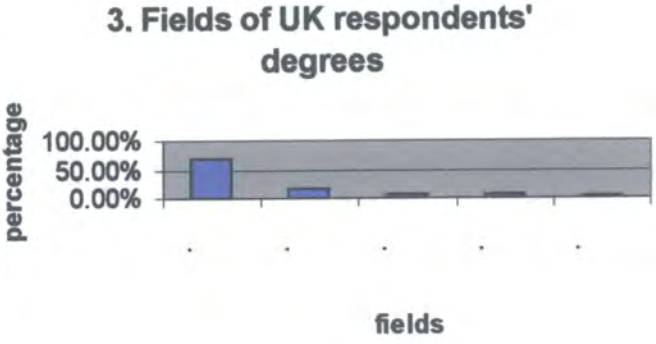
In brief review, systematic desensitisation, which was developed by Wolpe (1958) was a behaviour modification technique used for the treatment of anxiety disorders. The crucial feature of this treatment lies in the subject generating images of the frightening places or events that constitute the various components of his/her anxiety. Although other historically significant therapies may use mental imagery techniques, such as hypnosis, dream interpretation, or role playing, systematic desensitisation is known for utilising a "hierarchy of images". Because the word "image" is often used with reference to systematic desensitisation, in America this technique is the first which comes to mind regarding mental images.

Another common response by Americans, listed by 39 respondents, was symbolic modelling, which is also a behavioural technique. The most common response, by 30 respondents, given by the British was "accessing feelings". Interestingly, 21 UK respondents also maintained that memories could be recovered with the use of therapeutic imagery. It is significant that none of the US respondents listed this ability. This suggests that the greatest emphasis placed upon

therapeutic imagery in the United States is through behaviouristic methods.

Fields in which respondents were trained

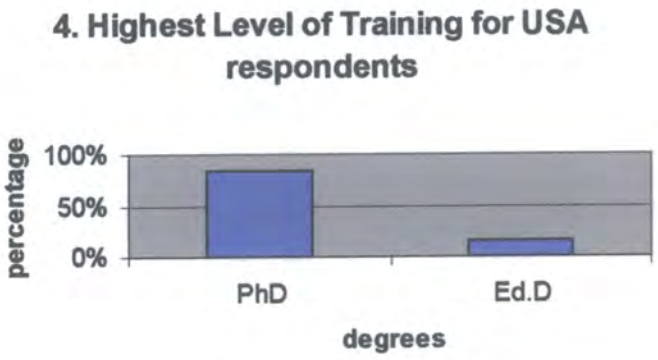




From the results of question 2, more variance was found in the fields of training of British counselling trainers (figure 3) than American (figure 2). In Britain, a student of counselling can be trained at institutes which specify certain areas as well as institutes which have broader

curriculums. Out of the British respondents, 67.6% had training in basic counselling, 17.6% had training in psychotherapy and counselling, 5.9% were trained in psychoanalysis, 5.9% were trained in person-centred counselling, and 2.9% had training in hypnotherapy. Four of the 38 British respondents had no formal training and were not included in this result. The American respondents had training in one of two areas. Of those who responded, 65% had received a degree in counselling psychology and 35% received a counselling education degree.

Level of training of British and American counselling teachers



Out of the American counselling trainers who responded to the questionnaire, all of them had a doctorate degree of some kind. 85% had a PhD and 15% had an EdD (figure 4). In America, it is necessary for full-time university lecturers to have doctorates. The American respondents were all full-time lecturers. Among the British counselling trainers who responded, 31.6% had a MA, 28.9% had a certificate, 23.7% had a diploma, 10.5% had no formal training, and 5.3% had a PhD (figure 5).

To further show the leaning of counselling trainers in the United States as compared to those in Britain, we can refer to the graph plotting question 5 (figures 6.1-6.6). In reference to question 5, the perceived significance of therapeutic branches with listed psychological conditions, the percentage of American trainers who chose behaviour therapy is consistently higher for each psychological condition, with the exception of low self-esteem, than the percentage of British who chose it. Out of the 60 American respondents, three chose behaviour therapy alone for every condition. Among the 38 British respondents, behaviour therapy was never chosen alone for every condition. This suggests that the emphasis placed upon behaviourism in Britain is not as profound, leaving room for more phenomenological schools of thought.

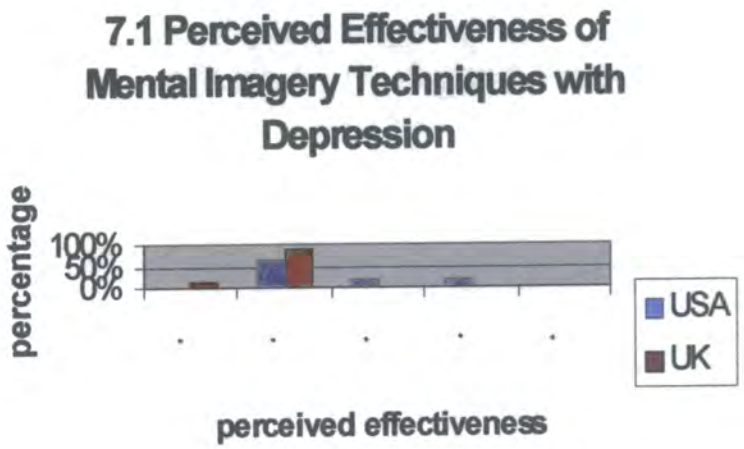
This slant towards behaviourism among American respondents can also be seen in the graphs plotting question 8, the perceived effectiveness of therapeutic imagery with

listed psychological conditions. Concerning perceived effectiveness of therapeutic imagery with all the listed conditions, 81.6% of the British respondents chose "effective" or "very effective" regarding the use of therapeutic imagery, compared to 65.6% of the American respondents choosing "effective" or "very effective". This suggests a difference in the degree of perceived efficacy of therapeutic imagery in each country. However, there may be other reasons for this result. For instance, since I gathered most British respondents through phone interviews where the respondents and I were talking one on one, it could be that they rated therapeutic imagery as more effective because they thought that is what I wanted to hear. Because it was necessary for me to use different methods of data collection for each country, the extraneous variables for the United States and British respondents would not necessarily be the same. For example, the tone of my voice could have influenced some British responses. Likewise, the fact that the American respondents' surveys were less personal could have influenced their responses. Perhaps I would not have received the 3 American responses where behavioural therapy alone was chosen for all the listed psychological conditions. If I had phoned the American respondents, they may have been more concerned with what I thought of their responses and may have chosen among their options differently.

Having considered the extraneous variables that could be responsible for the higher perceived efficacy of

therapeutic imagery in Britain, it would be conducive to determine if there is a distinction between each country concerning with which conditions therapeutic imagery is perceived as being the most effective with.

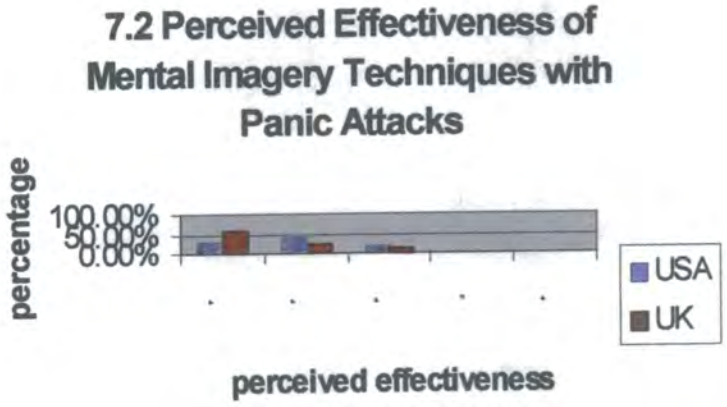
Perceived effectiveness of therapeutic imagery for depression



Out of the British respondents judging the effectiveness of therapeutic imagery with depression, all responses were in the range of "very effective" and "effective". It is observed that 10.5% chose "very effective" whereas 89.5% chose "effective". Out of the American respondents, none chose "very effective" and 63.3% chose "effective" compared to 89.5% of the British respondents. 20% of the American respondents chose "I don't know" regarding

therapeutic imagery's efficacy with depression and 16.6% chose "rarely effective". As implied by the survey results, there are significantly more trainers in the United Kingdom who are confident of therapeutic imagery's effectiveness on depression. Having said this, it is vital to look at other explanations to such an outcome. For instance, as mentioned before, perhaps the British respondents claimed that therapeutic imagery was no less than effective with depression, because they thought that is what I wanted to hear during the phone interviews. The Americans, on the other hand, may have been willing to show some doubt because they were not talking to me one-on-one.

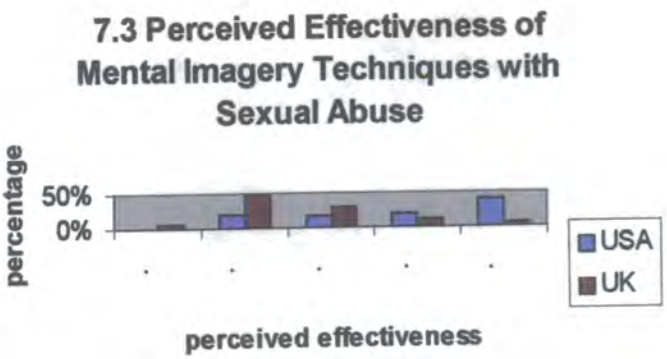
Perceived effectiveness of therapeutic imagery with panic attacks



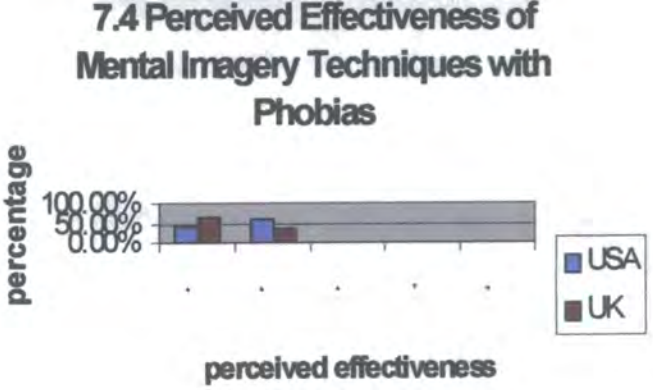
Regarding therapeutic imagery's perceived effectiveness on panic attacks, 86.8% of British respondents

found it to be effective or very effective as compared to 81.6% of American respondents. Of British respondents 13.2% chose "I don't know" whereas 18.3% of American respondents chose that response. The survey results suggest that more American respondents than in the preceding condition were confident of therapeutic imagery's perceived effectiveness regarding panic attacks since 31.6% chose "very effective". We will recall that regarding depression, no American respondents chose "very effective". A possible reason for this may be that panic attacks are treated similarly to phobias. Systematic desensitisation can be utilised with each, and as mentioned before, systematic desensitisation is known in America for using images. Whereas concerning the condition of depression none of the British respondents chose "I don't know", 13.2% of them chose "I don't know" concerning therapeutic imagery's perceived effectiveness on panic attacks. This suggests that there is less reliance placed on therapeutic imagery or either less knowledge of it among counselling trainers in the United Kingdom regarding to panic attacks.

Perceived effectiveness of therapeutic imagery with sexual abuse



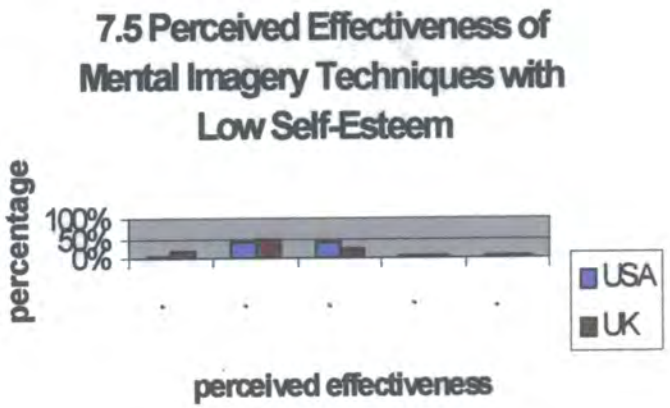
Regarding sexual abuse, there was a distinction between the United Kingdom and United States regarding the choice picked by the highest proportion of respondents. The highest percentage of British respondents chose "effective", with 47.4%, whereas the highest percentage of American respondents chose "not effective", with 40%. Inasmuch as the second highest percentage of British respondents chose "I don't know" regarding therapeutic imagery's perceived effectiveness on sexual abuse, with 28.9%, the second highest percentage of American respondents chose "rarely", with 21.7%. The third highest percentage for British respondents chose "rarely" with 13.2% whereas the third highest percentage of American respondents chose "effective" with 20%. We will recall that "effective" was chosen by the highest percentage of UK respondents. While the lowest percentage of British respondents chose "very effective" tied with "not effective" (both 5.3%) American respondents' lowest percentage of respondents chose "I don't know". It is notable that no American respondents chose "very effective" regarding therapeutic imagery's perceived effectiveness with sexual abuse.



Perceived effectiveness of therapeutic imagery with phobias

The graph plotting the results concerning therapeutic imagery with phobias is noticeably not as scattered as the other graphs. All responses chosen for both countries are either "very effective" or "effective". It is also notable that out of all the listed psychological conditions, both British and American respondents chose therapeutic imagery as "very effective" concerning phobias than any other condition. Having said this, for each psychological condition, a percentage of British respondents always chose "very effective" whereas a percentage of American respondents did not always choose "very effective". For instance, no American respondents chose "very effective" for the conditions of sexual abuse and depression. However, it can be noted that no responses of American and British respondents were less than "effective" concerning phobias. This shows more confidence by both sets of respondents regarding the effectiveness of imagery therapy with phobias.

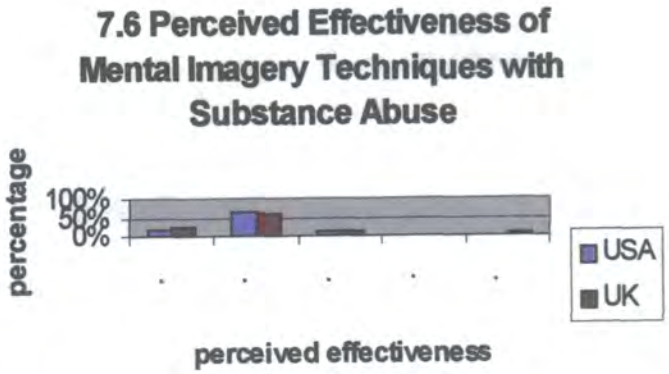
Perceived effectiveness of therapeutic imagery with low self-esteem



With reference to low self-esteem, 15.8% of British respondents chose "very effective" whilst 5% of American respondents selected that option. Of the British respondents 50%, and of American respondents 40% chose "effective". Although this was the most common response by British respondents, the most common response by American respondents was "I don't know" with 41.7%. The second most common response by British respondents was "I don't know" with 21.1%. Of American respondents, 6.7% chose "rarely effective" compared to 5.3% of British respondents. Of American respondents, 6.7% also chose "not effective", compared to 7.9% of British respondents choosing that option. This suggests that professors dedicated to preparing counsellors in the United States are more dubious than British counselling

trainers concerning the effectiveness of therapeutic imagery regarding the condition of low self-esteem.

Perceived effectiveness of therapeutic imagery with substance abuse



More confidence is shown by American respondents concerning therapeutic imagery's effectiveness with substance abuse. A full 83.3% of American respondents and 84.2% of British respondents rated therapeutic imagery as either "very effective" or "effective" as a therapy for substance abuse. Of respondents from the United Kingdom, 26.3% chose "very effective" whilst 20% of American respondents chose that option. Of British respondents, 57.9% chose "effective" as compared to 63.3% of American respondents. The third most common response of both samples was "I don't know" with 10.5% of British respondents and 13.3% of American respondents choosing it. Although no respondents from the United Kingdom

chose "rarely effective", 5.3% did select "not effective". Interestingly, 1.7% of the United States sample chose "rarely effective" as well as 1.7% choosing "not effective".

Verdict of the results concerning perceived effectiveness of therapeutic imagery with listed conditions

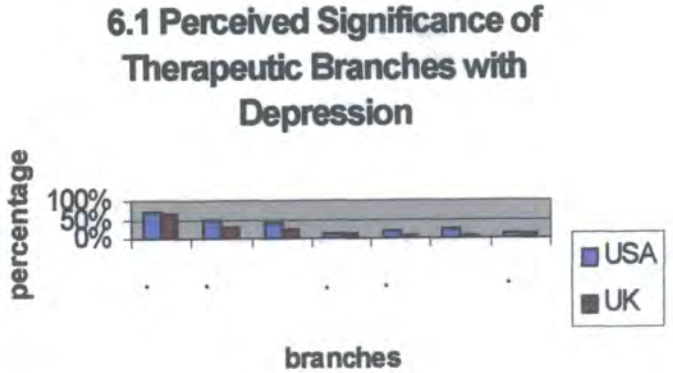
It can be said from the results of the question concerning perceived effectiveness of therapeutic imagery that respondents in the United Kingdom showed more confidence in therapeutic imagery than respondents in the United States. This can be seen from the percentage from each sample which chose "effective" or "very effective". As mentioned earlier, 81.6% of British respondents chose "effective" and "very effective" as compared to 65.6% of American respondents. Having said this, the only conditions in which 20% or more of US respondents chose "very effective" are those where imagery through behaviour therapy is seen as an effective treatment. These conditions under behaviour therapy were panic attacks, phobias, and substance abuse, where mental imagery is a component of systematic desensitisation, and it has been known to be effectual. What suggests this idea further are the results of question 5 which concern perceived significance of therapeutic branches with listed psychological conditions. From a glance, it can be seen that for all the psychological conditions with the exception of low self-esteem, behaviour therapy was chosen by a higher percentage of US respondents than UK respondents. While it is not crucial to this

dissertation, more patterns may be detected if each graph is viewed in more detail.

Perceived significance of therapeutic branches with listed conditions

The graphs concerning the question regarding the perceived significance of therapeutic branches with listed conditions are different from the graphs previously discussed. This is because more than one therapy could be chosen by each respondent for each condition. Thus, the sum of all the percentages of each sample does not equal 100%. The percentage is based upon the number of respondents, out of the total number of respondents, who chose a particular therapeutic branch for a specific condition. The percentage is not based upon the total number of responses involving all the choices of therapeutic branches with a certain condition. It is based upon the number of responses obtained for each therapy regarding a listed condition.

Perceived significance of therapeutic branches with depression



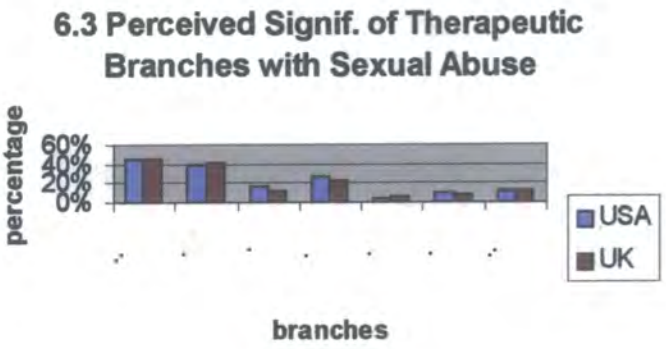
Concerning perceived significance of therapeutic branches with depression, the most common choice among British respondents (63.2%) and American respondents (70%) was person-centred therapy. Psychoanalysis was the second most common response by both samples, with 31.6% of British respondents and 50% of American respondents choosing it. Transactional Analysis was the third most common response for both samples with 26.3% of British respondents and 40% of American respondents. A deviation between the samples arose concerning the fourth most common choice. Whereas 21.7% of the American respondents chose behaviour therapy, 13.2% of the British respondents chose gestalt therapy. Of American respondents, 20% chose reality therapy making it the fifth most common choice for the American sample. The fifth most common for British respondents was "other" with 10.5%. Of American respondents, 13.3% chose gestalt therapy, making it next to last choice, whilst reality therapy was next to last choice for British respondents with 7.9%. Whereas "other" was the American respondents last choice with 10%, behaviour therapy was the least common choice of British respondents with 5.3% choosing it.

Perceived significance of therapeutic branches with panic attacks

When examining the plotted results for the perceived significance of therapeutic branches with panic attacks, behaviour therapy can be seen to be leading the results with 90% of American respondents choosing it. The most common choice for British respondents was person-centred therapy with 42.1%. Behaviour therapy was the second most common choice among British respondents with 36.8% choosing it. The second most common choice of therapies by American respondents was person-centred therapy with 40%. Reality therapy was the third choice of both samples with 31.6% of British respondents and 35% of American respondents choosing it. Likewise, the fourth choice of both samples was gestalt therapy chosen by 23.7% of the British respondents and 26.7% of American respondents. Both countries also chose psychoanalysis as the fifth choice with 13.2% of British respondents and 18.3% of

American respondents choosing it. Lastly, transactional analysis was the last choice with 10.5% of British respondents and 10% of American respondents choosing it.

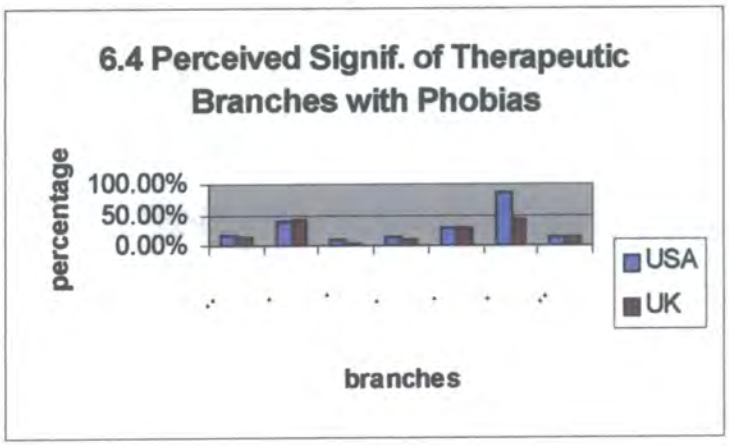
Perceived significance of therapeutic branches with sexual abuse



There was a consensus with both samples regarding the perceived significance of person-centred therapy with sexual abuse. Not only was person-centred therapy chosen more than other therapies by respondents of both samples, but the percentages were comparable with 44.7% of British respondents and 45% of American respondents choosing it. A close second for both samples was psychoanalysis with 42.1% of British respondents choosing it and 40% of American respondents. The third choice for both samples was gestalt therapy with 23.7% of British respondents and 26.7% of American respondents. The fourth choice for British respondents was a draw between reality therapy and "other", with 13.2%. Similar to British

respondents, American respondents also chose reality therapy fourth, with 16.7%. "Other" was the fifth choice for American respondents with 13.3% choosing it. Behaviour therapy was fifth with 7.9% of British respondents and sixth with 10% of American respondents. Transactional analysis was last for both samples with 5.3% of British respondents and 5% of American respondents choosing it.

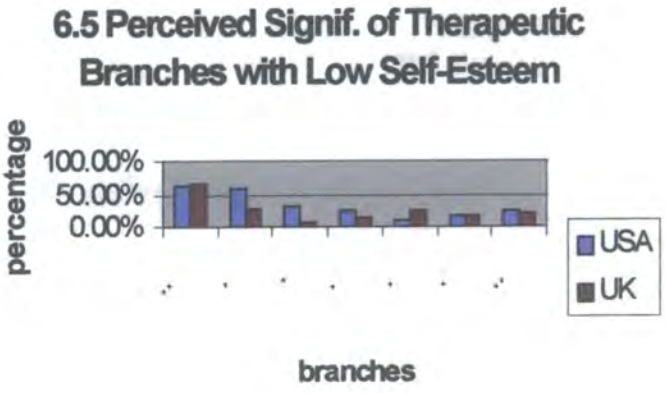
Perceived significance of therapeutic branches with phobias



With reference to the perceived significance of therapeutic branches with phobias, behaviour therapy stood above the other therapeutic choices with 85% of American respondents choosing it. The prominent choice by the British sample was tied with 42.1% choosing both psychoanalysis and behaviour therapy. The second choice by the American sample was psychoanalysis with 38.3%. The next most common choice by the British sample was reality therapy with 28.9%, likewise

the third most common choice by the American sample was reality therapy with 26.7%. Person-centred therapy and "other" tied with 13.2% among British respondents. However, the fourth most frequently chosen therapy for American respondents was person-centred therapy with 16.7%, followed by gestalt therapy coming fifth with 15%. The next to last choice of British respondents was gestalt therapy with 10.5% whilst next to last for American respondents was "other" with 13.3%. Last for both samples was transactional analysis with 2.6% of British respondents and 10% of American respondents.

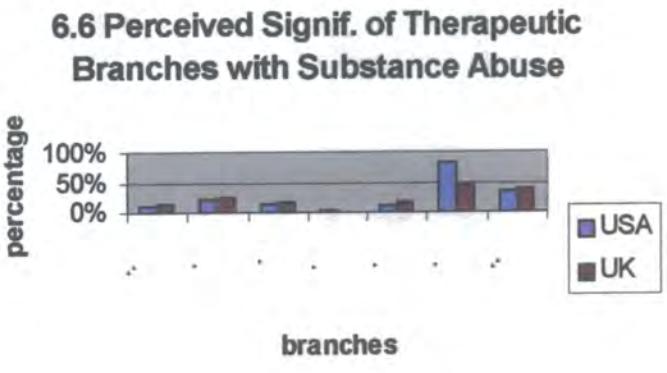
Perceived significance of therapeutic branches with low self-esteem



Viewing the graph concerning low self-esteem, it can be seen that person-centred therapy was chosen more than the

other therapies by both samples, with 65.8% of the British sample and 61.7% of the American sample. Second with both samples, yet with percentages more distinctive was psychoanalysis with 28.9% of British respondents and 58.3% of American respondents. The third choice, transactional analysis, was also the same for both samples with 23.7% of the British respondents and 30% of American respondents choosing it. Whereas "other" was the fourth choice of the British sample, gestalt therapy and "other" tied for fourth with 25% of the American sample. Fifth for both samples was behaviour therapy with 18.4% of the British sample and 18.3% of the American sample choosing it. Next to last for the British sample was gestalt therapy with 13.2%, followed lastly by 7.9% of the British sample choosing reality therapy. Last for the American sample was also reality therapy with 11.7%.

Perceived significance of therapeutic branches with substance abuse



With reference to the perceived significance of therapeutic branches with substance abuse, the American sample put behaviour therapy in the lead with 83.3%. The first choice of the British sample was also behaviour therapy, but at the lesser proportion of 44.7%. Both samples' second choices were "other" with 39.5% of British respondents and 35% of American respondents. Third for the British sample was psychoanalysis with 23.7%, whilst third for the American sample was also psychoanalysis with 20%. Reality tied with transactional analysis among the British respondents with 15.8%, placing both therapies in fourth. Transactional analysis was fourth for American respondents with 15%, whilst reality therapy came in fifth with 11.7%. Next to last for both samples was person-centred therapy with 13.2% of the British sample and 10% of the American sample. Similarly, gestalt therapy came in last for both samples with 0 British respondents and 5% of American respondents selecting it.

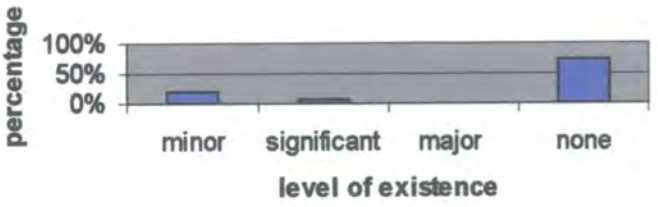
Significant patterns in the results

Considering the American respondents, the conditions which had the highest proportion of "very effective" responses regarding the efficacy of imagery techniques (#8), were the same conditions in which behaviour therapy was chosen as the most effective treatment in question 5. This could suggest a correlation between the common utilisation of imagery in systematic desensitisation with these conditions, and American

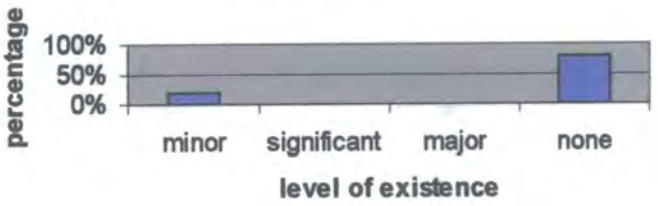
counselling trainers' perceived significance of imagery therapy with the conditions. These conditions were panic attacks, phobias, and substance abuse. The similarity between these conditions is that panic attacks can lead to phobias and/or substance abuse. Each of these conditions are related to anxiety and can be treated with systematic desensitisation (http://home.inreach.com/exodus/panicq&a.htm).

Level of existence of mental imagery techniques (figures 8-10)

9. Level of Existence of Emphasis on Mental Imagery in Counselling MA (USA)



10. Level of Existence of Emphasis on Mental Imagery in Counselling PhD (USA)



Since British counselling institutes typically give certificates and diplomas in counselling, the level of existence of mental imagery techniques applied to diplomas. Of the British respondents, 52.6% held that the teaching of mental imagery methods was a minor part of the curriculum, while 47.4% maintained that it was a significant part. In the United States, on the other hand, regarding a MA in counselling, only 6.7% of American respondents put that mental imagery techniques were a significant part of the curriculum.

In addition, 20% saw mental imagery techniques as a minor part of the curriculum, while 73.3% of the American respondents deemed that an emphasis of mental imagery techniques was non-existent. For the PhD in counselling, 80% considered emphasis on mental imagery techniques to be non-existent, while 20% considered the emphasis as minor. Concerning postdoctoral work, there were only 9 American responses and all placed mental imagery techniques as non-existent. This does not necessarily mean that mental imagery techniques are not taught, but if it is not referred to as imagery, then the perceived significance is lower.

Reliability of Findings

Reliability in testing is the degree to which findings are consistent, dependable, and repeatable - in other words, the degree to which tests are free from errors. This survey, as with all surveys, has provided a sample of behaviour at a given moment in time. If I had presented the same questions to the same individuals six months later, perhaps the answers would be different among some respondents, but if reliability has been maintained in this research, the same patterns in the results would be found. Surveying as many respondents as possible is important in maintaining reliability. If I had questioned one counselling educator from Britain and one from America, the reliability would have been incredibly low. For example, if a runner runs one race, his/her competence cannot be judged by that single race - just

as a country cannot be judged by one person's responses. It is highly probable that if the runner ran the same race at a different time, the results would be different. If the runner ran the same race many times the perceived competence of the runner's ability based on several races would be more reliable as well as more realistic - even if the runner flubbed a few races. Additionally, the more races a runner would run, the more his/her poor performances would be viewed as flubs, which is why s/he would want to run as many as possible when determining his/her ability. The more races run, the more reliable the runner's perceived ability.

Since I had two samples, British counselling educators and American counselling educators, it was paramount for me to try to acquire as many respondents for each sample as possible in order to maintain reliability. This would pave the way for identifying significant patterns in the results of each sample. Although the actual samples used in this research differed from the samples I intended to use, the main difference was in the procedure in which I acquired these samples rather than the internal sample characteristics. Regardless of the difference from the initially intended procedures, the two samples remained as British counselling educators and American counselling educators. In order to maintain reliability, I surveyed as many of each sample as possible and significant patterns were determined. Because of this, I assert that if this survey were to be repeated, the same results would be obtained.

Chapter 15

Conclusion and Evaluation

No significant correlations were discovered regarding the gender of the respondents and their responses to the questions. This suggests that men and women counselling instructors do not show a diversity in the methods they choose to use in either country. Nor do they show a diversity in how they perceive mental imagery as a psychotherapeutic tool. However, even if a correlation were found, it should be noted that a correlation would only indicate an association between two variables. A correlation does not demonstrate cause and effect. In other words, a correlation is not causation.

In question five, which requested respondents to choose therapies most appropriate with the listed conditions, although "other" was picked but hardly ever specified, two sole female American respondents did specify "yoga therapy". An inference that yoga therapy is regarded more highly by female counselling professionals cannot be made, due to the lack of specification of the "other" choice with most respondents.

Conveniently, all respondents had been trained in their country of employment so no adjustments needed to be made regarding why they selected the choices they did. Plausibly, respondents trained in different countries from where they were working would have confounded the results obtained. This is because it would be difficult - if not impossible - to ascertain if these particular respondents shared theoretical persuasions from their country of education or their country of employment.

There were no significant associations regarding responses contingent to the respondents' fields of degree (graphs 2 & 3). Any similarity in responses that was detected, such as by the two British respondents who had diplomas in person-centred therapy (who never chose gestalt or reality therapy), was disregarded. The sample of respondents within these fields was too small to suggest reliable correlations. For instance, the responses of only two representatives of the British population of the counselling instructors who have diplomas in person-centred therapy, cannot be the quintessential responses of that population. As for the other fields which had a larger number of representatives among the respondents, no relationships between responses were detected.

Interestingly, no distinction in responses was noticed by the British counselling instructors who had no formal training (level of UK training, graph 5). They did not appear ignorant of the historically significant theories listed, anymore than any other respondents. Since it is possible to be a counsellor without formal training in Britain, it is conceivable that they acquired their knowledge by practising as a counsellor before becoming an instructor. Among the other respondents with different levels of training, no significant difference in responses was observed. Having said this, it is inevitable that any counselling professional will perceive some therapies more highly than others. Some respondents had favourite choices. For instance, three

American respondents chose only behaviour therapy for all conditions in question five. Had they not been trained, they certainly would not have been so influenced by the importance American psychological scholars place upon behaviour therapy, and perhaps their choices would have been different. Conceivably, if degrees were not required in order to be a counsellor or counselling trainer in America, partiality towards more alternative therapies might have been observed had they been listed. However, that was not relevant to the topic of this research.

The results of the British respondents considering the choices of therapies picked for the listed conditions, may have been influenced by the phone interview. Afterall, no results of a study should be taken at face value, because there could be many influential factors depending upon the methods of data elicitation.

It is likely that some British respondents may have chosen therapies for certain conditions even though they were not familiar with the therapies. The fact that I was talking to them personally may have placed undue pressure upon some respondents to choose some of these unknown therapies indiscriminately, in order to appear credible. They also may have picked these therapies in order to be polite (thinking they were my favourites). Another possible reason for picking some therapies they were unfamiliar with may have been because I was foreign, and they may have thought that if Americans knew these therapies (which is not necessarily true), then

they should too. It may have been regarded as a comparison of what the British and Americans know - similar to a test. Although I picked historically significant therapies, the fact that I was talking to them personally may have been an extraneous variable influencing their choices. This is not to say they didn't pick therapies most familiar and appropriate to the condition first, but it is possible extra therapies were picked that wouldn't have been had it not been a one-on-one interview. Naturally, this presumption of influential factors is not guaranteed. However, it is inescapable that interviewing respondents one-on-one will incorporate these types of extraneous variables.

It is possible that American respondents (the sample who answered the email questionnaire) also felt pressure to act knowledgeable of therapies in which they were not. However, choosing therapies they were unfamiliar with may have occurred simply because these therapies were listed. Question five requested that the respondent pick as many therapies that s/he perceived as effective for each condition. It is possible that respondents chose the ones they were familiar with first, and then decided to choose a couple of the others listed simply because they were there. However, some external influential factors in data elicitation methods are unavoidable, and must be taken into account.

As delineated above, both data elicitation methods have possible intrinsic flaws. Sampling in data elicitation allows

for the possible and intrinsic flaws to be self-cancelling. The pattern of responses suggests that the comparison of information from two different data elicitation methods is valuable and illuminating. It would appear that the validity of this study is supported by the methods used to gain the necessary information.

Analysing the relationships within the survey, it appears that whereas British counselling trainers are more aquainted with mental imagery as a psychotherapeutic tool for various conditions and rate it highly, American counselling trainers are more familiar with mental imagery as it applies to behaviour therapy. In an American counselling textbook, Theories of Counseling and Psychotherapy (1986), the word "imagery" and "imagine" is used more in the chapter on behaviour therapy than in any other chapter. For instance, when describing the systematic desensitisation method, it reads:

> When the patient is adequately relaxed, the therapist presents a neutral scene and asks the patient to imagine it. The procedure itself begins: the patient is asked to imagine the least anxiety-arousing stimulus in the hierarchy and to raise a finger when he or she sees it clearly....Systematic desensitization involves the imagining of anxiety-evoking scenes, not the actual experiencing of them. Yet progress is reflected in improvement in reaction to real situations. Difficulties or failures usually reflect difficulties in relaxing, misleading or irrelevant hierarchies, or inadequate imagery (116)

This excerpt shows the importance behaviour therapy places upon mental imagery. Also included in the text in the behaviour therapy chapter is a heading entitled, "Alternative

Counteranxiety Responses for Use with Imaginal Stimuli (117)". Under this heading, is a subheading entitled, "Responses evoked by verbally induced imagery (117)"

Although characteristics of mental imagery are used in other historically significant therapies, if they are not referred to as appertaining to mental imagery when they are learned by students of counselling, the perceived significance will be lower. Thus, the awareness and knowledge of its utilisation will also be low. This being the case, research on mental imagery as a psychotherapeutic tool could be hampered if mental imagery is not seen to be important in conditions which are preferably assisted outside of behaviour therapy.

What is notable among the American respondents is that the highest number of respondents chose mental imagery as being effective with phobias, panic attacks, and substance abuse - the only listed conditions in which behavioural methods (namely systematic desensitisation) have been dependably known to treat. Likewise, these same conditions had the highest number of American respondents choose behaviour therapy as the most effective treatment.

This is not surprising. From personal experience, systematic desensitisation was the only therapy that I learned during my postgraduate degree in America, which referred specifically to mental imagery. I learned it to be effective when treating anxiety disorders such as phobias and panic attacks. Additionally, I learned that systematic

desensitisation was effective treatment for substance abuse. Before this research, based on what I learned during my postgraduate degree, my perceived significance and perceived effectiveness of therapeutic mental imagery was based solely on systematic desensitisation.

Although there is much information on therapeutic imagery which can be found in America, its perceived significance among counselling trainers is highest with regard to those conditions which can be treated through methods of behaviour therapy. However, British counselling instructors judge therapeutic mental imagery as being more effective with a variety of conditions, unlike their American counterparts. This suggests that in the United States, the growth of mental imagery as a psychotherapeutic tool is inhibited by theoretical deficits. In the American counselling classroom interdisciplinary methods which are not confined to specific therapeutic orientations are virtually non-existent. It seems that despite the re-emergence of mental imagery into the American psychological community since the world wars, the maturation of therapeutic mental imagery is hampered by a rigidness to adhere to established psychotherapeutic schools of thought. Having said this, systematic examination on mental imagery has not significantly been carried out within the frame of reference of historically significant therapies. If this was achieved and put in American counselling textbooks, not only would the perceived significance of mental imagery be higher among future counsellors, but mental imagery

methods would be more likely to grow in a fertile environment.

Appendix A

Questionnaire

Dear (name),

I have chosen you as a leading academic in counselling psychology and would greatly value your point of view in this questionnaire. I hope that you might be kind enough to spare time to complete these very brief and simple questions which constitute an integral part of my PhD dissertation. All responses will be totally confidential.

In order to respond, you may simply send this message back to me with your answers or email your responses separately. Thank you in advance for your consideration.

Warm regards,

Kirsten Martinson
University of Durham

1. Are you Male or Female?

2. From what country did you receive your professional training in counselling psychology?

3. In what field?

4. Please indicate the highest level of training in counselling you have:
   a)BA
   b)MA
   c)PhD
   d)Post doctoral
   e)other (please specify)

5. Which branch(es) of counselling psychology do you find most effective with the listed conditions? Each branch can be represented by its cooresponding letter. Place as many as you believe apply next to each mental condition:

Branches
   a) Psychoanalysis
   b) Behavioral
   c) Client-centered

d) Gestalt
e) Transactional Analysis
f) Reality
g) other (please specify)

Conditions

i) depression
ii) panic attacks
iii) sexual abuse
iv) phobias
v) low self-esteem
vi) substance abuse
vii) other (please specify)

6. Are you aware of the use of imagery as a therapeutic tool?

7. If you answered "yes" to the above, please indicate up to 3 things you know about imagery as a therapeutic tool:

8. Using the following scale, it would be helpful if you would rate the use of imagery work with the following mental conditions:

Ratings

not effective - 0
rarely effective - 1
don't know - 2
effective - 3
very effective - 4

Conditions

a) depression
b) panic attacks
c) sexual abuse
d) phobias
e) low self-esteem
f) substance abuse
g) other (please specify)

9. Do you teach a counselling module?

10. Lastly, referring to the "level of existence scale" below, what proportion of taught counselling courses are devoted in each degree to the teaching of imagery methods? Please do not refer to a listed degree that your institution does not have in counselling.

Degrees	**Existence Scale**
a) MA	i) Does not exist
b) PhD	ii) Is a minor

part
of curriculum

c) Post doctoral

iii) Is a
significant
part

d) other (please specify)

iv) Is a major
part

Thank you for your time in answering these questions. I look forward seeing your reply!

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