



## **INFORMATIVE TAGGING OF IMAGES: THE IMPORTANCE OF MODALITY IN INTERPRETATION**

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### **ABSTRACT**

The issue of image retrieval has in many ways become more interesting in relation to Web 2.0 applications. User-based indexing and folksonomies have emerged as grass-roots approaches to the challenge of distributed indexing practice on the Web. At the heart of the debate about social indexing are issues relating meaning and interpretation. The term “tagging” is widely used for the assigning of terms to information objects in user-driven websites, although a cursory examination of such websites suggests that the communicative functions undertaken by taggers are not always driven by concerns about inter-subjective information. Even where the intention is to assign informative tags, there is an issue about the relationship between the modality of an information object and its subsequent interpretation in historical time.

This paper tests a model of image modality using four test images which are interpreted and tagged by a group of distance learner students at the Department of Information Studies, Aberystwyth University, the results are described and the implications are discussed. Overall this limited exercise suggests that the modality model might be of some use in categorising images within an image IR system. The exercise also suggests that leaving the annotating and tagging to users themselves could lead to the loss of information over time. Finally, the exercise suggests that developing a retrieval tool using genre and the intertextual nature of multimedia objects might lead to the construction of rich, knowledge based system.

### **KEYWORDS**

Image retrieval, tagging, user-based indexing, semiotics, interpretation



## PREFACE

In the domain of image indexing and retrieval, writers generally acknowledge that establishing the meaning of images is a complex business (e.g. Brown and Hidderley, 1995; Burke, 1999; Enser, 1992, 1995; Krause, 1988; Shatford, 1986; Shatford-Layne, 1994; Svenonius, 1994), and that the thorny question of meaning and interpretation of images can be usefully explored using the literature of art theory and visual semiotics. Enser and Burke in particular have referred to Panofsky's "levels of meaning" model as a way of thinking about the operation of meaning in images. In his essay "Iconography and Iconology" (1993 [1955]), Erwin Panofsky identified different types of meaning in art and constructed a framework of meaning which he then applied to the interpretation of Renaissance art. The three levels of meaning Panofsky identified are:

- **Primary or natural subject matter:** which are subdivided into *factual* and *expressional* subject matter. This is the pre-iconographical level of art.
- **Secondary or conventional subject matter:** identifying the male figure in the painting with the knife as St Bartholomew (p. 54). This level of subject matter depends on cultural knowledge and is called the iconographical level of art.
- **Intrinsic meaning or content:** This level of meaning depends of the viewer synthesising information gathered at the first two levels of meaning with additional information which might include information about the artist and the socio-political cultural moment of production. A work of art might be interpreted as evidence of Leonardo's personality, or "of the civilization of the Italian High Renaissance, or a peculiar religious attitude" (p. 55). It involves historical, psychological or critical approaches to art. Achieving iconological interpretation depends on having "synthetic intuition" according to Panofsky, an attribute which might be more often to be found in the talented layman than the erudite scholar. Where this level of meaning depends on "subjective and irrational" sources it is all the more important that "objective" correctives relating for example to documentary sources and history are applied.

Panofsky's model has been used by information theorists interested in mapping the specificities of meaning in images. Peter Enser (1995) related Panofsky's levels of meaning to images in general arguing that iconography refers to specifics; pre-iconography refers to generics; while iconology refers to abstract meaning, while Mary Burke constructed her own version of Panofsky's table of levels of meaning (1999). Both Burke and Enser emphasise the subjective interpretational aspects of iconological content, but it is worth remembering Panofsky's own insistence that the more such interpretation is based on individual psychology and *Weltanschauung*, the more crucial it is that objective correctives be applied.

There is a debate, moreover, not generally acknowledged in the information science discourse that employs Panofsky's model, about the phrase "natural subject matter", which is based on assumptions that everyone is able to recognise the image.



Chandler suspects that this phrase “excludes very young children and those regarded as insane, for instance”. (Chandler, 2002, p. 140) He re-interpreted primary recognition as “culturally well-adjusted” viewing, which immediately turns the primary, or the denotative, into the cultural, or the connotative. Stuart Hall argued in “Encoding/Decoding” that distinguishing between denotation and connotation is useful for analytical purposes, but in the real world, the sign always bears with it its associative meaning (2001, p. 171). For many critical theorists, the sign, even an iconic sign which seems to foreground denotation, such as the photograph, is always ideological.

## IMAGE RETRIEVAL AND WEB 2.0

The issue of image retrieval has in many ways become even more interesting in relation to Web 2.0 applications. User-based indexing and folksonomies have emerged as grass-roots approaches to the challenge of distributed indexing practice on the Web, but the theory and philosophy of user-based indexing has a longer history pre-dating the emergence of the Web as a global distributed information network. The notion of user-based indexing is to be found in Hanne Albrechtsen’s 1997 IFLA paper on democratic classification and indexing in public libraries, and Hilderley and Rafferty’s (1997; 2005) democratic indexing. There is a literature of user assigned indexing celebrating the freedom of tagging and heralding the organic development of folksonomies. Clay Shirky (2005) argues that the process of social tagging represents a philosophical shift in indexing taking us away from a binary process of categorisation to a probabilistic approach, and suggests that Flickr and del.icio.us offer ways of developing organic knowledge categorisation systems by aggregating users’ tags.

The word “aggregating” hints at the limitations of user-driven systems, echoing Merholz’s suggestion that over time folksonomies will develop informational equivalents of “desire lines” (2004), which will provide de-facto controlled vocabularies, and Hilderley and Rafferty’s suggestion that democratic indexing projects should operate using a public/private indexing split. The discourse of user-based indexing is one of democracy, organic growth, and of user emancipation, but the need for post-hoc disciplining of some sort is hinted at throughout the literature. This suggests that there is a residing doubt amongst information professionals that self-organising systems can work without some element of control and some form of “representative authority” (Wright, 2005). Perhaps all the social tagging heralds is a shift towards user warrant.

At the heart of the debate about social indexing are issues relating meaning and interpretation. The term “tagging” is widely used for the assigning of terms to information objects in user-driven websites, although a cursory examination of such websites suggests that the communicative functions undertaken by taggers are not always driven by concerns about inter-subjective information (Rafferty and Hilderley,



2007). Even where the intention is to assign informative tags, there is an issue about the relationship between the modality of an information object and its subsequent interpretation in historical time (Rafferty and Hilderley, 2005).

## IMAGES AND INTERPRETATION

Earlier work carried out by Rafferty and Hilderley (2005) led to some tentative suggestions about the decoding and interpretation process which are that:

- A *non-textual information object of high modality* decoded at the same historical moment, and within the same culture and logonomic system as the encoding moment, would be expected to evoke a limited range of denotational meanings. There may be a broader range of connotational level interpretations. Textual anchorage could help fix the intended encoded meaning, but decoding might evoke negotiated or oppositional interpretations. Interpretation within a different cultural and logonomic system would potentially evoke a broader range of connotational and denotational meanings.
- A *non-textual information object of low modality* decoded at the same historical moment and within the same cultural and logonomic system as the encoding moment will evoke a larger range of subjective interpretation than a high modality non-textual information object, and will be dependent on textual anchorage supplied by the producer to fix meaning. The range of interpretation will be dependent on interpretations possible within the logonomic systems shared by encoder/decoder. Non-textual information objects can be self-consciously constructed as abstract or ambiguous by the producer to encourage “subjectivity” and a “readerly” or “userly” response.
- A *non-textual information object of high modality* decoded at a different historical moment might depend on the viewer having external historical and cultural knowledge to interpret and decode all the elements. The ideological, connotative aspects might also be interpreted in quite a different way than that which the encoder intended, although it might be possible for the viewer to identify the “preferred” meaning while still opposing it. A viewer decoding an information object at a later historical moment might well have access to a range of interpretations, contemporary and historical.
- A *non-textual information object of low modality* decoded at a later historical moment might, ironically, lead to a narrower range of connotative interpretations, as the avant garde becomes establishment over time. Principles governing the encoding of low modality information objects, particularly those belonging to specific cultural movements, might become more generally known,





so that a greater amount of external anchoring information is known than was available at the moment of encoding.

A small-scale study has been carried out to test this model of modality and interpretation. In this study four images were chosen from publicly available web sites to represent each of the four categories identified above. Distance learning students from Aberystwyth's Department of Information Studies were invited to assign descriptive or associative tags to each image. It was explained that tags might describe specific things in the image e.g. "oak tree", or might be terms assigned to describe the whole image e.g. "1950s Italy", or might be associative rather than descriptive e.g. "peaceful", or "Christmas". The associations might be quite personal. They were asked to assign tags based on immediate interpretation rather than from research. It was stressed that there could be no right or wrong answers in this exercise. In addition students were asked to provide information about age, gender, and in the case of postgraduate students, the subject of their first degree. The study is necessarily limited by time and by response rates. It is a study of interpretation but it must be acknowledged that the context of undertaking the exercise is artificial.

## THE IMAGES

The image which was chosen to represent the first category in the model, a non-textual information object of high modality decoded at the same moment as encoding, was a photograph of Barack Obama taken from the Flickr website. The image is a photograph of a television screen which shows Obama speaking after his election. The broadcaster is NBC news. Behind Obama is the US flag. Obama is wearing a red and silver tie and there are two microphones in front of him. The image which was chosen to represent the third category in the model, a non-textual information object of high modality decoded at a later moment in time than the moment of encoding, was a black and white photograph of a group of people sitting in a charabanc parked in a country road taken from the Flickr website. The creator of the Flickr record has annotated the image with the information that the photograph includes the maternal grandfather and grandmother and her mother, naming all the family members. The photograph, which forms a postcard, was taken in Jersey in 1925.

The other two images are photographs of abstract art images, and they represent category two, a non-textual information object of low modality decoded at the same moment as the moment of encoding, and category four, a non-textual information object of low modality decoded at a different time than the moment of encoding. The category two image is a modern artwork image taken from Flickr. The creator of the record writes that this abstract was influenced by Mondrian, the pointilists and Van Gogh. At the centre of the image is a blue rectangle slightly off-centre. The lines making up the rectangle are thick and discontinuous, not unlike the lines of the wheat in Van Gogh's "Wheatfield with Crows". The next rectangular shape painted around the



central blue rectangle is orange, and again is made up of rough straight lines of oil paint. The next rectangular shape is red. The rest of the painting is made up of rough straight lines in orange, blue and grey against a red background. The fourth image was of Piet Mondrian's "Composition with Yellow, Blue and Red" (1921) taken from a publicly available art website.

The images were chosen with specific purposes in mind. It was hoped that the Obama image would be so recent and so ideologically, culturally and politically interesting that it would generate associative meanings as well as descriptive meanings. The image of the charabanc was included partly because of the term "charabanc" itself. This is a term that is rarely used nowadays except in self-consciously archaic cultural texts. Terms such as "charabanc" are very historically specific and while arguably capturing the "spirit of the times" because they represent vernacular language of particular historical moments, they tend to disappear from popular vocabulary and possibly never even enter the restricted language of academic use, yet these are terms which may well be the best ones to use to describe the contents of photographs, often taken by amateur photographers of everyday cultural practices, and film, both commercial mass market films and amateur home films. The Mondrian image was included because of the history of that specific artwork which was used in the 1960s by Yves St Laurent to create a mini-dress which, at the time, was arguably one of the most iconic signifiers of 1960s modernity and chic. What was of interest here was whether any of this associated cultural history was intertextually recalled in the tags. Finally, the modern abstract was included because it was a self-conscious homage to Mondrian and to Van Gogh. The interest was whether any of the taggers interpreted the image in the way that the record creator did.

## **RESPONSES TO THE IMAGES**

Of the fourteen respondents, ten were female and four male. Of the ten female respondents three are over 50, one is in the 40-50 age range, three are in the 30-40 age range and three are in the 18-30 age range. There were six postgraduate students in this group: one was in the over 50 group and has a B.Ed in Community Education. Three were in the 30-40 group and of these, one has BAs in Psychology and Sociology, one has a BA in Visual Communication and the third has a BA in Humanities; two were in the 18-30 group and of these one has a BA in Philosophy, Politics and Economics and one has a BA in Music. Of the four male respondents, two were in the 40-50 age range. One of these has a BA in English Literature and History while the other has a BSc in Computer Science and Maths. Of the two males in the 30-40 age range, one has a BSc in Business Administration.

There were a number of informational tags attached to the first image. Eight respondents used the term "president" or "president elect" while ten named the man in the image as Barack Obama. One respondent used the tag "statesman". Nine used a tag



relating to the screenshot including “television”, “news broadcast”, NBC, “TV news”, “media” and six used either “America” or “USA” as a tag. Four respondents used a tag relating to Barack’s colour including “black”, “black-leader”, “first black president” and “mixed-race”. Two used the tag “election” and two respondents used the tag “speech”.

There were also a number of connotative tags, some of which relate to emotions that might be experienced by the viewer: three respondents used the tags “new era”/“new beginnings”, while one used the tag “revolution?” with the question mark attached. Two respondents, both male, used tags relating to Obama’s clothes, although the tags were a little different: one used the phrase “well-dressed” while the other used the phrase “conservative dress”. One respondent intriguingly used the tag “Afghanistan”. Five respondents in particular used a number of associative tags. Of these, three used positive terms which included “young”, “confident” “united” “reflective” “bright” “current events” “historical importance” “triumph” “the winner!”. All three respondents are female students studying for the B. Econ undergraduate distance learning degree. Two male graduate respondents used associative tags that were a little more qualified about Obama’s potential, one using the tag “lost”, and the other using the tag “doomed”. It was clear that the respondents were all aware of Barack Obama’s identity and the circumstances in which the photograph was taken. Most of the tags are descriptive rather than associative, and, interestingly, nine of the fourteen respondents refer to the form of the image (television image) as well as the content.

In the second image the interest is primarily in how much of the historical information the respondents include in their tags. The image was retrieved using the historically specific term “charabanc”. While a number of respondents used tags relating to the motor vehicle, only two used the term “charabanc”. Three respondents used the tags “bus”, “old bus” or “bus tours” and four used the tags “car”, “old car” or “classic car”. One of these respondents also used the tags “convertible” and “people carrier”, two used the tag “early automobile” and one used the tag “the new jalopy”. Nine respondents used the tag “outing”, two of these specified “family outing”, one used the tag “Sunday outing”, and one used the tag “group outing”. Five respondents used tags relating to the perceived social status of the figures in the image. One used the tag “workers”, two used the tag “middle class”, one used the tags “holidays” and “wealthy and the fifth used the phrase “money for the first time”.

One respondent focused on the stilted and artificial look of the people in the photograph using the terms “posed”, “frown” and “insecure”. This is of some interest in relation to the notion of the symbolic quality of even the most iconographic of signs. Two respondents used the tag “sepia” and two used the tag “black and white” while one respondent used the tag “early photography”. Five respondents referred to the historical period placing the photograph in the 1920s or 1930s. For one respondent it would seem that the photograph evoked 1920s silent films as he used the phrases “Keystone cops” and “Laurel and Hardy”.



One of the concerns about used based tagging is that while the practice might well ensure that current terminology is used in information systems, it might also lead to the loss of knowledge and historically specific terminology. This image suggests that that while the respondents are all relatively accurate in recognising interesting denotative elements in the photograph, they are perhaps less knowledgeable about the terminology that might have been used at the time of encoding and possibly about the social status signified by denotative elements in the photograph. Using the term “jalopy” as a possible tag is interesting given that this term is often used to refer to decrepit automobiles.

In the third image the interest is in how far the respondents share a view about this modern low modality image. Eight respondents used the term “art” in their tags and six used the term “painting”. Of these four used the term “modern” and six used the term “abstract”. One respondent used the term “impressionistic”. One respondent used the terms “silly” and included a tag to the effect that she wouldn’t buy it. Beyond the basic denotative terms relating to the image as art, four respondents tagged the colours in the image and four used the term “square”. Five respondents included connotative tags. Four of these respondents used the tags “rain” and, intriguingly, one used the phrase “Ground Zero”. One respondent used the phrases “bright colours”, “jarring colours” and the term “clean”. One used the tags “Moroccan spices”, “ethnic”, and “chain link woven”, and the third used the tags “dining room”, “meditative” and “spiral”. Two respondents used the term “carpet”. That four respondents used the term “rain” might suggest that they perceived the broad and straight brush strokes as signifying rain. The only overlap, beyond the rain tag, seems to be that all respondents identify this image as a modern, abstract painting. None of the respondents used tags which suggest that they share the creator’s view about this image as being inspired by Mondrian, Van Gogh and the pointillists.

The fourth image was an image of a Mondrian painting which has been used beyond its initial domain in the area of fashion. The interest in the interpretation of this image was whether the respondents tagged this image with terms relating to its broader cultural history, in other words, does a multimedia object of low modality but with a rich cultural history lead to the assignment of a narrow group of connotative terms relating to its conventional history. Two respondents tagged this image with the tag “Mondrian” and one used the tag “Mondrian-esque”. One respondent used the term “Mackintosh”, which suggests some intertextual associative linking in his interpretation. A third used the tag “famous”. Four used the tag “modern art”, two used the tag “art” and one used the tag “artwork”. A number of respondents used tags that relate to the forms in the image: three used the tag “grid”, three used “lines”, three used the term “squares”, one used the phrase “simple shapes” while another used the term “geometric”. One respondent used the term “climbing frame”, while for another, the image evoked “windows” and “glass”. Three respondents used the phrase “primary





colours” while two referred to the specific colours in the image. One respondent used the term “Dutch”.

Two respondents used value laden terms although they are quite different: one tagged the image as “cold” and the other as “nice”. Three respondents included highly connotative terms: one used the phrase “grey sky”, the second used the phrases “American restaurant” and “Pompidou centre, Paris”, while the third tagged the image with the terms “sunset” and “shopping centre”. This respondent tagged the third image, the modern abstract, with the tag “dining room”. Despite this being a relatively rich cultural image with a broad history, none of the respondents included tags relating to the cultural history beyond the initial creation.

## DISCUSSION

The research exercise is clearly extremely limited in both size and range, and the activity itself is an artificially created activity rather than tagging on a live site. These factors limit what can be deduced from the research activity. Any results are impressionistic, and the exercise itself is a small-scale activity which perhaps generates some issues to consider and some further avenues to explore. In particular, although information about the age, gender and educational backgrounds of the respondents was captured, the exercise as it was undertaken was not broad enough to unpack the similarities or differences amongst the various groups, however, this is an area of research that could be usefully undertaken given more time and resources.

The first object of the activity was to test whether the modality model has any merit and to consider whether it might be used as a basis for a categorisation approach to multimedia indexing. The Obama image was used as a test image for the first element in the modality model. The results suggest that a multimedia image of high modality decoded at the same time as encoding does evoke a fairly limited range of denotational tags. The range of connotational tags is slightly broader and would suggest that there is a relatively wide spectrum of ideological worldviews within even this narrow group of respondents.

The image of the 1920s charabanc was used to explore the third element of the model which was the high modality multimedia object decoded at a different historical moment from the moment of encoding. The responses would suggest that there is a possibility that historically specific knowledge, for example particular vernacular terminology, is in danger of being lost if conscious efforts are not made to preserve such knowledge. Only two of the respondents used the term “charabanc” but that was the term used by the record creator to describe the image, and used by the researcher to search for the image. The respondents generally have a sense of the historical context of the image however, even though the specifics might be missing. What was interesting is that a number of the respondents commented on the perceived class status of the group



in the charabanc suggesting that they are able to decode the signification of the charabanc in its contemporary terms. This ability depends on the respondents' historical and cultural knowledge.

The image that was used to test the second element in the modality model was a generally unknown modern abstract. This image evoked responses which were primarily denotative and which focused on the colours, shapes and form of the image. Where connotative tags were used, the range was relatively wide, although the term "rain" was used by four of the respondents. This result is of some interest. There is nothing in the image to explicitly suggest rain, indeed the brush strokes are in a range of colours not normally associated with natural hues of rain. The connotative association with rain is likely to come from the brush strokes which are broad and linear.

This result is of some interest in relation to the broader discourse of semiotics, in particular, Peircean semiotic. Peirce was interested in the process of semiosis through which meanings could be generated endlessly from signs. He mapped sixty-six different types of signs that humans use to communicate. In contemporary semiotic literature reference is generally made to the three types of signs within the broader semiotic system to which Peirce referred most. These are the index, which is a sign which is not arbitrary but in some way is connected with the signified/object, for example thunder, medical symptoms or hoofprints; the icon, where the sign is seen as resembling the signified/object, for example a portrait, a scale-model; and the symbol, where the sign is arbitrary or conventional so that the meaning of the sign must be learned, for example language, traffic lights (Chandler, 2002, p. 37)

A specific sign can operate as any or all of these functions at any given moment read from different perspectives by different readers, and the functions may be historically contingent. It can be difficult to distinguish between iconicity and indexicality. Hodge and Kress argued that indexicality is a matter of judgement, so that icons are the class of signs which has the highest modality, in other words, icons have a higher reality status than either indexes or symbols, where reality refers to a relationship with the world. (Hodge & Kress, 1988, p. 27) In his essay "Encoding/Decoding" (2001) Stuart Hall argued that even the seemingly iconic signs of television media are constructed and ideological, and are thus indexical. Indeed, he suggests that iconicity is itself an ideological position. In relation to this exercise, the brush strokes which evoke "rain" for some of the respondents are operating at an indexical and symbolic level. The broad straight brush strokes representing rain is a culturally learned sign.

The digital copy of a Mondrian painting was used to explore the fourth element of the modality model, the low modality image decoded at a different historical moment from the moment of encoding. As expected, this image was recognised and "placed" by a number of respondents who had the appropriate cultural and historical knowledge. The speculation was that the image might evoke connotative associations relating to the subsequent cultural history of the image, but this proved not to be the case. Interestingly



one respondent associated the image with “Mackintosh”. Such an evocation might suggest that incorporating some form of intertextual links in an image storage and retrieval system would enrich the system as a knowledge base.

The range of associative tags used in relation to the Obama image is particularly interesting and worthy of further exploration. The literature of social semiotics suggests that meaning in relation to documents is bounded by logonomic parameters operating at any given time so that at any particular moment there would be only a range or spectrum of interpretative meanings possible in a specific culture. Logonomic systems are not ontological but historical, so any fully developed theory of logonomic parameters and interpretation needs to address questions of diachronic transformations, however the notion of the range or spectrum of meaning is potentially interesting in relation to the tagging of images. This exercise was too small to explore the issue in detail but the inclusion of both positive and negative tags in response to a modern, high modality image suggests that the issue is worth exploring.

## CONCLUDING REMARKS

Modality judgements involve comparisons with models of the real world, and with models of the genre, in the context of this exercise, representational photographs and abstract artworks, so modality works on both mimetic and semiotic planes. What is considered to closely represent reality at one historical moment may for future generations seem conventionalised and artificial. Judgements about the representation of the real depend on the codes and conventions within which and through which the viewer reads and interprets the multimedia informational object. The operation of meaning in multimedia is a function of the content of the object and the codes and conventions relating to specific historical and societal moment at which reception occurs, in other words, the meaning of information changes over time.

Within the communicative domain of visual communication, images range from those which are extremely high in modality, for example spontaneous and “unposed” photographic “snaps”, to images which have self-consciously low modality, for example abstract painting, with most images occupying a point within those two extremes along a continuum representing modality, or relationship with reality. The purpose and provenance of the image will be important in thinking about semiotic encoding and about whether the “preferred” reception position has been determined and controlled by the encoder, or whether the meaning(s) might be more fluid, ambiguous and open to interpretation.

This issue leads to questions about the interpretation and reception of signs. Contemporary semiotics acknowledges the post structuralist interest in the role of the reader in making meaning. Post structuralist philosophers are interested in issues regarding determinism, structure and agency in relation to the construction of meaning.



Text is encoded by the transmitter (author, painter, photographer, composer, songwriter or any other person or people responsible for the creation of the sign) and is disseminated to the consumer through some kind of publishing process, but the question is how much is it transformed and injected with meaning as it is consumed by the receiver (reader or viewer or listener), who may occupy any one (or maybe more) of a range of reading positions? It is possible that a range of meanings can be derived from one material object? Personal, private meanings attached to texts can transform the text from the preferred meaning inscribed within it by the author (Hall, 2001 [1973]), to a range of possible meanings. Does the meaning of a text, in its broadest sense, depend on the meaning attached by the author, and if so how can we know what that meaning is, or does the construction of meaning occur when the reader interprets the text? Is the text the sole source of meaning or does the reader (re-)create meaning in interpreting the text? These questions are of some interest in relation to the interpretation of multimedia images, as demonstrated in the research activity, perhaps particularly in relation to the abstract images.

Overall this limited exercise suggests that the modality model might be of some use in categorising images within an image IR system. The exercise also suggests that leaving the annotating and tagging to users themselves could lead to the loss of historically contingent information over time unless conscious efforts are made to preserve it. Hilderley and Rafferty's "level of meanings" model used as a template for annotating images might well be useful in relation to structuring and controlling tags. Finally, the exercise suggests that developing a retrieval tool using genre and the intertextual nature of multimedia objects might lead to the construction of rich, knowledge based system. A pilot intertextual system for literature has already been developed (Vernitski, 2007). The purpose of Vernitski's fiction system is to produce a knowledge based tool for literary scholars, but intertextuality, as Barthes and Kristeva theorise it, refers not only to scholarly quotations but to the notion of text as mosaic. The responses provided in this exercise, although small scale, suggest that decoders operating within specific cultural and historical moments share an understanding of cultural genres which are contemporary with them and anterior to them, at least when those genres relate to the recent past. Developing a tagging template which incorporates intertextuality, the meaning spectrum and generic categorisation within an historically sensitive IR system which recognises the importance of diachronic transformation might be the way to create a knowledge based resource for image storage and retrieval.

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## IMAGE URLS

Image 1 Barack Obama: <http://www.flickr.com/photos/fastlaine/3057356781/>

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Image 4 Mondrian: Composition with Yellow, Blue, and Red, 1921, Webmuseum, Paris: <http://www.ibiblio.org/wm/paint/auth/mondrian/ryb.jpg>