Lourdes García Ureña et al.
The Language of Colour in the Bible

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The Language
of Colour
in the Bible

Embodied Colour Terms Related to Green

Translated by Donald Murphy

To all those who, in one way or another, have contributed to the observation,
analysis and contemplation of the beautiful enigmas
of how the colour green is used in the Scriptures.

Acknowledgements

Any path of research that one undertakes is a long journey in search of the Promised Land. Like the people of Israel, the researcher, anxious to reach his/her goal, experiences darkness, solitude, exhaustion and the suffocating heat of the desert, but also moments of light and joy, at the water that springs from the rock, the manna that falls from heaven, and then, glimpsed from afar, the vision of the promised land itself (the truth contained in one's research). Those are the moments that I want to recall here, in expressing my thanks to the individuals and institutions that have made it possible to realize the first stage of this research project.

First of all, I would like to thank Prof. Adela Yarbro Collins for her continued inspiration and guidance. If there is anything that we who have been fortunate enough to study under her are grateful for, it is her openness, her constant availability, along with the astute questions and precise observations which have always been invaluable for improving our work.

I would also like to thank Prof. Natalio Fernández Marcos for his ability to discern and appreciate the possibilities of this project from its inception, as well as Prof. Vanni, sadly no longer with us, who encouraged me to work with the language of colour in the book of Revelation at a time when I had not even considered such a thing.

Secondly, I want to thank the members of my research group (Emanuela, Anna, Carlos and Marina), who embarked on this chromatic adventure when it was still in its gestation phase and who have dedicated so much of their time, patience and effort to it. Particular thanks go to Emanuela, who, from the moment we met at the 64th *Colloquium Biblicum Lovaniense* (July 23–25, 2015), understood the depth of this project and brought to it all of her expertise, rigour, critical spirit, courage and sense of humour. All of these qualities have benefitted not only this study, but the functioning of the group itself. Many thanks, my friend!

Also crucial has been the welcome I received from Prof. Giovanni Bazzana at Harvard University's Divinity School during my three-month research stay there in the summer of 2019, an essential and somewhat "monastic" period of reflection during which I had access to the university library's bibliographical resources. The wealth of material there and the extraordinary helpfulness of the staff made all manner of resources available to me for my research. I also thank Prof. Bazzana for organizing a seminar for students, as this was an excellent opportunity to re-think and nuance certain aspects of this study. In this respect, I am also indebted to the Universidad CEU–San Pablo, which in collaboration with Banco Santander provided me with a grant to fund that particular research stay.

Preface

In recent years, the fields of art, history and anthropology in Western culture have shown a growing interest in what we might call the chromatic life of objects. The techniques of producing colours and their relation to modern artistic practices have come under examination, along with the material dimension of colour, its inherently social character and the genesis of colours through the fabrication of contemporary art objects.

What has been lacking, however, is an exploration of the dimension of the colours of creation from a philological and anthropological point of view. This is the new perspective which has begun to open with the monographic study that I have the honour to present here, *The Language of Colour in the Bible. Embodied Colour Terms Related to Green*. It focuses on the three semantic universes that have most influenced our Western culture: the corpus of the Hebrew Bible, which condenses and transmits the wisdom legacy of the Ancient Near East, and the two most important biblical translations of antiquity –the Greek Bible or Septuagint, and the Vulgate, Jerome's Latin translation of the late 4th century AD. To create the Septuagint, a group of bilingual Hellenistic Jewish scholars would translate this collection of Eastern wisdom into the common language of their day, *koiné* Greek. In contrast, the Latin Bible was the work of a single author whose task was to translate the Scriptures into the Latin of the Roman Empire. Obviously, the semantic field of the Hebrew version is limited to the books written in that language –the Jewish and Christian Bible– while the semantic fields of Greek and Latin also include the Christian New Testament.

The far-ranging lexicographical research in the present volume comes to us through an international team of scholars under the direction of Lourdes García Ureña. This is the same author who some years ago guided us through the symbolic world of the book of Revelation in another study, also published in English, which used discourse analysis to reveal eye-opening new strategies and interpretative keys for approaching the final book of the Bible.

This new book is a work of philological and linguistic analysis. It represents a beginning, one limited for the moment to the colour green, but presages a promising future when this working method is extended to the linguistic domains of other colours as well.

Every language structures and defines reality in its own singular and differentiated manner. In few fields is this principle so evident as in the area of colours and their corresponding distribution. In effect, the universe of colour that we find in the Bible was given form by the principal native languages in which it was transmitted in antiquity (apart from the Syriac of the Eastern Church's *Peshitta*), a symphony in three voices, as Cardinal Cisneros took it upon himself to demonstrate by creating the first polyglot Bible in history, the *Complutense de Alcalá*, which featured all three texts printed synoptically. The objective of *The Language of Colour in the Bible*

is to examine the worldview that the listener/reader in biblical times, rather than the modern reader, had of this particular dimension of colour, the conclusions of which will serve to illuminate our own cognitive universe. It can thus be seen that the Vulgate (not counting the earlier attempts of the *Vetus Latina*) uses seven different lexemes to translate the four colour terms that we find in the Hebrew corpus. In the same way, the Greek Bible had made explicit a chromatism that is only latent in the Hebrew version. This chromatic sensitivity would increase with the passage of time and the supplantation of one language by another, and so the biblical corpus would become more and more adorned with colour as it developed from the original Hebrew through the Greek to the Latin of the Vulgate.

The primacy accorded here to the colour green is justified by the biblical texts themselves, as it is this colour which both opens and closes the pages of the Bible. Indeed, the Scriptures fill with colour the two great moments in the history of humanity: the first chapter of Genesis, with its creation narrative; and the announcement of the end of the world in the book of Revelation. The story of Genesis depicts a state of ripeness, of freshness, vitality and lushness in plants and vegetation that suggests the springtime. Meanwhile, the portrayal of destruction that we find in the book of Revelation has the figure of Death riding upon a horse with a sickly, death-like colour (Rev 6.8).

This vision of the green dimension of creation, as seen through the narratives of the various biblical languages, is more than a study of colour from the perspective of cognitive linguistics. It goes hand in hand with one of the most pressing issues of our own time: the concern for the environment, and the recovery and preservation of the planet, our common home. Thanks to the contribution of Dr. García Ureña and her team, we are now closer to understanding our world with regard to the linguistic roots that have most helped to shape it.

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I.1 Understanding colour in the Bible

I.1.1 Introduction and objective

The first question that will no doubt come to mind on reading the title of this research project is why study the language of colour in the Bible at all. The answer to this is clear: since the discovery of Greek polychrome sculptures in the late 19th century, colour has become a subject of growing interest in a variety of scientific disciplines, from physics and anthropology to art history and psychology, to philology and design and many others,[1] as well as an essential medium of communication in the visual culture in which we are currently immersed.

Surprisingly, the Bible, one of the pillars upon which European culture has been built, has figured hardly at all in such research. Michel Pastoureau, in his book *Green: The History of a Colour*, mentions only 'the silences of the Bible'.[2] A void has thus been created that deserves to be filled. The Bible, as we know, is widely held to be the book that has most influenced Western thought, and so the study of colour language in the biblical corpus is not a minor issue. Indeed, such language has forged a host of icons and motifs that have gone on to shape later literature, art (think only of the *Beatus* manuscripts or the medieval Bible), and our own daily lives as a medium for transmitting not only knowledge but feelings and emotions.

Present-day scholarship tends to adhere closely to the biblical text, examining the plurality of languages and testimonies that it encompasses. To some extent, there has been a revival of the spirit which in the 16th century produced the *Complutensian Polyglot Bible* and brought the Hebrew, Greek and Latin texts together in a single volume. Any study of the language of colour in the Bible must have a similar focus, as colour is the expression of a given culture.[3] This is a determining factor in the way populations perceive colour, with each having a specific sensibility towards it. In fact, the Hebrew version is frugal in its use of colour lexemes, although colour is latent in the text even when it is not mentioned directly; the Septuagint, meanwhile, would reinterpret the Hebrew colour terms, adding new shades to them, and the still more colour-sensitive Vulgate would further increase the lexemes absent from the original Hebrew. In this sense, as time passes and the text is re-read in another cultural space with a different chromatic sensibility and language, the Bible becomes more and more infused with colour.

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1 A significant example of the importance and diffusion of this subject of study is the foundation in 1967 of the *International Association of Colour* (AIC), in which researchers from a variety of disciplines hold conferences and publish diverse materials on the topic: www.aic-color.org/page-18077; 17/08/2019.

2 Michel Pastoureau, *Green: The History of a Colour* (Princeton, NJ: Princeton University Press, 2014), p. 36.

3 Anna Wierzbicka, 'The Meaning of Color Terms: Semantics, Culture, and Cognition', *Cognitive Linguistics* (includes *Cognitive Linguistic Bibliography*) 1 (1, 1990), 99–150, at 103.

At the same time, there are no perfect parallels among the three versions of the Bible, partly because we do not have access to the Hebrew or Greek manuscripts from which the Greek and Latin translations were made, and partly because all translation is in effect an interpretation. In the case of both the LXX and the Vulgate, it is clear that neither is a literal, word-for-word translation. This affects the study of colour terms, since, as this monograph will show, the various versions are not always equivalent. Each corpus, then, must be examined individually, as each one presents its chromatism according to its own lexicon and culture. A comparative study of the three versions can only take place once the analysis of all of the colour terms used has been concluded.

Of all the colours in the chromatic spectrum, we have chosen to begin our study with the first colour term that appears in the Hebrew Bible, ירק *yereq* (Gen 1.30), whose presence might at first be considered superfluous. When, after the story of the creation of the world has been told, God addresses Adam and Eve to give them his blessing, he explains how both they and the animals will be fed. The latter will eat grass –not any type of grass, but that which is ירק *yereq* (Gen 1.30), χλωρός in the Septuagint (Gen 1.30) and 'green', 'verde', 'verte' in the modern versions of the Bible. However, given the austerity of the biblical text in the use of colour language and the fact that green is the classic epithet for grass, it is logical to wonder if the Hebrew lexeme ירק *yereq* and the Greek χλωρός simply denote the colour of grass. Is the narrator of the priestly tale in Genesis merely adding a chromatic touch to his story and is it his intention to say something more? Not only this, but if ירק *yereq* does indeed denote the colour green, why does the Greek text use χλωρός and not πράσινος, as in Gen 2.12? Do they perhaps denote different hues?

Unlike πράσινος, the lexemes ירק *yereq* and χλωρός reappear in different contexts throughout the biblical corpus with a surprising, paradoxical symbolism: life, fecundity and prosperity, in opposition to death, destruction and punishment. This even occurs within a single book, as it does in the book of Revelation. How can such a paradox be explained?

The answers to these questions concern not only the lexemes we have just mentioned, but their lexical families as these appear in the biblical corpus. Thus, in the Hebrew version we find ירקרק *yəraqraq*, ירוק *yārôq* and ירקון *yērāqôn*; in the Greek version χλωρότης and χλωρίζω; and in the Latin *uiridis, uiriditas, uior, uireo* and *uiresco*. We have also included the lexical family of *pallor*, as these are the colour terms chosen in the Vulgate to translate the controversial colour of gold (Ps 67.14) and the enigmatic χλωρός of the fourth horse of the book of Revelation (Rev 6.8).

The objective of the present study is to provide the modern reader with the meaning of colour terms from those lexical families related to what we might call 'the green dimension of the Bible' or 'the green dimension of creation', with the aim of determining whether they denote only colour and, if that is the case, the hue they express, or whether, along with this chromatic denotation, they indicate some underlying reality that is inseparable from colour. We will also analyze the

symbolism which underpins some of these colour terms and which European culture has inherited.

This is the moment, then, to examine the language of colour in the Bible, a song sung in three voices,[4] and delight in its chromatic symphony.

I.1.2 Obstacles to the present research

Before embarking on this fascinating task, it should be remembered that the study of colour is not an easy one. While it has been shown that the human being, barring some physical pathology, is able to perceive colour, not all of us perceive it with the same level of sensitivity, much less are we able to discern the same tonalities in a given object. I recall a discussion in a colour communication workshop organized by the Universidad Rey Juan Carlos a few years ago, when the speaker showed the group an image of a running shoe dominated by shades of grey. Half of the participants argued that it was bluish grey and the other half pinkish grey. The debate concluded when the speaker revealed the real colour of the shoe. This same difficulty increases when, rather than visual perception, we turn our attention to the language of colour, where visual perception and culture are inseparably fused. Consider, for example, the fact that Spanish, according to the *Diccionario Akal del color*, includes more than 100 types of green, from lime green to sumac green.[5] The task becomes greater still when we study the language of colour in antiquity, within specific corpora that reflect three different cultures (Semitic, Greek and Latin), each with a specific manner of perceiving colour.

However, we feel that the main obstacle is our own modern-day perception of colour, which is different from that of both Semitic and Greco-Roman civilization. Today, colour is defined according to Newtonian theory as a 'sensation produced by luminous rays which make impressions on the visual organs and which depend on wavelength'.[6] This sensation consists of three elements: hue (the length of the wave; that is to say, its colouration); luminosity (the quantity of light emitted, by which we may refer to darker or lighter colours); and saturation (the intensity of that aspect which causes colours to appear bolder or more faded). At present, the fundamental element for determining colour is hue. This conception, however, is far removed from that of Semitic and Greco-Roman culture.

Linguistic studies of colour have in general been influenced by the theory of Brent Berlin and Paul Kay in their work *Basic Color Terms: Their Universality and Evo-*

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4 Ignacio Carbajosa and Andrés García Serrano (eds.), *Una Biblia a varias voces. Estudio textual de la Biblia Políglota Complutense* (Madrid: Ediciones Universidad de San Dámaso, 2014), pp. 11–12, refer to the Polyglot Bible as a 'Bible in three voices'.

5 *Diccionario Akal del color*, pp. 931–951.

6 *DLE*, s.v. color; available at https://dle.rae.es/?id=9qYXXhD; 19/04/2019.

lution[7]. According to these authors, colours have appeared progressively and universally in the languages and cultures of the world. In fact, all languages, according to their degree of evolution, include within their chromatic lexical repertory between two and eleven 'basic colour terms' (BCT). These BCT are characterized by three traits: being used to describe a wide range of objects; being monolexematic (red, blue, green, etc.); and being used by the majority of native speakers. While this theory, along with the improvements introduced by the *World Color Survey* (WCS),[8] is suited to modern languages (although not without arousing criticism),[9] it does not seem applicable to the languages of antiquity for a variety of reasons:

a) No native speakers survive who might allow us to know which of these terms were most used, research only being possible through the (literary and administrative) texts that have been preserved, whose nature and the scarcity of testimonies prevent a determination of which were most used in daily speech.

b) From research carried out into the languages of antiquity (Sumerian, Akkadian, Egyptian, Greek and Chinese) it has been determined that the language of colour did not develop independently in each location, but as the result of an exchange of materials, concepts and terms.[10]

c) The language of colour in antiquity is not abstract, but appears linked to specific materials (fabrics, dyes, precious stones and other objects).[11]

d) The ancient conception of colour resides more in what today we understand as luminosity and saturation than in hue.[12]

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7 Brent Berlin and Paul Kay, *Basic Color Terms: Their Universality and Evolution* (Stanford, CA: CSLI, 1999).

8 This was formulated in 1976. See: John E. Hartley, *The Semantics of Ancient Hebrew Colour Lexemes* (Louvain; Paris; Walpole, MA: Peeters, 2010), pp. 13 – 14.

9 Clyde Hardin and Luisa Maffi (eds.), *Color Categories in Thought and Language* (Cambridge: Cambridge University Press, 1997); Paul Kay and Terry Regier, 'Language, Thought, and Color', *Trends in Cognitive Sciences* 10 (2, 2006), 51 – 54; Seija Kerttula, 'Relative Basicness of Color Terms. Modeling and Measurement', in Robert E. MacLaury et al. (eds.), *Anthropology of Color, Interdisciplinary Multilevel Modeling* (Amsterdam: John Benjamins, 2007), pp. 151 – 169.

10 David A. Warburton, 'Basic Color Term Evolution in Light of Ancient Evidence from the Near East', in *Anthropology of Color*, pp. 229 – 246; David A. Warburton, 'The Theoretical Implications of Ancient Egyptian Colour Vocabulary for Anthropological and Cognitive Theory', *Lingua Aegyptia* 16 (2008), 213 – 259; David A. Warburton, 'Ancient Color Categories', in Ming Ronnier Luo (ed.), *Encyclopedia of Color Science and Technology* (New York: Springer, 2014), pp. 1 – 9.

11 Warburton, 'Basic Color Term Evolution', p. 242.

12 Antoine Guillaumont, 'La désignation des couleurs en hébreu et en araméen', in Ignace Meyerson (ed.), *Problèmes de la couleur* (Paris: S.E.V.P.E.N., 1957), pp. 339 – 348, at 344 – 346; Harold Hosborne, 'Colour Concepts of the Ancient Greek', *The British Journal of Aesthetics* 8 (3, 1968), 269 – 283, at 274; Warburton, 'The Theoretical Implications', p. 241; Maria Bulakh, 'Basic Color Terms from Proto-Semitic to Old Ethiopic', in *Anthropology of Color*, pp. 247 – 261. Interesting in the area of Greco-Latin studies is the article by Maria Michela Sassi, 'Il problema della definizione antica del colore, fra storia e antropologia' in Simone Beta and Maria Michela Sassi (eds.), *I colori nel mondo antico. Esperienze linguistiche e quadri simbolici. Atti della giornata di studio, Siena, 28 marzo 2001* (Fiesole: Cadmo, 2003), pp. 9 – 23; and also Giampiera Raina, 'Considerazioni sul vocabolario greco del colore', in *I colori nel*

e) Colour terms in antiquity are not referential, as they are in modern languages, for example, when in English or Spanish 'orange/*naranja*' denotes the colour of the fruit from which it gets its name, or when 'sea-green' specifies the colour of the sea. Instead, they include a wide spectrum of colours and meanings, and so a lexeme such as χλωρός may indicate a range of hues from yellow to various shades of green.

f) In ancient languages, colour terms were more lexicalized and grammaticalized than in modern languages.[13] And so, for example, from the Greek root λευκ⋆ a great number of adjectives, nouns and verbs can be derived, of which we include here only a small sample: λευκός, 'white'; λευκάμπυξ, 'with a white headband'; λεύκινος, 'of white poplar'; λευκάκανθα, 'white thistle'; λευκάνθεμον, 'white flower'; λευκαντής, 'one who makes or paints white'; λεύκη, 'a cutaneous disease, so called from its colour'; λευκότης, 'whiteness'; λευκαίνω, 'to be or become white'; λευκο-γραφέω, 'to paint in white'.[14]

To overcome these obstacles it is necessary to find both an appropriate linguistic theoretical framework and a methodology that will enable us to approach the meaning of colour lexemes in biblical texts, while avoiding the danger of turning this research into simply an updated taxonomy of possible translations that in the end would merely adapt the ancient concept of colour to our own nomenclature. This nomenclature is, moreover, the reflection of a culture[15] in a state of constant change due to new technologies and globalization, fomenting the continual incorporation and movement of new terms from one language to another. On this note, we feel it is useful here to cite the experience of the celebrated author Gabriel García Márquez in looking up the lexeme *'amarillo'* (yellow) in a Spanish dictionary, as it is one that might be familiar to our own readers:

> It occurred to me to look up the word 'yellow', which was described in this simple way: the colour of a lemon. I remained in the dark, as in the Americas lemons are green. I was still more disconcerted when I read in the *Romancero Gitano* of Federico García Lorca these unforgettable verses: 'In the middle of the road he cut round lemons and threw them into the water until it turned to gold'. With the passing of years, the *Diccionario de la Real Academia* –although it maintained the reference to the lemon– would make the corresponding modification: 'the colour of gold'. It was only when I was in my twenties, when I went to Europe, that I discovered that, sure enough, lemons are yellow. But by then I had already made a fascinating exploration of the third colour of the solar spectrum through other dictionaries, both past and present. The Larousse and the Vox –like that of the Academy of 1780– likewise offered their references to lemons

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mondo antico, 25 – 39. Both maintain that, while Berlin and Kay place Greek in the evolutionary stage IIIB, the existence of brown and grey documented by Raina situates it in the penultimate or final stage.

13 Hartley, *Ancient Hebrew Colour Lexe*mes, pp. 16 – 25.

14 For the complete list: LSJ.

15 In the case of the present study, the problem is compounded by the fact that, while the original text was written in Spanish, it will be published in English.

and to gold, while only María Moliner, in 1976, gave the implicit refinement that the colour yellow is not that of the whole lemon but only of its rind. She would, however, avoid the poetry of the *Diccionario de Autoridades*, the Academy's first in 1726, which described yellow with a lyrical candour: 'Colour which, when intense, imitates that of gold, and that of broom straw when pale and subdued'. Of course, all of these dictionaries put together, could not hold a candle to the oldest of all, compiled in 1611 by Don Sebastián de Covarrubias, who had gone further than any other in propriety and inspiration in his definition of yellow: 'Of the colours, this is considered the unhappiest, for being that of death and of long, dangerous illness, and the colour of lovers'.[16]

I.1.3 *Status quaestionis*

Until now, there has been no specific polyglot study of the colour language used in the Bible. The studies of biblical colour language which do exist have focused on the Hebrew version, and to a lesser extent on the Greek. They include those by Anna Passoni dell'Acqua (1998, 2001, 2008),[17] which seek to establish a relationship between some chromatic terms in the Septuagint and those found in Egypt in papyri and *ostraca* during the Hellenistic period, as well as those by our own research group on the LXX[18] and the New Testament.[19] So far, there has been no such research done on the Vulgate.

16 Gabriel García Márquez, 'Prólogo' to: Concepción Maldonado and Nieves Almarza Acedo (eds.), *Clave: Diccionario de uso del español actual*. 3rd edn (Madrid: Ediciones SM, 1996), pp. VII–X, at VIII.
17 Anna Passoni dell'Acqua, 'Notazioni cromatiche dall'Egitto greco-romano. La versione dei LXX e i papiri', *Aegyptus* 78 (1998), 77–115; 'Appunti sulla terminologia dei colori nella Bibbia e nei papiri', in Isabella Andorlini et al. (eds.), *Atti del XXII Congresso Internazionale di Papirologia, Firenze 23–29 agosto 1998* (Firenze: Istituto papirologico, 2001), pp. 1067–1075; 'Colori e trasparenze nella *haute couture* dell'Egitto greco-romano', *Semitica et Classica* 1 (2008), 113–138.
18 Lourdes García Ureña, 'Χλωρός y su riqueza cromática en la Septuaginta', in τί ἡμῖν καὶ σοί; *Lo que hay entre tú y nosotros. Estudios en honor de María Victoria Spottorno* (Córdoba: UCOPress, 2016), pp. 119–131; Anna Angelini, 'Translating Colors in Antiquity: the Semantics of Κόκκινος in the Septuagint', *Semitica et Classica* 10 (2017), 49–58; Anna Rambiert-Kwaśniewska, 'What Do Byssus and Crimson Imply about the Hebrew Bible and the Septuagint?', *The Biblical Annals* 8 (3, 2018), 297–317.
19 Lourdes García Ureña, 'Colour Adjectives in the New Testament', *NTS* 61 (2, 2015), 219–238; Lourdes García Ureña, 'El oro: metal y color en el Nuevo Testamento', in Israel Muñoz Gallarte and Dámaris Romero (eds.), *Nova et vetera. Homenaje al Prof. Antonio Piñero* (Córdoba: El Almendro, 2016), pp. 279–292; Lourdes García Ureña, 'The Book of Revelation: a Chromatic Story', in Adela Yarbro Collins (ed.), *Colloquium Biblicum Lovaniense LXIV. New Perspectives on the Book of Revelation*, Bibliotheca Ephemeridum Theologicarum Lovaniensium 291 (Leuven; Paris; Bristol, CT: Peeters, 2017), pp. 393–419. In any case, the study of the four horses of the book of Revelation has always aroused the interest of specialists: Allen Kerkeslager, 'Apollo, Greco-Roman Prophecy, and the Rider on the White Horse in Rev 6:2', *JBL* 112 (1, 1993), 116–121; Henri Volohonsky, 'Is the Color of That Horse Really Pale?', *The International Journal of Transpersonal Studies* 18 (2, 1999), 167–168.

With respect to the Hebrew version, the bibliography is wider, although monographs are still scarce. In 1957, Antoine Guillaumont carried out the first synchronic study, establishing a distinction between designations that are direct (white, black, red and greenish-yellow) and indirect (words used to denote colour, for example, in precious stones, pigments, metals, etc.).[20] Some aspects of this approach would be continued some years later by Pelio Fronzaroli, who focused his attention on the analysis of colour adjectives.[21] After this would come studies based on Berlin and Kay's theory of BCT: in 1994, *A New Approach to Basic Hebrew Colour Terms* and in 2006, *Basic Color Terms of Biblical Hebrew in Diachronic Aspect*.[22] In 2009, François Jacquesson, using a new approach of addressing only those words which appear in the biblical text and analyzing how and why they are grouped together, would publish *Les mots de la couleur dans les textes bibliques*.[23] Lastly, we must mention some of the recent studies of specific colour lexemes or groups of lexemes belonging to similar tonalities, such as *Scarlet and Harlots: Seeing Red in the Hebrew Bible*; *Un estudio sobre el color: los usos de* לָבָן *en la Biblia hebrea* and the catalogue of the exhibition *Out of the Blue,* אל עומק התכלת, on the occasion of the 70th anniversary of the state of Israel.[24]

Of the monographs, I will mention only the three principal studies done so far, with their respective contributions and limitations:

Roland Gradwohl, with his *Die Farben im Alten Testament: Eine terminologische Studie* (1963),[25] was a pioneer in the field. Gradwohl analyzed the terms with precision, taking into account both the Septuagint and the Vulgate, but did not examine the literary genre in which a colour term appears, nor did he focus on the entity described, something which is often essential for determining the colour expressed by a colour adjective or noun. Besides this, since he wrote before the biblical texts from Qumran were made public, those texts are not addressed in his study.

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20 Guillaumont, 'La désignation des couleurs en hébreu', 339–348.

21 Pelio Fronzaroli, 'Sulla struttura dei colori in ebraico biblico', in Vittore Pisani (ed.), *Studi linguistici in onore di Vittore Pisani* (Brescia: Paideia, 1969), pp. 377–389.

22 Kevin Massey-Gillespie, 'A New Approach to Basic Hebrew Colour Terms', *Journal of Northwest Semitic Languages* 20 (1, 1994), 1–11; Maria Bulakh, 'Basic Color Terms of Biblical Hebrew in Diachronic Aspect', in Leonid E. Kogan et al. (eds.), *Babel und Bibel 3. Annual of Ancient Near Eastern, Old Testament, and Semitic Studies* (Winona Lake, IN: Eisenbrauns, 2006), pp. 181–216.

23 François Jacquesson, 'Les mots de la couleur dans les textes bibliques', 2009. Online in Research Project *Histoire et géographie de la couleur* (CNRS-ISCC 2008–2009), available at: www.academia. edu/33347300/Les_mots_de_couleurs_dans_les_textes_bibliques_2008_; 15/04/2019.

24 Mukti Barton, 'I Am Black and Beautiful', *Black Theology: An International Journal* 2 (2, 2004), 167–187; Scott B. Noegel, 'Scarlet and Harlots: Seeing Red in the Hebrew Bible', *HUCA* 87 (1, 2016), 1–47; Carlos Santos Carretero, 'Un estudio sobre el color: los usos de לָבָן en la Biblia hebrea', *Sefarad* 77 (1, 2017), 39–64; Oree Meiri et al., *Out of the Blue,* אל עומק התכלת (Jerusalem: Bible Lands Museum Jerusalem, 2018).

25 Roland Gradwohl, *Die Farben im Alten Testament: Eine terminologische Studie* (Berlin: A. Töpelmann, 1963).

Athalya Brenner, in *Colour Terms in the Old Testament* (1982), takes as a starting point the theory of Berlin and Kay, in *Basic Color Terms: their Universality and Evolution*, on the universal character of colour and its progressive acquisition in languages according to their cultural development. This theory, however, cannot be applied with rigour to the Hebrew Bible, on the one hand because we cannot be certain of the date the books were written, and on the other because the modern concept of colour inherited from Newtonian colour theory confers an abstract value that did not exist in antiquity. In our opinion, Brenner's work is determined by her desire to ratify Berlin and Kay's theory using the Hebrew Bible. In her favour, however, it should be noted that her work addresses not only what today we know as colour terms, but also what have been denominated as indirect colour connotations, which include toponyms, metals and precious stones.

John E. Hartley, in *The Semantics of Ancient Hebrew Colour Lexemes* (2010), also echoes the proposal of Berlin and Kay and its re-formulation in the research project *World Colour Survey (WCS)*.[26] However, he points out its limitations when applied to the languages of antiquity, as we have mentioned earlier.[27] He then follows the methodology of the *Semantics in Ancient Hebrew Database,* in which each lexeme must be analyzed according to seven different factors ('root and comparative material; formal characteristics; syntagmatics; the Versions; lexical/semantic fields; exegesis; and conclusion'). Hartley carries out a serious, rigorous study that examines the colour terms as found in the Hebrew Bible up to Rabbinic Hebrew. On occasion, however, he does not study the root of the term in its totality, and gives too much weight to cognate languages as a determining factor in the expression of colour in Hebrew. He also introduces categories that are anachronistic to Semitic culture, such as the division of colours into chromatic and achromatic, or Berlin and Kay's proposal regarding basic colours. Finally, his classification for presenting lexical entries is not clear, as this does not have a single criterion (the Munsell classification is included, with the addition of three more sections: colour terms of reduced use; foreign lexemes that serve as colour lexemes in Hebrew; and non-colour lexemes), requiring the user of the lexicon to have previously analyzed a perhaps unknown colour term.

We cannot close this section without briefly evaluating the contributions of the principal lexicons and dictionaries to the language of colour. The lexicons have been the pioneers in the arduous task of determining the meanings of colour terms in cultures which are so unlike our own, often by focusing attention on the entities being described. Many of these lexicons have the merit of demonstrating the polysemy present in such terms, as well as recognizing the symbolism that some colour terms possess. However, they have the same deficiency as the studies we have just mentioned: for the meanings of these colour terms they provide the user with a variety of differ-

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26 This was done in 1976 with the aim of mitigating some of the deficiencies in Berlin and Kay's thesis.

27 Vid. *supra*, pp. 6–7.

ent translations from which he must choose the one that seems the most appropriate for a given pericope. The sole exception to this is the *Semantic Dictionary of Biblical Hebrew*, edited by Reinier de Blois.[28] In that dictionary, along with the definitions of these lexemes, the linguist offers what he calls *glosses*; that is to say, possible translations that the user may choose from freely. In any case, the definitions of colour terms in the *SDBH* are at times redundant, as they include the translations of colours in the definitions. This is the case, for example, of ירקרק *yəraqraq*, which is defined as a 'state whereby an object has a pale green or yellowish-green color' and for which 'greenish' and 'yellowish-green' are given as translations.[29]

The question the user will have is which translation is the most appropriate and why. It is therefore necessary to define colours with greater precision and to transmit this knowledge to the scholar/translator so that he or she is the one who decides which translation to use, based on the definition.

I.1.4 Colour in the biblical corpus

I.1.4.1 The concept of colour in the Bible and in Greco-Latin antiquity

As we have already stated, before analyzing colour terms in the Bible, it is necessary to examine the concept of colour that characterizes the biblical corpus. A first step in this is to look at the word for 'colour' itself and how this corresponds to its respective cultures: the Hebrew, the Greek and the Latin.

A lexeme (a lexical unit endowed with meaning) for 'colour' does not appear as such in the Hebrew version. According to *The Jewish Encyclopedia*, עין *ʿayin*, 'eye' (Lev 13.55; Num 11.7; Prov 23.31; Ezek 1.4, 7, 16, 22, 27; 8.2; 10.9; Dan 10.6) and מראה *marʾeh*, 'appearance' (Ezek 40.3) are used as synonyms for colour terms when the Hebrew writer compares one object to another with respect to colour.[30] However, when each of the contexts in which this parallelism is affirmed is analyzed, it does not seem that an allusion to colour can necessarily be deduced. More properly, עין *ʿayin* and מראה *marʾeh* refer to general aspect, i.e. appearance, rather than similitude. This is the case of the spot in Lev 13.55, the manna in Num 11.7 and the wine in Prov 23.31. The LXX interprets these as such, while in the Vulgate they are seen as colour and translated accordingly. As for the prophetic books, Ezekiel and Daniel use מראה *marʾeh* (Ezek 40.3) and עין *ʿayin* to precede bronze (Ezek 1.7; Dan 10.6), as if this were an idiomatic expression for describing the subjects of their vi-

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28 Reinier de Blois (ed.), *Semantic Dictionary of Biblical Hebrew*; © United Bible Societies 2000 – 2019; latest update: 29/11/2017; available at: http://www.sdbh.org/dictionary/main.php?language=en.
29 *SDBH*, s.v. ירקרק; available at: http://www.sdbh.org/dictionary/main.php?language=en; 10/07/2018.
30 Emil G. Hirsch and Caspar Levias, 'Color', in *Jewish Encyclopedia*; available at: https://www.jewishencyclopedia.com/articles/4557-color; 12/11/2017.

sions. Ezekiel widens this use of עַיִן *ʿayin* when referring to precious stones such as amber (Ezek 1.4, 27; 8.2), beryl (Ezek 1.16; 10.9) and crystal (Ezek 1.22).

In the LXX, on the other hand, there are two lexemes which do denote colour, although their presence is sporadic: χρῶμα (4x) and χρόα (3x).[31] These appear in books written directly in Greek (Wisdom [Wis 13.14; 15.4], 2 Maccabees and the Greek additions to Esther), and in translations of the book of Exodus: Exod 4.7; 34.29 – 30.

Both are used in the same contexts to describe objects and people, and so they function as synonyms. In the first case, χρῶμα and χρόα refer to the various hues, produced by pigments and dyes, with which the statues of idols are decorated (Wis 15.4):[32]

[...] εἶδος σπιλωθὲν χρώμασιν διηλλαγμένοις

[...] a figure stained with varied colours

In the second case, for the description of people, χρῶμα and χρόα are used to describe the visual effect caused in one's face by intense emotions such as fear (Esth 15.7;[33] 2 Macc 3.16), by the recovery of health (Exod 4.7)[34] or by a personal religious experience (Exod 34.29 – 30). It is surprising that in these pericopes the translator of the LXX both lengthens the text and gives a more detailed description, when this is not the case in the Hebrew version.[35] We will now look more closely at Esth 15.7 and Exod 34.29, as these show clearly the conception that was held of χρῶμα/χρόα:

Esth 15.7 narrates the famous episode in which the queen Esther faints when she appears before her husband the king:

[...] καὶ ἔπεσεν ἡ βασίλισσα καὶ μετέβαλεν τὸ χρῶμα αὐτῆς ἐν ἐκλύσει [...]

[...] the queen fainted and her χρῶμα faded from this fainting [...]

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31 Both lexemes denote colour by referring to the surface, principally the skin or face: Hartley, *Ancient Hebrew Colour Lexemes*, p. 69.

32 It might be considered that χρόα in Wis 13.14 has the meaning of 'surface'; however, the Vulgate interprets this as 'colour' and therefore translates it with the lexeme *color*. For a more detailed study: Lourdes García Ureña, 'Χλωρός in the Septuagint: colour or state?', in press.

33 Esth 15.7 corresponds to one of the Greek additions to the book of Esther denominated 'D' and absent from the Hebrew Masoretic Text: Natalio Fernández Marcos and María Victoria Spottorno, *La Biblia griega. Septuaginta. II. Libros históricos* (Salamanca: Sígueme, 2011), p. 648.

34 LXX describes the disappearance of leprosy from Moses' hand by referring to the change in skin colour: πάλιν ἀπεκατέστη εἰς τὴν χρόαν τῆς σαρκὸς αὐτοῦ. The verses before the leprosy episode had employed chromatic terms: γενήθη ἡ χεὶρ αὐτοῦ ὡσεὶ χιών.

35 In Exod 4.7, the MT presents a much more concise text, using three words as opposed to the nine of the Greek version, and mentions only the disappearance of the leprosy, explaining that the hand recovered its initial aspect: והנה שבה כבשרו (*it was restored like his flesh*). The same occurs in Exod 34.29 – 30; the MT version is briefer in both v. 29 and v. 30: קרן עור פניו, 'the skin of his face shone'.

The narrator of the Septuagint tells us not only of the queen's fainting spell, but describes her aspect, with the expression μεταβάλλω τὸ χρῶμα, 'to change/fade in χρῶμα'. The question that arises is whether χρῶμα refers to colour or to complexion.[36] The context helps to clarify this. Some verses earlier, the narrator had extolled the queen's beauty (Esth 15.5):

> αὐτὴ ἐρυθριῶσα ἀκμῇ κάλλους αὐτῆς
>
> she blushing in the flower of her beauty

For this he employs a colour term, the verb ἐρυθριάω, 'to blush' (Esth 15.5). Thus, by creating a chromatic context, i. e. that of her rosy hue, he presents the queen's robust, healthy aspect. It is not surprising, then, that he goes on to explain the effect that the queen's fainting has on this aspect: μετέβαλεν τὸ χρῶμα αὐτῆς, 'her χρῶμα faded'; that is to say, the rosy hue of the queen's complexion has disappeared, since, as we know, when a person faints paleness occurs as the flow of blood diminishes in their face. This is how it is interpreted in the Vulgate: *in pallorem colore mutato* (Esth 15.10). Χρῶμα, therefore, denotes the hue of the queen's countenance, as Muraoka has already suggested.[37] What is more, the expression μετέβαλεν τὸ χρῶμα αὐτῆς indicates not only the change in the queen's colouration, but also a change in state, as the tonality of her face changes through fainting. Esther, terrified by the presence of the king, faints and μετέβαλεν τὸ χρῶμα αὐτῆς, 'her colour fades'; that is, she becomes pale. We might take this a step further and conclude that in Esth 15.5 χρῶμα denotes the natural skin tone of a person's face as the result of health or well-being.[38] Χρῶμα simultaneously expresses this facial colouring and the state of that person. Indeed, a change in χρῶμα implies a corresponding change in state: well-being as opposed to fainting from fear. The change in colour, then, is a symptom of the panic being experienced[39] and as a result of this intense emotion the individual faints.

In Exod 34.29 the situation is very different.[40] The narrator of Exodus describes the aspect of Moses after the face-to-face encounter with God in which he receives the tablets of the law:

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36 Meanings proposed by LSJ and LEH, s.v. χρῶμα.

37 *GELS*, s.v. χρῶμα: 'colour of skin'.

38 Currently, this colour term is also used to refer to the natural colouration of the skin, principally that of the face (*Diccionario Akal del color*, pp. 258–259, at 259, s.v. color,), although a person's state is not mentioned.

39 The same occurs with the high priest in 2 Macc 3.16, when his panic is made visible by the colour of his face.

40 It is uncertain which Hebrew text (Vorlage) underlies the Greek translation: Nahum M. Sarna, 'Exodus, Book Of. E. Textual Traditions', *ABD* 2.

> [...] Μωυσῆς οὐκ ᾔδει ὅτι δεδόξασται ἡ ὄψις τοῦ χρώματος τοῦ προσώπου αὐτοῦ ἐν τῷ λαλεῖν αὐτὸν αὐτῷ.

> [...] Moses did not know that the appearance of the χρῶμα of his face was glorified, when God spoke to him.

The translator of Exodus uses the verbal lexeme δοξάζω, 'to glorify', a term of deep theological content that carries the biblical meaning of δόξα, 'the divine radiance', to express the divine nature of God in both his perceptible and imperceptible forms.[41] However, making the subject ἡ ὄψις τοῦ χρώματος τοῦ προσώπου αὐτοῦ indicates that Moses himself is a participant in this divine splendour, as it emanates from his face, more precisely from the χρῶμα of his face. Although NETS, Brenton and the Biblia griega. Septuaginta translate χρῶμα as 'skin' and 'complexion', one of the meanings of this term according to the LSJ, the earlier definition of χρῶμα as the natural hue of a person's face as the result of health or well-being also fits this context, as what we are told is that brightness is emitted from this natural skin tone; that is to say, his colouring has become luminous.[42] As we have already commented,[43] in antiquity colour did not only express a specific tonality, but also luminosity, a good example of which can be found in Euripides' *The Phoenician Women*, when Polyneces and Eteocles are described before their battle:

> ἔσταν δὲ λαμπρὼ χρῶμά τ' οὐκ ἠλλαξάτην

> they stood radiant and with their colour unfaded (1246)

The fact that χρῶμα conveys luminosity allows us to go a step further, as it reveals the state of Moses: that of being in communion with God. This special communion with God is thus reflected in Moses' face, and the natural hue of his skin now glows with a unique radiance.

After analyzing these terms, we can affirm that χρῶμα and χρόα are used in the LXX as synonyms and describe both objects and people. When they describe objects (the idols), they denote a hue produced by a pigment or dye, what is nowadays known as a 'material colour' or 'pigment colour', the result of subtractive mixing.[44] On the other hand, when χρῶμα and χρόα describe a person, they denote a chromatic characteristic of the state of the individual's well-being as reflected in his face. Depending on the context, χρῶμα and χρόα in some cases suggest what is known today as hue and/or degree of saturation (Exod 4.7; Esth 15.7; 2 Macc 3.16), and in other cases luminosity (Exod 34.29–30). In these pericopes, colour is presented

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41 Gerhard Kittel, 'δοκέω δόξα δοξάζω συνδοξάζω ἔνδοξος ἐνδοξάζω παράδοξος', *TDNT* 2, 232–255, at 244, 253.
42 Today, the term 'self-luminous colour' refers to the light emitted by a luminous body that acts as a stimulus to chromatic perception: *Diccionario Akal del color*, p. 259, s.v. color autoluminoso.
43 Vid. *supra*, p. 6.
44 *Diccionario Akal del color*, p. 260, s.v. color materia.

not as an intrinsic quality of a person, but as a state, and a change in this state carries with it a change of colour, whether this is with regard to health (Exod 4.7),[45] fainting (Esth 15.7), fear (2 Macc 3.16) or communion with God (Exod 34.29 – 30).

The Septuagint, then, uses both χρῶμα and χρόα to designate what is visible on the surface of a person (in which case it indicates a state) or an object, whose origin may be either natural, such as that which characterizes the face or outer appearance of a person, or artificial, i.e. obtained from pigments.

In the Vulgate,[46] we find that the lexeme *color* is used more frequently (31x).[47] It is sometimes used to translate Hebrew terms such as עין *ʿayin*, 'eye' or 'appearance', referring to manna or wine (Num 11.7; Prov 23.31), צבע *tseba*, 'coloured cloth' (Judg 5.30), רקמה *riqmah*, 'embroidery' (1 Chr 29.2) and perhaps Greek terms such as ποικίλος, in the episode of the flock raised by Jacob to free himself from Laban (Gen 30.37, 39; 31.10), especially since the Hebrew version lacks an equivalent term.[48] It is also used for the previously mentioned χρόα (2 Macc 3.16; Wis 13.14) and χρῶμα (Wis 15.4), which refer to a change in skin colour due to fright and to the colours used for painting idols.

At other times, *color* is not used to translate any specific chromatic term, but is a way of:

a) giving emphasis in the Latin version to the varied colouring of the textiles enumerated in the Hebrew text (Exod 39.3, 5);
b) clarifying, for example, when changes in the clinical signs of leprosy are described in Leviticus (Lev 13.2, 3, 4, 21, 26, 32; 14.56), or when the quality of gold is altered (Lam 4.1);
c) making explicit reference to the presence of colour in expressions whose chromatic content is unknown to the reader; for example, when 'the wool of Sajar' in Ezek 27.18 is translated as *in lanis coloris optimi*.[49]

Finally, there is a tendency in the Vulgate to add the word *color* to colour adjectives like red, white and blue (Lev 13.10, 36, 39, 42; Esth 1.6; 15.8), to substitute *color* for

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45 Moses knows that his hand is cured of leprosy because the colour white, a symptom of the disease (Exod 4.6), has disappeared. The translator of the LXX comments: ἀπεκατέστη εἰς τὴν χρόαν τῆς σαρκὸς αὐτοῦ, 'it was again restored to the colour of his flesh' (Exod 4.7).

46 As in the case of the Septuagint, we do not know the Hebrew source that was used for the Vulgate. In any case, it does not always coincide with the MT. Exod 39.3, 5 could be one example of this.

47 31x: Gen 30.37, 39; 31.10; Exod 39.3, 5; Lev 13.2, 3, 4, 10, 21, 26, 32, 36, 39, 42; 14.56; Num 11.7; Judg 5.30; 1 Chr 29.2; Esth 1.6; 15.8, 10; 2 Macc 3.16; Job 28.16; Prov 23.31; Wis 13.14; 15.4; Ecclus (Sir) 43.20; Lam 4.1; Ezek 23.14; 27.18. In the Vulgate, *color* appears two more times: 4 Esd 6.44; 14.39. These have been temporarily excluded from this study, as explained in note 107.

48 We do not know whether the Vulgate is following the LXX here or, by introducing *maculosa et uaria* to translate the Hebrew lexemes, it is the Latin language itself that determines the use of *diuerso colore* (Gen 30.39) or *diuersorum colorum* (Gen 31.10).

49 The Vulgate also distances itself here from the *Vetus Latina*, which logically follows the LXX in translating this as: *lana a Meleto* or *lanas de Mileto* (*Vetus Latina Database:* Ezek 27.18).

chromatic terms such as λευκότης (Sir 43.20) or שָׁשַׁר *shashar,* 'vermilion' (Ezek 23.14) and to vary the source text by adding a chromatic gloss that is found in neither the Hebrew nor the Greek versions (Job 28.16).

Similar to what occurs in the LXX, the Vulgate uses *color* to denote the natural or artificial colour that appears in both people and objects. In people, the presence of colour indicates a state, a sign of experiencing fear or anxiety (2 Macc 3.16 Esth 15.10), as it does in the Septuagint. In the Vulgate, however, *color* is also used to express the symptoms of happiness (Esth 15.8) and an illness, such as leprosy. Here *color* is applied to people (Lev 13.2–4, 10, 21, 26, 32, 36, 39, 42) and to objects, clothing or houses (Lev 14.56). Finally, in contrast to the chromatic sobriety of the Hebrew and Greek versions, the Vulgate is more sensitive to the perception of colour, occasionally revealing it where in the Hebrew and Greek versions it is merely latent, whether this is to highlight, to clarify or to give a general emphasis to the text itself.

In light of this, it can be concluded that χρῶμα, χρόα and *color* designate natural tonalities (a change in facial colour, the colour of wine, etc.) as well as artificial ones derived from dyes or pigments. They describe the outer appearance of a person, which in this case coincides with his or her state, or of an object. To a great extent, this concept of colour is similar to that found in the first treatises on colour that have come down to us from the Greeks. While not even Plato or Aristotle would elaborate a systematic theory of colour, in these early studies we can already detect attempts to define colour, to classify colours and to analyze their origins.

Plato defined colour as that which is perceived first visually (*Chrm.* 167c-d). A similar definition proposed by Aristotle –τὸ γὰρ ὁρατὸν ἐστι χρώμα, 'what is visible is colour' (*De An.* 418a27)– has been maintained throughout history. From this, the stoic Zeno would affirm that τὰ χρώματα ἐπίχρωσιν τῆς ὕλης ὑπέλαβεν, 'colours are the surface tint of matter'.[50] The author of *De Coloribus* characterized them in much the same way, arguing that colour is a tool for knowing the world around us.[51] He also perceived that colour is present in plants, animals and people, to which it is intrinsically linked (792b). At the same time, he realized that colour is not permanent, but changes according to the season of the year, degree of humidity and stage of development (794b–799b). In other words, he was aware that this type of colour is directly related to state. Finally, he studied the colour that is produced by the mixing of substances, that is to say, which has its origin in dyes and pigments.

Centuries later, χρῶμα would be defined in the *Suda* as τὸ ἐν τοῖς σώμασιν, ὡς τὸ λευκὸν καὶ τὸ μέλαν καὶ τὰ τούτων μεταξύ, 'what exists in bodies, such as "white",

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50 Hans Von Arnim, ed., *Stoicorum Veterum Fragmenta*, vol. 1 (Leipzig: Teubner, 1905), pp. 3–71.
51 *De Coloribus* is the first specific treatise on color, dating from the late 4th century–early 3rd century BC. Its authorship has long been attributed to Aristotle, although this is contested today, as its style and the manner of presenting its content are quite removed from the usual Aristotelian dialectical and speculative discourse (Aristotele, *I colori e i suoni*, Maria Fernanda Ferrini, ed. [Milano: Bompiani, 2008], pp. 41–42; 56; 67, note 3).

"black", and the intermediates to these'.[52] We may conclude that, for the Greeks, the concept of colour was not abstract, but concrete; i.e. that which is visible and found on the surface of an object. To paraphrase Sandra Busatta, colour is what 'covers' an object or a person, an aspect of the surface, and in particular the indicator of an internal state, as in one's complexion.[53]

With respect to the classification of colours and their origins, the pre-Socratics distinguished four simple (ἁπλᾶ) colours –white, black, red and ochre– and related them to the four elements of air, water, earth and fire. What is more, they postulated that all the other colours arose from mixing these (Democritus). Aristotle, meanwhile, distinguished seven simple colours[54] and proposed that the rest came from mixing light and darkness (Arist. *Sens.* 442a). We can deduce, then, that the modern classification that distinguishes between achromatic colours (white, grey and black) and chromatic ones (all the others) did not then exist. Light, nevertheless, was considered to be a fundamental element of colour.

The Romans would also examine colour to a profound degree. In general lines, their concept of colour is similar to that found in Greece. Lucretius, for example, in *De Rerum Natura*, defined colour as the first property of an object to be perceived visually: the visible property, or *simulacrum* (outer appearance). Pliny the Elder, for his part, would argue in his *Historia Naturalis* that colour was the key for classifying the natural world. He included pigments and dyes in his study of colour, as well as that which defines the material identity of a precious stone.[55] It is, for example, colour that makes an emerald an emerald and not a ruby. From this, we can see that colour had not only a descriptive function, but a cognitive one.[56] That is to say, it was a question not only of seeing, but *knowing*.

In conclusion, colour in Greco-Latin culture was not an abstract notion, but a concrete one; i.e. colour is what covers an object or a human being, often indicating an internal state. It is captured by the sense of vision through the presence of light and has a cognitive as well as descriptive function.

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52 *Suda*, n. 538, 539.

53 Sandra Busatta, 'The Perception of Color and the Meaning of Brilliance Among Archaic and Ancient Populations and Its Reflections on Language', *Antrocom Online Journal of Anthropology* 10 (2, 2014), 309–347, at 312.

54 These are: φαιός or ξανθός, φοῖνιξ, ἁλουργός, πράσινος, κυάνεος, λευκός and μέλας.

55 For a more detailed study: Mark Bradley, *Colour and Meaning in Ancient Rome* (Cambridge; New York: Cambridge University Press, 2009), pp. 74–86; 87–110.

56 Angelini, 'Translating Colors in Antiquity', 49–58.

I.1.4.2 The linguistics of colour in the biblical corpus

This concept of colour is not merely theoretical, as we find it in the chromatic language of the biblical corpus itself, where it determines some of its characteristics, among which we can point out the following:[57]

1. Colour lexemes do not appear as abstract colours in the biblical corpus; in fact, red, blue, green and so on are not mentioned. Biblical colour terms always refer to specific visual aspects (hue/luminosity/saturation) that describe an entity (a person or object). In this sense, we can say that they are *embodied* colour terms because they appear inseparably linked to concrete entities.[58] Thus, for example, ירקרק *yəraqraq* is embodied in נגע *nega,* 'spot (of mould)' (Lev 13.49; 14.37) and חרוץ *ḥārûṣ,* 'gold' (Ps 68.14); χλωρός in ἄχι, 'herb' (Isa 19.7) and βοτάνη, 'vegetation, pasture grass' (2 Kgs 19.26), χόρτος, 'herb, grass'(Gen 1.30; Isa 15.6), etc.; and *uiridis* in *arbor,* 'tree' (Ecclus [Sir] 14.18), *lignum,* 'wood, tree' (Ezek 17.24; 20.47; Luke 23.31), *holus,* 'vegetable, grass, herb' (Ps 36.2 VulgHeb [37.2 MT]), *faenum*, 'hay, grass' (Mark 6.39; Rev 8.7), *satio,* 'sowed fields' (Ecclus [Sir] 40.22) and so on. This embodiment is a clear reflection of the concept of colour that we have just described, as being that which 'covers something' and is perceived by the eyes thanks to the presence of light. In this sense, it is interesting that the first colour term in Bible appears on the sixth day of creation (Gen 1.30), when light has already been created.

2. Colour terms express the visible aspect of objects, not only what today we refer to as hue, but also the qualities of luminosity and saturation. The chromatic variations that result from a greater or lesser amount of light were often expressed in antiquity by a single lexeme.[59] Each term, then, can encompass a wide range of colours, or in current terminology, its particular 'pantone' (colour spectrum). For example, χλωρός and *uiridis* denote a chromatic spectrum of their own which may include hues with different degrees of saturation, ranging from a generic green to a pale or yellowish green, or different hues altogether, such as yellow.[60]

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57 In this section, we are not limiting ourselves to only those colour terms related to green but to the entire chromatic spectrum as it appears in the biblical corpus.

58 The concept of embodiment expressed here is completely different from that used in cognitive linguistics, which stresses that bodily experience plays a fundamental role in our thinking: 'The centrality of human embodiment directly influences what and how things can be meaningful for us, the ways in which these meanings can be developed and articulated, the ways we are able to comprehend and reason about our experience, and the actions we take' (Mark Johnson, *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason* [Chicago: Chicago University Press, 1987], p. xix).

59 Guillaumont, 'La désignation des couleurs en hébreu', pp. 344–346; Jacques André, *Étude sur les termes de couleur dans la langue latine* (Paris: Librairie C. Klincksieck, 1949), pp. 12–13.

60 Vid. *infra*, pp. 84–85, 130–135.

3. Colour in the Hebrew text, and in the Greek and Latin versions as well, is expressed by terms that denote not only colour but the material of which an object is made. This is true of textiles, precious stones,[61] metals or even the source from which a colour originates (insects, molluscs, etc.). On some occasions, these terms are used simply to denote colour, as in Isa 1.18, where sin is likened to scarlet and its purification to wool. However, at other times it is difficult to say precisely whether the term designates only the material or its colour as well, as in the enumerations of the textiles that adorn the temple (Exod 26.31, 36; 27.16; etc.) or of priestly vestments (Exod 28.8, 15, 33, etc.). These are what Guillaumont calls 'indirect designations',[62] while Kuschel and Monberg refer to them as 'contextualized colour lexemes'; that is to say, 'terms that are ineludibly linked to a specific natural or cultural object'.[63]

4. As a result, the chromatic spectrum of colour terms linked to textiles, precious stones and metals becomes enriched as it encompasses the various tonalities that the material object itself may have. An example of this is the case of πορφυροῦς and its Latin counterpart *purpureus*. Although the dictionaries and translations use the adjective 'purple', it is well known that, according to the process used for obtaining dyes, πορφυροῦς and *purpureus* can refer to various shades of purple. These may be tinted with red, blue, violet or black.

I.1.4.3 Specific demands for modern research

Because of this, the study of chromatic lexis in antiquity and, more specifically, in the biblical corpus, poses a series of specific demands that must be taken into consideration by modern researchers. These are:

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61 Up to now, it has proven an arduous task to identify the precious stones mentioned in both the Old and New Testaments, as attested to by James A. Harrell et al., 'Hebrew Gemstones in the Old Testament: A Lexical, Geological, and Archaeological Analysis', *Bulletin for Biblical Research* 27 (1, 2017), 1–52; James A. Harrell, 'Old Testament Gemstones: a Philological, Geological, and Archaeological Assessment of the Septuagint', *Bulletin for Biblical Research* 21 (2, 2011), 141–171; Cynthia L. Miller-Naudé and Jacobus A. Naudé, 'Textual Interrelationships Involving the Septuagint Translations of the Precious Stones in the Breastpiece of the High Priest', *HTS Teologiese Studies/Theological Studies* 76 (4, 2020), a6141. https://doi. org/10.4102/hts.v76i4.6141 and Una Jart, 'The Precious Stones in the Revelation of St. John xxi.18–21', *Studia Theologica* 24 (1970), 150–181. As the entity cannot be determined with certainty, it is difficult to know the precise colour of each stone. For this reason, those that refer to green have for the moment been excluded from our study. We have only included the one mentioned in Gen 2.12 in the Septuagint –the adjective πράσινος– as it is in fact a Greek colour term. Vid. *infra*, pp. 123–129.

62 Guillaumont, 'La désignation des couleurs en hébreu', p. 340.

63 Rolf Kuschel and Torben Monberg, 'We Don't Talk Much about Colour Here: A Study of Colour Semantics on Bellona Island', *Man New Series* 9 (2, 1974), 213–242, at 217.

1. The need to adopt a concept of colour closer to that which existed in antiquity. On this point, one of the definitions of colour that appears in the *Diccionario Akal del color* may be helpful, as it is similar to the Greek and Latin definitions: 'name used in common speech [...] something which can be seen in things which have it';[64] or that proposed by Lyons:[65] 'colour is that property of physical entities and substances which is describable in terms of hue, luminosity (or brightness) and saturation and which makes it possible for human beings to differentiate between otherwise perceptually identical entities and substances, more especially between entities and substances that are perceptually identical with respect to size, shape and texture'. This definition has the advantage of respecting the colour concept of antiquity (as that which is visible in objects and human beings), considering that the chromatic lexicon of antiquity is characterized especially by luminosity, while at the same time providing an approach to the current canons of colour, in which the determining factor is tone or hue. However, both of these definitions overlook the fact that colour in antiquity could also indicate a state. Therefore, following part of Lyons's definition, we propose the following: 'what covers a person or object, in many cases reflecting a state, and is describable in terms of hue, luminosity (or brightness) and saturation, making it possible for human beings to differentiate between otherwise perceptually identical entities and substances, and more especially between entities and substances that are perceptually identical with respect to size, shape and texture'.

2. As biblical colour terms are embodied, the first step in discovering the meaning of a colour is to consider the entity described in the context that it appears. This entity will provide essential information for determining the tonality expressed by a given chromatic lexeme in its specific context. It is essential, therefore, not to undervalue connotation, but rather to grant it as much importance as denotation, to which it will provide useful nuances.

3. As chromatic terms encompass a specific pantone that would have been obvious to the biblical author and his audience, the modern reader/translator must be aware that the majority of colour terms are polysemic. This polysemy is generally no more than a linguistic reflection of the chromatic variations present in nature, some produced by the diverse degrees of luminosity or saturation that these entities possess. That is to say, it is a motivated polysemy; and so, for example, χλωρός, depending on whether it expresses hue, brightness or saturation, possesses various meanings: green or yellow when referring to hue, light green when referring to brightness, and greyish green when referring to saturation, de-

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64 *Diccionario Akal del color*, p. 258, s.v. color.

65 John Lyons, 'The Vocabulary of Color with Particular Reference to Ancient Greek and Classical Latin', in Alexander Borg (ed.), *The Language of Color in the Mediterranean: an Anthology on Linguistic and Ethnographic Aspects of Color Terms*, vol. 1 (Stockholm: Almqvist & Wiksell International, 1999), pp. 38–75, at 42.

pending on the entity being described (plants, sand, honey, a sick person, etc.).[66] As some chromatic terms fall into the category of 'indirect designations' or 'contextualized colour lexemes', it is necessary to know the characteristics of the material to which they are linked (metal, textile, precious stone, etc.). In other words, the linguistic study of chromatic language in the biblical corpus (which can be extended to the languages of antiquity in general) implies the inclusion of knowledge which is not strictly linguistic, but drawn from fields such as archaeology, history, mineralogy or botany. It is essential, then, to aim for an interdisciplinary study that will illuminate the meaning of these colour terms.[67] In the case of the Bible, such an approach becomes wider still, as to a certain extent it spans three different cultures: the Hebrew, the Greek and the Latin. The modern researcher must acquire a wide-ranging knowledge that will embrace all of these dimensions if he hopes to understand the thought of antiquity.

4. The study of colour terms is done from the texts themselves. The biblical corpus comprises a series of books in a variety of literary genres, and so the question of genre or literary form may be a determining factor. For example, when studying the term ירקרק *yəraqraq*, it is not the same to analyze this lexeme as it appears in poetic texts such as Ps 68.14, where the colour adjective is used as a motif, as when in Leviticus, a legal text, it is used as a clinical sign of health or illness.

5. Given that the chromatic lexis of the Septuagint and the Vulgate is the specific manifestation of a long chromatic tradition, it is essential to identify the chromatic spectrum that colour lexemes possess in their respective languages before proceeding to examine the specific tonalities that appear in each corpus.

6. With the aim of respecting the language of colour as it appears in the biblical corpus and not simply providing the reader with an updated semantic typology of this language, the meaning of a colour term must be expressed according to a definition; that is to say, a statement which reflects the features that define it in the precise context in which it appears.

I.1.5 Theoretical framework

I.1.5.1 Structuralism: the componential analysis of meaning

From the beginning, it seemed to us that componential analysis could provide the crucial theoretical framework needed for this research, following the method proposed by the Spanish exegete Juan Mateos in *Método de análisis semántico: aplicado*

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66 LSJ, s.v. χλωρός. We are using the LSJ here for the clarity of the examples given.

67 Mark S. Smith, 'Words and Their Worlds', in Eberhard Bons et al. (eds.), *Biblical Lexicology: Hebrew and Greek: Semantics – Exegesis – Translation* (Berlin; Boston: De Gruyter, 2015), pp. 3–31, at 31, points out that, without the cultural context, the lexicographer may overlook crucial aspects that lie deep within the meaning of the words themselves.

al griego del Nuevo Testamento[68] and revised by his disciple Jesús Peláez del Rosal (2018).[69] We felt that some of Mateos's ideas would facilitate the study of colour language and to these the present study is greatly indebted, specifically:

a) The important role of the contextual factor in the meaning of a word, as it enables us to distinguish the different meanings possessed by a single lexeme.[70]

b) The difference between meaning ('the information contained in and transmitted by a term in isolation or in context';[71] 'expressed in a definition that is clearly formulated and joins together a word's semantic features'[72]) and translation ('the statement in another language [the language of the term] of what is stated in the language of origin, preserving semantic and stylistic equivalences').[73]

c) The constant reference to the entity as a connoted element when colour adjectives are analyzed.[74]

This proven methodology[75] presents some nevertheless insurmountable obstacles for the study of colour language. First of all, colour is thought of as an intrinsic quality

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68 Juan Mateos, *Método de análisis semántico: aplicado al griego del Nuevo Testamento* (Córdoba: El Almendro, 1989). The director and coordinator of this study had the good fortune to work with this exegete in the final two years of his life.

69 Jesús Peláez del Rosal, *New Testament Lexicography: Introduction, Theory, Method* (Berlin: De Gruyter, 2018).

70 Jesús Peláez del Rosal, 'El factor contextual como elemento determinante del significado de los lexemas. El caso de ἀπολείπω', in Vicente Balaguer and Vicente Collado (eds.), *V Simposio Bíblico Español. La Biblia en el Arte y la Literatura. I: Literatura* (Valencia: Fundación Bíblica Española, 1999), pp. 411–418, at 411: 'The context has a determining value in the formation of new meanings for a lexeme, as it introduces changes in its formula and in its semic development, generating new meanings and, consequently, new translations'.

71 *DGENT* 4, p. III.

72 Peláez del Rosal, *New Testament Lexicography*, p. 14.

73 *DGENT* 4, p. III.

74 Peláez del Rosal, *New Testament Lexicography*, p. 14. This aspect has also been pointed out from the perspective of cognitive linguistics by Eve Sweetser, 'Compositionality and Blending: Semantic Composition in a Cognitively Realistic Framework', in Theo Janssen and Gisela Redeker (eds.), *Cognitive Linguistics: Foundations, Scope, and Methodology*, Cognitive Linguistics Research 15 (Berlin; New York: De Gruyter, 1999), pp. 129–162, at 139.

75 In relation to New Testament Greek, two great dictionaries will serve as examples of this: Johannes P. Louw and Eugene A. Nida, *Greek-English Lexicon of the New Testament: Based on Semantic Domains*, 2nd edn, 2 vols. (New York: United Bible Societies, 1989); and Juan Mateos and Jesús Peláez del Rosal (dirs.), *Diccionario griego-español del Nuevo Testamento (DGENT). Análisis semántico de los vocablos*, 5 vols. (Cordoba, El Almendro, 2000–2012), in which the director of the present work has participated. In the Semitic area: Franceso Zanella, 'The Contribution of Componential Analysis to the Semantic Analysis of a Lexical Field of Ancient Hebrew: Some Concrete Examples from the Lexical Field of the Substantives of Gift', *European Journal of Jewish Studies* 2 (2, 2008), 189–212; Gerrit J. Van Steenbergen, *Semantics, World View and Bible Translation: an Integrated Analysis of a Selection of Hebrew Lexical Items Referring to Negative Moral Behaviour in the Book of Isaiah* (Stellenbosch: SUN PRESS, 2006); Gerrit J. Van Steenbergen, 'Componential Analysis of Meaning and Cognitive Linguistics: Some Prospects for Biblical Hebrew Lexicology (Part 1)', *Journal of Northwest Semitic Languages*

('that by which something is and what it is like').[76] However, as has just been shown, colour in both the Septuagint and the Vulgate is, on many occasions, the indication of a state. With regard to the Hebrew Bible, Reinier de Blois, from the perspective of cognitive linguistics, considers that Hebrew colour terms indicate a *state/process*,[77] and for this reason he includes them in the cognitive category of *events* ('all states, processes, actions, and causative actions featuring one or more objects or other events').[78]

The second obstacle to componential analysis is that the type of definition used to express the meaning of a colour adjective is in the end a tautology, as the element defined forms part of the definition. Thus, for example, λευκός is defined as 'white colouration (A) attributed to (R) entity'.[79] Not only this, but can it be affirmed that λευκός in the New Testament is a monosemic term that always denotes what in English or Spanish we understand as 'white'? Could it not be a polysemic term with at least two meanings, 'bright' and 'white', as proposed by the BDAG or Louw and Nida? The problem is a deeper one that lies at the very foundation of componential analysis. In this approach, the meaning of a lexeme is 'a set of distinctive features'.[80] These semantic features, according to the method of semantic analysis, constitute the set of semes (the semantic components) of a lexeme.[81] In the case of the colour white, the specific semes that constitute its meaning are: quality, colouration and whiteness. However, when it is affirmed that 'the specific semes of colour (e. g. whiteness, blackness) are data of immediate experience and cannot be analyzed',[82] a tautology is produced. Componential analysis overlooks the fact that 'our bodily configuration is capable of determining the categories that we can establish'.[83] As Anna

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28 (1, 2002), 19–38; Gerrit J. Van Steenbergen, 'Componential Analysis of Meaning and Cognitive Linguistics: Some Prospects for Biblical Hebrew Lexicology (Part 2)', *Journal of Northwest Semitic Languages* 29 (1, 2003), 109–126. This last author uses componential analysis within the framework of cognitive linguistics. For a general evaluation of componential analysis: John Lyons, *Linguistic Semantics: an Introduction* (Cambridge; New York: Cambridge University Press, 1995).

76 Dámaris Romero González, *El adjetivo en el Nuevo Testamento: Clasificación semántica. Tesis Doctoral* (Córdoba: Universidad de Córdoba, 2007), p. 110; available at: http://biblioteca.universia.net/htmlbura/verColeccion/params/id/32080.html; 07/08/2019; Peláez del Rosal, *New Testament Lexicography*, p. 126.

77 In fact, De Blois uses the expression 'colour (state/process)' as the lexical domain of each of the different colour terms: *SDBH*, s.v. ירק; s.v. אדמדם; s.v. לבן; etc.; available at: http://www.sdbh.org/dictionary/main.php?language=en; 7/08/2019.

78 *SDBH*, 'Lexical Domain'; available at: http://www.sdbh.org/dictionary/main.php?language=en; 6/08/2019.

79 Peláez del Rosal, *New Testament Lexicography*, p. 127.

80 Peláez del Rosal, *New Testament Lexicography*, p. 14.

81 Peláez del Rosal, *New Testament Lexicography*, p. 14.

82 Peláez del Rosal, *New Testament Lexicography*, p. 127.

83 Iraide Ibarretxe-Antuñano, 'Lingüística cognitiva: origen, principios y tendencias', in Iraide Ibarretxe-Antuñano et al. (eds.), *Lingüística cognitiva*, 2nd edn (Barcelona: Anthropos, 2016), pp. 13–38, at 20.

Wierzbicka proposes, colour is perceived by the brain through sensations that are personal and therefore incommunicable. However, the brain is capable of connecting these sensations to something that is found outside of us, in our surroundings, such as fire, the sky, the earth, day/night, the sun and so forth. This 'something' is in turn transformed into a concept (fire, sky, sun, etc.) that we relate to directly with our colour vision. It is precisely through such concepts that we can communicate to others the colour we perceive. Indeed, in ancient texts we find that colours are defined through entities, as in the *Corpus Hippocraticum*, which describes the colour ὑπόχλωρος with the lexeme λεκιθώδης, 'like egg yolk' (*Epid.* 4.14). Colours are, in the words of the Polish linguist, 'environmental concepts'.[84]

Faced with such obstacles, it was necessary to find another theoretical framework that would be suitable for addressing the language of colour in the Bible.

I.1.5.2 Cognitive linguistics

In 2010, Iraide Ibarretxe pointed out that cognitive linguistics provides a series of useful principles for lexicographical research.[85] Some of these seem to us particularly relevant for the study of colour language in the biblical corpus:

- *Meaning is the essence of language*, and so the entire linguistic and grammatical mechanism is semantically motivated.
- *Linguistic meaning* (the information relevant to the speaker when a word is used) *is insufficient:* an 'encyclopaedic' meaning is also required, based on a knowledge of the speaker's world.[86]
- *The continuum of semantics and pragmatics:* these are not different disciplines but rather extremes of the same perspective, i.e. meaning.
- *Usage-based:* the language knowledge possessed by speakers is based on the abstraction of symbolic units taken from regular use. As we speak, we learn which contexts a term is used in, the linguistic constructions in which it appears and what words usually appear with it, so that from this linguistic experience we extrapolate grammar.[87]

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84 Wierzbicka, 'The Meaning of Color Terms', 140–142. A similar explanation is proposed by Eve Sweetser, who affirms that colours 'are conceptualized [...] as being colors of visually perceived surfaces of objects' ('Compositionality and Blending', p. 139).

85 Iraide Ibarretxe-Antuñano, 'Lexicografía y lingüística cognitiva', *Revista Española de Lingüística Aplicada* 23 (2010), 195–213.

86 In the field of cognitive linguistics, encyclopaedic knowledge is understood as 'the overall knowledge that typical members of the speech community have': Ronald W. Langacker, 'Context, Cognition and Semantics: A Unified Dynamic Approach', in Ellen J. Van Wolde (ed.), *Job 28: Cognition in Context*, Biblical Interpretation Series v. 64 (Leiden; Boston: Brill, 2003), pp. 179–230, at 187.

87 Ibarretxe-Antuñano, *Lingüística cognitiva*, p. 22.

– *Polysemy:* one element may have various meanings which are interrelated not by words but by a conceptual motivation.
– *Idiomaticity:* idiomatic/proverbial phrases are not mere ornaments of language, but reflect fundamental patterns of human thought.[88]
– *The theory of prototypes:* this tool is related to the cognitive ability of the individual, who tends to organize the information obtained from the perception of reality into groups. The members of such groups are distributed along a scale, with the element that best represents the category (the prototype) at one extreme, and at the other the marginal element, which, while still belonging to the group, has a more reduced usage.[89] Although this theory as applied to lexicography is achieving significant results,[90] we have not included it in our study, as the colour terms that refer to the green dimension of the Bible are few in number. We lack, therefore, sufficient examples to be able to apply it with precision, at least for the time being.

These epistemological principles are manifested in a variety of methodological tools. Those most useful for elaborating a chromatic lexicon of the Bible are the following:

1. *Domains:* in the words of one of the fathers of cognitive linguistics, a domain is 'a coherent area of conceptualization relative to which semantic units may be characterized'.[91] It includes a variety of cognitive entities, from mental experiences to representational spaces, concepts and conceptual complexes.[92] To clarify this concept, Maria Josep Cuenca and Joseph Hilferty use the colour red as an example. According to these authors, the colour red is polysemic, as it has different meanings when it describes a car and when it describes someone's hair. The

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88 A detailed study can be found in Raymond W. Gibbs Jr., 'Idioms and Formulaic Language', in Dirk Geeraerts and Hubert Cuyckens (eds.), *The Oxford Handbook of Cognitive Linguistics* (Oxford; New York: Oxford University Press, 2007), pp. 697–725.

89 For a detailed study of this, see: Dirk Geeraerts, 'Lexicography', in *The Oxford Handbook of Cognitive Linguistics*, pp. 1160–1174; Dirk Geeraerts, *Diachronic Prototype Semantics: A Contribution to Historical Lexicology* (Oxford: Clarendon Press; New York: Oxford University Press, 1997); William Croft, *Typology and Universals* (Cambridge, United Kingdom; New York: Cambridge University Press, 1990); John R. Taylor, *Linguistic Categorization: Prototypes in Linguistic Theory*, 2nd edn (London: Clarendon Press; New York: Oxford University Press, 1995).

90 In relation to the Hebrew Bible, the following works can be cited: Christo H. J. Van der Merwe, 'Lexical Meaning in Biblical Hebrew and Cognitive Semantics: a Case Study', *Biblica* 87 (2006), 85–95; Van Steenbergen, *Semantics, World View and Bible Translation*; Kjell M. Yri, *My Father Taught Me How to Cry, but Now I Have Forgotten: The Semantics of Religious Concepts with an Emphasis on Meaning, Interpretation, and Translatability* (Oslo; Cambridge, MA: Scandinavian University Press, 1998).

91 Ronald W. Langacker, *Foundations of Cognitive Grammar* (Stanford, CA: Stanford University Press, 1987), p. 488. For a more detailed study: Alan Cienki, 'Frames, Idealised Cognitive Models, and Domains', in *The Oxford Handbook of Cognitive Linguistics*, pp. 170–187.

92 Langacker, *Foundations of Cognitive Grammar*, p. 147. Langacker proposes as basic domains (among others): colour, smell, three-dimensional space and emotion (p. 488).

reason for this is that red is being used in two different cognitive domains: that of physical objects (the car) and that of hair, which has its own spectrum of natural colours. Therefore, say Cuenca and Hilferty, it is 'the different conceptual contextualization that helps to determine what type of red is being referred to'.[93] Cognitive domains thus constitute an essential part of the semantic structure. Although for the reader the domain concept might resemble the notion of semantic fields, it does not coincide exactly as the latter are organizational principles, while domains are structures of knowledge implicit in the meaning of an expression.[94]

2. *Cognitive mechanisms:* metaphor and metonymy,[95] the second of these being essential to the study of colour language in the biblical corpus. The concept of conceptual metonymy is not the figure of speech that the name suggests. In fact, it is written in small capitals to show this differentiation. Conceptual metonymy is a cognitive mechanism that an individual uses more or less consciously in his everyday language to allow the mental access of one element to another within the same conceptual domain. Conceptual metonymies are classified according to various criteria.[96] One of these is the pragmatic function, within which we can define different types, such as LOCATION and LOCATED ('London has named a new ambassador'), OBJECT and ORIGIN ('I bought an exquisite Rioja') and SALIENT PROPERTY and ENTITY. This last is what can be observed in the neuter use of the adjective χλωρός in the Septuagint, in both the singular –πᾶν χλωρόν (Gen 2.5; Deut 29.22; Job 39.8), τὸ χλωρόν (Gen 30.37b), χλωρόν (Exod 10.15)– and the plural –τὰ χλωρά (Num 22.4; Prov 27.25). Χλωρόν appears in the same context as χλωρός: that of plants and vegetation. However, its meaning changes to 'verdure' or 'greenery'. What happens is that, in the daily use of the language, χλωρόν is chosen to designate an ENTITY, in this case all plants, based on a SALIENT PROPERTY found in all of them, i.e. the colour green. This type of metonymy is particularly relevant to the study of colour in the biblical corpus.

Although the theoretical framework provided by cognitive linguistics seems to us adequate for the study of biblical colour language, there is an obstacle to be overcome in applying it, and this is that there are no longer any native speakers of the biblical Hebrew in which the Bible was written, nor of the Greek of the Septuagint or the Latin of the Vulgate[97]. At the same time, the Bible does not necessarily contain the

93 Maria Josep Cuenca and Joseph Hilferty, *Introducción a la lingüística cognitiva*, 2nd printing (Barcelona: Planeta, 2018), pp. 72–73.

94 Cuenca and Hilferty, *Introducción a la lingüística cognitiva*, p. 73, note 4.

95 George Lakoff and Mark Johnson, *Metaphors We Live by* (Chicago: University of Chicago Press, 1980).

96 Antonio Barcelona, 'La metonimia conceptual', in *Lingüística cognitiva*, pp. 123–146.

97 Vid. *supra*, p. 6.

language spoken in the community. However, these problems can be compensated for in two ways:

1. By approximating the worldview of the community that heard/read, meditated and commented on the Bible before, during and after its being set down in writing, in the period we refer to as biblical times. In this way, we are able to participate in the type of encyclopaedic knowledge that the listener/reader of those times possessed. The instruments we have for accessing this particular worldview are:

    a) The information compiled and presented by the principal dictionaries, which provides a first approach to the languages of antiquity and synthesizes the use of colour terms in their respective literatures. However, we recognize that the value of these dictionaries and lexicons is limited, as they are based on a concept of colour which is removed from that of antiquity and what we find in them are in effect merely taxonomies.

    b) The early versions of the Bible, which transmit in their corpora the Jewish tradition,[98] as, when these versions were written in Hebrew or in Greek (in the case of the Septuagint and the New Testament), these were living and spoken languages.

    c) The context in which the colour term and the entity described appear.

    d) Other extra-linguistic disciplines (archaeology, ancient metallurgy, ancient medicine, mineralogy, history or botany) that complete our knowledge of a given colour term when the knowledge provided by our primary sources is found to be insufficient.

2. By carrying out a corpus study, which was our objective from the outset. According to Stephan Thomas Gries, such studies provide us with the natural context in which lexemes and their collocations appear, enable us to analyze all of the possible uses of a lexeme within the corpus and, above all, allow the results to be evaluated not only quantitatively but qualitatively ('mainly based on which categories are observed'). Without question, corpus-based research allows this language to be studied exhaustively and systematically.[99]

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98 Wilhelm Gesenius, *Hebräisches und Aramäisches Handwörterbuch über das Alte Testament*, 5th edn (Leipzig: Vogel, 1957), p. iii.

99 Stefan Th. Gries, 'Introduction', in Stefan Th. Gries and Anatol Stefanowitsch (eds.), *Corpora in Cognitive Linguistics: Corpus-based Approaches to Syntax and Lexis. Trends in Linguistics*, Studies and Monographs 172 (Berlin; New York: De Gruyter, 2006), pp. 1–17. In the volume cited, concrete applications of this proposal can be found. Recently published are: Marilyn E. Burton, *The Semantics of Glory: A Cognitive, Corpus-based Approach to Hebrew Word Meaning*, Studia Semitica Neerlandica 68 (Leiden; Boston: Brill, 2017); Réka Benczes and Erzsébet Tóth-Czifra, 'The Hungarian Colour Terms *Piros* and *Vörös:* A Corpus and Cognitive Linguistic Account', *Acta Linguistica Hungarica* 61 (2, 2014), 123–152; Stephen L. Shead, *Radical Frame Semantics and Biblical Hebrew: Exploring Lexical Semantics*, Biblical Interpretation Series 108 (Leiden; Boston: Brill, 2011).

The texts that comprise our corpus here are the following:[100]

For the Hebrew Bible Corpus:

— The Masoretic Text.[101]
— The Dead Sea Scrolls Bible.[102]

For the Greek Bible Corpus (Septuagint and New Testament):

— The Septuagint (Greek edition) by Alfred Rahlfs.[103]
— The Göttingen Septuagint (edition still unfinished).[104]
— The Dead Sea Scrolls Greek Bible.[105]
— *Novum Testamentum Graece*.[106]

For the Latin Bible Corpus:

— The *Biblia Sacra Vulgata* (5th edition, edited by Robert Weber and Roger Gryson)[107]. It should be made clear to the reader that this edition includes two of the translations that Jerome did of the Psalter – the *Psalterium Gallicanum* and the *Psalterium iuxta Hebraeos*– as these were part of the Vulgate. The *Psalterium Gallicanum* received its name from its being widely used in Gaul. It was

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100 The lexeme searches here have been done with Accordance Bible Software v. 12, which includes the texts mentioned in notes 101–107, except for the Göttingen Septuagint (for this we have consulted the print edition).

101 *Biblia Hebraica Stuttgartensia*, Karl Elliger and William Rudolph, eds., 4th edn (Stuttgart: Deutsche Bibelgesellschaft, 1983); Copyright © 1991–2010 The J. Alan Groves Center for Advanced Biblical Research (The Groves Center); Version 4.35 [Electronic source: Accordance edition].

102 *The Dead Sea Scrolls Bible: The Oldest Known Bible Translated for the First Time into English*; Copyright © 1999 by Martin Abegg et al. (eds.); Version 1.1 [Electronic source: Accordance edition]. Reconstructed fragments are excluded from the study, as are those which in the Accordance module appear within brackets.

103 *Septuaginta*, Alfred Rahlfs and Robert Hanhart, eds. (Stuttgart: Deutsche Bibelgesellschaft, 2006); Copyright © 2007 by Deutsche Bibelgesellschaft, Stuttgart; Version 3.6 [Electronic source: Accordance edition].

104 *Septuaginta: Vetus Testamentum Graecum*, Akademie der Wissenschaften zu Göttingen, ed., (Göttingen: Vandenhoeck & Ruprecht, 1931–2015).

105 *Dead Sea Scrolls Greek Biblical Corpus (Canonical order)*; Copyright © 2014 by OakTree Software, Inc.; Version 1.3 [Electronic source: Accordance edition].

106 *Novum Testamentum Graece*, Barbara Aland and Kurt Aland, eds., 28th rev. edn (Stuttgart: Deutsche Bibelgesellschaft, 2012); Copyright © 2007 by Deutsche Bibelgesellschaft, Stuttgart; Version 3.6 [Electronic source: Accordance edition].

107 *Biblia Sacra Iuxta Vulgatam*, Robert Weber and Roger Gryson, eds., 5th edn (Stuttgart: Deutsche Bibelgesellschaft, 2007). Copyright © 2007 by Deutsche Bibelgesellschaft, Stuttgart; Version 3.6 [Electronic source: Accordance edition]. For the moment, we are excluding from the lexicon those Apocryphal books included in the Vulgate but not found in the Septuagint: Paul's Epistle to the Laodiceans, the Prayer of Manasseh and 1–2 Esdras (in the Vulgate referred to as 3–4 Esdras). The study of these will be done after that of the biblical corpus, in conjunction with the Early Christian literature. For the NT translation to Latin, see: Hugh A. G. Houghton, *The Latin New Testament: A Guide to Its Early History, Texts, and Manuscripts* (Oxford; New York: Oxford University Press, 2016).

Alcuin of York who determined that it should be added to the Vulgate as part of the liturgical reform undertaken during the reign of Charlemagne. The *Psalterium Gallicanum* was the second of the two translations, dating from around 380 – 392 AD, while Jerome was living in Bethlehem. In the words of Theresa Gross-Diaz, it was 'a thorough revision of existing Latin translations (possibly the *Romanum*). [Jerome] based it on the critical edition of the Greek Septuagint as included in Origen's *Hexapla*, and possibly on other materials available to him in Caesareum revision'.[108] The *Psalterium iuxta Hebraeos*, meanwhile, was the third Latin translation of the Psalter that Jerome did from the Hebrew version –taking into account Aquila and Symmachus–[109] in around 391 AD. Although its dependence on the Hebrew text is not always appreciable, for the exegete himself it was his 'most accurate' translation.[110] It formed part of the Vulgate for centuries, particularly in Spain, where the *Psalterium iuxta Hebraeos* was brought thanks to Lucinius, a nobleman of Baetica who had sent an expedition of copyists to copy the complete works of Jerome.[111]

Finally, we must point out that, given the difficulty of dating biblical texts and the lack of agreement in determining exactly when they were written or translated, our goal here is not to trace the evolution of colour terms throughout history, as other studies of colour have done.[112] It is, rather, to present what the corpus actually contains.

I.1.6 Methodology

Now that we have established the theoretical framework necessary for achieving our objective, which is to provide the modern reader with the meaning (both literal and symbolic) of the colour lexemes found in the biblical corpus (in Hebrew, Greek and Latin), and thereby approximating the worldview of the listener/reader in biblical times, we must now explain the specific methodology of this research.

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108 Theresa Gross-Diaz, 'The Latin Psalter', in Richard Marsden & E. Ann Matter (eds.), *The New Cambridge History of the Bible*, vol. 2 (Cambridge: Cambridge University Press, 2012), pp. 427–445, at 428–429.

109 Pierre-Maurice Bogaert, 'The Latin Bible', in James Carleton Paget and Joachim Schaper (eds.), *The New Cambridge History of the Bible*, vol. 1 (Cambridge: Cambridge University Press, 2013), pp. 505–526, at 515.

110 Gross-Diaz, 'The Latin Psalter', p. 430.

111 Ieronimus, *Psalterium S. Hieronymi de Hebraica Veritate Interpretatum*, Teófilo Ayuso Marezuela, ed., Biblia Polyglotta Matritensia series VIII, Vulgata Hispana L., 21 (Matriti: CSIC, 1960), pp. 2–7. Ayuso Marezuela points out that the *Psalterium iuxta Hebraeos* was not included in Spanish codices of the Vulgate until the 13th century.

112 Athalya Brenner, *Colour Terms in the Old Testament* (Sheffield: JSOT Press, 1982); Massey-Gillespie, 'A New Approach to Basic Hebrew Colour Terms', 1–11.

According to cognitive linguistics, the study of language must be based on usage. Therefore, the first step in this research was to group together the pericopes in which the colour terms appear in each corpus (Hebrew, Greek and Latin). Usage is a vital aspect of this, so much so that we have included all of the biblical references for each meaning, following the proposal of Iraide Ibarretxe:[113]

> It is necessary to include the greatest number of examples possible for each meaning. These examples provide the empirical data that illustrates each meaning; they are, then, not secondary, but indispensible.

Secondly, as colours in the biblical corpus appear embodied in entities and therefore may be considered 'embodied colour terms', we have identified the entities in which they are embodied. In the case of the nominal colour lexemes, as these refer to entities that are imbued with colour, an analysis was done of the entities related to them. This establishes a conceptual connection with the visual experience produced by the colour,[114] and provides us with the knowledge that the listener/reader in biblical times had of this same colour.

Once the entities have been analyzed, they are grouped according to their corresponding cognitive domains. The identification of cognitive domains is nothing more than the practical application of Ronald Langacker's proposal for determining the meaning of a word. According to this North American linguist, an expression acquires a meaning through what he denominates as *profile* and *base*.[115] The base is 'part of the domain matrix needed for understanding the profile of a linguistic unit',[116] while the profile is the substructure built upon the base that the expression designates conceptually. In the case of colour language, each colour lexeme constitutes a profile and its base, and this is the cognitive domain of the entity which is imbued with colour.

According to our own research, the cognitive domains of the colour terms that are the subject of our study are: plants, land, food, sickness, clothing, buildings, gemstones, metals, human beings and emotions. While it is true that these categories of knowledge are not universal, but depend on culture, in these three corpora the cognitive domains coincide, although the lexemes included logically vary in each corpus. The reason for this is simply that the Greek and Latin versions arose as translations that were meant to be faithful to the original. Remember the principle of *ueritas Hebraica* that Jerome followed in the Vulgate and the legend regarding the proc-

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113 Ibarretxe-Antuñano, 'Lexicografía y lingüística cognitiva', 201.
114 Wierzbicka, 'The Meaning of Color Terms'.
115 Ronald W. Langacker, 'Introduction to Concept, Image, and Symbol', in Dirk Geeraerts et al. (eds.), *Cognitive Linguistics: Basic Readings* (New York; Berlin: De Gruyter, 2006), pp. 29–67, at 34.
116 Vyvyan Evans, *A Glossary of Cognitive Linguistics* (Edinburgh: Edinburgh University Press, 2007), p. 9.

ess of translating the LXX. As for the New Testament, the echo of the LXX is unde-niable.[117]

Once the pericopes have been grouped according to their cognitive domains, we can then begin to acquire the needed encyclopaedic knowledge through the resour-ces available to us. As we have said, these are:

1. The information provided by the principal lexicons, dictionaries and specialized studies of the term and its meaning in each corpus.[118] As we have already men-tioned, this is especially relevant in the case of the Greek and Latin corpora. In these, we find language at an advanced stage, at which the meanings of colour terms have had a wide usage, enabling an identification of the various meanings they have acquired. It is thus especially relevant to determine the meaning of a given colour term within the context of Greek or Latin culture. Despite some de-bate on the subject,[119] Latin possesses a wider chromatic lexicon than Greek and has sought to add precision and nuancing to the colours denoted through the use of other terms.[120] For this reason, when establishing the *status quaestionis* of colour terms in the principal Latin lexicons, we have taken the liberty of ap-

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117 We are aware that these categories are not universal, as each culture has its own, with their own specific lexemes, which depend on the degree of knowledge which that culture possesses of them. Thus, Ellen Roy explains that if a population does not know the category 'tree', it cannot be included in its cognitive domain: 'Variation and Uniformity in the Construction of Biological Knowledge Across Cultures', in Helaine Selin (ed.), *Nature Across Cultures: Views of Nature and the Environment in Non-Western Cultures* (Dordrecht: Springer Netherlands, 2003), pp. 47–74, at 53. On the other hand, it is inarguable that both the Greek of the Septuagint, like the Greek of the New Testament and the Latin of the Vulgate, are closely analogous to the Hebrew Bible, cf. James A. Swanson, *A Dictionary of Bib-lical Languages with Semantic Domains: Hebrew (Old Testament)* (Oak Harbor, WA: Logos Research Systems Inc., 1997); Natalio Fernández Marcos, 'Las traducciones en la antigüedad', in Natalio Fer-nández Marcos, *Filología bíblica y humanismo*, Textos y estudios Cardenal Cisneros 78 (Madrid: CSIC, 2012), pp. 29–45; Natalio Fernández Marcos, *Introducción a las versiones griegas de la Biblia*, Textos y estudios Cardenal Cisneros 23 (Madrid: CSIC, 1979); Jan Joosten, 'Varieties of Greek in the Septuagint and the New Testament', in *The New Cambridge History of the Bible 1*, pp. 22–45; Bogaert, 'The Latin Bible', in *The New Cambridge History of the Bible 1*, pp. 505–526; Jan Joosten, 'The Inter-play between Hebrew and Greek in Biblical Lexicology: Language, Text, and Interpretation', in *Bib-lical Lexicology: Hebrew and Greek*, pp. 209–223.

118 In the case of the Hebrew, the leading dictionaries are BDB, *HALOT*, *DBHE* and *SDBH*, and the principal studies are: Gradwohl, *Die Farben*; Brenner, *Colour Terms*; Hartley, *Ancient Hebrew Colour Lexemes*; Bulakh, 'Basic Color Terms of Biblical Hebrew'; etc. In the case of the Greek: LSJ; *DELG*; BDAG; Bailly; *The Brill Dictionary*; *GELS*; LEH; Thayer; Louw and Nida; Eleanor Irwin, *Colour Terms in Greek Poetry* (Toronto: Hakkert, 1974). For the Latin: *OLD*, *DELL,* Forcellini, Gaffiot, Lewis and Short, André, *Étude sur les termes de couleur,* and Carmen Arias Abellán, *Estructura semántica de los adjetivos de color en los tratadistas latinos de agricultura y parte de la enciclopedia de Plinio* (Se-villa: Universidad de Sevilla, 1994).

119 Rachael Goldman, *Color-Terms in Social and Cultural Context in Ancient Rome*, Gorgias Studies in Classical and Late Antiquity 3 (Piscataway, NJ: Gorgias Press, 2013), pp. 9–24.

120 The Vulgate uses seven different lexemes to translate the four colour terms related to the green dimension of the Bible.

plying our own method (that of determining the meaning of a colour term by analyzing the entity in which it is embodied and its cognitive domain) in order to specify more exactly the chromatic spectrum that is reflected in these texts.[121]

2. The interpretations that the early versions of the Bible give to each colour lexeme. While neither the LXX nor the Vulgate offer standard translations of colour terms, they are sometimes translated by specific lexemes or expressions. It is therefore important to analyze, together with the meaning of the colour lexeme chosen by the translator, the grammatical category that is employed, as these do not always coincide.[122] In other cases, the Septuagint and the Vulgate omit the translation of the colour lexeme altogether[123] or even add a colour lexeme not found in the original.[124] All of this information provides significant data for carrying out a semantic analysis of the term, as it reconstructs the interpretation of the listener/reader in biblical times, when biblical Hebrew, Greek and Latin were living languages.

3. The overall context, which allows a more in-depth examination of all the textual elements that are significant for our study. It is here that the continuity of semantics and pragmatics proposed by cognitive linguistics becomes especially relevant. To obtain a global vision of a given pericope, it is first necessary: a) to study its literary form, as, for example, the use of colour language is different in a legal text from its use in a poetic or narrative text; and b) to enter, if only superficially, into the general subject matter of the book under study and, above all, to study the predominant theme of the pericope, as well as the images used by the author. After this, we focus on all of those elements that the context of the pericope provides: the presence of a peculiar syntax; an anomalous grammatical use which might prove crucial to discovering the meaning of a colour term; the use of parallelism, etc.

4. On occasion, the work done in the above stages may prove insufficient for revealing the meaning of the term. This is the moment to turn to other sources (in the fields of medicine, botany, biology, metallurgy, archaeology, mineralogy, etc.) for the extra-linguistic knowledge that will complete the worldview of the listener/reader in biblical times.

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121 In any case, the creation of definitions for terms in classical Latin is beyond the scope of our research, at least for the moment.

122 For example, ירקרק *yəraqraq* is translated with both a verbal lexeme (χλωρίζω, Lev 13.49; 14.37) and a nominal lexeme (χλωρότης, Ps 67.14 [68.14 MT]) in the LXX, while the Vulgate uses an adjectival lexeme (*albus*, Lev 13.49) and two nominal lexemes (*pallor,* Lev 14.37; *uiror,* Ps 67.14 VulgHeb). Vid. *infra*, pp. 52–53.

123 The Septuagint, for example, does not translate the lexeme ירק *yereq* in Isa 37.27: vid. *infra,* pp. 41–42.

124 An example of this is the use that the Vulgate makes of *uiriditas* (Ecclus [Sir] 40.16), with a clearly chromatic denotation that is absent in the Septuagint, which instead uses ἄχι: vid. *infra,* p. 156.

Once we have acquired this encyclopaedic knowledge, we can offer to the reader the meanings of these terms as they appear in the pericopes studied. Finally, when the literal meaning of a colour lexeme has been identified, we can take this a step further and determine whether the term also has a symbolic connotation and what it is that motivates such a connotation.

It remains, then, to explain to the reader how the meanings of these terms will be presented. Meaning, according to Geeraerts, is 'a conceptual description of the things [...] that correlate with the words'.[125] For this reason, presenting the meaning of a colour lexeme involves elaborating a definition.[126] The problem is how to create a definition based on the encyclopaedic knowledge obtained from the semantic analysis of each colour lexeme and how to make this definition correspond to the knowledge of the listener/reader in biblical times. It is not merely a question of compiling all of the available knowledge about the denotata,[127] but rather that which will enable the modern reader to accede to the knowledge of the Hebrew, Greek or Latin listener/reader in biblical times.

The answer is a simple one: the meanings of a colour lexeme, whatever its gramatical form, must denote the entity in which the colour term is embodied. The entity constitutes the 'cognitive anchor'[128] between the listener/reader in biblical times and the modern reader, by which the precise meaning of a colour may be obtained. Therefore, adjectives of colour cannot include another colour adjective in the definition, as in that case we would be offering a mere translation adapted to our own categories of colour and not a true definition.

In any case, as colour lexemes are expressed through different grammatical categories, the definition of each category has its own specific characteristics:[129]

– The definition of an *adjectival colour lexeme* must describe its category, which is colour (understood in Hebrew and Latin, and most of the time in Greek, as a state), and the entity or entities in which it is embodied, as well as provide whatever information the modern reader needs to identify the entity as it was understood by the listener/reader in biblical times.
– The definition of a *nominal colour lexeme* must indicate what it is: an entity imbued with colour, which in the case of green is the visible sign of a state. Thus, the definition must include the category, the entity and the description of its state. On occasion, if the pericope also provides us with the function performed

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125 Dirk Geeraerts, 'Meaning and Definition', in Piet van Sterkenburg (ed.), *A Practical Guide to Lexicography* (Amsterdam: John Benjamins, 2003), pp. 83–93, at 86.
126 Anna Wierzbicka, *Lexicography and Conceptual Analysis* (Ann Arbor, MI: Karoma, 1985), p. 5: 'When it comes to concepts encoded in words of a foreign language, especially a culturally distant one, the intuitive link between a word and a concept is missing, and a full definition is the only way of ensuring true understanding of the cultural universe encoded in the language's lexicon.'
127 Wierzbicka, *Lexicography and Conceptual Analysis*, pp. 37–40.
128 Wierzbicka, 'The Meaning of Color Terms', 141.
129 Geeraerts, 'Meaning and Definition', p. 88.

by the entity, this is added with the aim of giving all of the information needed to understand the entity.

– The definition of a *verbal lexeme* must show the state of an entity or the process by which an entity acquires its colour. Thus, the definition includes both the verbal action and the entity affected, that is to say, the entity which acquires or possesses the colour, as this is again what enables us to identify its tonality.

As we have just said, colour lexemes may also have symbolic connotations. This forms part of the meaning of these lexemes and so this is also included in the definition.

Lastly, as colour lexemes appear in specific corpora and each lexeme in specific pericopes, definitions are adapted to the information provided by each corpus, since, as Anna Wierzbicka rightly observes, 'the meanings of colour terms are cultural artefactors'.[130]

I.1.7 The presentation of lexicographical articles on colour

To facilitate the reading and comprehension of this study by a broad public (biblical specialists who may or may not be familiar with cognitive linguistics; linguistic specialists unfamiliar with the biblical world; scholars of other disciplines with an interest in the subject of colour; students; translators; etc.), we have chosen to present our research in a discursive format divided into five sections: introduction; encyclopaedic knowledge; semantic analysis; conclusion; bibliography.

The introduction presents to the reader the grammatical category of the colour lexeme and its usage. When the term is used infrequently, this is followed by a brief overview of the biblical books in which the lexeme appears and their subject matter. When the term is one that appears in significant number of pericopes, it is included in the semantic analysis section.

The section dedicated to encyclopaedic knowledge presents only two of the resources which comprise this: the *status quaestionis* of the principal biblical dictionaries; and the early versions of the biblical text. We have not included here a section specifically dedicated to the context or the extra-linguistic knowledge required. This is in order to avoid an excessive segmentation that might obscure our arguments. A synthesis follows in which our principal findings with regard to these colour terms are presented.

In the semantic analysis, the context is explored in depth and the biblical references[131] are presented, together with all of the elements necessary for determining

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130 Wierzbicka, 'The Meaning of Color Terms', 142.
131 The translations of biblical texts are by: Carlos Santos Carretero (Hebrew corpus); Lourdes García Ureña, Anna Angelini and Emanuela Valeriani (Greek corpus); and Marina Salvador Gimeno (Latin corpus).

the meaning of the colour lexeme: a) the entity in which the lexeme is embodied, together with its respective cognitive domain(s);[132] b) the ways in which the presence of these entities affects the colour terms; c) relevant grammatical or syntactic aspects; d) the extra-linguistic knowledge needed when the previous analysis is insufficient; e) a study of the cognitive mechanisms, such as metonymy, that affect the colour term; and, finally, f) the symbolic connotation of the colour term, when this exists, and an explanation of its motivation. In general, the symbolism of colour terms originates in the Hebrew biblical corpus. The other two corpora, the Greek and the Latin, simply echo this, except in the New Testament, where occasional innovations are found. For this reason, the reader is referred to the corresponding entries for the Hebrew corpus.

The conclusion synthesizes the results of our study. It includes, therefore, a definition of the colour term and its glosses. Given that the majority of colour lexemes are polysemic, the conclusion also includes the semantic motivation of this polysemy. In some cases, this is because the colour lexeme is embodied in entities belonging to different cognitive domains; in others, it is the result of a conceptual metonymy.

As for the glosses, we offer those that we think correspond best to the meaning of the word. This is not the most important contribution of our study, however. It should not be forgotten that glosses, like translations, are the results of interpretation. It is therefore possible that the reader, in light of the meaning we have provided, will opt for some other gloss that is better adapted to his or her own language, to the type of translation that he or she wants to offer for the pericope, or to the language of his or her own readers/listeners. More importantly, if with the passing of time these categories of colour continue to evolve, other possible translations may arise in relation to the meanings we present here.

Finally, the bibliography for each chapter lists the specific works drawn upon for the creation of each entry. At the end of the study, another more general bibliography lists the sources (theoretical works, bibles and dictionaries) upon which this study of colour language has been based.

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132 In the case of nominal lexemes, related entities in the context where the colour term appears are also studied, along with their respective cognitive domains.