

Title: Beyond the Caliph's Kitchen: The Embodied Ecology of A 10th Century Baghdad
Cookbook

Candidate Number: 1041930

Referencing System: History Faculty Style

Word Count: 11,955

Contents

Introduction	3
Chapter One: Insights Into Baghdad’s Elite Male Social World	7
Chapter Two: Imagining The Environment Through Food	18
Chapter Three: Environmental Thought and Social Hierarchy	30
Conclusion	42
Bibliography	45

Introduction

Feminist philosopher and ecologist Donna Haraway has observed that nature and culture are intrinsically entangled. The two cannot exist without one another: nature shapes culture, and culture shapes nature. In Haraway's poetic language, 'all the actors become who they are *in the dance of relating*.'¹ Food is a powerful example of this entangled 'natureculture.' Food is both natural and cultural object, its purpose as food (for humans) granted by cultural requirements, its cultural uses shaped by its natural taste and material. Food bridges the gap between outside (where it is produced) and inside (where it is consumed), and, across its existence, experiences both states. This raises several questions. How conscious are consumers of food's link between these contexts? What boundaries are created, maintained, or transgressed between each setting? What is the naturecultural relationship between the body consuming the food, and the world providing it?

These questions will be applied to Abu Muhammad al-Muthaffar ibn Nsar ibn Sayyar al-Warraaq's 'The Book of Cookery Preparing Salubrious Foods and Delectable Dishes Extracted From Medical Books and Told By Proficient Cooks and the Wise,' henceforth 'al-Warraaq's cookbook.' This is the earliest surviving cookbook from the various Arabic caliphates, dating from the 10th century, most likely the 940s or 950s, and produced in Baghdad. Little is known about al-Warraaq, except that his name hints he was likely a bookseller, and the introduction of his cookbook –addressing a patron – implies he was hired to produce the work.² Over the course of 132 chapters, al-Warraaq collected around

¹ D. Haraway, *When Species Meet* (Minneapolis, 2008), p.25

² N. Nasrallah, 'Introduction', in Al-Warraaq, *Annals of the Caliphs' Kitchens: Ibn Sayyar al-Warraaq's tenth-century Baghdadi cookbook*, ed. and trans. N. Nasrallah and K. Ohrnberg, (Leiden, 2007), p.11-12

600 recipes, 86 poems, and numerous anecdotes, pieces of etiquette, and cultural tidbits from 8th to 10th century Arabic literature. The text's purpose was not only to teach its reader to cook, but also to prepare them for entrance into the elite social world – to dine and converse with superiors and contemporaries. The cookbook, by prescribing ideal knowledge and behaviour, illuminates the cultural values of elite Baghdad masculinity.

Indeed, food played a central role in Baghdad's elite culture in this period. Baghdad sat at the centre of a vast territory stretching from Spain to the Indus valley, nominally enclosed by the Abbasid Caliphate – although this territory contained an array of regions and cultures with greatly differing relations to the Baghdad-based Caliphs. In the late 8th to 9th century, the Abbasid Caliphate had seen a period often celebrated as a 'golden age', of commerce, culture, and connection. This placed Baghdad at the centre of both an intellectual movement translating Hellenistic, Persian, Indian and Chinese knowledge into Arabic, and a trade network allowing access to numerous foodstuffs from across this vast territory. From this, a so-called 'new wave cuisine' emerged, a way of cooking pioneered and indulged by the upper classes of Baghdad society at elaborate dinners.³ These dinners were central to Baghdad's elite political life. Function took precedence over birth as a means of accessing power, with function often stemming from the favour of the Caliph or other influential patrons.⁴ Provision and knowledge of extravagant food was the key to winning favour, and al-Warraq's cookbook contained guidance on how to thrive in these respects.

³ P.B. Lewicka, *Food and Foodways of Medieval Cairenes: Aspects of Life In An Islamic Metropolis of the Eastern Mediterranean* (Leiden, 2011), p. 74

⁴ N. M. El-Cheikh, 'The Abbasid and Byzantine Courts', in S. Foot and C. Robinson (eds.) *The Oxford History of Historical Writing*, (Vol. 2, Oxford, 2012), p. 520

Food was also crucial to the relationship between Baghdad, the Caliphate's urban centre, and the various ecologies that made up the denoted territories. Baghdad received food from many sources: surrounding agricultural lands, caravans travelling the Caliphate's routes and roads, and boats on its two proximate rivers, the Tigris and Euphrates. As Bennison observed, it was not uncommon for the Caliphate to be imagined through its trade routes, 'a series of provinces within a single cultural and economic sphere.'⁵ For Baghdad's urban elite, consuming food was one of the primary connections they had to the Caliphate's disparate ecologies. As a repository of knowledge about both his readership's culture and their encounters with ecologies through food, al-Warraq's cookbook provides an ideal window into the Baghdad elite's social and environmental thought.

There are three main areas of interest this thesis wishes to explore. Firstly, what role did al-Warraq's cookbook play in the construction of Baghdad's elite, male social world? Chapter One will explore the way social distinction was articulated through both a differentiated cuisine, and the poetry, anecdotes and etiquette that surrounded eating practices. A particular focus on masculinity, over femininity or gender roles, stems from the cookbook's explicit address of a male audience: culinary knowledge was a masculine virtue, symbolising both hospitality and control over one's household. The chapter will also explore how this gendered culture and etiquette influenced embodied experiences. Secondly, what does al-Warraq's cookbook reveal about how elite Baghdad men understood their natural environment? Chapter Two will historicise the term 'environment,' recognising that for al-Warraq's readership the environment was understood within a specific imperial and quasi-scientific context. This context will be teased out via consideration of al-Warraq's

⁵ A.K. Bennison, *The Great Caliphs: The Golden Age of the 'Abbasid Empire* (London, 2011), p.147

explanation of food's elemental properties, and the imperial implications of his omissions and assumptions. Finally, how did environmental thought in this period entangle with the creation of social hierarchies? Chapter Three will examine al-Warraq's prominent focus on cleanliness throughout the cookbook, locating it within a wider imperial discourse that associated 'uncleanliness' of food and body with barbarism. Overall, the thesis is interested in exploring how food and surrounding discourses situated the bodies of Baghdad's elite men in their social and environmental contexts, influencing their understandings of themselves, their contemporaries, and the world at large.

Chapter One: Insights Into Baghdad's Elite Male Social World

'You asked me... to write a book on dishes cooked for kings, caliphs, lords and dignitaries, and here it is.'⁶

This chapter is interested in what al-Warraq's cookbook reveals about the construction of Baghdad's elite, male social world. Building from the traditional scholarly understanding of a differentiated cuisine, it will explore the significance of commensality in the social and political life of the Baghdad elite and the role of elite dining parties as spaces for the performance of elite masculinity. Indeed, through its inclusion of poetry, anecdotes, and etiquette, al-Warraq's cookbook can be understood not just as a catalogue of recipes but as a guidebook to accessing this elite social world. Finally, an underdeveloped aspect of scholarship in these matters regards how elite masculine culture was materialised within the body. The chapter will explore al-Warraq's insight into how expectations of taste and etiquette conditioned his readers' sensory, embodied experiences of elite gatherings.

Reading the cookbook, it is clear al-Warraq attempted to construct a mostly *male* audience. His focus on men is evident through the cookbook's repeated references to the effect of food on male fertility, for example reporting that, amongst various foods, 'sweets increase the blood and sperm.'⁷ Women, meanwhile, were rarely referenced except as people to be provided for or forbidden certain foods.⁸ This omission hints at culinary

⁶ Al-Warraq, *Annals of the Caliphs' Kitchens: Ibn Sayyar al-Warraq's tenth-century Baghdadi cookbook*, ed. and trans. N. Nasrallah and K. Ohrnberg, (Leiden, 2007) p.67; hereafter, ACK

⁷ ACK, pp. 110, 100, 116, 117, 128, 131, 136, 139, 148, 519

⁸ ACK, pp. 134, 259, 449, 482

knowledge's place in a gendered hierarchy. As heads of their households, al-Warraq's male readers were responsible for the provision of food to their dependents. Even if they did not prepare the food personally, instead delegating to servants or slaves, men were expected to possess a symbolic culinary knowledge as instilled by the cookbook. They were responsible for hospitality, whether to family members, to guests,⁹ or to those in need of nourishment and care.¹⁰ Al-Warraq's cookbook echoes a wider understanding within Baghdad culture that culinary knowledge and control over household consumption were key masculine virtues.

Specifically, Al-Warraq's audience were Baghdad's *aspiring elite* men. From the quote that opened this chapter, his audience appeared to be interested in emulating and potentially accessing the upper echelons of Baghdad society. Access to prestige books such as al-Warraq's implied a wealthy, literate readership, and as shall be shown, the cuisine contained would require considerable wealth to reproduce exactly at home. That said, not all readers would have expected to dine with a Caliph. Though the book prescribed a fully stocked kitchen and lavish expenditure, adjustments could be made to recipes for those with more moderate means. The readership might be imagined, then, as ranging from Baghdad's middle class upwards, a *nouveau riche* of literate and socially mobile merchants and administrators, some preparing for dinner alongside the highest in society, and others simply wishing to bring elite culture into their bourgeois homes. For clarity and brevity, this mixed readership will henceforth be referred to as the 'aspiring elite.'

Traditionally, scholarship on medieval Arabic cookbooks has tended to focus on how this aspiring elite used food as a marker of social distinction to differentiate themselves

⁹ J.E. Lindsay, *Daily Life in the Medieval Islamic World* (Westport, Conn, 2005), p.125

¹⁰ ACK, p.433, beginning five chapters on nourishing food for the sick

from the lower classes. In his foundational 1949 article, Maxime Rodinson observed that al-Warraq's cuisine was highly conspicuous, using products of disparate origins to elevate contemporary dishes far beyond the needs of a simple palate.¹¹ *Tharid*, for example, was a dish with origins as a peasant's staple, pieces of bread in a meat or vegetable broth, but in al-Warraq's cookbook, the dish was enhanced. He commanded his reader to 'add to the pot a bit of sugar, cassia, spikenard, ginger, and saffron', and to 'garnish it with herbs and vegetables, scatter some chopped rue and parsley all over it.'¹² Whilst these aromatics and herbs added flavour, they also drove up the cost of the dish beyond the means of a humbler audience. This costly consumption served as an affluent display by which al-Warraq's reader could set themselves apart from the less privileged and assert their membership of elite circles: conversely, failure to partake in this opulence would not have been socially acceptable.¹³ These rich tastes (both in terms of cost and flavour) were bolstered by al-Warraq's description of the food. Alongside the *tharid* recipe, he gave recipes for *sikbajat* (beef stew). One recipe was prefaced by a story describing the dish as the favourite of the Persian king, Khosrau (r.531-579), who spent 1000 dirhams a day on it and restricted its consumption to his household. Another explained the dish was so beloved by the Abbasid Caliph al-Amin (r.809-813) that he gave Bi'da, the enslaved cook who made it, a necklace worth 30,000 dirhams and her owner three cases of expensive perfumes, three boats and three bags of money.¹⁴ These dishes were presented as a taste of royalty. Their cost was part of communicating - and sharing in - the extravagant tradition they came from.

¹¹ M. Rodinson, 'Studies in Arabic Manuscripts Relating to Cookery', trans. B. Inskip, in M. Rodinson, A.J. Arberry and C. Perry (eds.) *Al-Tabikh Al-Arab Fi Al-usur Al-Wusta = Medieval Arab Cookery* (Totnes, 2001), p. 155

¹² ACK, p. 255

¹³ Rodinson, 'Studies', p. 95

¹⁴ ACK, pp. 248-251

Social distinction was also implicit in the physical cooking process. Of the above *Sikbajat* recipes, Waines observed, 'the preparation would have taken time and considerable labour, large cooking pots and a corresponding large space in which to prepare it.'¹⁵ Al-Warraq's assumption that his readers could manage this elaborate preparation hints towards the kinds of household the food was intended for: those with fully functioning kitchens operated by servants and slaves, rather than humbler abodes. This is echoed in his enumeration of necessary cooking equipment. Over four pages, he provided an extensive list of 'tools needed in the kitchen for cooking and roasting,' as well as bread-making and confectioners' tools, recommending 49 individual objects, ranging from 'a Persian reed for stirring honey' to a private oven.¹⁶ To possess such a range and quantity of equipment indicated considerable wealth, and signified social independence. A private oven (*tannur*), for example, was a luxury in this period: the lower classes in Baghdad depended upon communal ovens to cook their food, often at a cost per use.¹⁷ If Al-Warraq's audience had access to this luxury, their households could be contained in a way that, as Waines observed, poorer families could not emulate.¹⁸ The implications of self-containment will be developed further in Chapter Three, but here the significance is that the cookbook, through listing material culture, implied the value system of its readership. Social independence was valued as highly, and considered as much part of conspicuous consumption, as the use of exotic ingredients.

Indeed, the implication of a value system is crucial to understanding al-Warraq's insights for the historian. Albala argued that cookbooks are more than just catalogues of

¹⁵ D. Waines, 'Luxury Foods' in medieval Islamic societies', *World Archaeology* 34/3 (2003), p.575

¹⁶ ACK, pp. 86-90

¹⁷ Lindsay, *Daily Life*, p.131

¹⁸ Waines, 'Luxury', p 579

objects and recipes: they are created under, and thus reflect, certain cultural ideologies. Historians can use cookbooks to investigate their period's culture, with the selection of recipes and accompanying text revealing 'larger esthetic, political or social mindsets.'¹⁹ Conspicuous consumption was one cultural ideology implicit in al-Warraq's cookbook, showing an expectation of the aspiring elite to ostentatiously demonstrate wealth and social independence at dining parties. *Expectation* is key. As Franger observed, cookbooks are a prescriptive genre. Rather than recording real meals, cookbooks give insight towards 'a people's collective imaginations, symbolic values, dreams and expectations.'²⁰ Indeed, the expectations contained within al-Warraq's cookbook – and wider literature of this period – suggest elite dining parties were a key space for the presentation of the self as an elite individual. Attention will now turn to how al-Warraq's cookbook provided his reader with a knowledge not just of conspicuous foods, but of culinary culture – poetry, anecdotes, and etiquette associated with dining – presented as crucial to membership of the Baghdad elite.

A brief glimpse at this period's literature suggests culinary culture was at the centre of elite masculine life. Nasrallah has described culinary knowledge as 'one of the desirable accomplishments of the 'Abbasid man.'²¹ This was reflected in a wide variety of *Adab*, or 'manners', texts. The *Kitab al-Fihrist* catalogued over 10,000 books from 10th century Arabic writers, including an entire section on instructive anecdotes from 'the court companions, associates, singers, literary men, buffoons, persons who take slaps good-naturedly, and jesters' who thrived in commensal spaces.²² Even the celebrated historian and polymath

¹⁹ K. Albala, 'Cookbooks as Historical Documents', in J.M. Pilcher (ed.) *The Oxford Handbook of Food History* (Oxford, 2012), p. 231

²⁰ B. Franger, 'Social Reality and Culinary Fiction: The Perspective of Cookbooks from Iran and Central Asia' in S. Zubaida and R. Tapper (eds.) *A Taste of Thyme: Culinary Cultures of the Middle East* (London, 2000), p. 71

²¹ Nasrallah, 'Introduction', pp. 32-3

²² Al-Nadim, *The Fihrist of al-Nadim: A Tenth-Century Survey of Muslim Culture*, ed. and trans. B. Dodge (New York, 1970), p.3

Mas'udi compiled such guidance in a now lost text. He described it elsewhere as explaining 'the way of washing one's hands in the presence of the host and of taking one's leave; the manner in which the cup should be circulated, with several anecdotes from ancient authorities of kings... some little stories on the intemperance or sobriety of the drinker; how to ask and obtain favours from important people during parties,' and so on.²³ Al-Warraq's cookbook certainly belonged to this genre, serving its readership in two ways. Firstly, al-Warraq's patron would have gained respect for commissioning the work. As Bennison remarked, 'commissioning scholarly works was a way to 'arrive' in polite society, something quite important to rough-edged military commanders from the provinces, or nouveau riches administrators of humble origin.'²⁴ Secondly, for those who read the text after its publication, the knowledge and lessons contained would provide a grounding in what was expected of the Abbasid gentleman. In al-Warraq's words, once the reader 'becomes fully accomplished and attains all these attributes, he will be a welcome companion and a joy to socialise with.'²⁵

To be a joy to socialise with opened opportunities for social and political mobility. Knowledge of culinary culture made a gentleman at home at *majalis* (councils), where juridical and scholarly discussion overlapped with convivial drinking and eating.²⁶ These blurred commensal spaces featured frequently in Mas'udi's widely read 'Meadows of Gold,' which was likely read by aspiring elite men for insight into how caliphs, courtiers and dining companions should behave. Mas'udi often portrayed commensality as an opportunity to

²³ Mas'udi, *The Meadows of Gold: The Abbasids*, ed. and trans. P. Lunde and Caroline Stone (London, 1989), pp.325-6

²⁴ Bennison, *Great Caliphs*, p.193

²⁵ ACK, p.504

²⁶ D.P. Brookshaw, 'Palaces, Pavilions and Pleasure-gardens: The context and setting of the medieval majlis', *Middle Eastern Literatures*, 6/2 (2003), p. 199

win political favour. One story saw the Caliph al-Mahdi (r.775-785) dining with a Bedouin, a nomadic Arab traditionally seen as beneath the urban elite. Their shared meal led the two men to form a bond: afterwards, the Caliph rewarded him by 'enrolling the Bedouin in his personal service and giving him a stipend.'²⁷ A similar outcome concluded a story where the Caliph and several close friends ordered a commoner to judge their cooking contest. The commoner's honest judgements invited such 'hilarity' that the Caliph rewarded him with 4000 dirhams and a 'role in the court.'²⁸ Whilst these stories were more fables than historical episodes, their moral of social mobility would have instilled an aspiring elite audience with hope: if 'uncouth' men could accidentally win the Caliph's favour over dinner, then surely a bourgeois reader could intentionally climb the social ladder too?

One way to achieve this mobility was through the display of one's cultural talents, for example reciting poetry. Mas'udi recalled multiple anecdotes from the reign of Muktafi (r.902-908) in which the Caliph asked his companions to dazzle him with poetic descriptions of the food served to them, with great poetry leading to favour and promotion.²⁹ Al-Warraq's text spoke to this ideal. The cookbook contained 86 poems of varying length, most serving as ekphrasis of certain dishes.³⁰ Van Gelder described the poems as 'equivalents of the luscious colour photographs of modern cookery books.'³¹ Whilst this was certainly one dimension, the poems also likely served as markers of cultural distinction. Amongst the many poems that accompanied bread recipes, for example, one described *khubz ma'ruk* (pressed and rubbed bread) as 'like the halo of the moon.'³² This poem was written by Al-

²⁷ Mas'udi, *Meadows*, pp.37-8

²⁸ Mas'udi, *Meadows*, pp. 191-2

²⁹ Mas'udi, *Meadows*, pp. 375-379

³⁰ Nasrallah, 'Introduction,' p. 14

³¹ G.J.H. Van Gelder, *God's Banquet: Food in Classical Arabic Literature* (New York, 2000), p.63

³² ACK, pp.118-127

Rumi, one of the poets recited to Muktafi in Mas'udi's anecdotes.³³ The poems included in the cookbook, then, were the same kind read out at banquets to display one's literary knowledge. Al-Warraq did not just prepare his readership for elite circles through acquainting them with a conspicuous cuisine. He also provided the cultural education needed to use dining parties as a space to present themselves as members of the elite.

Al-Warraq's frequent inclusion of anecdotes in the cookbook also embedded his readers in this elite culture, contributing to a shared frame of cultural reference. Anecdotes pervade the text, accompanying recipes, instructions, or pieces of etiquette. For example, al-Warraq communicated that the reader should not look too closely at what others were eating with a story of an Umayyad caliph offending a Bedouin by noticing a hair in his spoonful.³⁴ Alternatively, recipes might be associated with famous individuals who have eaten or made them: one recipe for bread was a favourite of Caliph al-Mu'tamid's vizier, another was made by Ibrahim al-Mahdi, a prince and famous chef.³⁵ Throughout the cookbook, more than 100 historical figures were referenced to illustrate and communicate important lessons.³⁶ Conveying these lessons in this format embedded the reader within a shared cultural cache, a common heritage of legendary figures and cultural references presented as exclusive to elite circles. This exclusivity was based on literacy and access to prestige books, with the cultural framework being shared and elaborated by various elite *adab* texts of the period, such as those catalogued in *Kitab al-Fihrist*, or the many stories compiled by Mas'udi. Crucially, these figures were not only from Abbasid history: Persian and Umayyad figures also appeared. The effect was to imply a continuity of elite culture

³³ Mas'udi, *Meadows*, p. 378

³⁴ ACK, p.508

³⁵ ACK, pp.118-127

³⁶ Nasrallah, 'Introduction', p.15

stretching back over centuries, a culture that al-Warraq's readers could understand themselves as the latest participants in.

This shared culture created a frame of reference within which al-Warraq's readers could experience and understand their world. Taste exemplifies this. Expensive dishes were accompanied by anecdotes describing notable figures who enjoyed them, for example the *Sikbajat* recipes favoured by a Persian King and an Abbasid Caliph. By placing these anecdotes alongside the recipes, al-Warraq indicated the recipes tasted good. The reader, to emulate his elite predecessors, had to agree. Rodinson recognised this in 1949, remarking that in addition to eating expensive foods, the Abbasid gentleman 'must also cultivate his tastes, for it now becomes incumbent on him to discriminate with some nicety between the noble and the ignoble in consumable goods.' This was an 'indispensable element in the education of a gentleman.'³⁷ Rodinson focused on how cultivating taste allowed elite men to differentiate an elite cuisine from a lower cuisine, making food a symbol of social distinction. A different perspective is possible. How did an expectation of taste influence the reader's embodied experience of dining? Harris and Robb defined embodiment as how 'people experienced the world through their bodies' illuminating the 'sensory qualities of places and things.'³⁸ Various discourses and lived experiences influenced embodied experiences, a set of knowledges Harris and Robb call a 'body world.'³⁹ Anecdotes like al-Warraq's would have been part of the Baghdad elite male body world, influencing experiences as mundane as sensory encounters with food. Cultivating preferences within these frameworks materialised elite culture; 'correct' sensory experiences demonstrated

³⁷ Rodinson, 'Studies', pp.95-7

³⁸ O.J.T. Harris and J. Robb, 'Body Worlds and Their History: Some Working Concepts' in their (eds.) *The Body In History: Europe from the Paleolithic to the Future* (Cambridge, 2013), p.17

³⁹ Harris and Robb, 'Body Worlds', p.11

prestige as much as reciting poetry. From this perspective, it was not solely the food's cost or complexity that made a dining party elite. It was the embodied experiences of the food, as determined by an exclusive cultural framework.

The body's centrality to elite culture is demonstrated further through al-Warraq's chapters on etiquette. Goody has suggested that the 'heavy weight of table manners and etiquette' surrounded the dining party, endowing it with a formality appropriate for the court and bourgeois life.⁴⁰ Etiquette, however, transformed more than just the communal experience: like expectations of taste, etiquette determined the individual's embodied experience of dining. Chapters 130 and 131 provided the reader with copious levels of detail on how the body should be used in such a setting, contributing to the elite male body world. One section advised the reader to 'avoid informality in his behaviour. He may not sprawl, stretch, yawn, snort, spit, rub his hands, crack his fingers, toy with his ring, or play with his beard and turban.'⁴¹ This advice made the reader conscious of his body and its relation to everything around it: he must not 'draw closer whatever is in front of others to his side, or blow into hot food that will cause some spittle and steam to blow out with the air.'⁴² Of course, these pieces of etiquette could not be enacted constantly and consistently. It was prescriptive guidance rather than precise instruction, but in recommendation, al-Warraq implied mastery of one's body was a core value of elite Baghdad masculinity. Furthermore, as many of these pieces of etiquette were given within the anecdotal framework implying continuity to previous generations of elites, conformity was to embed oneself in the elite tradition, literally embodying past caliphs, kings, lords, and dignitaries by repeating their actions. The elite dining party was, then, the perfect space for the 'stylised repetition of

⁴⁰ J. Goody, *Cooking, Cuisine, and Class: A Study in Comparative Sociology* (Cambridge, 1982), p.130

⁴¹ ACK, p 516

⁴² ACK, p.59

acts' that constituted elite Baghdad masculinity.⁴³ Accordingly, food was not the only material representation of elite culture at dining parties. The body - its movements, sensory experiences and presentation informed by the cultural framework implicit in al-Warraq's cookbook – also materialised that culture.

In conclusion, this chapter has been interested in what al-Warraq's cookbook reveals about the construction of elite culture in 10th century Baghdad. Traditionally, scholarship has focused on how this culture was expressed through the expense and complexity of ingredients and dishes. This chapter has argued social distinction was equally as present in the culture surrounding the food, as symbolised by the cookbook's inclusion of poetry, anecdotes, and etiquette. Commensality played a central role in elite social life as a space for social mobility and masculine display. These cultural aspects provided a shared frame of reference, via which the reader could situate themselves in a continuity of elite culture stretching back hundreds of years. A bodily perspective on the cookbook recognised that this culture was embodied by al-Warraq's readers, through cultivating taste and enacting etiquette. It was not just through elaborate recipes and ingredients that social distinction was materialised: the body too symbolised, and was understood through, elite culture.

⁴³ J. Butler, *Gender Trouble: Feminism and the Subversion of Identity* (London, 1999), p.179

Chapter Two: Imagining The Environment Through Food

‘Properties of objects are described in terms of earth, air, water and fire because all the trees and foods are composed of these four elements...’⁴⁴

Just as Chapter One explored how food and the body contributed to cultural understandings of Baghdad’s elite social world, Chapter Two is concerned with what al-Warraq’s presentation of food reveals about cultural understandings of the natural world beyond Baghdad, loosely termed ‘the environment.’ Starting with the cookbook’s place within the Abbasid medico-culinary tradition, two modes of ecological relation will be explored. The first, explained explicitly and at length by al-Warraq, was rooted in elemental theory. The second, implicit within the cookbook and revealed through the text’s assumptions and omissions, was related to Baghdad’s context within the Abbasid Caliphate, as an imperial centre dependent on the extraction and transportation of natural resources. After exploring these perspectives, the chapter will consider how these two modes of ecological relation interrelated and what this reveals about the Baghdad elite’s understandings of and relationship to the environment. In the process, the chapter will explore how food connected elite urban consumers with the multiple and varied ecologies that lay beyond Baghdad’s walls, and how food was transformed in the process.

Firstly, though, the difficulty of ‘the environment’ must be recognised. As Warde has observed, historians often miss the opportunity to use ‘the environment’ conceptually rather than descriptively. As a conceptual term, a reified ‘environment’ is not objective or

⁴⁴ ACK, p.94

neutral, but rather implies a cultural boundary between an imagined outside and inside. Such a boundary is a historical object, determined differently between contexts by specific cultural forces, and produced through constant ‘work,’ as in ritual and reiteration.⁴⁵ Chapter Three will consider how this boundary was produced and reproduced. This chapter, meanwhile, is interested in what al-Warraaq’s cookbook reveals about his urban Baghdad readership’s understanding of and relationship with their reified ‘environment’ through food. Two key terms shall aid this discussion. Firstly, *ecology* or *ecologies* will be used to refer to physical settings and the human and other-than-human life entangled within them. For example, the territories enclosed by the Abbasid Caliphate was one large ecology containing many smaller and varied ecologies. Secondly, *mode of ecological relation* will be used to refer to the physical and philosophical relationship between urban consumer and the many, varied ecologies they connected to. The connection between person and ecology could be as direct as living within that ecology, or it could be mediated by other matter: a person in Baghdad could be connected to the river Nile by eating a fish caught there. Both this indirect physical connection and how the person thought about the fish, the Nile, and their relationship to both would contribute to the mode of ecological relation. It is hoped these terms will be useful tools to explore how al-Warraaq portrays ‘the environment’, as a reified outside, natural world, and how it overlapped with the inside, social world where his readers lived.⁴⁶

With these terms defined, attention can turn to the main reason elite men likely encountered al-Warraaq’s text other than for its cultural education: its medico-culinary

⁴⁵ P. Warde, ‘Social and Environmental History in the Anthropocene’ in J.H. Arnold, M. Hilton, J. Rüger (eds.) *History after Hobsbawm: Writing the Past for the Twenty First Century* (Oxford, 2017), pp.189-190

⁴⁶ Exploring emic Arabic terms to describe the ideas that ‘environment’ signifies would be useful, but unfortunately lies beyond the author’s limited Arabic. Though the etic use of ‘environment’ is an imperfect compromise, it valuably does reiterate that any idea of ‘an outside world’ is inherently conceptual.

perspective. During the Abbasid period, there was a widespread resurgence of humoral theory, a Hippocratic medical pathology which understood the body was composed of four humours (blood, phlegm, yellow bile, and black bile) whose balance determined health and character. The ancient Greek writer Galen linked these ideas to the four primary qualities (wet, dry, cold, and hot) as determined by the four elements (water, earth, air, and fire), of which all things – the body, as well as natural objects and ecologies – were composed.⁴⁷ Food was understood to have a considerable impact on these humours: as Lewicka argued, dishes were understood in this period as ‘compositions of nutrients that were determinants of health and illness... [and] parts of ‘Nature’,’ that is, composed of the four elements. Thus, the medico-culinary tradition enabled the reader to use cooking to ‘reduce from the surrounding environments the elements which were detrimental for health, and to increase the impact of elements which were beneficial.’⁴⁸ Al-Warraq certainly belonged to this tradition: in his introduction he described the cookbook as detailing ‘whatever benefits the body and fends off any harm that foods might induce,’ and devoted chapters 105-9 to ‘dishes that have curative properties.’⁴⁹ His was one text within a vast genre of medical and culinary writing. The *Kitab al-Fihrist*, in a section listing medical texts, attributed almost every famous physician with at least one text on cooking, such as al-Kindi’s ‘Regulating of Foods.’⁵⁰ Culinary knowledge, in this period, was deeply entangled with medical thought.

Yet despite much scholarly ink having been spilled discussing medico-culinary thought, the obvious ecological aspect has rarely been engaged with. Across his first 32 chapters, al-Warraq explicitly and at length detailed a mode of ecological relation:

⁴⁷ P.E. Pormann and E. Savage-Smith, *Medieval Islamic Medicine* (Edinburgh, 2007), p.10

⁴⁸ P.B. Lewicka, ‘Diet as Culture: On The Medical Context of Food Consumption in the Medieval Middle East,’ *History Compass* 12/7 (2014), pp.607-610

⁴⁹ ACK, p. 67 and 76

⁵⁰ Al-Nadim, *Fihrist*, pp.620-629

elemental food lore. Food lore is a phrase coined by Marin and Waines to refer to the knowledges attached to food, in this case, their elemental and humoral properties.⁵¹ Most of these chapters contain lists of ingredients, described in terms of their hot, cold, wet, or dry properties. Spinach, for example, 'is moderate in properties. It is good for throat, lungs, stomach, and liver.' Olive oil, conversely, is hot and moist, strengthening the stomach.⁵² Most scholarship used food lore for medical history, exploring food's perceived effect on bodies, but when food is understood as a connection between consumers and ecologies, it becomes apparent food lore informed readers' understanding of the environment too. Scholarship's engagement with this has, however, been limited. Hamarneh, discussing ecological insights in medical encyclopaedia, merely observed that 'many physicians in Islam show real interest in... man's relation with his immediate environment.'⁵³ As a cookbook rather than a medical text, al-Warraq reveals this ecological relation was not just the province of physicians but was rather expected of and valued by Baghdad's elite men. An exploration of what food lore reveals about this community's understanding of 'the environment' is thus long overdue.

This elemental mode of ecological relation suggests awareness of other-than-human agency. In chapter 9 of al-Warraq's cookbook, entitled 'Humoral Powers of Organ Meat, Extremities and Innards', an animal is split up into its constituent parts, from head to trotter, and each part described in terms of food lore. Bone marrow, for example, 'is moderately balanced... it increases semen and slackens the stomach.' Brain, on the other hand, is 'cold and nauseating and coats the lining of the stomach.'⁵⁴ These examples reveal that food was

⁵¹ M. Marin and D. Waines, 'The Balanced Way: Food for Pleasure and Health in Medieval Islam', *Manuscripts of the Middle East* 4 (1989), pp.124-6

⁵² ACK, pp.129-135

⁵³ S. Hamarneh, 'Ecology and Therapeutics in Medieval Arabic Medicine', *Sudhoff's Archive* 58/2 (1974), p.165

⁵⁴ ACK, pp.106-7

recognised to have influence over the body, due to its elemental composition. Bennet has argued that at various points in history, eating was understood not as a person consuming a food, but as ‘an assemblage between human and non-human elements, all of which bear some agentic capacity,’ the food influencing the person’s body whilst the person digests the food.⁵⁵ To use the example from al-Warraq, whilst the person ate bone marrow, the marrow increased the person’s semen and slackened his stomach. Understanding food in terms of elements enabled al-Warraq’s readership to recognise other-than-human agency: food could transform the body.

It should be reiterated, however, that al-Warraq’s readership was not representative of everyone in Baghdad or the wider Caliphate. Access to cookbooks was restricted to the literate, as much a part of elite culture as literature and etiquette. Whilst an oral tradition may have existed, it would have led to a different mode of ecological relation. Al-Warraq, recognising that some foods had a negative agency over the body, advised his reader to avoid eating lung (‘of little nutritional value’), spleen (‘slow to digest, generates bad nutrients and blood high in black bile’) and heart (‘hot, highly dense, difficult to digest’). Poorer families did not have the luxury of wasting meat, or only consuming the more nutritious, and more expensive, cuts. Alternatively, women may have been recommended different diets due to the assumption that they had different humoral compositions – the cookbook, for example, recommends adding cucumber juice to a medicinal recipe for dealing with jaundice if it is to be given to a woman.⁵⁶ *Given* is the operative word: al-Warraq’s readers were presumed to be men, and they were expected to use their knowledge of elemental food lore *on behalf of* women or the sick. Relationships with the

⁵⁵ J. Bennet, *Vibrant Matter: A Political Ecology of Things* (Durham, 2010), p.49

⁵⁶ ACK, p.449

environment were mediated, then, by class and gender. Al-Warraq's cookbook reveals the mode specific to aspiring elite men.

The implicit exclusivity of al-Warraq's elemental food lore challenges an idea in modern scholarship that elemental knowledge enabled radical equality. Cohen and Duckert have argued that elemental knowledge can make individuals aware of their 'shared ecomateriality.'⁵⁷ By accepting, as this chapter's opening quote suggested, that all things came from the four elements, al-Warraq's readership could recognise themselves as deeply entangled with the Caliphate's ecologies. This idea was inherited from the highly influential Hippocratic text 'Airs, Waters, Places' which explained that character and constitution were determined by the effects of the season, the wind, the sun and the soil.⁵⁸ This was not unique to humans, influencing animals and plants too. Cohen and Duckert argued this created a radical equality: 'Material affinity unites the elemental cosmos and the little universe that is human, an intimacy rather than an invitation to dominance.'⁵⁹ But this idea does not align with al-Warraq. In the cookbook, elemental understandings of natural objects and ecologies were highly theorised. Rather than an intimacy with nature, the devotion of 32 chapters to a formal exegesis on natural properties seemed to prioritise making ecologies legible.⁶⁰ This mode of ecological relation was one intended to make natural objects usable, to dissect animals into their constituent parts for classification and simplification as beneficial or non-beneficial, or, via recipes, to explain how raw material could be transformed into useful products. Not only was this heavily theorised knowledge mostly

⁵⁷ J.J. Cohen and L. Duckert, 'Introduction: Eleven Principles of the Elements', in their (eds.) *Elemental Ecocriticism: Thinking with Earth, Air, Water and Fire* (Minneapolis, 2015), p.13

⁵⁸ Hippocrates, *Airs Waters Places*, trans. W.H.S. Jones (Loeb Classical Library, 1923), I.1-28

⁵⁹ Cohen and Duckert, 'Eleven Principles', p.12

⁶⁰ J.C. Scott, *Seeing Like A State: How Certain Schemes to Improve the Human Condition Have Failed*, (New Haven, 1998), p.2

inaccessible outside elite, literate circles, this process of making ecologies legible for resource extraction appeared to prioritise nature's utility to civilisation over ecological intimacy.

Moreover, 10th century humoral and elemental knowledge came not from lived experience of nature, but rather from intellectual transmission enabled by urban civilisation. The Abbasid Caliphate has been described as a 'crossroads civilisation,' a society drawing on a combination of Middle Eastern, European, Chinese, and Indian knowledges to produce its own unique culture.⁶¹ Whilst the scientific and medical knowledges of India and Gundeshapur certainly influenced al-Warraaq, the most obvious input to his work was the Hippocratic corpus and the writings of Galen. These ancient Greek texts had a resurgence during the Abbasid period, translated into Arabic as part of the Baghdad-based translation movement.⁶² Gutas has argued that this translation of Hellenistic thought would not have been possible without Baghdad's multiculturalism, a product of its position at the Caliphate's urban heart.⁶³ This hints at the other mode of ecological relation implicit in al-Warraaq's assumptions and omissions: the context of empire. Baghdad's role as the urban centre of a bustling empire meant its elites were removed from the many varied ecologies that composed the Caliphate, instead encountering distant natural objects only via trade and mobility. The Baghdad elite's use of texts to make nature legible was potentially a response to imperial distance. It seems both elemental knowledge and the need for it emerged from an imperial context.

⁶¹ S.F. Starr, *Lost Enlightenment: Central Asia's Golden Age from the Arab Conquest to Tamerlane* (Princeton, 2013), p.69

⁶² D. Waines, 'Dietetics in Medieval Islamic Culture', *Medical History* 43 (1999), pp.230-1

⁶³ D. Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and early Abbasid Society* (London, 1998), p.20

This imperial mode of ecological relation manifested in the text in al-Warraq's extensive listing of resources. In those first 32 chapters detailing food lore, al-Warraq repeatedly assumed the availability of resources without any real regard for their origins. Take, for example, chapter 19 on popular aromatics. Al-Warraq listed musk and ambergris alongside one another. Whilst both were indeed popular aromatics, their juxtaposition is striking. Musk came primarily from the Musk Deer, indigenous to the highlands of the eastern end of Eurasia, particularly Tibet. It was produced in a vesicle just above the deer's genitals, requiring the hunter to kill the deer and carefully remove the entire vesicle without damaging or contaminating the contained musk, all for the sake of fifteen to thirty grams per deer. This would then be transported hundreds of miles – usually by caravan, but potentially by ship – to reach al-Warraq's readers.⁶⁴ Ambergris, alternatively, came from sperm whales, a result of failure to digest cephalopod beaks. Once regurgitated, ambergris could float in the ocean for centuries before washing up on a beach where scavengers foraged for it.⁶⁵ In al-Warraq's day, it was commonly found in India or Yemen, then transported to Baghdad.⁶⁶ Musk and ambergris came from entirely different ecologies and required highly specialised knowledge to gather and transport to Baghdad. Al-Warraq ignored these origins entirely, instead simply remarking that musk was 'hot and dry' and ambergris was 'hot,' as well as detailing their effect on the body.⁶⁷ Less conspicuous ingredients received similar treatment: in chapter 26 on 'Seasonal Fruits', sugar was listed alongside pomegranate and peaches, despite sugarcane coming from India, Yemen or

⁶⁴ A. King, 'Tibetan Musk and Medieval Arab Perfumery' in A. Akasoy, C. Burnett, R. Yoeli-Tlalim (eds.), *Islam and Tibet: Interactions Along the Musk Routes* (Abingdon, 2016), p.145-6

⁶⁵ S.J. Rowland, P.A. Sutton, T.D.J. Knowles, 'The Age of Ambergris', *Natural Product Research* 33/21 (2019), pp.3134-36

⁶⁶ M. Levey, 'Ibn Masawaih and His Treatise on Simple Aromatic Substances: Studies in the History of Arabic Pharmacology', *Journal of the History of Medicine and Allied Sciences*, 16/4 (1961), p.401

⁶⁷ ACK, p.138

Palestine whilst pomegranates came from Syria and peaches from Basra.⁶⁸ It is likely knowledge of food's origins was available in Baghdad; many of al-Warraq's readers would have been wealthy merchants. But al-Warraq's omission of this information in favour of detailed elemental food lore implies a cultural priority. Elite men were *expected* to possess culinary knowledge, but this knowledge was focused on consumption and the civilisational transformation of raw food into delicious, nourishing meals rather than on processes of production and extraction. The imperial mode of ecological relation assumed availability, whilst dismissing the specialised local knowledges upon which availability depended. It was a view of the world looking out from the imperial centre.

Indeed, availability of food symbolised Baghdad's imperial connection to the Caliphate's varied ecologies and regions. In the 8th and 9th centuries – the Abbasid Caliphate's supposed 'golden age', when new wave cuisine emerged – Baghdad was connected to its region through revenues. El-Ali translated a revenue list from Harun al-Rashid's time (r.786-809), showing that Baghdad received all manner of foods as taxation from the provinces: pomegranates, quinces and jam from Iran, wheat from India, fish from Armenia, olive oil from Yemen, and so on.⁶⁹ Though the revenue system had declined somewhat by the 10th century, geographical texts still imagined the Abbasid Caliphate via the movement of goods.⁷⁰ In al-Muqaddasi's *Best Divisions of the Knowledge of the Regions*, each summary of a region included an extensive list of that region's goods, showcasing for example that dates came from Arabia, Iraq, Syria, Egypt and the Eastern Territories, but not

⁶⁸ ACK, pp.155-6, and M.M. Ahsan, *Social Life Under the Abbasids* (London, 1979), pp.100-110

⁶⁹ S.A. El-Ali, 'A New Version of Ibn al-Mutarrif's List of Revenues in the Early Times of Harun al-Rashid', *Journal of the Economic and Social History of the Orient*, 14/3 (1971), pp.306-310

⁷⁰ Bennis, *Great Caliphs*, p.147

providing any insight into their production or transport.⁷¹ Though al-Muqaddasi claimed his work was designed so that ‘every traveller may use it to his advantage and every merchant may profit by it,’⁷² it seems more likely he shared his audience with al-Warraq: an aspiring elite imagining the wider empire from their urban centre. This would explain his references to mirabilia (like Noah’s ark) and religious sites.⁷³ Rather than a practical guidebook, Al-Muqaddasi presented a view of the world designed to display the bounty and splendour of the Abbasid Caliphate, much like the traditional ‘Routes and Realms’ writing (*al-masalik wa-l mamalik*) that described the Caliphate in terms of ‘the road systems and pilgrimage routes, the interconnecting systems of the realm.’⁷⁴ These examples show that food implicitly carried a context of imperial extraction and transportation that mediated perspectives on the environment, even within contemporary geographies. Imagining the ‘environment’ beyond the city walls through food was to imagine ecologies to which imperial processes of extraction could be applied.

Indeed, as food moved from distant ecologies to the urban centre, its relationship to its natural origin was obfuscated in a process known as commodification. Commodification saw natural objects ‘defeated, classified, and appropriated by humans,’ removed from their ecologies, transported elsewhere, and reconstituted within a new framework of social relations, the conditions of production hidden from the consumer’s view.⁷⁵ Ambergris, as aforementioned, provides a striking example. Al-Warraq’s urban elite readers were unlikely

⁷¹ Al-Muqaddasi, *Best Divisions for Knowledge of the Regions: a translation of Ahsan al-taqasim fi ma’rifat al-aqalim*, trans. B.A. Collins (Garnet, 1994): pp.90-01, 116-7, 163-4, 186-7, 287; hereafter, BDK

⁷² BDK, pp.1-2

⁷³ BDK, p.124

⁷⁴ B.A. Collins, ‘Introduction’ in Al-Muqaddasi, *Best Divisions for Knowledge of the Regions: a translation of Ahsan al-taqasim fi ma’rifat al-aqalim*, trans. B.A. Collins (Garnet, 1994): XX

⁷⁵ W.M.J. Van Binsbergen, ‘Commodification: Things, Agency, and Identities: Introduction’ in his and P.L. Geschiere (eds.) ‘Commodification: Things, Agency, and Identities: ‘The Social Life of Things’ (Munster, 2005): pp. 45-7

to encounter ambergris in its oceanic origin. Their main encounters would be when it fumigated food, its hot elemental property 'strengthen[ing] brain and heart.'⁷⁶ Ambergris did not naturally fumigate food; it had to be alienated from its origins and put through various cultural understandings before it served this purpose. Perhaps for many consumers, this use only became apparent through texts like al-Warraq's. In this way, the cookbook reveals the Caliphate was an imperial project which enabled firstly the bringing together of natural objects from many varied and distinct ecologies, and secondly the translation and dissemination of certain knowledges. In the encounter between these natural objects and knowledges (such as elemental food lore), the objects gained new meanings and values, becoming food or medicines. Accordingly, the environment became distant to al-Warraq's urban readers, implied to be a set of anonymous ecologies from which raw resources were extracted but not detailed. Both food lore and imperial processes contributed to this perspective, extracting and alienating food from its natural origins before it arrived in the urban centre.

In conclusion, this chapter has sought to go beyond scholarship merely noting an ecological aspect of medico-culinary texts to explore what al-Warraq's cookbook revealed about how Baghdad's elite men understood and related to 'the environment,' a reified outside world beyond the city walls. As the urban heart of a vast territory, Baghdad received food from a varied range of distant ecologies. Al-Warraq's presentation of this food implied these ecologies were often obfuscated to his readers. The prevalence of elemental food lore did not create an intimacy with the environment, but rather made natural objects 'legible' in such a way that their other-than-human agency could be channelled productively for

⁷⁶ ACK, p.138

nutrition and health. This treatment of foodstuffs as raw resources awaiting transformative processes emerged from the Caliphate's imperial context; food only reached Baghdad through alienating processes of extraction and transportation. The result was an environment al-Warraq's urban readers felt removed from: a distant and anonymous set of ecologies from which resources could be assumed available without any cultural regard, amongst urban elites, for the communities and specialised local knowledges involved in extraction. This cultural boundary between elite urban society and environment beyond the city walls had significant social implications, which the final chapter will now explore.

Chapter Three: Environmental Thought and Social Hierarchy

“Do you think dishes cooked in the sultan’s kitchen are any different from familiar ones? ... It is the meticulous cleanliness of ingredients and pots that makes the difference.”⁷⁷

Chapter One explored the role of food and the body in distinguishing Baghdad’s elite social world from the rest of society. Chapter Two considered how the cookbook presented the world beyond Baghdad, an outside ‘environment’ of distant ecologies from which the availability of goods was continually assumed. This final chapter is interested in the discursive and ritual ‘work’ conducted to maintain a cultural boundary between ‘society’ and ‘environment,’ and the resulting implications for social hierarchy. Starting with the idea that food and other materials, as other-than-human agents from distant ecologies, transgressed and troubled this boundary, the chapter will explore how al-Warraq’s prominent focus on cleanliness mitigated such disturbance. Consideration of this period’s wider literature will reveal this discourse was commonly applied to humans as well as food, often in descriptions of barbarism or discussions of rival polities. Cleanliness became a way of showcasing the supremacy of the Baghdad elite and was part of an ideology legitimising consumptive hierarchies. Finally, it will be argued that intense etiquette and rituals of preparation for dining provided opportunities for these ideologies to be articulated and reinforced amongst the elite, not only asserting the boundary between inside and outside to produce an idea of the environment, but simultaneously drawing up boundaries between

⁷⁷ ACK, p.81

the elites, Baghdad's lower classes, and distant communities further down the consumptive hierarchy.

David Waines suggested that medieval Arabic cookbooks hinted at the importance of self-contained households to Baghdad's elite. Self-contained households were a form of conspicuous consumption, combining both a display of wealth (a well-supplied kitchen was a luxury) as well as a symbol of masculine virtues (the head of household's ability to nourish his dependents).⁷⁸ An environmental perspective suggests another ideology was implicit in this self-containment: a division between an inside, social world (the household) and an outside, natural world (the environment). Food transgressed this boundary. Ingredients came from and represented distant ecologies; parts of the outside world brought inside to be eaten. Further, elemental lore demonstrated food was not alone in transgressing the boundary. Al-Warraq's cookbook explained kitchen utensils were made from materials with elemental properties: 'copper is female and hot, iron is male and dry. Tin is cold but not so dry, soapstone is cold and dry' and so on.⁷⁹ As Gascoigne observed, cookbook readers of this period clearly took utensil's elemental properties seriously, allowing elemental theory to guide choices of cooking pots despite no correlation to the object's monetary or status value: copper alloy, despite being higher status and costing more, was generally regarded to have the worst elemental value.⁸⁰ Accordingly, whilst Waines was right to suggest that the cookbook implied *a desire* for the self-contained household and thus a boundary between outside and inside, al-Warraq's elemental lore implied this boundary was understood to be regularly transgressed.

⁷⁸ Waines, 'Luxury', p.579

⁷⁹ ACK, p.85

⁸⁰ A.L. Gascoigne, 'Cooking pots and choices in the medieval Middle East' in J. Bintliff and M. Caroscio (eds.) *Pottery and Social Dynamics in the Mediterranean and Beyond in Medieval and Post-Medieval Times* (Oxford, 2013), p.7

Further, beyond transgressing the boundary between environment and household, food entered that most inside of spaces: the body. Galen, in one of the foundational texts for Hellenistic and Arabic medical thought, observed that eating was effectively ‘an assimilation of that which nourishes to that which receives nourishment,’ a process via which food became blood and bone.⁸¹ The 10th-11th century physician Ibn Sina sought to explain this process: food entered the stomach and, under the immense heat of the body, broke down into chyle. Chyle was then transported to the liver where it was ‘cooked’, producing a foam which became yellow bile, sediment which became black bile, a raw uncooked portion that became phlegm and the rest which became blood.⁸² This understanding of food’s incorporation was inherently ecological, in the sense that the *environment literally became part of the body*. Elemental and medical understandings, then, implicitly challenged an easy dichotomy of inside and outside: the cultural boundary was in flux.

As Warde argued, maintaining this cultural boundary, then, required considerable ‘work’, defined as ‘a wide range of scientific and discursive practice.’⁸³ Al-Warraq’s cookbook was deeply involved in these discourses, most notably cleanliness. Food was perceived as more nourishing the cleaner it was. For example, fish from stagnant water consumed and incorporated food that grew ‘putrid and infested with algae,’ meaning humans consuming the fish in turn incorporated undesirable outside elements. The best fish thus came from pure waters, as ‘whatever the fish feed on will be clean.’⁸⁴ This guidance partially emerged from the medico-culinary tradition; al-Warraq promised to help his

⁸¹ Galen, *On The Natural Faculties*, trans. A.J. Brock (Loeb Classical Library, 1979), I.X-I.XI

⁸² Ibn Sina, *Avicenna’s Medicine: a new translation of the 11th century canon with practical applications for integrative health care*, ed. and trans. M. Abu-Asab, H. Amri, M.S. Micozzi (Rochester, 2013), pp.76-7

⁸³ Warde, ‘Social and Environmental’, p.190

⁸⁴ ACK, p.112

readers 'fend off any harm that foods might induce.'⁸⁵ Yet whilst cleanliness was important for health, al-Warraq's focus extended beyond practicality. For example, he explained a cracked pot would always be dirty 'even though extraordinary care was taken in washing them,' simply by being cracked.⁸⁶ This hinted at dirt fulfilling a cultural purpose, rather than a practical one. As the anthropologist Mary Douglas famously argued, 'dirt is essentially disorder... eliminating it is not a negative movement, but a positive effort to organise the environment.'⁸⁷ This principle appears to be at play in al-Warraq's cookbook. The emphasis on the cleanliness of food and utensils were ways of exerting control over the transgressive nature of these things, reasserting the threshold between outside and inside and producing a separate, reified 'environment' in the process.

Cooking factored into this discourse of cleanliness. As Chapter Two explored, al-Warraq's recipes were explained with highly theorised elemental lore. For example, the reader was advised to use iron frying pans for frying fish because both 'are cold, and fire and oil are hot. Mixing the two will result in a happy medium of balanced properties.'⁸⁸ Here, elemental theory was used to make the frying pan, oil and fish legible, before the civilisational knowledge of cooking was applied to transform the fish and oil from raw ingredients into a nourishing meal. Douglas quoted an unsigned writer who described cooking as a 'complete appropriation of the food by the household,' a useful framework to view this through.⁸⁹ Cooking functioned like cleaning, to redefine food within the context of the household instead of the environment. When the food was cooked and eaten, its agency still affected the body, but it was an agency that had been channelled and

⁸⁵ ACK, p.67

⁸⁶ ACK, pp.81-2

⁸⁷ M. Douglas, *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (London, 2002): pp.2-3

⁸⁸ ACK, p.85

⁸⁹ Douglas, *Purity*, p.156

transformed into something useful, rather than an uncontrolled external force altering the body's internal world. It is perhaps unsurprising, then, that 10th century writers commonly used 'cooking' to describe the process of digestion and incorporation, by which food was transformed and appropriated by the body.⁹⁰ Together, discourses of cooking and cleaning were practical articulations of the cultural boundary between outside and inside. But this discourse was not limited to environmental thought: it also had social implications.

As Baghdad's aspiring elite, Al-Warraq's readership were an urban community living at the centre of a considerable empire. Chapter Two argued this imperial context led the elite to understand the environment as a set of distant and varied ecologies from which raw resources were available. As Johnson and Earle explained, access to such resources depended upon a hierarchical social organisation, involving the mobilisation of entire communities in ecologies geographically or socially distant from the empire's urban centre.⁹¹ This stratification, they argued, was enforced through violence, wealth and ideologies, this latter defined as 'systems of belief created and strategically manipulated by certain social segments... to establish and maintain the legitimacy of their position in society.'⁹² This ideology was shown in Chapter One: conspicuous consumption and an exclusive elite cultural cache were argued to play a role in distinguishing an aspiring elite from those lower in the social hierarchy. Interestingly, al-Warraq also employed discourses of cleanliness to differentiate high and low cuisine. In one anecdote, the Caliph's cook, asked to feed bourgeois friends, instead ordered their slave boy to thoroughly clean his utensils and then cook as normal. When the food tasted phenomenal, the cook remarked,

⁹⁰ Ibn Sina, *Medicine*, p.83

⁹¹ A.W. Johnson and T.K. Earle, *The Evolution of Human Societies: From Foraging Group to Agrarian State* (Stanford, 2000), pp.248-9

⁹² Johnson and Earle, *Evolution*, p.259

‘Do you think dishes cooked in the sultan’s kitchen are any different from familiar ones? ... it is the meticulous cleanliness of ingredients and pots that makes the difference.’⁹³ This example hints that the same discourses that determined the society/environment boundary were also used to establish a boundary between elites and non-elites. The chapter will now explore the implications of these environmental and social ideologies overlapping.

Discourses of uncleanness were commonly used in this period’s literature to indicate how civilised certain groups of people were, as shown most blatantly in Ibn Fadlan’s account of his 10th century journey from Baghdad to visit the Rus. He described the Oghuzz Turks as having ‘no contact with water,’ the Bashghirds as ‘the worst of the Turks, the dirtiest,’ and of the Rus, he wrote, ‘they are the filthiest of God’s creatures’, rarely washing except in ‘the dirtiest and filthiest water there could be.’⁹⁴ Using a language of uncleanness, Ibn Fadlan portrayed these nomadic peoples as wild, unruly and inhuman, in contrast to his fellow, hygiene-sensitive, Baghdadi travellers. Al-Azmeh has argued that the inclusion of this rhetoric in widespread *adab* literature aimed to ‘foster the sense of cultural unity based on the cultivation of a common repertoire of sentiments, values and refinements.’⁹⁵ That is to say, tropes regarding hygiene created social boundaries, both by demarcating the civilised from the uncivilised within texts, and beyond texts as a cultural sensitivity shared amongst a specific, literate social group. Whilst this is certainly true, the discourse was also used to justify the imposition of imperial hierarchies onto ‘uncivilised’ peoples. Ibn Fadlan’s mission was to integrate a distant kingdom, and its ecology, into the Abbasid Caliphate, the enforcement of ‘civilisation’ onto a so far illegible territory. Ibn

⁹³ ACK, p.81

⁹⁴ Ibn Fadlan, *Ibn Fadlan and the Land of Darkness: Arab Travellers in the Far North*, ed. and trans. P. Lunde and C. Stone (London, 2012): pp.12,24,46-7

⁹⁵ A. Al-Azmeh, ‘Barbarians in Arab Eyes’, *Past & Present* 134 (1992), p.18

Fadlan's use of 'filth, the inverse of refinement and urbanity'⁹⁶ to dehumanise those he met shows that the imperial mode of ecological relation was not just contained to natural objects: human beings too could be imagined as raw resources in need of the application of civilisational processes.

Indeed, environmental understandings were often used for political legitimisation or criticism. As referenced in Chapter Two, it was commonly understood that an area's environment and climate shaped the character and constitution of that area's individuals. In the foundational *Airs, Waters and Places*, it is explained that in 'a city that lies exposed to the hot winds... the heads of the inhabitants are moist and full of phlegm... most of them have a rather flabby physique, and they are poor eaters.'⁹⁷ This 'natural-scientific ecological determinism', as al-Azmeh termed it, was an ideological tool regularly used to support certain political ideas in the Abbasid period.⁹⁸ Al-Muqaddasi's *Best Divisions* explained, for example, that 'the fairest of the regions is al-Iraq. The climate is most cheering to the heart, invigorating the mind. There, the heart feels better, the mind clearer.'⁹⁹ Despite al-Iraq's declining political status by al-Muqaddasi's time, environmental discourse bolstered al-Iraq's political significance as the centre of the Caliphate. This idea was repeated throughout the text: 'the water is delightful, the air marvellous: it is the chosen place of the caliphs.'¹⁰⁰ Amongst al-Iraq's unique customs, al-Muqaddasi explained *harissa* shops had 'servants with washbasins, pitchers, and potash [for soap]' and mosques had 'washbasins for ablution,' drawing in discourses of cleanliness to symbolise a centre of civilisation.¹⁰¹ Al-Warraq also

⁹⁶ Al-Azmeh, *Barbarians*, p.7

⁹⁷ Hippocrates, *Airs Waters Places*, III.1-15

⁹⁸ Al-Azmeh, *Barbarians*, pp.6-7

⁹⁹ BDK, p.32

¹⁰⁰ BDK, p.104

¹⁰¹ BDK, p.117

employed environmental discourses in a political manner. In his chapter on fishing, after a long discourse on how the quality of fish related to the cleanliness of water, al-Warraq remarked 'fish caught in the river Tigris is better than those caught in the Euphrates, and fish caught in the Euphrates is superior to the Nile fish.'¹⁰² This innocuous comment would have been a source of local pride for his Baghdad readership, and potentially a jibe against the rival Fatimid caliphate in Egypt: Nile fish were regularly eaten in al-Fustat and Cairo without any local perception of inferior quality.¹⁰³ Al-Warraq's backhanded comment about the cleanliness of the Nile and al-Muqaddasi's ecological justification for the centre of empire clearly operated at different scales. Nonetheless, both examples demonstrate that understandings of the environment were shaped by, and mobilised to serve, political ideologies.

Natural-scientific determinism also factored into non-environmental food discourses. Rosenberger suggested 'science justified socio-economic categories by treating them as natural.'¹⁰⁴ Al-Warraq was certainly complicit in this discourse. In a chapter on meat, al-Warraq observed 'tough meat is more suited for people who perform hard physical activities, whereas tender meat is for the opposite.'¹⁰⁵ In a later chapter on bread, he added, 'only people used to strenuous labour can eat [certain varieties of bread] more often.'¹⁰⁶ With this, al-Warraq suggested that the body's ability to consume certain foods was influenced by its role within society: the cookbook's differentiated cuisine, it implied, was due to biological necessity. This echoes Ibn Fadlan's descriptions of dehumanised and

¹⁰² ACK, p.112

¹⁰³ Lewicka, *Foodways*, p.210

¹⁰⁴ B. Rosenberger, 'Arab Cuisine and Its Contributions to European Culture', in J.L. Flandrin and M. Montanari (eds.) *Food: A Culinary History* (Colombia, 1999), pp.3-4

¹⁰⁵ ACK p.102

¹⁰⁶ ACK, p.118

barbarised others, whose consumption of raw food was a mark of animality and savagery.¹⁰⁷

Via the texts they read and patronised, the aspiring elite consumed and promoted an ideology in which social hierarchies – of civilisation and uncivilization, and of class and race – were underpinned by biological and environmental thought.

In these examples, the body was entangled with the environment, its biology determined by incorporation and environmental conditions, as much a naturecultural object as food. Discourses of cleanliness were intended to downplay the body's environmental nature: filth indicated a person was animalistic and inhuman, but cleanliness indicated a level of civilisation and removal from nature. As a potentially transgressive object like food, the cleanliness of the body helped to articulate cultural boundaries. Douglas observed that the body's ubiquity and easily observed margins made it a multivalent symbol: 'its boundaries can represent any boundaries which are threatened or precarious,' such as those between society and environment, civilisation and barbarism, or even elite and non-elite.¹⁰⁸ Butler built on this idea to suggest that the body's boundaries, and those it symbolised, were far from static. Rather, they had to be iteratively affirmed: 'the boundary of the body as well as the distinction between internal and external is established through the ejection and transvaluation of something originally part of identity into a defiling otherness.'¹⁰⁹ This was shown earlier regarding food: its entrance into the household was carefully managed through elaborate rituals (recipes) of preparation and cooking. These rituals of appropriation took place in the kitchen, tying into Marin and Waines' understanding of the kitchen's place in 'between [the household] and the outside world.'¹¹⁰

¹⁰⁷ Rosenberger, 'Arab Cuisine', p.12

¹⁰⁸ Douglas, *Purity*, p.142

¹⁰⁹ Butler, *Gender Trouble*, p.170

¹¹⁰ Marin and Waines, 'Balanced Way,' p.124

If the body was also a transgressive object, however, where were its rituals of cleanliness enacted? This chapter will now argue that, for the body, these rituals were performed through following elite etiquette. Thus, as well as the kitchen, the elite dining party mediated between society and environment too.

Bodily cleanliness for elite dining parties was highly ritualised in al-Warraq's cookbook. Al-Warraq devoted several chapters to making soap, toothpicks and 'decorums of washing the hands before and after eating.'¹¹¹ In these chapters, he advised his readers to 'keep a regular regimen of trimming the nails, cleaning between the fingers, and washing the hands and wrists before praying and eating,' enhancing the cultural importance of bodily cleanliness by linking it to the religious significance of Islamic ritual purity.¹¹² Often, this guidance extended far beyond practicality. In one of many hygiene anecdotes, a man dining with the caliph al-Ma'mun touched his head after washing his hands. The Caliph asked him to wash his hands again, only for him to touch his beard. He was asked to wash his hands *again* and so on until al'Ma-mun grew angry and scalded the man. Al-Warraq concluded, 'I know of many similar stories but let this one suffice for brevity's sake.'¹¹³ These hyperbolic attempts to remove dirt were part of asserting the boundary between inside and outside. As Douglas wrote, 'it is only by exaggerating the difference between within and without, above and below, male and female... that a semblance of order is created.'¹¹⁴ In fact, the body's exaggerated cleanliness mirrored the conspicuous preparation of food. Marin observed that table companions were expected to wash and perfume themselves before eating: 'clean and scented, they are then ready to partake of

¹¹¹ ACK, p.77-8

¹¹² ACK, p.502

¹¹³ ACK, p.505

¹¹⁴ Douglas, *Purity*, pp.4-5

food that has also benefitted from the use of perfumes.’¹¹⁵ Both food and body underwent similar processes of alienation. Food was removed from its environmental origins and given a new value within the context of consumption, thus ‘working’ to assert the cultural boundary between society and environment. The diner’s body, by following etiquette to seek cleanliness, was momentarily stripped of context too, allowing the consumer to perform an imperial separation from the environment. This environmental independence had social implications.

Distance from the environment was entangled with social distinction. As established in Chapter One, following etiquette was an embodiment of elite culture, a way to materialise distinction by moving and presenting the body according to the rules of a body world exclusive to the elite. This argument can be developed by considering how discourses of cleanliness factored into these rituals. For example, amongst the etiquette, al-Warraq instructed his reader not to touch the ‘hand of the page offering him the drink... he should not beckon to him, touch him, or dally with him.’¹¹⁶ This was a rare recognition that non-elites would be present at dinners, combining both a moral panic over inappropriate interaction and the need to materialise the boundary between elites and non-elites: the two could not touch. By following cleaning rituals and bodily etiquette, elite diners did not just distinguish themselves from the environment, but also from those lower down the consumptive hierarchy: the pages, servants and slaves who prepared and served the food, as well as the multitude of merchants, fieldworkers, farmers, foragers, and hunters availability depended upon. The elite dining party was a space not only to materialise elite cultural values but also social and environmental ideologies. These ideologies imagined the

¹¹⁵ M. Marin, ‘Beyond Taste: The Complements of Colour and Smell in the Medieval Arab Culinary Tradition’ in S. Zubaida and R. Tapper (eds.) *A Taste of Thyme: Culinary Cultures of the Middle East* (London, 2000), p.209

¹¹⁶ ACK, p.517

ecologies and communities of the Caliphate as existing to provide for Baghdad's urban elite, justifying this stratification. Accordingly, both cultural boundaries between elite and non-elite and between society and environment were affirmed through similar rituals, showing the entanglement of social hierarchy and environmental thought. The encounter of body and food at elite dining parties provided an ideal opportunity for such ideologies to be articulated.

Overall, al-Warraq's cookbook illuminates the entanglement of social hierarchy and environmental thought in 10th century Baghdad. The chapter began with Waines' observation that al-Warraq's cookbook revealed an elite cultural desire for self-contained households, hinting towards the cultural boundary between the outside and inside worlds. Maintaining this boundary took considerable discursive and ritual 'work,' hinted at by the cookbook's prevalent focus on discourses of cleanliness. These discourses appeared throughout literature of the period, regularly applied to human beings to legitimise hierarchies of consumption. Such ideologies were articulated at elite dining parties, in which rituals of cookery (applied to food) and etiquette (applied to the body) allowed for controlled transgressions, and thus reinforcements, of inside/outside and elite/non-elite boundaries. Al-Warraq's cookbook can, then, be understood as a text involved in establishing boundaries, between society and environment and between the elite and non-elite, and regulating the people and things allowed to transgress these bounds.

Conclusion

This thesis opened with Donna Haraway's idea of 'natureculture,' the notion that nature and culture exist entangled in constant encounter. Al-Warraq's cookbook illuminates such an entanglement in the Abbasid Caliphate. Natural objects such as food and the body were transformed by cultural understandings and processes, whether through imperial mechanisms of extraction and transportation or discursive practices of etiquette and cleanliness that loaded these material things with cultural and symbolic meaning. As products of an entwined natureculture, food and the body inherently transgressed any simply demarcated boundaries between society and environment, inside and outside. This transgression suggested that in an imperial context, enabling resource extraction from rural ecologies to nourish urban centres, such a boundary was constantly in flux. Regardless, al-Warraq's cookbook suggests the ways this cultural boundary was produced and tied to the consumptive hierarchies on which elite society depended. Elite dining parties, a site of encounter between food and the body and thus between urban consumers and symbols of the ecologies beyond Baghdad's walls, were a key opportunity for this boundary to be ritually articulated and affirmed.

Chapter One sought to explore the cookbook's role in constructing Baghdad's elite male social world. Beyond simply materialising social distinction through expensive and elaborate dishes, al-Warraq's inclusion of poetry, anecdotes and etiquette demonstrated the rich and exclusive culture that surrounded elite dining parties. This culture was crucial to social and political mobility, as well as providing a framework that influenced reader's sensory experiences. In this way, elite culture was embodied and materialised by the reader's body, as much as by the food being eaten.

Chapter Two turned to what al-Warraq's presentation of food implied about cultural understandings of the natural environment beyond Baghdad. Whilst Al-Warraq's explicit and lengthy explanation of ingredients' elemental properties did recognise food's other-than-human agency, it seemed this was more an attempt to make natural objects legible and useable to his urban elite readers than to create an intimacy with nature. Indeed, the cookbook's assumption of food's availability and lack of regard for the local, specialised knowledges required to access it hinted towards an imperial understanding of the environment as a set of anonymous ecologies from which raw resources could be extracted and transformed for nutrition and health. The cookbook, as a site of encounter between food and imperial processes, was both window onto and part of this context.

Chapter Three finally sought to explore how food transgressed the cultural boundary between environment and society. Considerable discursive 'work' was required to maintain this boundary, manifested for example in rituals of cleanliness and cooking used to prepare food as it passed through different contexts. The importance of maintaining this boundary stemmed from its entanglement with ideas of social hierarchy. Discourses of cleanliness were not contained to food, but also applied to human bodies to maintain the boundary between elite and non-elite, and to create civilised peoples by designating others barbaric. The chapter ended with a consideration of how these cultural boundaries were articulated and affirmed at elite dining parties, both food and body undergoing similar rituals of cleanliness to embody these ideologies.

Overall, this thesis has sought to show that environmental thought and social hierarchy were entangled in 10th century Baghdad. Understandings of nature were used to justify social distinction, whilst cultural preferences and conventions conditioned how elite men understood their interactions with the environment. As a prescriptive text, al-Warraq's

cookbook influenced and reflected the values of its elite male readership, providing a window into their shared culture. This window illuminated topics of contrasting scales, from elite understandings of the environment to the cultural frameworks that influenced sensory experiences and material understandings of the human body. Food mediated between these differing scales, a transgressive object between inside and outside, a transformed part of the environment that could transform the body. Thus, al-Warraq's text is more than *just* a catalogue of recipes. By hinting towards the culture of Baghdad's elite men and their relationship to the environment, the cookbook's insights for the historian reach far beyond the Caliph's kitchen.

Bibliography

Al-Nadim, *The Fihrist of al-Nadim: A Tenth-Century Survey of Muslim Culture*, ed. and trans.

B. Dodge (New York, 1970)

Al-Muqaddasi, *Best Divisions for Knowledge of the Regions: a translation of Ahsan al-taqasim fi ma'rifat al-aqalim*, trans. B.A. Collins (Garnet, 1994)

Al-Warraq, *Annals of the Caliphs' Kitchens: Ibn Sayyar al-Warraq's tenth-century Baghdadi cookbook*, ed. and trans. N. Nasrallah and K. Ohrnberg (Leiden, 2007)

Galen, *On The Natural Faculties*, trans. A.J. Brock (Loeb Classical Library, 1979)

Ibn Fadlan, *Ibn Fadlan and the Land of Darkness: Arab Travellers in the Far North*, ed. and trans. P. Lunde and C. Stone (London, 2012)

Ibn Sina, *Avicenna's Medicine: a new translation of the 11th century canon with practical applications for integrative health care*, eds. and trans. M. Abu-Asab, H. Amri, and M.S. Micozzi (Rochester, 2013)

Hippocrates, *Airs Waters Places*, trans. W.H.S. Jones (Loeb Classical Library, 1923)

Mas'udi, *The Meadows of Gold: The Abbasids*, eds. and trans. P. Lunde and C. Stone (London, 1989)

Ahsan, M.M. *Social Life Under the Abbasids* (London, 1979)

Al-Azmeh, A. 'Barbarians in Arab Eyes', *Past & Present* 134 (1992), pp.3-18

Albala, K. 'Cookbooks as Historical Documents', in J.M. Pilcher (ed.) *The Oxford Handbook of Food History*, (Oxford, 2012), pp. 227-241

Bennet, J. *Vibrant Matter: A Political Ecology of Things* (Durham, 2010)

Bennison, A.K. *The Great Caliphs: The Golden Age of the 'Abbasid Empire* (London, 2011)

van Binsbergen, W.M.J. 'Commodification: Things, Agency, and Identities: Introduction' in his and P.L. Geschiere (eds.) *Commodification: Things, Agency, and Identities: 'The Social Life of Things' Revisited* (Munster, 2005), pp.9-53

Brookshaw, D.P. 'Palaces, Pavilions and Pleasure-gardens: The context and setting of the medieval majlis', *Middle Eastern Literatures*, 6/2 (2003), pp.199-223

Butler, J. *Gender Trouble: Feminism and the Subversion of Identity* (London, 1999)

Cohen, J.J. and Duckert, L. 'Introduction: Eleven Principles of the Elements', in their (eds.) *Elemental Ecocriticism: Thinking with Earth, Air, Water and Fire* (Minneapolis, 2015) pp.1-26

Douglas, M. *Purity and Danger: An Analysis of Concepts of Pollution and Taboo* (London, 2002)

El-Ali, S.A. 'A New Version of Ibn al-Mutarrif's List of Revenues in the Early Times of Harun al-Rashid', *Journal of the Economic and Social History of the Orient*, 14/3 (1971), pp.303-310

El-Cheikh, N. M. 'The Abbasid and Byzantine Courts,' in S. Foot. and C. Robinson (eds.) *The Oxford History of Historical Writing*, (Vol. 2, Oxford, 2012), pp. 517-536

Franger, B. 'Social Reality and Culinary Fiction: The Perspective of Cookbooks from Iran and Central Asia' in S. Zubaida and R. Tapper (eds.) *A Taste of Thyme: Culinary Cultures of the Middle East* (London, 2000), pp.63-73

Gascoigne, A.L. 'Cooking pots and choices in the medieval Middle East' in J. Bintliff and M. Carosco (eds.) *Pottery and Social Dynamics in the Mediterranean and Beyond in Medieval and Post-Medieval Times* (Oxford, 2013), pp.1-10

van Gelder, G.J.H. *God's Banquet: Food in Classical Arabic Literature* (New York, 2000)

Goody, J. *Cooking, Cuisine, and Class: A Study in Comparative Sociology* (Cambridge, 1982)

Gutas, D. *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and early Abbasid Society* (London, 1998)

Hamarneh, S. 'Ecology and Therapeutics in Medieval Arabic Medicine', *Sudhoff's Archive* 58/2 (1974), pp.165-185

Haraway, D. *When Species Meet* (Minneapolis, 2008)

Harris, O.J.T. and Robb, J. 'Body Worlds and Their History: Some Working Concepts' in their (eds.) *The Body In History: Europe from the Paleolithic to the Future* (Cambridge, 2013), pp. 7-32

Johnson, A.W. and Earle, T.K. *The Evolution of Human Societies: From Foraging Group to Agrarian State* (Stanford, 2000)

King, A. 'Tibetan Musk and Medieval Arab Perfumery' in A. Akasoy, C. Burnett, R. Yoeli-Tlalim (eds.), *Islam and Tibet: Interactions Along the Musk Routes* (Abingdon, 2016) pp.145-161

Levey, M. 'Ibn Masawaih and His Treatise on Simple Aromatic Substances: Studies in the History of Arabic Pharmacology', *Journal of the History of Medicine and Allied Sciences*, 16/4 (1961)

Lewicka, P.B. 'Diet as Culture: On The Medical Context of Food Consumption in the Medieval Middle East,' *History Compass* 12/7 (2014), pp.607-617

Lewicka, P.B., *Food and Foodways of Medieval Cairenes: Aspects of Life In An Islamic Metropolis of the Eastern Mediterranean* (Leiden, 2011)

Lindsay, J.E. *Daily Life in the Medieval Islamic World* (Westport, Conn, 2005)

Marin, M. 'Beyond Taste: The Complements of Colour and Smell in the Medieval Arab Culinary Tradition' in S. Zubaida and R. Tapper (eds.) *A Taste of Thyme: Culinary Cultures of the Middle East* (London, 2000), pp. 205-214

Marin, M., and Waines, D. 'The Balanced Way: Food for Pleasure and Health in Medieval Islam', *Manuscripts of the Middle East* 4 (1989), pp.123-132

Nasrallah, N. 'Introduction' in Al-Warraq, *Annals of the Caliphs' Kitchens: Ibn Sayyar al-Warraq's tenth-century Baghdadi cookbook*, ed. and trans. N. Nasrallah and K. Ohrnberg, (Leiden, 2007), pp.1-64

Pormann, P.E. and Savage-Smith, E., *Medieval Islamic Medicine* (Edinburgh, 2007)

Rodinson, M. 'Studies in Arabic Manuscripts Relating to Cookery', trans. B. Inskip, in M. Rodinson, A.J. Arberry and C. Perry (eds.) *Al-Tabikh Al-Arab Fi Al-usur Al-Wusta = Medieval Arab Cookery* (Totnes, 2001), pp.91-165

Rosenberger, 'Arab Cuisine and Its Contributions to European Culture', in J.L. Flandrin and M. Montanari (eds.) *Food: A Culinary History* (Colombia, 1999): pp.207-224

Rowland, S.J, Sutton, P.A. and Knowles, T.D.J. 'The Age of Ambergris', *Natural Product Research* 33:21 (2019), pp.3134-3142

Scott, J.C. *Seeing Like A State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven, 1998)

Starr, S.F. *Lost Enlightenment: Central Asia's Golden Age from the Arab Conquest to Tamerlane* (Princeton, 2013)

Waines, D. 'Dietetics in Medieval Islamic Culture', *Medical History* 43 (1999), pp.228-240

Waines, D. "'Luxury Foods' in medieval Islamic societies", *World Archaeology* 34/3 (2003)

Warde, P. 'Social and Environmental History in the Anthropocene' in J.H. Arnold, M. Hilton, J. Rüger (eds.) *History after Hobsbawm: Writing the Past for the Twenty First Century* (Oxford, 2017), pp.184-199