Image retrieval: creating a retrieval system for a database of surrealist photography

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Image Retrieval

**Creating a retrieval system for a
database of Surrealist Photography**

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fulfilment of the requirements for the

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Image Retrieval

Creating a retrieval system for a
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Abstract

The aim of this dissertation is to explore the history of Surrealism and Surrealist photography and to create a retrieval system for a database of Surrealist photographs.

Firstly the history of the Surrealist movement is discussed, with emphasis on photography. The approach to retrieving images is examined, including the work of Panofsky and Shatford. A brief descriptive analysis of working retrieval systems follows: the Micro Gallery at the National Gallery, London and the slide collection at the University of California are given as examples.

The central core of the dissertation is an attempt, using classification techniques, to devise a retrieval system that is appropriate for Surrealist photographs.

To conclude this project a working database, which has been created in the form of a prototype, is designed and print outs of this prototype have been included to show the full extent and capabilities of a retrieval system of this type.

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Introduction

This dissertation looks at the techniques involved to construct an image retrieval system (in particular for Surrealist photographs). To show the great diversity of retrieval systems, two working image retrieval systems have been chosen, both work equally well although they are completely different in style. These are the Micro Gallery at the National Gallery, London. This retrieval system works on a touch screen basis, it is a very easily accessible system which was created as a tool for visitors of the Gallery, to allow them to further their knowledge of the art kept within Gallery.

The second retrieval system is housed at the University of California and was created for the purpose of accessing the 200,000 slides kept in their Slide Library. This system relies on the user drawing the image they require on screen, using the drawing kit supplied by the system. Both systems will be described further and analysed on their practicalities within this dissertation.

For this dissertation the subject of Surrealist photography has been chosen, the reason for this being of personal interest and the challenge of examining the structure of this topic. Also there are no working retrieval systems at present which cover this particular subject area.

The history of Surrealism followed by a discussion on Surrealist photographs serves as an introduction. This is followed by a look at the rules of subject analysis when creating a retrieval system. For this the writings of Panofsky and Shatford are discussed, as both give degrees of variations when subject analysing.

A selection of Surrealist photographs were chosen to be analysed according to the rules identified from Panofsky and Shatford. Once these images were analysed an attempt to arrive at a structure for the creation of a retrieval system was made.

Although it is not essential to create a working retrieval system, a small database was created showing the accessibility of a retrieval system of this kind. Due to time constraints the database was created in the form of a prototype. This prototype was created using the Department of Information and Library Studies equipment and was subject to the software limitations available, should the database at any time in the future be developed into a fully operational retrieval system, the equipment needed will be of a much higher standard.

Chapter Two

Surrealism - A history

The beginning:

Surrealism became a notable artistic movement during the two world wars. It sprang from the Dada movement of the early 1900's which had originated in Munich. This movement, which was noted for its rebellious tendencies towards society, intelligence, religion, language, and literature, had been brought to light by the artist Hans Arp and the writers Tristan Tzara, Hugo Ball and Richard Hulsenbeck. One of the stories of the origin of the name Dada is as follows: the group of men mentioned above where at Hugo Ball's *Cabaret Voltaire* (café) discussing their new art movement, undecided on a name for this movement, they inserted a knife into a French-German dictionary which landed on the word Dada. The young men thought it was a marvellous word and so an art movement was born. By 1916 the movement had developed in Berlin, New York, Hanover and Cologne, it's philosophy: 'Everything the artist spits is art' (1).

It was a journey by Tzara to Paris at the end of 1919 that introduced the French poet André Breton to the Dada movement. Tzara's intention on this journey was to inject the anarchic militancy that had flourished in Switzerland into the avant-garde magazine *'Littérature'*, which had been founded that same year by Breton and other artists. Unfortunately, what had shocked in Switzerland was looked upon as mere failure in Paris. It would seem they had a higher tolerance level for the obscure. Another problem which arose, proving the journey to be totally unsuccessful, was that not long after Tzara arrived, arguments began about who had discovered the word Dada, each artist wanting to claim it as their own discovery. In short, Paris wanted something weightier than Dadaism and thus the Dada movement began to deminish around 1922, as the birth of Surrealism began.

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Surrealism was developed in Paris by a group of men who's interests included, besides painting and poetry, literature which was mostly what the original Surrealist movement was about. The literary influence on Surrealism was Isidore Ducasse (2) a nineteenth century poet, who had been virtually unknown until André Breton unearthed his work. He had lived an obscure life and had taken evil as the theme for his writing, he died in 1868 at the age of twenty-four. The image which he had written about that had caught the attention of the poet was:

"The chance encounter on an operating table of a sewing
machine and an umbrella". (3)

This image of objects unexpectedly and irrationally brought together was exactly what the Surrealists had been looking for.

Most of the original members of the Surrealist movement had, in fact, been members of the Dada movement. The word Surrealism is actually a French word, *Surréalisme* or *Surréaliste* and was invented by Guillaume Appollinaire, the poet-ally of the Cubists, the genius of the avant-garde (4).

The actual precise definition wasn't coined however until 1924 when Surrealism actually began to establish itself as an art. The person behind the definition was one of the founders of Surrealism, André Breton, he described it as:

"Pure psychic automatism by which it is intended to express,
either verbally or in writing, the true function of thought. Though
dictated in the absence of all control exerted by reason and outside all
aesthetic or normal preoccupations"..(5)

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Freud and dreams:

The Surrealists were concerned with revolution and dreams, they rejected convention and instead chose automatism, writing and painting without any defined route, a kind of involuntary act. Their emphasis was on positive expression, what it's members saw as the destruction wrought by the 'rationalism' that had guided European culture and politics and that had culminated in the horrors of World War 1 (6). The movement tried to give the subconscious freedom and creativity. The Surrealists were fascinated by the bizarre and the irrational, through automatism, working without thought, will or any intervention on the part of the conscious mind, they tried to overcome the dominance of reason.

The reason for such obscurity in their work had come from founder André Breton's obsession with the works of Sigmund Freud. Breton himself had been a student of medicine and had a keen interest in mental illness and how mentally ill patients produced paintings, very childlike in a kind of automatismic state. Freud's studies of the significance of dreams and the psychopathology of everyday life intrigued Breton and when Freud agreed to meet with him in 1921, Breton's belief in the importance of dreams was strengthened. Unfortunately years later, Freud would be heard saying that the enthusiasm Breton held for his work was not reciprocated, as he (Freud) found he did not in fact understand Surrealism, his exact words were:

> "Perhaps I am not made to understand it, for I am so far
> removed from art". (7)

The main reason Freud could not understand Surrealism was because the Surrealists were much more adventurous than he was, they did not observe or interpret the subconscious, they lived it. Although the Surrealists admired Freud they could not

comprehend the psychologist's shortcomings, not in his method but in his application and conclusion, they felt Freud had been too reserved in his interpretation of dreams, they disliked the fact he denied the existence of the prophetic dream, a dream as a form of a prediction. Besides the prophetic dream the Surrealists also believed in other types of dreams, the natural dream and the self-induced dream, often used by Salvador Dali, a type of automatism and the experimental dream which Tzara is believed to have had a fondness of.

Breton's influence:

Breton had been born in Tinchebray, France in 1896, he had studied psychiatry before turning to poetry, he is also considered an essayist, a critic, an editor and of course the founder and chief promoter of Surrealism. Through being influenced by psychiatry and Symbolist poetry and a meeting with Romanian poet Tristan Tzara Breton joined the Dada movement in 1919. His major influences were Gothic novels and he was a self confessed addict to the School of Terror represented by Horace Walpole, Mrs Radcliffe, Monk Lewis and Charles Maturin (8). His most notorious influence, Isidore Ducasse, the self-styled Comte de Lautreamont and author of *'Les Chants de Maldoror'*, had actually died twenty eight years before Breton was born. Ducasse was also addicted to horror and had even hinted at the idea of him having a memory of monstrous happenings before the existence of man. Other artists who influenced not only Breton but the whole of the Surrealist movement were Hieronymus Bosch and Francisco Goya, again their major influence was their fascination with the grotesque.

Breton, with the help of writers Louis Aragon and Philippe Soupault created the journal *'Littérature'* in 1920, in this they published the first example of the Surrealist painting technique, automatism, in an article called *'Les Champs magnétiques'*, (Magnetic

Fields). They wrote of how by the use of automatism, the creative force of the unconscious, various chance effects and psychically inspired scribbling could be recorded without the artist's conscious control (9). Images would then either be left in their originally conceived way or consciously elaborated on by the artist. Artists noted for this way of working were André Masson, Arshile Gorky and Max Ernst, they each tried to incorporate automatism into either the fantasy or erotic images they painted.

Later, in 1924 Breton wrote his first Manifesto called 'Manifesto du Surréalisme', here is where his quote "pure psychic automatism....." was first published. This quote was to be ridiculed, as many believed in painting only as a conscious act, Breton however thought differently and believed that art should be used as an instrument of discovery. Unfortunately at this point the unavoidable weaknesses with using automatism were becoming apparent and some Surrealists began to see the danger of monotony and repetition because of the absence of any conscious mind.

With the worries of repetition and monotony on some Surrealists minds other forms of creating images were also used, for instance frottage. Frottage is a technique of creating the textures of either wood, fabric, stones or any other object simply by placing a piece of paper over it and gentle rubbing with a pencil or crayon to create an impression. Going back to the idea of Breton's intrigue with paintings created by the mentally ill, this is very much another childlike technique. One artist who used frottage was Max Ernst, he would use the style as part of a collage, or would combine frottage with other painting techniques.

Another technique used was 'Found Object', objects which had been found by the individual artist, either natural objects such as shells, stones, and pieces of wood or manufactured objects, objects which the artist might find around a house, these manufactured objects were also known as 'Ready-Made'. When the artist found these

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manufactured objects they would either exhibit it as it was found or alter it in some way, this was not a new discovery by the Surrealists as the Dadaists had used it years before.

Once Breton had written his first Manifesto he went on to write the novel 'Nadja', in 1928. It discusses everyday occurrences with psychological aberrations. Other novels Breton wrote included 'L'Immaculée Conception' in 1930, 'Les Vases communicants ' in 1932 and 'L'Amour fou' in 1937, which explores the connections between reality and dreams. Besides novels Breton also wrote critical works such as 'Légitime Défense' in 1926, 'Le Surréalisme et le peinture ' in 1926 and 'La Clé des champs ' in 1953.

The second Manifesto to be written by Breton came in 1930, this concentrated on the philosophical implications of Surrealism. This was also a time when he and other members of the Surrealist movement became interested in Communism and in fact a number of them joined the Communist Party in 1930. Breton remained a member of the Communist Party until 1935 and even after he had parted company still believed in many of their Marxist ideals and ambitions, one ambition of Karl Marx in particular which was 'to transform the world' (10). Later on whilst in Mexico, Breton was introduced to Trotsky, still with his enthusiasm for the party they joined forces and created the 'Fédération de l'Art Revolutionnaire Independent ' in 1938.

It was during the German occupation of France that Breton and other Surrealists moved to the United States. Once there he organised a Surrealist exhibition and issued another Manifesto, this was during 1942. In 1946 Breton moved back to France and in 1947 organised another Surrealist exhibition, Unfortunately, unlike Breton, many of the Surrealists once settled in the United States never returned to their home countries.

Breton, unlike some Surrealists strived for a historical affinity for Surrealism, he felt that if he could prove the movement was not just another contemporary freak, but had an illustrious ancestry the critics would take him seriously. This was not just for the literary aspects of Surrealism but the visual aspects as well.

Explorations and vision:

A visual aspect of Surrealist art was the juxtaposition of unexpected objects, objects you would not normally see side by side painted together, this was done again, in a dreamlike way or in a fantasy atmosphere. Artists who created these images most frequently were Salvador Dali and Giorgio de Chirico, and the most noticeable aspect of their work is the haunting irrationality of it.

The Surrealists believed that through the exploration of the psyche, through the cultivation of the miracles, through the diverting of objects from their familiar function or surrounding, through a more cosmic perspective of life on this earth, and finally through the alchemy of language that would learn to express this more dynamic reality, man might be able to satisfy his thirst for the absolute within the confines of his counted number of heartbeats (11). With this in mind the emphasis of Surrealism was not on expression or representation of set norms within reality, but on the invention and creativity of the artist, in the hope they would live fuller lives.

Surrealism was and still is the longest lasting school of art and spreads it's roots not only into painting, photography and literature but also philosophy, science and social action. The reason for such diversity is because a number of Surrealists had in fact had some sort of academic training in a science prior to joining the Surrealist movement. In a quote by Roger Vailland in *'Le Surréalisme contre la révolution'* he described

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Surrealism as:

> "Surrealism was not a literary school. It was above all a
> common ground and meeting place for young petit-
> bourgeois intellectuals particularly aware of the futility of every activity
> expected of them by their background and their era". (12)

This observation was true as Surrealism was one of the most disciplined and organised schools ever to exist but it was in fact also a movement related to literature and this is were Vailland's quote is incorrect. The reason he wrote this was because the Surrealists did not want to be recognised as just another literary school and to emphasis this they recorded every curse and obscenity spoken within the movement. From here on the history of Surrealism throws up a series of personal quarrels, experiments, fruitful collaborations, corporate decisions, posturing, mutual backscratching and incidents of minor gangsterism, of which written accounts only give muted versions (13). Breton tried hard to keep some sort of unity within the movement but despite endless attempts there were still a number of expulsions, defections and personal attacks. Regardless of all this however one thing should not be forgotten, the Surrealists formed the second important group of artists since the Romantics in attempting political action in order to improve society.

Photography and Surrealism:

Despite the seeming contradictions between the bizarre production of the unconscious mind creating paintings through automatism and the stability and consciousness of the camera producing photographs, photography has again and again been placed at the heart of Surrealism's visual centre. It seems impossible to have Surrealism *and*

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photography in the same tongue. Surrealism was defined from the start as a revolution of irrationality, reorganising the very way the real was conceived. Another quote from Breton describes it as follows:

> 'For a total revision of real values, the plastic work of art will either refer to a purely internal model or will cease to exist'. (14)

The internal models Breton refers to are the ones which appear when consciousness lapses, be it in dreams, in free association, in hypnotic states, in automation, in ecstasy or delirium (15). The fact was that all this was possible when painting but seemed very unlikely in photography. Photography has to incorporate some sense of the consciousness in order to operate the camera, the lights and the light metre reader, it would be an impossible task to try and operate this equipment while trying to incorporate automatism into a piece of work.

It was in the Surrealist journals 'La Surréalisme au service de la révolution ' and 'Documents' where Surrealist photography first appeared. Some of these Surrealist photographs achieved supreme images, images of far greater power than most of what was done in the remorselessly laboured paintings and drawings that came increasingly to establish the identity of Breton's concept 'Surrealism and painting" (16).

Certain photographs created within the Surrealist movement used the simulated effects of condensation and displacement, the very operations of symbol formation. Often Surrealist photographs were not straight forward photographs but were the result of combination printing, a darkroom manoeuvre that produced the irrational space of what could be taken to be the image of dreams, these images could be related to automatism but usually only at the printing stage, not the shooting stage. These images tried to introduce the aspect of irrationality into photography.

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Styles:

Styles used by Surrealist photographers included changing the images by melting the emulsion of the negative before printing. Photograms were produced by placing images directly onto photographic paper then exposing the image under the light of the enlarger. This technique was used largely by Man Ray, he described it as:

> 'Recalling the event more or less clearly, like the
>
> undisturbed ashes of an object consumed by flames'. (17)

Other techniques included solarization, this is when photographic paper is briefly exposed to light during printing to give varying degrees of contrast and a result of a photographic negative on a positive print. Negative printing is a technique of producing a whole negative print with unintelligible momentary gaps. Multiple exposure is exactly what it says, a number of images printed onto the same piece of photographic paper. Through multiple exposure the origins are opened to different effects, of one image after another. Two other techniques frequently used were photomontage and photo collage.

Photo collage set up a relationship between photography and 'language', it did so at the sacrifice of photography's privileged connection to the world, this is why the Surrealist photographers, for most part, shunned the collage technique, seeming to have found in it a too-willing surrender of photographers hold on reality (18). Throughout the avant-garde of the 1920's and 30's the thing that constructed photography was photomontage. Photomontage it is claimed:

> 'Expresses not simply the fact which it shows, but the social
>
> tendency expressed by the fact'. (19)

In respect to photomontage, from as early as the 1920's the Dadaists Hannah Hoch and Raoul Hausmann had used this technique to create images from cutting and pasting various photographic images together to appear as one. Later, during the Surrealist movement the artist René Magritte would use this technique often.

Publications and personal views:

Referring back to André Breton's book *'Nadja'*, when this book was written it made a conscious effort to incorporate photography into it's pages. Other publications by Breton which also included photography are *'Les Vases Communicants'* and *'L'Amour fou.'*. Around the world other publications which in a way advertised the use of photography within Surrealism were the British journal *'London Bulletin '* and the Belgian journal *'Varieties'*. This photography however was not always the work of the Surrealist photographers, many of the images had been found in junk shops or markets and were actually by anonymous photographers, this fascination with rummaging through junk shops etc. can be related back to the 'Found Object', the objects the Surrealists would find and use for their pieces of art in much the same way as they used these found photographs.

There was much disagreeing between artists and photographers, photographers and critics, writers and artists in respect to where photography should stand within the realms of the Surrealist movement. Many thought it didn't belong there at all, others thought the Surrealist photography being produced was by far superior to the Surrealist paintings. The places these views were aired where in the journals and manifesto's written by the artists and poets. In Breton's second Manifesto, published in 1929, he attacked the writer George Bataille for his views on Surrealist photography. Bataille

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over the years had contributed to many of the journals published and was known for his own personal view, which could at times be very brutal, he had once written in 'Documents' that the number of ex and excommunicated Surrealists were in fact:

'Surrealism's old enemy from within'. (20)

He would also offer challenges to the movement by accusing it of being 'idealist'. This sort of attack held great resentment on the part of Breton, who over the years had been trying to get the movement recognised as not just a passing fad but as something of historical significance, with their obscure ways of expression Breton felt the movement was anything but idealist.

Dali's influence:

Some of the Surrealists related to both Surrealist painting and Surrealist photography, one such person was Salvador Dali. Dali had a positive attitude towards photography and in the years before joining the movement had experimented with the autonomous values of photography. In 'Photography, Pure Creation of the Mind' he described photography as:

'Fantasy: more agile and faster in discoveries than murky
subconscious processes!' (21)

Dali was not just interested in photography and painting but also in film, so much so that in 1929 he collaborated with Spanish film director Luis Brünuel to produce the film 'Un Chien Andalou'. Dali felt the camera was free from stereotyped visions, he explains this by saying:

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The world of cinema and of painting are very different;

precisely, the possibilities of photography and the cinema

reside in that unlimited fantasy which is born of things

themselves.......a piece of sugar can become on the screen

larger than an infinite perspective of gigantic buildings'. (22)

Although Dali was keen on the possibilities of cinematic film he himself never actually

went behind the camera to produce. After completion of *'Un Chien Andalou'* Dali

never became as seriously involved in the making of another film again. Dali's views

on photography were not the only thing that singled him out from many of the other

Surrealists, he also had different political views so much so that when the majority of

the Surrealists had joined the Communist party he, (Dali), painted a portrait of Lenin

and then in another painting painted a nurse wearing an armband with a swastika on it.

These actions caused much outrage amongst the movement so much so that a meeting

was called by Breton specifically to discuss Dali. Shortly after, between 1937-39 Dali

began to change his style of work and finally announced that he would be leaving

Surrealism to return to Classicism.

The diminishment of a movement:

Dali however, was not the only Surrealist to leave the movement, by 1945 the majority

of well known Surrealists had left or had begun to leave. In 1947 the last important

Surrealist exhibition was held in Paris, it was produced by André Breton. A year later,

in 1948 Breton also produced and published the book *'Poémes '* which was a collection

of poems he had written.

Although the Surrealist movement spanned some twenty three years, to some it was felt

that it had in fact ran it's course as early as 1929, the year Dali had joined. Others feel that the movement lasted a few years longer and pin point it's final days during the year 1935. It was however three years later during 1938 that the Surrealists had one of their finest exhibitions. The *'International Exposition of Surréalisme'* exhibition which was held at the Galeries des Beaux-Arts, Paris, showed the work of seventy artists from fourteen different countries. The exhibition comprised of paintings, mannequins, prints, found objects, sculptures, books, drawings and photographs, all of which were set out in specific ways for the public to see. The exhibition was extremely successful and had people visiting for the whole of the two month period it ran for. Some visitors had criticisms but most went away with unashamed amazement at the work on show.

After the exhibition of 1939 and the exhibition of 1947, when all the exhibitions and manifestos had finally come to an end, and after all the poets, painters and photographers had moved away the Surrealist movement was finally over. The *official* Surrealist movement however carried on living through André Breton until 1964, when he did at the age of sixty eight.

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Chapter Three

Surrealism and it's Photographers

Photography:

Although photography was part of the Surrealist movement it is not as widely documented as painting. Photography was brought into the Surrealist movement at an early stage and many artists experimented with it in one way or another. The photographers below were all recognised through their photographs, although most still practised with painting as well.

Hans Bellmer:

Hans Bellmer was born on the 13th March 1902, in a small German town called Kattowitz, a small mining town close to the eastern border. After the First World War Kattowitz became part of Poland changing it's name to Katowice. Bellmer grew up under a very dominant father figure, who's repressive authority led Bellmer to fear and hate him. Whilst living in fear Bellmer created an alternative world in his imagination. Here in this imaginary world were Red Indians sitting round camp fires smoking peace pipes, Bellmer would join in by also dressing up as a Red Indian. This love of dressing up would stay with Bellmer all his life.

In the early part of Bellmer's life reading was his greatest love, it was only later during his schooling that he discovered art. His first attempts at painting were copies of two fantasy-mythologies by the nineteenth century German artist Arnold Bocklin (1). At the same time Bellmer's 'secret garden' was now being visited by young girls who's images stayed with Bellmer he described them as:

"those adolescents with wide eyes turning away". (2)

These images of little girls would later be described by Bellmer as black Easter eggs, pink sugar pigeons, biscuits, clasped hands, confectionery baroque, a single multicoloured glass marble, a band of lace, a bow of ribbon, the lost leg of a little doll. (3)

Bellmer left school in 1921 after passing his exams, he was immediately sent to work in a steel works by his father. He later worked in a coal mine, this experience led to him studying socialist philosophy and the writing of Marx and Lenin, he began to preach what he had learnt to his fellow workers, something which almost had him imprisoned by the Polish state.

Bellmer's love of literature grew as did his love for art and he began to take a keen interest in the work of the Dadaists. He felt sympathy with the left-wing political ideologies professed by the dadaists, so much so he again narrowly escaped imprisonment, when he began to demonstrate in a series of gouaches (now lost) in 1922.

In 1923 he was enrolled, by his father, into the Berlin Technical College to study engineering. When Bellmer arrived in Berlin he discovered an exciting city full of independent and ambitious young men. During his first few months he contacted the photographer John Heartfield and the artist George Grosz, both members of the Dada movement, although the movement was in decline Bellmer enjoyed the cafe discussions about art, politics and literature. Bellmer left his engineering course before completing his first year to concentrate on painting. This open defiance infuriated his father so much that all financial help was stopped, Bellmer turned to commercial art to make his living.

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Bellmer began work as an apprentice typographer at the Malik Press, during the period covering 1924-5 he was commissioned to illustrate over six novels including *'Gegen Gottschalk'* by Walter von Hollander and *'Der Eiserne Storm'* by A. Sserafimowitsch. Most of the books for which Bellmer's illustrations were used learned towards violent melodrama, Bellmer's illustrations were of murder rape and prostitution.

At the end of 1924 Bellmer travelled to Paris, he continued with his illustrations but began to concentrate more on painting and drawing. It was at this time, due to his fathers ill health, that his family had moved house, his mother had sent Bellmer a box full of all his old toys. In this box were broken dolls, glass marbles, Red Indian disguises, penknives and pink sugar pigeons, all of which brought back memories of Bellmer's childhood. Also around this time Bellmer met Lotte Pritzel, a maker of small wax dolls, she was also known through Berlin because of articles written by Dadaists and friend Grosz and Otto Dix. Pritzel's dolls were mostly young women wearing frilly clothes and elaborate wigs they were designed with a full intention of eroticism, a reclining blonde wearing black stockings or a provocative young girl in silk, wielding a riding whip (4). Bellmer was fascinated with these dolls.

In 1933 Bellmer built his first doll, he described the event as:

> "I am going to construct an artificial girl with anatomical
> possibilities which are capable of recreating the heights of
> passion even to inventing new desires". (5)

The Doll enabled him yet again to escape from reality. His brother Fritz helped with the construction of the Doll. The construction of the Doll consisted of a hollow wooden framework for the torso and head, plus two jointed legs and one jointed arm

all made from broom-handles, metal rods, nuts and bolts, plus one hand and two feet carved out of wood. The stomach contained a mechanism into which a small panorama could be fitted. In 1934 Bellmer published *'Die Puppe'*, a collection of ten photographs of the Doll, each photograph is a record of the progress on the Doll's construction.

In 1934 Bellmer's cousin Ursula went to study in Paris, Bellmer had sent a copy of the Doll photographs and had asked her to show them to Breton. Breton was so impressed with the photographs that they were published in the 6th issue of *'Minotaure'* magazine, under the title *'Doll - Variations on the assemblage of an Articulated Minor'* (6). Over the next year Bellmer visited Paris and began the constructing of his second Doll. Through his photographs of the Doll Bellmer was able to convey both the precocious sexuality of the child, already amply documented by Freud, and the residue of childhood imagination and longings in the adult (7).

Not long after Bellmer's Doll had made her debut female dummies were being used everywhere in Surrealist art, Max Ernst, Man Ray and Dali all showed a keen interest in using dolls. Bellmer not only concentrated his time on his two Doll projects but also on painting, drawing, sculpting and engraving. Often these images would take on the themes of death and love and would show death frequently in the figure of a woman devouring love, other images again of women, have a very erotic, slightly grotesque feel to them.

Bellmer continued to exhibit with the Surrealists until his death in 1975 from cancer of the bladder. Over the last years of Bellmer's live his health deteriorated and he began to suffer from senility. He is buried at Pére Lachaise, Paris, the inscription on his plaque reads 'My love will follow you into Eternity'.

Man Ray:

Man Ray was born in Philadelphia in 1890 and spend his youth in New York, where his family had moved in 1897. His interest in painting had been brought about when a relative gave him a box of crayons for his birthday, it was at the same time the battleship Maine had been blown up by the Spaniards in Havana, as the newspapers were full of pictures of the vessel Man Ray began to copy them. Although these images were in black and white Man Ray allowed his imagination to take over and coloured them in. For the next few years all of Man Ray's spare time was spent drawing and painting, mostly copying images he admired. In 1904 aged 14 Man Ray joined high school, it was here he was encouraged to pursue his love of art. Whilst there he also studied architecture and technical drawing. After graduating in 1920 he was offered a scholarship to study architecture but turned it down in order to pursue his love of painting. Whilst concentrating on painting he took a number of odd jobs, including a news-stand attendant and an apprentice engraver. As well as working he also attended night school to study art. As he had no free time he would visit art galleries during his lunch hour, and at the weekend he would paint, attend symphony concerts and brows book shops.

It was in 1911 that Man Ray was inspired by an article by Benjamin de Casseres entitled *'The Unconscious in Art'*, published in the October issue of *'Camera Work'*, it was one particular statement of de Casseres which struck Man Ray:

'Imagination is the dream of the unconscious'. (8)

This along with another article, again in *'Camera Work'* by Marius de Zayas entitled *'Art is dead"* prompted Man Ray to paint his first two paintings deriving from a dream-like experience 'Dream' and 'Promenade' were both painted in 1911.

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Man Ray had his first exhibition in 1912 at the Francisco Ferrer Social Center where he had studied at night school. The works were mostly drawings and water-colours and were all completed in the same year. Over the next few years Man Ray concentrated solely on his painting. By 1915 Man Ray began to have a keen interest in photography, more out of necessity at first, he was due to have an exhibition and needed photographs of the collection for collectors, friends and press. He had been unsatisfied with photographs professionals had done and so decided to do them himself, at this point he also began experimenting with collage, cutting out details from previous work and re-assembling them.

In 1915 he also met Marcel Duchamp and began publishing reviews such as 'The Blind Man' and 'Rongwrong''. He also helped change 'Camera Work', Stieglitz's journal into '291', which would later be turned into '391' by the painter Francis Picabia. During 1917 Man Ray devoted the majority of his time to collages and airbrush paintings he also constructed his first sculpture. Through collage he could use any scrapes of paper he found laying around, things he had been reluctant to throw away. With airbrushing he found he could create a painting which seemed 3-D.

Man Ray arrived in Paris in 1921 an enthusiastic Dadaist, the following year he would become a professional photographer, producing several portraits and inventing the rayogram, a photograph with a white shadow. Throughout his time with the Surrealists his photographs became very special especially the ones of Kiki of Montparnasse (Alice Prin), which are considered more striking than his paintings. These portraits are considered to be very similar to the work of Modigliani. Man Ray also used the effects of solarization in his work, a technique he had discovered whilst printing in his darkroom with fellow photographer Lee Miller. Miller had panicked when something ran across the floor in front of her and without realising turned on the light exposing the photographic paper. The effect of solarization is a kind of

ghostly image. Man Ray also experimented in film and made *'Emak Bahia'* in 1927, *'Le Mystere du Chateau de Dé'* in 1929 and *'L'Étoile de mer'* in 1938. Unfortunately for Man Ray his success at film could never match that of Dali and Bruñuel.

In Paris in 1922 he was introduced to couturier Paul Poiret who was so impressed with the avant-garde sensibility of the unknown artist he commissioned him to photograph his collection. Man Ray also began photographing artists and writers such as Salvador Dali, Ernest Hemingway and James Joyce, all these photographs he did for free in order to build up a portfolio, however it soon became fashionable amongst the avant-garde to have your portrait taken by Man Ray.

Between 1934-1942 Man Ray produced a considerable amount of work for *'Harper's Bazaar'*, photographing personalities from society, entertainment and the literary world. He also photographed Chanel, Schiaparelli and Molyneux fashion.

Man Ray was the first and for a while the only Surrealist photographer, his photographs created a dreamlike ambiguity and mystery, he was able to turn the model into a kind of sculpture, a cross between a woman and a mannequin. Soon his style of photography was being used by other photographers and dominated the pages of fashion magazines throughout the 1930's and 40's.

With the onset of World War II Man Ray left France and moved to the United States. He settled in Hollywood and taught photography in Los Angeles. He returned to France in 1951 . At the Venice Biennale in 1961 Man Ray won the gold award for photography. In 1963 he published *'Self-portrait'* and summed up his attitude to photography and painting in a single statement:

"I paint what I cannot photograph, and I photograph

what I do not wish to paint." (9)

He continued experimenting with art until his death in 1976 in Paris, he was 86.

Maurice Tabard:

Tabard was born in Lyon, France in 1897. His father was a silk manufacturer as well as a practising amateur photographer. In 1914 Tabard's father moved to the United States to work in the silk factories in New Jersey, Tabard followed and also worked in the silk factories. By day he was a silk designer but during the evening he studied art, in the beginning his main passion was painting.

In 1916 Tabard's interest turned to photography and he enrolled on a photography course at the New York Institute of Photography. It was whilst studying he became interested in the professional portrait photographers Pirie MacDonald and Dudley Hoyt. Another photographer who Tabard was interested in was Edward Steichen, so much so that Tabard introduced himself and became a good friend of Steichen's assistant Harvey White.

By 1922 Tabard had become an accomplished portrait photographer and had joined the staff at the Bachrach firm as a company portrait photographer. During the time he spent at Bachrach he undertook many important and official portrait photographs including one of the Coolidge family.

In 1928 Tabard returned to France, he moved to Paris with the hope of moving into fashion photography. On his landing in Paris he came into contact with many people

who would affect his decisions on fashion photography. The first person he met was Philippe Soupault, a Surrealist and along with Breton the inventor of automatic writing. Soupault introduced Tabard to Surrealism through the writings *'Journal des Modes'* and *'L'Album du Figaro'*. He also introduced him to fellow Surrealists Man Ray and René Magritte. Tabard became great friends with both Surrealists so much so that he began making avant-garde pictures with Man Ray.

Tabard became interested in Surrealist photography with the help of Man Ray and Magritte but he himself had an influence on other Surrealists such also Roger Parry, who he met in 1928 and taught photography to. It took Tabard a few more years practice before he began experimenting with photographic techniques such as solarization, however this practice paid off as the images he had produced through solarization attracted the attention of Charles Peignot, the editor of *'Art et Metiers graphiques'*, so much so that an article of the techniques Tabard used was published in the journal.

During the 1930's Tabard became one of the best known avant-garde photographers and had his work reproduced in journals such as *'Bifur'*, *'Art et Décoration'* and *'Arts et Métiers graphiques'* (10). He was also included in the very prestigious exhibition 'Modern European Photographers' organised by Julien Levy a New York art dealer. When World War II broke out Tabard still worked as a photographer for the Gaumont film studio and became a war correspondent for the French Motion Picture Service after the Liberation (11).

By 1946 he had returned to fashion photography and worked for *'Harper's Bazaar'* and *'Elle'* as well as other fashion magazines. He continued with his fascination regarding photographic techniques and besides researching and writing about them would often incorporate them into his fashion work. More often than not Tabard's

work would include solarization, double exposure, foreshortened views, montage and negative printing (12). He continued to produce personal work as well as his commercial material up until his death. At the time of his death, in 1984, he was in fact in the middle of producing a book on solarization.

Max Ernst:

Max Ernst was born in 1891 in Brühni, near Cologne. He was born into an extremely religious family and had a very strict upbringing. His father taught in a school for the deaf and dumb and was also an amateur painter, which introduced Ernst to art at a very early age.

In 1908 Ernst enrolled at the University of Bonn here he studied philosophy and began painting. He found himself drawn to the work of the Expressionists, artists such as Van Gogh, Matisse and Gauguin. In 1911 he joined the Young Rhineland Group, formed by August Macke, this brought him into contact with other progressive artists in France and Germany. A year later in 1912 Ernst exhibited in Berlin along side the artists Chagall, Kandinsky and Klee, at this point he had not associate himself with one particular group of artists. The out break of World War I had a horrific effect on Ernst, he had to enlist in the army and was then to spend four years in service. He described this experience as if he:

> "Died on the 1st of August 1914 and resuscitated on the 11th of
> November 1918 as a young man aspiring to become a magician and to
> find the myth of this time." (13)

After the War Ernst joined the Dadaists, still full of outrage and anger from the War, he found it possible to release these feelings through his work. Much later in 1871 Ernst would describe the Dada movement as:

"Nothing less than total subversion." (14)

In 1919 Ernst and his friend Baargeld began to publish a number of Dada journals including *'Der Ventilator'*, *' Bulletin D'* and *'Die Schammade'*. These journals aimed to attack the political and social establishment though insulting and sarcastic visual and literary imagery (15).

Ernst began to show interest in collage, and started to cut out and reassemble drawings, reassembling them in a incongruous and haunting way. His collages were not simply the cut and paste type as he wanted to show the provocative and unknown inner world, they forced the exterior real world to confront the hidden reality of the unconscious. Ernst aim was to try and force the viewer to expand beyond the logical and rational real world into a world of dreams and fantasies.

During 1921 Ernst began to move away from the Dada movement and started experimenting with the dream and unconscious state found amongst the Surrealists. He began to recreate his memories of childhood traumas and tried to resolve them through the psychoanalytic methods of Freud (16).

By the end of 1921 Ernst left Cologne to move to Paris, the interior of his new house he painted with flamboyant frescoes, it is at this point Ernst became a true Surrealist.

Ernst then went on to experiment with automatism, painting without any conscious control. By the end of 1924 he had discovered a new form of automatism based on

frottage, a rubbing technique. This had happened whilst staring at a wooden floor, Ernst was suddenly provoked by the pattern of the grain, placing a piece of paper over it he began to rub with a pencil. The result was fascinating, the grain of the wood appeared perfectly on the piece of paper. Besides frottage Ernst also experimented with other techniques including scraping, scraping over a surface area.

Ernst is often thought of as a painter of dreams and of the depths of the unconscious, but this is not so. Against the background of his knowledge of the mechanisms of dreams, wit and subconscious, he pursues his creative game with historical association, artistic allusion, psychological relationships, vision, material and artistic techniques: he juxtaposes unrelated areas of civilization; or breathes fresh life into objects and structures by making them become alien to us, or negate their own function (17).

In 1938 Ernst broke with the Surrealists due to Breton's expulsion of Paul Éluard. He went back to creating the large scale paintings he had done before Surrealism, he also began producing sculptures, his most successful being a bronze piece known as 'The King Playing with the Queen'.

He continued to produce work and exhibit throughout the rest of his life. In 1941 he moved to America and lived in New York and Arizona, he later moved back to France. Max Ernst died on the 1st April 1976 in Paris, one day before his 85th birthday.

Raoul Ubac:

Ubac was born in a small French speaking city in Belgium close to the French border

called Malmédy. Malmédy is surrounded by beautiful countryside including vast forests, moors and rocky terrain (18), such glorious landscapes had a lasting affect on the young artist. Like many other artists Ubac's parents were strict in his upbringing and did not encourage his keenness for art, because of this for a very brief period Ubac considered a career in forestry. However changing his mind and deciding to go with his heart he ventured out on several long distance walking tours throughout Europe.

In 1928 Ubac visited Paris and met the poet Jean Gacon, who introduced him to the Montparnasse artistic circle and the painter Otto Freundlich (19). These meeting influenced Ubac greatly and on his return to Malmédy rebelled more dramatically towards his parents views. Already bitten by the Surrealist movement he read the first Surrealist Manifesto and described it as:

"a revelation and a calling." (20)

Ubac returned to Paris in 1930 and frequented the Montparnasse art academies (21), he also attended the first showing of Dali's film 'L'Åge d'or' and became politically active. Between 1931-2 whilst staying in Cologne he changed his name to Rolf Ubach and joined the Progressive Artists Association, which was headed by Max Ernst and Otto Freundlich. By 1933 he was devoting himself to photography, he had been greatly influenced by the Surrealists, especially Man Ray and wanted to study it more thoroughly.

Like so many other photographers Ubac began to experiment with different techniques, namely solarization and petrification, a process of off-register sandwich printing by which an image gains dimensions which appear low relief. Breton wrote about this technique in 'Minotaure' and described it as:

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'one of the most fertile new directions for Surrealist

art'. (21)

Back in Paris and again under a new name, this time Raoul Michelet, Ubac began to publish small books of photographs and poetry. Other photographs began to appear in 'Minotaure', and were accompanied by text written by Surrealists Éluard and Breton.

In 1941 Ubac had his final photographic exhibition at the Galeries Dietrich in Brussels. After this he still consorted with the Surrealists although he did begin to distance himself still appearing in one last Surrealist exhibition 'Surréalisme'. He still wrote poetry although this also was as infrequent as his photography. In 1945 he returned to painting and drawing, mostly gouaches. In 1948 he took part in two reviews, 'Troisiéme' and 'Voir' contributing illustrations to poetry by Éluard.

In an interview Ubac referred to his photographic days with the Surrealists as:

"I became interested in Surrealism and photography
because the Surrealists emphasized the importance of the
object, stretching its poetic significance to the fullest. Through
Surrealist photography I wanted to go beyond the object by
exposing it to the most unusual treatment possible." (22)

He concludes that :

"Perhaps this is too much to ask of an apparatus
conceived only to record." (23)

From 1951 Ubac began to exhibit his work at the Galerie Maeght, Paris and in 1954 won the Fourth Prize at the Carnegie Institute Exhibition. In later years Ubac began to concentrate on two themes for his work, one was the human body the other was landscapes, as if returning to his childhood back in the forestry of Malmédy.

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Chapter Four

Issues of Image Retrieval

There are many image retrieval systems now in use, many are still being developed to become more advanced. The main problem with image retrieval is that people request images by personal description, their personal interpretation of a painting or photograph. They also describe or request images on a personal level, this makes creating image retrieval systems a difficult process, as all descriptive and interpretative possibilities have to be covered when creating a system.

There are two ways of retrieving images, one on a theoretical basis the other, on a practical basis.

Theoretical basis:

When analysing an image to create an image retrieval system it is important to ascertain what the image *is* and what it *means* (1). One of the most significant example of theoretical image retrieval can be found in an article entitled *'Analyzing the Subject of a Picture: A Theoretical Approach'* by Sara Shatford (2). Shatford discusses the art historian Erwin Panofsky's theory of describing the meaning of a work of art on three levels (3). The first level is called 'pre-iconography' (4), which he describes as:

> 'primary or natural subject matter, subdivided into
> *factual* and *expressional*.'. (5)

A clearer explanation of this is on a primary basis, for example, if someone requested

an image of a flower, a bird or a horse simply as images to represent a familiar object or subject this would be classed as 'pre-iconography', a description of something were the final image does not have to be specific.

The second level of meaning is Iconography which Panofsky describes as:

'secondary or conventional matter'. (6)

This level requires a knowledge further than a understanding that the image is a flower, a bird or a horse. This level requires a factual knowledge that the flower is a Sunflower or that the bird is a Woodpecker. Other descriptions of this level are 'educated knowledge' or 'familiarity with specific themes and concepts' (7). The basic thought behind iconography is that an educated person should be able to establish what a image is *about* as well as what it is *of* In other words be able to analyse an image, to establish that it is a photograph *of* a specific person but it is *about* a mythical person (8).

The final level of meaning Panofsky has named Iconology, his interpretation of this is:

'intrinsic meaning of content'. (9)

Iconology is the interpretative level. In order to be able to reach this final level, a clear understanding of the first two levels must be achieved. The reason for this is because before interpreting an image you must be able to describe and analyse it. A clearer explanation of this would be to have a knowledge of the artistic work and have a understanding if it's style, culture and era. Iconological interpretation is based on accurate pre-iconographic description and correct iconographical analysis of a picture

(10).

Shatford then goes on to describe the faceted classification system which would be the next stage in subject analysis, it is designed to further the understanding of subject analysis. The faceted classification is based on Who? What? When? and Where? (11). The idea is that every image can be broken down in order to fit into these categories. The following is an example of the faceted classification taken from the Shatford article:

Who?   animate and inanimate; concrete objects and beings.

What?   what are the objects and being doing? actions, events, emotions.

Where?   locale, site place; geographic, cosmographic, architectural.

When?   time, linear or cyclical.

An example of an image fitting into this faceted classification system is as follows:

FACET	ICONOGRAPHY	PRE-INCONOGRAPHY	ICONOLOGY
Who?	Woman		
What?	Woman	Mannequin	Trapped
Where?	Bird cage	Studio	
When?	1937		

Although not the best example to use to show this system, by using this photograph many of the problems within this system arise. The most apparent problems are that there is no clear or appropriate place to include the title of the photograph, nor is there a place to include a description or interpretation of the photograph. Finally there is no way of referencing the photographer as no faceted classification has been added for this particular category.

This classification system could cause several problems for a retrieval system on Surrealist photography as so many of the images are quite vague on geographical location and the season/time of day. It is also worth adding that any image retrieved through this system will be incidental as the classifications used tend to be based solely on subject or meanings (12).

Practical basis:

The practical basis for image retrieval is based on retrieving images by content, in

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other words retrieving digitised images which match the query image (13). There are two main ways of retrieving images in this way. The first is by physically drawing the image you require and allowing the system to select images which correspond to the drawing. The second is by selecting the image through a symbol on the computer screen which matches the image required.

The most significant problems with the first option are:

A)   Not everyone can draw.

B)   By simply drawing, for example, a chair, there is the added problem that there cannot be precise periods requested(1950's etc.).

The most significant problems with the second option are:

A)   That the image required does not appear in any of the symbols because it is too obscure.

B)   A very large database would be needed to include all periods, colours and styles.

Symbols are an extremely good source for over coming barriers either because of language or literacy. It is impossible to verbally describe to a database the image you require and so to have symbols or images on screen related to the subject you require, makes the process of retrieving images much simpler.

It is important when designing a database using symbols that certain strategies are

followed:

A)   That the symbol will be related to a specific

idea, object, activity etc.

B)   That the database does not contain identical or

similar symbols.

C)   That it is possible to retrieve images that share

graphic characteristics but have totally different

meanings. (14)

As already stated it is important when creating a database for image retrieval to address the issue of matching techniques (15). A very advanced database would be needed to find an image that has been drawn freehand by a person, as unlike the human mind and eye, which can see similarities in images or subjects almost immediately, it would be difficult to programme a computer to find and image that is 'almost' like the one requested.

One database which is being developed to over come the problems of finding similar images is IBM's QBIC (Query By Image Content) (16). This system uses a feature approach to define similarity, this allows users to either manually or semi-automatically identify objects and areas (17). If the user brings up a thumbnail image and outlines the specific part they require, the database will automatically shrink-wrap around this and bring up only the part required, as a whole. This system also allows searches for shape, colour and texture.

This system would work well when creating a database for Surrealist photography.

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By producing thumbnails of images which already appear within the database, for example, there are many Surrealist photographs of human forms, thumbnails of the variations in which hands or eyes appear could be reproduced. All the user would then have to do would be to select the particular hands or eyes they felt were more relevant to the image they required. Each of the Surrealist photographs would been dissected, so that instead of the whole image appearing all the time, specific parts could be chosen at random.

Another interesting way to devise an image retrieval system would be to incorporate the theoretical and the practical basis' together. This way the opportunity to select a keyword search and an image search could be used. Using the same example of hands or eyes, the word 'hands' could be typed, as already discussed, images would them appear in the form of thumbnails and the most relevant selected. This would increase the chances of users retrieving images almost exactly as requested and would cut down on images not being retrieved because the original request was done by free-hand and the database did not understand the request.

Examples of working image retrieval systems:

The Micro Gallery at the National Gallery, London:

In July 1991 the Micro Gallery at The National Gallery, London was opened in the new Sainsbury Wing. The intention of the Micro Gallery was to give visitors more information on paintings and artists than the existing system allowed, where small amounts of information are displayed by labels on the walls next to each painting.

The Micro Gallery has twelve 19" touch-sensitive screens built in to the wall (18),

and has seating at each unit for between one and three people. Each unit is an electronic catalogue to the Gallery's collection and all units have five major search points. The first search point is a Painting Catalogue, the second Artists Biographies, the third an Historical Atlas of Western European art, the fourth is entitled Types Index and the final search point is for General Reference (19). The following explains in more detail what each search point does:

Painting Catalogue:

All of the paintings housed at The National Gallery have been reproduced on the electronic pages of the Micro Gallery, through various methods of scanning. Each image is of very high quality. Some paintings besides having visuals also have one page of text, others may have as many as eight pages. There are also pages to discuss individual artists and even explanations of certain art terms, most of these are done through words or phrases being marked with asterisks, (by touching on these word a short definition or description will appear in a panel 'floating' over the page) (20).

Artists Biographies:

Each artists has at least a one page biography, discussing where they where born, their style of painting etc. The biography acts as a type of index to the artists work. This is possible through thumbnail images being displayed along with the artists biography.

Historical Atlas of Western European Art:
This section allows the user to pick a particular period in time. The system will then

give a map of the world and show artists who were working in particular places during this time. Through using this method the user can access thumbnail paintings as well as places through illustrated maps.

Types Index:

Types Index arranges all the paintings in the collection by picture type. This section also contains discussions on subjects and formats and allows the user to see the ways various painting techniques etc. were developed.

General Reference:

This section gives a broad spectrum to paintings, techniques, individual artists and any other general areas of art. It is not meant to be a comprehensive area, it is purely to be used for less specific searches.

The Micro Gallery has over 4,500 pages, more than 300,000 words of text, some 12,000 high quality illustrations and a number of animation's (21). One of the intentions of the Micro Gallery was to enable people with no experience of computers the benefit of using technology. It was also felt important that each screen should appear very quickly to encourage each users to browse more adventurously (each screen takes about one second to appear). Touch-sensitive screens were used to help people who have a fear of technology, there is no need for a 'mouse' or to make any commands of the computer other than what is visible on screen. To enter the Micro Gallery simply touch the buttons which appear on screen, the database with then guide you through a search. An example of a search on the Micro gallery appeared in

the journal *'Program 27 (4) 1993'* as follows:

If a user wanted to look at painting painted in Italy during the 19th century they would enter the Historical Atlas where those paintings are appropriately grouped. On entering the atlas the user is presented with a map of Europe and a series of chronological and geographical choices. If a button marked with the century 1900 is touched, then the map will be marked with the artistic centres where paintings in the Gallery were executed during this period. The information given is always tied to the character of the collection. If the user then chooses a region, for instance Florence, a map of the city will appear accompanied by a brief historical and art historical comment. (22)

The Micro Gallery project has been a total success with hundreds of visitor every day. The only complaint the Gallery has received is the fact there are no colour printing facilities. The Micro Gallery does have black and white printing facilities available to the public for a small fee and the reason they do not have colour is because of cost. However through the project the Gallery's archive now has 24-bit scans of each painting and it is hoped that eventually prints from this database will be achieved on demand.

The University of California:

In January 1992 The University of California in conjunction with IBM began work on an image retrieval system, for their department of Art and Art History. Using IBM's QBIC software they created a system that would retrieve images on a basis of what something looked like, as opposed to textual access (23). The programme was designed to enable the University to store their slide collection, which consisted of

over 200,000 slides, on a database which could be accessed by staff and especially students, who up to that time did not have access to the slide collection. It was also anticipated that such a programme would minimise the wear and tear on slides.

The programme allowed queries to be done in two ways, the first by an 'object query' (24), the second by an 'image query' (25). The object queries were designed to retrieve images that contained specific objects such as a yellow square or a red rose. The image queries were used for less specific subjects. Included in the programme was a basic drawing kit which consisted of a rectangle, ellipse, polygon, paint brush and a snake tool, which outlined the selected images (26).

The programme worked on the principle of selecting an image from the database, outlining it, and requesting for a search for other images in the same form. For example, if there was a picture of a dog, this could be outlined and a request to find more images of dogs could be made. Not only were forms included in the image retrieval system but also textures, patterns and colours. There was also the inclusion of artists name, title of art work and the date the art work was created.

Problems which have been noted with this programme are that, unlike the human eye, which can identify the shape of a dog from the front, back, side etc., the database can only identify the shape of a dog that has been queried and thus may leave other dog images out. Also with the variations between works in paint, sculpture, photography and textiles being so wide the same subject can appear very differently, again making it difficult for the database to pick out images.

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Chapter Five

Subject Analysis

In order to complete this chapter and before creating the image retrieval system, it is important to establish how each photograph has been broken down through subject analysis. In other words how the details in each photograph have been selected to become part of the retrieval system. This is a very important yet difficult task, it is not simply a case of writing down a few descriptive words, each photograph has to be examined in detail and decisions on how much depth to give descriptions in, have to be made.

In the first instance the photographs have to be described. In describing a photograph everything that is visible to the eye is written down, such as colours used, how many people appear in it and any other objects. In this case the subject analysis will begin by establishing the photographers name, the title of the photograph and the year it was produced. The second stage will be to decide whether the photograph is primarily of a human figure or not. The third stage will be a category to identify all the abstract objects which appear in the photographs. As no colour appears in any of the photographs used this will not be an issue covered. The four stage will be camera and printing techniques.

For the last stage of the subject analysis the photographs have to be interpreted, in detail and decisions have to be made as to what the photograph signifies, be it a photograph of a saddened child, signifying sorrow, or perhaps a photograph of a muscular male or female, signifying strength. This part of subject analysis can prove to be quite challenging as some photographs or expressions can be interpreted in different ways, it is important to be as accurate as possible and to give precise definitions.

To give a clearer understanding of subject analysis six photographs have been chosen as examples, they have been chosen to show the variations which arise when subject analysing. The first two photographs are considered reasonably easy photographs to analyse, the second two slightly more difficult and the final two are photographs of Hans Bellmer's 'Doll' to show the significance of something which is a human figure and yet not human.

Photograph One (Figure 1)

The first photograph is by Man Ray, the title is *'Tomorrow' (Demain)* and it was taken in 1924. The image is clearly a female, nude from head to toe, facing straight on to camera. A camera technique has been used as the woman appears more than once, this technique is double exposure. She also has her arms folded above her head and is turning her head slightly to one side in both exposures, firstly to the left and then to the right. The effect of double exposure has given her two sets of legs, from the knee down and two sets of breasts. The effect had also allowed her waist to appear extremely tiny. If we begin to interpret the photograph, there is a look of innocence or perhaps distraction on the woman's face, yet it is also a very provocative pose of a naked woman.

Subject description:

Man Ray - *'Tomorrow' (Demain)* - 1924 - Human Figures - Nudes - Female - Full Figures - Hair - Shadows - Light - Camera - Double Exposure.

Figure 1

Subject interpretation:

Distraction - Provocative.

Photograph Two (Figure 2)

The second photograph is by Maurice Tabard, it is entitled *'Hand and Woman' (Main et Femme)* and it was produced in 1929. This is slightly more difficult to analyse as there are two figures. The foremost figure is a woman, although the image is from head to knee she is very delicately holding a mirror in her left-hand which covers her face, her body is slightly off set to camera. She is wearing a white one piece underwear set. In the background is the figure of a man, his left hand is very prominently reaching out towards the woman and his jumper is stretched over his head, so that only a vague image of his face can be seen. He also has a white piece of material or a white handkerchief pushed down the waistline of his trousers.

Subject description:

Maurice Tabard - *'Hand and Woman' (Main et femme)* - 1929 - Human Figures - Male - Female - Torsos - Arms - Hands - Legs - Clothes - Mirror.

Subject interpretation:

Threatening - Disturbing - Vulnerability.

Figure 2

Photograph Three (Figure 3)

This is another Maurice Tabard photograph, this photograph has no title but was taken in 1929. This is a very complicated photograph to analyse as there is so much happening in it, with the human figure and the non human figure. The first visible image is a woman's face which on close inspection is the result of double exposure, this time however a result of a printing technique. The image has obviously been double exposed as there is a shadow to the left of the woman's face when in fact there would be no shadow as the light coming through the window would cancel all shadows out. The next two prominent images are two chairs. The first chair in the left hand corner could possible be the result of projection, the fact that the woman's hair is still visible through the frame rules out double exposure and the image of the chair looks to be the only real photograph. It could be possible then to assume that the second chair was photographed first, then the image of the woman laid on top and finally the other chair was projected on top and the whole thing was re-photographed. Another important shadow is above the woman's face, this shadow is in fact the profile of a man's face looking down onto the woman. This could be interpreted as vulnerability on the part of the woman and dominance on the part of the man, it also result in quite a threatening image.

Subject description:

Maurice Tabard - 1929 - Human Figures- - Male - Female - Heads - Eyes - Faces - Lips - Noses - Chairs - Shadows - Curtains - Printing - Double Exposure - Camera - Projection.

Figure 3

Subject interpretation:

Vulnerability - Dominance - Threatening - Disturbing - Innocence

Photograph Four (Figure 4)

Another of Maurice Tabard photograph's, again untitled and again shot in 1929. The main image in this photograph is a woman, full body nude with her left arm raised up as if her hand were supporting her head, however this could be interpreted as a seductive pose. Her right arm is being supported by a chair to the right of her and her body is at a slight angle to the camera. Her face is not totally clear, although it appears she is gazing out of the shot as if distracted, she also has a look of sadness in her eyes. The reason her face is slightly unclear is because of a large bright area of light covering the centre of the photograph. It is not clear how this flash of light has appeared but this does appear to be another example of the printing technique, double exposure, although it could be possible that projection has again been used .In this white area are a pair of very large hands, the left one covering almost all of the woman's body.

Subject description:

Maurice Tabard - 1929 - Human Figures - Nudes - Female - Hands - Legs - Arms - Feet - Breasts - Genitalia - Light - Shadows - Chairs - Printing - Double Exposure - Camera - Projection.

Figure 4

Subject interpretation:

Distraction - Innocence - Seductive - Loneliness.

Photograph Five (Figure 5)

The last two images are by Hans Bellmer, from his series *'Doll' (La Poupée)*. The first photograph is quite an unusual image, the reason for this being that it is a negative printed as a photograph. The result of such a technique is that all the contrasts of black and white appear the opposite way round from if it was printed in a positive form. The main image is the head and torso of the Doll, she is naked and has no hair. Running up along the side of her body is a rose and her head is tilted in such away she appears to be smelling it. What is interesting about this image is that although it is a photograph of a Doll, and so not human, she is in fact in human form, which forces the viewer to make the distinction between a human or a doll in human form. The background of this image is lace. The lace mixed with the rose and the pose of the Doll give a feeling of romance as if she has just been visited by a lover or is in fact waiting his arrival.

Subject description:

Hans Bellmer - *'Doll' (La Poupée)* - 1934 - Human Figures - Dolls - Nudes - Torsos - Heads - Faces - Lips - Noses - Breasts - Lace - Flowers - Printing - Negative Printing.

Figure 5

Subject interpretation:

Seductive - Beauty - Innocence - Vulnerability - Loneliness.

Photograph Six (Figure 6)

The final photograph is another Hans Bellmer *'Doll' (La Poupée).* This Doll was created in 1935. What is interesting about this photograph is the total obscurity of the image, the only visible sign that it is a human figure is the left arm, which lays on the stair, holding a ball. The rest of the Doll is very distorted, and slightly disturbing. The object closest to the arm appears to be a bottom and then there is a kind of stomach or torso. What is most odd about this particular Doll is the object which appears to the top of the stairs, there is no clear way of deciding whether this is an arm, or a leg because of this the word limb will be used.

Subject description:

Hans Bellmer - *'Doll' (La Poupée)* - 1935 - Human Figures - Dolls - Nudes - Torsos - Limbs - Arms - Hands - Buttocks - Stairs - Balls - String.

Subject interpretation:

Disturbing

Figure 6

Chapter Six

The Problems of Subject Analysis

The major challenge which occurred when analysing the chosen Surrealist photographs, was the fact they were *Surreal*. The whole concept of each image is questionable, deciding whether an image is one thing or another can often prove very difficult. To complete this chapter it is important to state the problems that occur through subject analysis and how best to overcome them.

The Human Figure:

The most obvious and frequent image which appears within Surrealist photography is the human figure. The majority of the Surrealists used this as a basis but would often, either through camera or printing techniques, distort it in some way. In Figure 2 there is a distinct and strong image of a woman in the foreground , although she has shielded her face by the mirror she is holding in her left-hand, the way she is holding herself is very stable and forthright. That is until your eye meets the character in the background. This image, presumably of a man, (the posture and the size of the outstretched hand give the sense of a man), this image suddenly gives the photograph a whole new meaning, which results in the woman no longer being stable but in fact being quite vulnerable and threatened. As with so many photographs there will always be more than one way to interpret them, it is important to keep an open mind and try to be flexible.

Double Exposure:

The second photograph which proved difficult to analyse was Figure 1, this photograph of a full-bodied naked woman also used double exposure. Double exposure can make an image very difficult to analyse, the first reason being the question why did the photographer use this technique? did they feel the image would represent something significant, or was it simply to make the photograph more interesting to look at?

Figure 1 is the only photograph to use double exposure in this particular way, the same woman photographed in two different poses, on the same piece of film. There is very little that can be taken from the woman's expression, the only obvious aspect of this photograph is that it was taken in a studio, this is apparent because of the shadows which appear behind the woman, these are caused by studio lights. The most astonishing result from this technique is the way it has distorted the woman's waist and breasts to give the impression of a very unnatural and small waist and four breasts.

The difficulty, therefore, with this photograph is trying to establish what should be included, there should be an entry under 'camera technique' for double exposure, perhaps even an entry under 'distortion', but what about the woman? what, if anything, does she represent? The fact that she is naked some would say is pornographic, but the way in which she is holding herself does not relate to pornography, although her pubic area is visible there is nothing graphic about her pose which could be interpreted as pornographic. The fact still remains however that she is naked and standing with her arms raised not concealing any of her nakedness, due to this the photograph has a seductive feel, even though she had a look of distraction on her face she still wants the viewer to look at her.

Dolls:

The next photographs to cause some uncertainty in interpretation were the photographs of Hans Bellmer's 'Doll's'. The most obvious problem was that as each doll appeared as a human figure without being human, how should they be classified? As each image was obviously a doll but a doll with a distinctively feminine appeal, it was important to still class the dolls as nudes, but to then emphasise that they were, in fact, photographs of dolls not humans.

The most interesting photograph to class from the collection of dolls was Figure 5, this photograph, which is in fact a negative print, has a tremendous amount of emotion. The way the Doll's head and body have been angled give a distinct feeling of sexual tension, the rose which has been carefully placed just at her lips simply adds to this. These descriptions of feelings and emotions are interpretations, each word which could interpret this photograph needs to be included. This is where image analysis can become confusing, what if someone else was to look at the same photograph (Figure 5) and analyse it totally differently, if, for example, instead of seeing seduction they saw sadness, or that they felt the photograph held no sexual tension, only longing and loneliness. For this reason it is essential to include all possibilities when analysing images, include everything that the individual may or may not see.

Phallic or not?

When looking at Figure 7 this photograph is very surreal, what in fact is it? There is obviously land, perhaps a landscape or rubble ground, but what are the images which appear in it? Are they meant to have some phallic significance or are they something

Figure 7

much less sexual? They could be interpreted as mushrooms, fungi, the furthest image has a definite stem and domed cap much the same as a mushroom, but the image in the foreground has no definite likeness to anything, other than a male penis, is this therefore the right interpretation? As no other specific likeness can be made and the second image merely resembles a mushroom like image, it is not in fact a mushroom, the interpretation of phallic symbols seems the only answer to this question. It would not be a correct interpretation to give mushroom as an interpretative level when the image is not definite, it merely resembles something like a mushroom, but the same argument could be said with regard to describing them as phallic, they simply resemble the male organ. Therefore there is no steadfast answer to this problem, by giving them the class of phallic symbol it is left up to the user of the retrieval system to decide whether they feel they are phallic symbols or something much more innocent.

Rayograms:

Figure 8 is a rayogram by the photographer Man Ray, again as with other photographs this images poses problems. Rayograms are achieved when objects are placed directly onto photographic paper and exposed to light, the image which appears is an end result of what was placed onto the paper initially. With this particular photograph there are two images to be analysed. The first image on the right-hand side appears to be a man with a stick, it is not known what objects were used to create this image but there is no dispute about what it appears to be. There are two legs, a body, an outstretched arm, a head and the nose is quite prominent. For the image on the left-hand side things are not so straight forward. This particular image could be a number of things, including a mask or the bridge of a violin. The two options of a mask or a violin both seem acceptable, on first glance the image looks

Figure 8

like some sort of African tribal mask, but if you look very closely you should also be able to distinguish the bridge of a violin. As there is no way of knowing what the image is meant to be and both these options are perfectly valid explanations both will be included in the classes, again leaving the final decision up to the user of the retrieval system.

Shadows and light:

The use of shadows and light is quite prominent in the Surrealist's work, probably due to the intriguing effects both have on the final photograph. In Figure's 3 and 4 the use of both techniques are quite visible. Firstly, both photographs use a large amount of shadow. As previously explained, the result of the shadow cast onto the light from the window in Figure 3 is most unusual, it is impossible to achieve a natural shadow behind a person when this is the direction the light source comes from, this is why this particular technique is so relevant and needs to be included in a class.

Again, with reference to Figure 3 the shadow over the woman's head gives the photograph quite an eerie feel. When first looking at the photograph it is quite easy to overlook the profiled shadow of a man's face, but once it has been recognised it adds a whole new meaning to the photograph. Both photographs, as with so many of the Surrealist photographs can be interpreted in several ways, again as with the others it is important to list all the probable interpretative possibilities.

The Retrieval System

Classes:

After each photograph had been analysed the content found in each image was put into a class, the classes being the major pointers leading to the final image retrieval database. All the descriptions which appear in the classes will appear in the database helping the user locate the image they require, this will become clearer as the classes are explained.

Class One:

The Human Figure

Because the human figure is the most significant image in the selection of photographs chosen for this project it will be class one. If necessary, further sub-divisions are given for aspects of this main class and the options within it.

Human Figures

- Dolls

- Mannequins

- Nudes

These options will help the database establish and process the user's request so as to omit all the other photographs stored for that particular search.

The next option is gender:.

Gender

-Female

-Male

There is a much larger ratio of females within the Surrealists work, but if the search is specifically for a male this option rules out the chance of any time being wasted,by the user trying to search for a photograph of a male nude which may not appear in the database.

The next options are representations of the human figure:

Full Figures

-Heads

-Eyes

-Faces

-Lips·

-Noses

-Torsos

Limbs

-Arms

-Feet

-Hands

-Legs

Another option is under the title genitalia, as this aspect of the human figure occurs frequently in images:

Genitalia

-Breasts

-Buttocks

-Genitalia

The final option included in this class is view. This is a very important option to someone who is after a specific image, for example, a user could request a photograph of a nude female but requires a photograph looking at the woman as she stands turning left away from the camera. The option will look like this:

View

-Front

-Rear

-Side

-Left

-Right

Class Two:

Inanimate Objects

This class is very awkward to approach, ideally every single detail that appears in each photograph should be included. The reason for this is to broaden the boundaries of the retrieval system, to make sure it does not become a retrieval system purely for

nudes and dolls. However, it is not totally straightforward when trying to include every inanimate object. It is often quite difficult to see what relevance a particular object would hold in a retrieval system and with these particular photographs it is often quite difficult to identify what the object actually is.

Another problem with identifying these inanimate objects is the lack of knowledge of the iconography of the time. Although in Chapter Three there is the discussion from Panofsky explaining that iconography can be achieved when there is educated knowledge, he also states that familiarity with the specific theme and concept of the image would help when analysing an image. With this in mind it is worth mentioning that because the majority of these photographs were taken over sixty years ago it is very difficult to appreciate the mood of the era, what was once probably a very common object could now be something rarely seen.

Finally, there is no apparent flow in any of the images which have been identified, therefore it is very difficult to group objects together for specific classes. Some have been joined together to make smaller classes, but most are included as a simple straight forward alphabetical list. This list will be available for the user to browse, to enable them to establish what images are available and whether the image they require is available on the database.

Inanimate Objects
-Clothes
-Gloves
-Shirts

-Contrasts

    -Light

    -Shadows

-Fabrics

    -Curtains

    -Lace

-Nature

    -Flowers

    -Landscapes

    -Rubble ground

-Hair

    -Hair

    -Wigs

-Interiors

    -Chairs

    -Furniture

    -Stairs

    -Windows

Others

- Balls

- Cages

- Coins

- Eggs

- Knives

- Masks

- Mirrors

- Newspapers

- Phallic Objects

- Sticks

- Strings

- Violins

Class Three:

Techniques

The third class is quite straightforward after the troubles of class two. This is an important class in respect of the user selecting a camera or printing technique. It is very important that all the photographs which have some sort of technique in their composition are analysed correctly and the correct technical name given. It is worth mentioning here that all the photographs which have some sort of technical involvement are all interiors, this is due to the necessity of stability in lighting, time consuming camera techniques and complicated technical effects, all of these aspects mean it is easier for a photographer to be based in a studio.

Techniques

-Camera

    -Double Exposure

    -Projection

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-Printing

-Double Exposure

-Negative Printing

The second option available in this class is the technical effect, although this could probably have be included under the title of techniques, a separate section has been created to reduce the amount of options available to the user and thus reducing confusion. Another reason for a separate section is because the following effects were more apparent in Surrealism, and for a period, slightly exclusive to the Surrealists. The above techniques appear in many schools of photography:

Technical Effects

-Distortion

-Juxtaposition

-Obscured

-Rayogram

-Solarization

Super-imposed

Class Four:

Abstract Concept

The interpretation process for the Surrealist photographs selected again proved rather difficult. As with any image it is important to interpret an image in the best possible way, not on a subjective level, but on a level of understanding that will be comprehensible to users. It is very difficult to interpret images without having some sort of personal input but it is vital that the final interpretative level is of a standard that users will relate to:

Abstract Concepts

-Sex

    -Phallic Symbols

    -Pornographic

    -Provocative

    -Seductive

-Beauty

-Distraction

-Disturbing

-Dominance

-Humorous

-Innocence

-Loneliness

-Threatening

-Vulnerability

The Retrieval System

The following is the list of catogories which create the retrieval system. All appear in the previous chapter:

Human Figure	**Gender**
Dolls	Female
Mannequins	Male
Nudes	

Full Figure	**Limbs**
Heads	Arms
Eyes	Feet
Faces	Hands
Lips	Legs
Noses	
Torsos	

Genitalia	**View**
Breasts	Front
Buttocks	Rear
Genitalia	Side
	Left
	Right

Inanimate Objects	Techniques
Clothes	Camera
Gloves	Double Exposure
Shirts	Projection
Contrasts	Printing
Light	Double Exposure
Shadows	Negative Printing
Fabrics	
Curtains	
Lace	**Technical Effects**
Nature	Distortion
Flowers	Juxtaposition
Landscapes	Obscured
Rubble ground	Rayogram
Hair	Solarization
Wigs	Super-imposed
Interiors	
Chairs	
Furniture	**Absctract Concepts**
Stairs	Sex
Windows	Phallic Symbols
Balls	Pornographic
Cages	Provocative
Coins	Seductive
Eggs	Beauty
Knives	Distraction
Masks	Disturbing
Mirrors	Dominance

Newspapers	Humorous
Phallic Objects	Innocence
Sticks	Loneliness
Strings	Threatening
Violins	Vulnerability

Chapter Eight

Implementation

To construct the database twelve images from the initial thirty five were selected, for the prototype. The selection of the twelve images was important because there had to be a certain amount of cross sectioning as well as individuality, so that once a search was underway, there would be enough images included to give the user variations to complete several searches and give a clear outline of the capabilities of such a retrieval system.

The images were scanned onto a disc using an Epson scanner and were then transferred onto a FileMaker Pro database. This process in itself was very time consuming as the images were scanned in on high resolution to make sure they were of the highest quality possible. By using high resolution so much of the disc memory was used, each image had to be individually scanned, transferred and then deleted from the disc to allow the next image to be copied.

Once all the images had been transferred on to FileMaker Pro, the classification/retrieval system had to be added. Given along with each photograph was the photographer's name, the title of the photograph and the date it was produced. After this had been completed all the classes for retrieving that particular photograph had be added, this was done on a separate record, one that the user will not see in the final database. All the classes were included in the same way as shown in Chapter Seven, options for Human Figures, Inanimate Objects, Techniques and Abstract Concepts were incorporated, as well as the wider classes such as View, Limbs and Others (for examples of this see Figures 9-11).

Once all the ground work for this had been completed the classifications of the

Untitled

	Full figure		
☐ Human figures		☐ Full figures	☐ Lips
☐ Dolls	☐ Male	☐ Heads	☐ Noses
☐ Mannequins	☐ Female	☐ Eyes	☐ Torsos
☐ Nudes		☐ Faces	

☐ Breasts   ☐ Buttocks   ☐ Genitalia

		View	
☐ Limbs	☐ Hands	☐ Front	☐ Left
☐ Arms	☐ Legs	☐ Rear	☐ Right
☐ Feet		☐ Side	

clothes ☐ Gloves ☐ Jumpers ☐ Shirts ☐ Underwear

Hair ☐ Hair ☐ Wigs

Interiors ☐ Chairs ☐ Stairs ☐ Furniture ☐ Windows

Contrasts ☐ Light ☐ Shadows

Fabrics ☐ Curtains ☐ Lace

Nature ☒ Flowers ☐ Landscapes ☐ Rubble ground

Others
☐ Balls ☐ Masks ☐ Strings
☐ Cages ☐ Mirrors ☐ Tears
☐ Coins ☐ Newspapers ☐ Violins
☐ Eggs ☐ Phallic Objects
☐ Knives ☐ Sticks

Techniques ☐ Camera ☐ Double exposure ☐ Projection

Technical effects ☐ Distortion ☐ Rayogram ☐ Juxtaposition ☒ Solarization ☐ Obscured ☐ Super-imposed

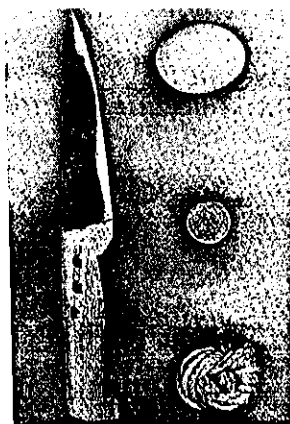**Techniques 2** ☒ Printing ☐ Double exposure ☐ Negative printing

Abstract concepts

☐ Sex ☐ Provocative
☐ Phallic symbols ☐ Seductive
☐ Pornographic

Abstract concepts 2

☒ Beauty ☐ Innocence
☐ Distraction ☐ Loneliness
☐ Disturbing ☐ Threatening
☐ Dominance ☐ Vulnerability
☐ Humorous

An example of the record used to classify each Surrealist photograph included in the retrieval system.

Figure 9

| 5 | Ray, Man | 1925 |

Untitled

☒ Human figures   **Full figure** ☐ Full figures   ☐ Lips
☐ Dolls   ☒ Male   ☐ Heads   ☐ Noses
☐ Mannequins   ☐ Female   ☐ Eyes   ☐ Torsos
☐ Nudes   ☐ Faces

☐ Breasts   ☐ Buttocks   ☐ Genitalia

☐ Limbs   ☐ Hands   **View** ☐ Front   ☐ Left
☐ Arms   ☐ Legs   ☐ Rear   ☒ Right
☐ Feet   ☒ Side

clothes ☐ Gloves   ☐ Jumpers   **Hair** ☐ Hair   ☐ Wigs
        ☐ Shirts   ☐ Underwear

Interiors ☐ Chairs   ☐ Stairs

Contrasts ☒ Light   ☐ Shadows   ☐ Furniture   ☐ Windows

Fabrics ☐ Curtains   ☐ Lace   **Others** ☐ Balls   ☒ Masks   ☐ Strings
                                     ☐ Cages   ☐ Mirrors   ☐ Tears

Nature ☐ Flowers   ☐ Coins   ☐ Newspapers   ☒ Violins
          ☐ Landscapes   ☐ Eggs   ☐ Phallic Objects
          ☐ Rubble ground   ☐ Knives   ☒ Sticks

Techniques ☐ Camera   **Technical effects** ☐ Distortion   ☒ Rayogram
           ☐ Double exposure   ☐ Juxtaposition   ☐ Solarization
           ☐ Projection   ☐ Obscured   ☐ Super-imposed

Techniques 2 ☒ Printing
           ☐ Double exposure
           ☐ Negative printing

Abstract concepts

☐ Sex   ☐ Provocative
☐ Phallic symbols   ☐ Seductive
☐ Pornographic

Abstract concepts 2

☐ Beauty   ☐ Innocence
☐ Distraction   ☐ Loneliness
☐ Disturbing   ☐ Threatening
☐ Dominance   ☐ Vulnerability
☒ Humorous

An example of the record used to classify each Surrealist photograph included in the retrieval system.

Figure 10

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11 Ubac, Raoul 1941

Alphabetical Order/ Nocturnal Fields (L'order alphabétique/La Campagne nocturne)

☐ Human figures **Full figure** ☐ Full figures ☐ Lips
☐ Dolls ☐ Male ☐ Heads ☐ Noses
☐ Mannequins ☐ Female ☐ Eyes ☐ Torsos
☐ Nudes   ☐ Faces

☐ Breasts ☐ Buttocks ☐ Genitalia

☐ Limbs ☐ Hands **View** ☐ Front ☐ Left
☐ Arms ☐ Legs ☐ Rear ☐ Right
☐ Feet ☐ Side

clothes ☐ Gloves ☐ Jumpers **Hair** ☐ Hair ☐ Wigs
☐ Shirts ☐ Underwear

Interiors ☐ Chairs ☐ Stairs

Contrasts ☐ Light ☐ Shadows ☐ Furniture ☐ Windows

Fabrics ☐ Curtains ☐ Lace **Others** ☐ Balls ☐ Masks ☒ Strings
☐ Cages ☐ Mirrors ☐ Tears

Nature ☐ Flowers ☒ Coins ☐ Newspapers ☐ Violins
☐ Landscapes ☒ Eggs ☐ Phallic Objects
☐ Rubble ground ☒ Knives ☐ Sticks

Techniques ☐ Camera **Technical effects** ☐ Distortion ☐ Rayogram
☐ Double exposure ☐ Juxtaposition ☒ Solarization
☐ Projection ☐ Obscured ☐ Super-imposed

Techniques 2 ☒ Printing
☐ Double exposure
☐ Negative printing

Abstract concepts

☐ Sex ☐ Provocative
☐ Phallic symbols ☐ Seductive
☐ Pornographic

Abstract concepts 2

☐ Beauty ☐ Innocence
☐ Distraction ☐ Loneliness
☐ Disturbing ☐ Threatening
☐ Dominance ☐ Vulnerability
☐ Humorous

An example of the record used to classify each Surrealist photograph included in the retrieval system.

Figure 11

photographs were included in the record. Each photograph's record has all the options for classification, Human Figure, Female, Hair, etc. All the photographs had to be classified individually as they had been initially, for example, if the photograph is of a female nude facing the right-hand side the options selected would be:

Human Figure

Female

Nude

Side

Right

Problems with implementation:

It is only by classifying images on screen that problems or potential problems occur. For example, initially a rule of, if the photograph is of a Human Figure no other bodily part will be classified, was going to be standard procedure. Once implemented into the system this was not as clear as first thought. The major problem being that the database would not identify Full Figure as well as bodily parts, such as Feet and Hands, unless they were also identified as important retrieval aspects, because of this it was felt that that particular rule was not as significant as first thought and should be reconsidered.

Limbs:

The problem with this particular class was the fact that the title 'Limbs' should automatically include such things as Arms and Legs. This, however, is not always the

case, especially when related to Figure 6. Hans Bellmer's Doll, the Doll has a limb which can be identified as an arm, but it also has another limb which cannot conclusively be identified as anything specific, other than a limb, for this reason the option of selecting 'Limbs' will stay as a class in it's own right, as well as having the options for arms and legs.

View:

This class on first glance should hold little, or no problems, this unfortunately was not the case. The classification system was constructed so the options of Front, Rear, Side, Left or Right could be chosen independently. Unfortunately, as the photographs were being classed on screen, a problem arose. The retrieval system does not state whether the image has been classed as Left or Right from the user's or the model's point of view. This is then an appropriate place to include the rule that all images will be classed from the model's point of view not that of the user. A clearer example of this is shown in Figure 4, a photograph by Maurice Tabard, this photograph is classed as Front and Right, because although the viewer can see the front of the model's body, she is turning her body slightly to left, showing more of her right-side.

Inanimate Objects:

Although this particular prototype is only very small, the class of Inanimate Objects is quite large, the major factor is that, as more images are included in to the database, this class will increase more and more. As with the other classes it is important to keep the size of the available options to a minimum, this is to discourage the user from choosing too many options at one time, which could result in a search being

86

unsuccessful. The problem with reducing this particular area is the fact that all the objects which appear in the photographs need to be included, so different searches can be made. There is no easy answer to this problem, most of the available options in this particular class have been divided into smaller classes, but this is not possible with all of them. Options of Coins, Eggs or Tears have no resemblance to one another and so the only available answer to include them under the title of 'Others'. As the database grows the only hope in rectifying this problem is that other objects with similarities will be discovered and newer classes of smaller quantities can be included.

One other possibility to overcome this problem is instead of having lists of categories for the user to select from, the user could be asked to write a descriptive passage. This way although all the Inanimate Objects will still be included in the unseen records of the database, the user does not have the option to select too many categories to browse and instead will be asked by the database to include their own descriptive levels. There are few problems with this way of selecting images, once the user has typed in their specific request, the database will then refer back to the classifications to see if a particular object appears, if it does the image can be retrieved as it would have been if the user had clicked on a specific option. The major problem with this solution is that it adds more burden on to the indexer, they would be responsible for the constant up grading of the system, which takes time and can be very monotonous.

An example of a search on this Surrealist retrieval system:

The following pages are taken from the retrieval system, the order they appear in is the way in which they appear on screen. Firstly there is a welcome screen, followed

by a screen which asks the user to select one of the following options:

Human Figure

Techniques

Inanimate Objects

Abstract Concepts

For this example the option of Human Figure was selected and a search for Female and Faces requested, the following is the result:

Database of surrealist photographs

Click here to
proceed

The welcome screen to the database.

Surrealism - a database of photographs

Subject retrieval

Find a picture by clicking on one of the following categories

Human figures	Techniques
Inanimate Objects	Abstract Concepts

The options for an image search offered in the database. For this search Human Figures has been selected.

If you prefer to find a **full human figure,** click on one of the
options in the box below

☐ Human figures
☐ Dolls
☐ Mannequins
☐ Nudes

It is possible to specify the **gender** by clicking in the box below

☐ Male
☒ Female

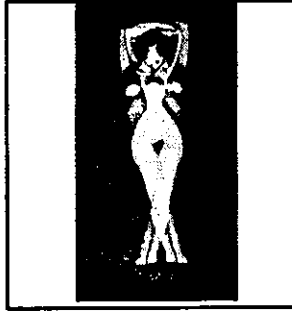If you wish, you can specify the **view** of the figure by clicking in
the box below

☐ Front ☐ Left
☐ Rear ☐ Right
☐ Side

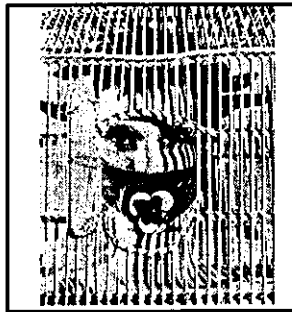Choose **a part of the body** by clicking in one of the boxes below

☐ Full figures ☐ Lips
☐ Heads ☐ Noses ☐ Limbs ☐ Hands ☐ Breasts ☐ Genitalia
☐ Eyes ☐ Torsos ☐ Arms ☐ Legs ☐ Buttocks
☒ Faces ☐ Feet

Once Human Figures has been selected the next screen will look like this. This

screen allows the user the select any options they feel relevant to their particular

search, simply by clicking in the available boxes. For this search Females and Faces

were selected.

7

10

12

Once the search has been completed, the database will look through the records of the Surrealist photographs, making matches to all the available photographs which relate to the search. Once this has been completed the images retrieved from the database will appear in the form of thumbnails. To retrieve the full records of these thumbnails simply click on the relevant one.

7

Ray, Man

Tomorrow (Demain)

1924

Next   Prev   New search

The search is now complete and the full record of the Surrealist photographs found by the database is available to the user. This record will list the photographer's name, the title of the photograph and the date it was produced. This record will also allow the user to browse through any other photograph's found in that particular search by clicking on 'Next' or 'Prev'. If the user wishes to complete a new search they would clicking on 'New Search'. For this search three photographs were found, all of which show Females and Faces.

10

Ubac, Raoul

Mannequin

1937

Next Prev New search

This is the second Surrealist photograph selected by the database which has a record that includes Females and Faces as options.

12

Tabard, Maurice

Untitled

1929

Next   Prev   New search

This is the third Surrealist photograph selected by the database which has a record

that includes Females and Faces as options.

Chapter Nine

Conclusion

This dissertation has offered an in-depth look at the subject area of Surrealism and Surrealist photographs. Combined with this was an attempt to look at appropriate retrieval systems. Two well documented and effective systems being examples of this: the Micro Gallery, London and the slide collection at the University of California, served as a starting point for designing a retrieval system for Surrealist photographs.

The retrieval system created for the photographs selected, partially worked, although there is much room for improvement in particular, Human Figures were classified easily, although Inanimate Object proved more difficult.

Possibilities for changes as the retrieval system grows: more patterns with photographs should emerge, allowing the classification of Inanimate Objects to be better categorised, reduced to smaller groups. It may also be necessary to reduce the class of Inanimate Objects further, so that instead of having this grouping:

Nature:

Flowers

Landscapes

Rubble ground

the only option available would be 'Nature'. By this the classes would be fixed at a higher level, the result being that the topics would be much more general.

Another option would be to allow the indexer to write a descriptive passage, this way

the user sets their own descriptive level, but there are the hidden problems with this option, mainly the work load of the indexer. By allowing the user to request freely, the boundaries of classification are opened and it is the job of the indexer to make sure that all descriptive possibilities are covered. This could cause a great deal of problems if the system begins to expand to any great degree.

Although the retrieval system was incorporated into a database in the form of a prototype, if at some stage the system were to be developed further, more advanced equipment would be needed. The equipment available in the Department of Information and Library Studies is not designed for this kind of project and although it will allow photographs to be scanned and stored, it is simply not quick enough or powerful enough. At present once a photograph is selected it can take a number of seconds to appear, in a working environment the photograph would need to appear much quicker to avoid the user becoming bored.

The retrieval system is now at a stage were an evaluation from experts is needed. This evaluation would help decide whether the categories of classification are sensible and if the chosen method of browsing is the most effective.

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Appendix

The following list is a continuation of the thirty five photographs selected for this image retreival system, the photographs have all been classified in the same manner as the images which appeared in the image retrieval prototype, and aim to give a further understanding of how the database will function, should it be extended. The photographs are all taken from the books *L' Amour Fou: Photography and Surrealism* and *Man Ray: The Rigour of Imagination.*

13	14
Tabard, Maurice.	Ubac, Raoul.
Untitled	Sleeping nude (Nu couché)
1929	1939
Human Figures	Nudes
Female	Female
Torsos	Full Figures
Front	Front
Right	Left
Hair	Hair
Clothes	Sheets
Shadows	Shadows
Camera	Printing
Double exposure	Solarization
Distraction	Beauty
Loneliness	

15

Bellmer, Hans.

Untitled

1946

Human Figures

Female

Nudes

Buttocks

Rear

Legs

Bicycles

Camera

Double exposure

Provocative

16

Ubac, Raoul.

Reconstruction of an Automatic

Drawing of C. Bryen

1935

Human Figures

Male

Torsos

Buttocks

Shirts

Newspapers

Gloves

Wigs

17

Ubac, Raoul.

Group III

1939

Human Figures

Female

Nudes

Masks

Printing

Solarization

Disturbing

18

Ernst, Max.

Anatomy of a Bride

1921

Human Figures

Torsos

Rubble ground

Juxtaposition

Disturbing

Distortion

19

Ray, Man.

La Marquise Cassati

1922

Human Figures

Female

Heads

Faces

Eyes

Lips

Noses

Hair

Camera

Double exposure

Printing

Negative printing

Humorous

20

Tabard, Maurice.

Untitled

1930

Human Figures

Female

Heads

Faces

Eyes

Lips

Noses

Hair

Printing

Double exposure

Negative printing

21

Ray, Man.

Dora Maar

1936

Human Figures

Female

Heads

Eyes

Faces

Lips

Noses

22

Tabard, Maurice.

Untitled

1930

Human Figures

Female

Heads

Eyes

Faces

Lips

Noses

Hands

Printing

Super-imposed

Solarization

Vunerability

Hats

Printing

Distortion

Humorous

23

Bellmer, Hans

Doll (La Poupée)

1934

Dolls

Female

Heads

Eyes

Faces

Noses

Hair

Seductive

Innocence

Vulnerability

24

Tabard, Maurice

Untitled

1929

Hands

Shadows

Light

Newspapers

Printing

Double exposure

25

Ray, Man.

Untitled

1935

Hands

Painted

26

Ray, Man.

Untitled

1930

Hands

Printing

Solarization

27

Bellmer, Hans.

Doll (La Poupée)

1936/1949

Dolls

Legs

Shoes

Trees

Rubble ground

Jugs

Disturbing

Humorous

28

Bellmer, Hans.

Doll (La Poupée)

1935

Dolls

Legs

Shoes

Hoops

Provocative

Humorous

29

Bellmer, Hans.

Doll (La Poupée)

1935

Dolls

Legs

Shoes

Kitchen units

Plates

30

Bellmer, Hans.

Doll (La Poupée)

1934

Dolls

Torsos

Faces

Legs

Printing

Negative printing

Disturbing

Provocative

Vunerability

31

Ray, Man.

Decorative binding, Man Ray's

copy of One Hundred Twenty

days of Sodom

1935

Human Figures

Buttocks

Rear

Books

Humorous

32

Ray, Man.

Les Champs Délicieux

1922

Combs

Ovals

Knives

Printing

Rayogram

33

Ray, Man.

Les Champs Délicieux

1922

Guns

Keys

Printing

Rayogram

34

Ernst, Max.

The Cormorants

1920

Birds

Flamingos

Printing

Collage

Disturbing

Busy

35

Ernst, Max.

Health through Sports

(La Santé par la sport)

1920

Human Figures

Male

Full Figures

Front

Masks

Sticks

Leaves

Organs

Printing

Juxtaposition

Provocative

Disturbing