The Semantics of Colour

A Historical Approach

C. P. BIGGAM

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University of Glasgow

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The Semantics of Colour

Human societies name and classify colours in various ways. Knowing this, is it possible to retrieve colour systems from the past? This book presents the basic principles of modern colour semantics, including the recognition of basic vocabulary, sub-sets, specialized terms, and the significance of non-colour features. Each point is illustrated by case studies drawn from modern and historical languages from around the world. These include discussions of Icelandic horses, Peruvian guinea-pigs, medieval roses, the colour yellow in Stuart England, and Polynesian children's colour terms. Major techniques used in colour research are presented and discussed, such as the evolutionary sequence, Natural Semantic Metalanguage, and vantage theory. The book also addresses whether we can understand the colour systems of the past, including prehistory, by combining various semantic techniques currently used in both modern and historical colour research with archaeological and environmental information.

C. P. BIGGAM is Honorary Senior Research Fellow, English Language in the School of Critical Studies at the University of Glasgow.

I have received the greatest help, sound advice and inspiration over many years from Professor Christian J. Kay, of the University of Glasgow, to whom this book is humbly dedicated.

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Preface

In 1970, I was browsing among the linguistics books in Cardiff University (as it is now), when my eye was caught by some bold blue words on a pure white spine: *Basic Color Terms*. Some enterprising academic or librarian had ordered Brent Berlin and Paul Kay's recently published book for the library, and had unknowingly changed my life. That sounds a little too dramatic. I have not been exclusively concerned with colour across the intervening years, nor even with semantics in general, but I have never lost that early fascination, inspired by Berlin and Kay's book, for the classification, labelling and communication of colour. However many times I research other subjects, I find myself drifting back to colour studies with some new angle in mind.

With a background in British archaeology, historical semantics and Anglo-Saxon studies, I nevertheless found myself reading lots of reports by anthropologists on the colour systems of modern-day societies and languages often located in far-flung regions of the world. This was interesting, but I always ended my reading with the same question in mind: how did this particular colour system come to be like that? What was its history? What historical evidence is available? Of course, many of the languages investigated by anthropologists had no historical records, but even where they existed, most of the language-reports were unrelentingly modernist. I watched as more and more publications emerged, reporting on ever more surprising ways (to an English speaker) of dealing with colour concepts; as Berlin and Kay's evolutionary sequence morphed into elaborate and then reduced forms; as criticism of the sequence mounted and faded by turns; or as the origins of a colour term were 'explained' by a quick look in an etymological dictionary, and all the time I was wondering how such statements could be made without thorough historical semantic investigations of individual languages. My own (obviously historically biased) view is that, while a present-day language can be studied exhaustively, providing valuable information, such a study lacks time-depth, the understanding that comes with unearthing centuries of slow development and/or traumatic disturbance, and the changing concepts hinted at by discarded and newly coined vocabulary.

Acquiring this depth of knowledge (where possible) demands a lot of time and work, but the rewards are great because colour, which is involved in so many aspects of our lives, and always has been, can illuminate numerous nooks and crannies of past life. We may find that some people only used colour terms for their animals; or we may find a blaze of brilliant light and shining gold in their religious texts; or a delight in exotic textiles and jewellery; or a long and complex list of colour words used in a particular context; or a dark and devilish store of poetry. All this and more tells us so much about people who can no longer explain in person their delight (or lack of it) in their artefacts and surroundings. With such insights as these, how much better do we understand the colour nuances employed by that society's modern descendants.

This book has been written with more than one target audience in mind, so I hope that, in aiming at multiple targets, I have at least hit one of them. First of all, I have aimed at the general reader with an interest in linguistics. I have tried to explain several basic principles of semantics, and have added a glossary of technical terms, so that such a reader does not 'lose the plot' half-way through (or even earlier). The second target audience is university students studying linguistics, a particular language, literature, anthropology, psychology or perhaps even other subjects in which colour plays a significant role. Finally, I hope my third target, semanticists who are not colour specialists, will find something of use in this book, although they will, with justification, probably skip certain sections.

I would like to thank all those who have helped, advised and generously given information while I was writing this book. With many thanks to: several staff members of AIATSIS, William Biggam, Helen Carron, Adam Głaz, Arnþrúður Heimisdóttir, Carole Hough, Christian Kay, Galina Paramei, Barbara Saunders and Kirsten Wolf. I would also like to acknowledge the valued encouragement and patience of Helen Barton, my editor at Cambridge University Press.

Abbreviations

AD	*anno domini* (any year more recent than 1 BC)
adj.	adjective
AF	Anglo-French
AIATSIS	Australian Institute of Aboriginal and Torres Strait Islander Studies
AND	*Anglo-Norman Dictionary*
B&K (or BK)	Berlin and Kay (1969)
BC	Before Christ (any year earlier than 1 AD)
BCC	Basic Colour Category
BCE	Before the Common Era (any year earlier than 1 AD)
BCT	Basic Colour Term
BML	British Medieval Latin
BNC	*British National Corpus*
BP	Before Present (before 1950)
CSLI	Center for the Study of Language and Information (Stanford University)
DMLBS	*Dictionary of Medieval Latin from British Sources*
DOE	*Dictionary of Old English*
EH	Emergence Hypothesis
EVT	Extended Vantage Theory
f-[colour term]	focal-[colour term]
Ger.	Modern German
HTOED	*Historical Thesaurus of the Oxford English Dictionary*
IE	Indo-European
IPA	International Phonetic Alphabet
ISOR	Interdisciplinair Sociaal Wetenschappelijk Onderzoeksinstituut Rijksuniversiteit (Interdisciplinary Social Sciences Research Institute, State University [Utrecht])
M-[colour term]	macro-[colour term]
[M] (subscript)	a semantic molecule, in NSM
MCS	Mesoamerican Colour Survey
ME	Middle English

MED	*Middle English Dictionary*
ModE	Modern English
n.	noun
n.d.	no date of publication
NF	Norman French
NOWELE	*North-Western European Language Evolution*
NSM	Natural Semantic Metalanguage
OE	Old English
OED	*Oxford English Dictionary*
OLD	*Oxford Latin Dictionary*
OSA	Optical Society of America
P	Partition, in the UE model
PDE	Present-Day English
PIE	Proto-Indo-European
RB	Relative Basicness
SKY	Suomen Kielitieteellinen Yhdistys (Linguistic Association of Finland)
UE	Universals and Evolution model ('Berlin and Kay school' theories)
VT	vantage theory
VT2	vantage theory 2 (a later development)
WCS	World Colour Survey

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1 What is colour?

1.1 Introduction

Our world is full of natural colour. Against background swathes of blue sky, yellow sand, green grass and white snow, we prize the startling hues of flowers, fruit, feathers and gemstones. Yet this is not enough for us. Most human societies strive to produce their own colours, namely, dyes and paints of the greatest possible variety. A Palaeolithic cave artist depicting familiar animals, and a modern British home-owner agonizing over the perfect colour-scheme for the living-room, are both exhibiting the same delight in colour, and the same need to adapt it to their own social, cultural and individual requirements.

To say that colour plays multiple roles in human society is a gross understatement. It is everywhere in our lives, sometimes boringly dull and at other times brilliantly eye-catching. It is often taken for granted, yet it also conveys vital messages, as in traffic lights or electrical wiring. It can even signify and engender loyalties and hatreds that influence human history, as in heraldry, uniforms and flags. Since it pervades every aspect of human life, it might be considered essential for our languages to express colour concepts clearly, accurately and in a way that is easily communicable. Yet, when the colour vocabularies of various languages are considered and compared, the researcher finds that there are many different ways in which humans categorize and 'label' colours, resulting in an amazing array of misunderstandings. Monoglot individuals invariably believe that their own colour system is clear and obvious, and they are often mystified when confronted with an alternative system. So the first step which the reader has to take when entering the world of colour semantics is probably the most difficult of all; s/he must restrict his or her own colour system to normal, everyday speech, and learn to set it aside when considering foreign or historical colour descriptions. The aim is to dispose of any preconceptions about how colour 'should' be classified and described, so as to gain insights into the workings of other languages and cultures, and into the nature of colour itself.

The first problem which must be addressed is the word *colour*. If asked to name some colours, the chances are that any English speaker will list words

such as *red*, *blue*, *green*, *purple* and so on, but, technically speaking, these denote varieties of only one element of colour, which is called *hue*. In many modern societies, most speakers will interpret the word *colour* or its equivalent, as indicating only hue, but the reader should not assume that all other societies do the same, or did the same in the past, or, indeed, that all societies have a word translatable as 'colour' at all (Wierzbicka 2006: 1–4). A society may be concerned, for example, with the general *appearance* of an entity, involving a mixture of visible features in which hue cannot be separated from one or more other aspects such as shininess, roughness, darkness, wetness and more, in varying combinations. Even more surprising to the English speaker and others is that the so-called 'colour terms' of a language may include *non-visible* elements which cannot be excised from the overall meaning of the word or phrase (Section 1.7).

Certain elements of colour would be much more accurately and fully described by a physicist or vision scientist, but this chapter will aim to present them from the viewpoint of linguistics. A colour impression is composed of many elements, and human societies unconsciously combine them in various ways, and label them with language in order to convey an image to members of the same speech community. While this statement suggests a kaleidoscope of different colour impressions, there also appear to be certain fundamentals in colour-naming which many would argue are universal among human societies, but more of this later. This present chapter aims to introduce the various features which can be observed in colour systems around the world, and it is hoped that this will help readers to understand how their own colour system is simply one possibility among many.

The exact nature of the colours we see is the result of a complicated interaction between the physics of light, the physiology of the human eye, environmental conditions at the time of viewing, the physical properties of the object being viewed and the way in which our brains receive and interpret all this information. In other words, for each viewing, there is a huge number of possible combinations involving phenomena such as illumination, reflectivity, surface texture and many more. In this book, however, the crucial aspect is not the physics and physiology, but the brain's interpretation of the data it receives. With admirable boldness, the human brain adopts a 'no nonsense' approach to the flood of information it receives from the eye, and it simplifies and classifies, so humans can cope with the complexity of their world. This simplification can be glimpsed through language.

Although the various colour vocabularies in the world differ considerably in their details, they most often make use of one or more of four principal phenomena: hue, saturation, tone and brightness. Unfortunately, I have to pause at this point and warn the reader about the terminology of colour semantics. The subject does not yet have a truly standardized terminology and, for certain

phenomena, the variety of terms which can be found in published works is amazing. To give one example, saturation is also known as chroma, intensity, concentration, purity and probably more. Worse than this, the same terms are often used by different authors to denote different phenomena (Biggam 2007). In these circumstances, and until there is general agreement, it is essential for writers on the semantics of colour to make clear their own usage at the outset, and to avoid straying from those definitions.[1] My own usage of the four crucial terms, *hue, saturation, tone* and *brightness*, now follows.[2]

1.2 Hue

Of the four principal constituent parts of colour that are significant in linguistic studies, *hue*, or *chromatic colour*, is probably the easiest term for the English speaker to understand. It refers to the spectrum of visible light, parts of which, according to their wavelength or frequency, are perceived by humans to differ from others. The classic natural example of part of the hue spectrum is the rainbow, and its various hues are called *colours* in non-technical English. Examples of English hue vocabulary include *blue*, *red* and *yellow*. (See Appendix 1.1.)

1.3 Saturation

Turning to *saturation*, this term refers to the purity or otherwise of a hue, in relation to the amount of grey it is perceived to contain. If increasing amounts of grey are successively added to samples of a hue, this creates a range running from a vivid hue (no grey at all) to grey (no hue at all). Thus, to take the example of red, its saturation range will start with a fully saturated red which has no admixture of grey. This can be described in everyday language as *vivid red* or, more commonly, but highly ambiguously, as *bright red* (Section 1.5). The reader should then imagine a range of colours composed of the same red but with increasing amounts of grey added to it. The red becomes duller along the range as the greyness element increases until, finally, the colour is simply grey, as the red element ceases to be perceived. Before this point in the range is reached, the colours could be described as *dull red*, *grey-red* or even *dirty red*. Using *colour* in its technical sense, it can now be seen that there are colour words which are saturation terms rather than hue terms, and the English words *vivid* and *dull* (as used in the context of colour) are, of course, two examples; they refer to degrees of saturation without specifying hue. (See Appendix 1.2.)

The reader is invited to imagine a hypothetical language in which the roles of saturation and hue, as seen in English semantics, are reversed so that the difference between red and blue is unimportant, but the differences between vivid red and dull red, or between vivid blue and dull blue are highly significant. The vivid hues may be considered prestigious, and be individually named, but

the dull hues may be of little interest and may be all designated by only one or two words. This is the sort of colour classification that speakers of many other languages may struggle to understand. To avoid overlooking a classification which is alien to him or her, the researcher into colour semantics needs to keep an open mind, and awareness of the various features of colour can help in this.

1.4 Tone

The next element of colour to be considered is denoted here by the word *tone*. This refers to the admixture of white or black with a hue, creating a range which runs from pale at one end to dark at the other. Taking blue as the example hue this time, the blue tone range runs from very pale blue through shades with successively increasing amounts of blue added to them, so that they range from very pale blues to pale blues to palish blues to fully saturated blue (in which no white is perceived). At this point, the blue tone range begins to add successively increasing amounts of black, resulting in darkish blues, dark blues and very dark blues.

The English words *pale* and *dark* are tonal colour words, and, just like *vivid* and *dull*, they are unspecific as to hue. The English-speaking reader can now attempt to imagine a hypothetical system in which tone plays a stronger role than hue. Such a language would consider the difference between paleness and darkness to be more important than the differences between hues. Its speakers may, for example, have several terms for aspects of paleness and darkness but be unable to distinguish linguistically between pale blue and pale green, or between dark blue and dark green, without launching into a descriptive phrase. They would, however, have no problems in distinguishing linguistically between pale blue/green and dark blue/green.[3]

There is also a special tone range for the achromatic colours. *Achromatic* means literally 'without hue', and it refers to white, black and the greys. The achromatic tone range, therefore, runs from white through very pale greys to pale greys to palish greys to darkish greys to dark greys to very dark greys and, finally, to black. (See Appendix 1.3.)

1.5 Brightness

Brightness is a word which has been used particularly ambiguously in colour studies (Biggam 2007). It is concerned with the amount of light reaching the eye, but the nature and sources of such light are varied. An object may be bright because it is pale and well-lit, or because its surface is made of a reflective material, or because it is itself a light source such as a lamp. The metalanguage used in this book for the various aspects of brightness is described in Section 8.6, and summarized in Appendix 1.4. Where sufficient information exists, a

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